



BOOK OF ABSTRACTS

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EDUCATION, SCIENCE AND TECHNOLOGY IN INDUSTRIAL REVOLUTION 4.0

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FOREWORD

Rector of Universitas Negeri Padang

A very warm welcome (Selamat Datang) to all speakers and delegates of Konvensi Nasional Pendidikan Indonesia (KONASPI) to Padang, West Sumatera Indonesia and to our International Conference on Education, Science and Technology (ICESTech) 2019 with Education for Industrial Revolution in 4.0, on March, 13th - 16th 2019, organized by Universitas Negeri Padang

It is an honour to be the host of the KONASPI and ICESTech as it provides great opportunity for respectable researchers, experts, scholars, students and even policy makers to share ideas on hot issues and trending topics on Education, Sciences, and Technology.

Our sincere appreciation goes to Kemenristek, Forkom of FKIP leaders of Indonesia, Asosiasi Lembaga Pendidikan Tenaga Kependidikan Negeri Indonesia (ALPTKNI), Kemendikbud, and sponsors. We appreciate your participation in this conference.

I would like to take this occasion to express my appreciation to keynote and invited speakers of the conference, the prominent figures in their field. My appreciation should also be addressed to all co-host universities who have shared significant contribution to make this event possible. To all parallel speakers as well as all participants coming from various places, your contribution makes this conference is truly special.

I appreciate the organizing committee, the scientific committee members, and the international board for their efforts in materializing this conference.

Finally, I encourage delegates to collaborate and participate actively in interesting discussion in this conference. Have a fruitful conference, and please enjoy your visit to Padang.

Sincerely,

Prof. H. Ganefri, Ph.D.

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Keynote Speaker

Developing a Skilful and Adaptable Workforce: Reappraising Curriculum and Pedagogic for Tertiary Education

Stephen Billett
Griffith University, Australia

Abstract

Changes in occupational, workplace requirements and working life prompt a reappraisal of the goals and processes of tertiary education. These changes include: addressing the specific requirements of workplaces as well as developing occupational competence; learning knowledge that is difficult to directly experience (i.e. conceptual and symbolic knowledge) required for what is often referred to as knowledge work; developing adaptive occupational capacities because the requirements for work and work performance are constantly changing and the importance of students to become active and intentional learners for their initial preparation, but also that ongoing development across working life. It is proposed here that a way forward is to adopt curriculum and pedagogic practices that are aligned with achieving these kinds of outcomes. This includes a consideration of what constitutes effective educational experiences (both within educational institutions and workplaces), ordering and reconciling these two sets of experiences, the use of educational interventions that can generate the kinds of capacities within tertiary education students and assisting students become active and intentional learners across their working life. To do this requires a consideration of what constitutes the existing and emerging requirements for occupational and workplace performance and then aligning these with the kinds of curriculum and pedagogic practices that tertiary education institutions need to advance and the kinds and quality of engagement that students need to adopt and practice.

Keyword : Curriculum, pedagogic, education

Topic : Education Technology

Invited Speakers Technology as Learning Solution in the Digital Era

Dr. Ing Ilham Akbar Habibie
Dewan Teknologi Informasi dan Komunikasi Nasional

Abstract

Technology Innovation that supports learning will prepare the human development to compete in global markets. Innovative instructors are needed to make interesting teaching material. The are needs for ICT infrastructure to compete in the Industrial 4.0 era. The importance of a deepening oriented curriculum for understanding science (definite) as well as its application in the context of finding solutions to a problem in the form of a project. This is needed both in theory and practice, during the time of learning. Through the synthesis in the applied form carried out in the curriculum, knowledge that was originally mere information was enriched into useful experiences.

Keyword : Technology, learning, digital era 4.0

Topic : Education Technology

Invited Speakers Earthquake Ground Motion and Microtremor Observation in Padang, West Sumatra, Indonesia

Yusuke Ono
Tottori University

Abstract

Ground motion observation has been conducted in Padang, West Sumatra, Indonesia, since 2008. The recorded accelerograms and the results of Fourier analyses are presented. In addition, the site amplification at each observation site is discussed based on the shear wave velocity profile evaluated by the microtremor array observation. Padang is the capital city of West Sumatra Province located on the west coast of Sumatra Island, Indonesia. The seismicity around Padang is quite active, and more than 1000 casualties occurred due to the M 7.6 earthquake of 30th October 2009. In addition, the existence of a seismic gap in the off-shore of Padang, where the plate boundary between the Eurasian and the Indo-Australian plates, has been pointed out and occurrence of an M 8.0 class earthquake is expected. Four ground motion observation stations were set up in

Padang by NPO Engineering Without Borders Japan (EWB-JAPAN) in 2008, as well as the station in Bukittinggi about 80 km northward from Padang. These four observation stations in Padang are placed so that it covers various thickness of the sedimentary layer. The ADS station in the campus of Andalas University is on the bedrock site, while the UNP station in Padang State University is on the thickest sedimentary layer site. The accelerometer of SES60 manufactured by Azbil Co. (previously Yamatake Co.) is installed at every station. The microtremor survey with array observation at the four observation sites in Padang was conducted. The dispersion characteristics of the Rayleigh wave was obtained, and the shear wave velocity structure was estimated by inversion analysis for each site. The estimated shear wave velocity structure represents the seismic amplification of the observation station site. The relation between the shear wave velocity structures and the recorded ground motions are discussed. More than ten years have passed since the first observation station was set up, and it is necessary to update or repair the equipment in order to continue the observation.

Keyword : Earthquake, microtremor, rayleigh wave,
Topic : Physics

Invited Speakers

Challenges of Vocational Teachers Facing RI 4.0

Nizwardi Jalinus
 Universitas Negeri Padang

Abstract

The rapid change of technology especially in Information technology bring about a great change in strategy of teaching for teachers to face RI 4.0. The aim of this research is to identify the teaching and learning strategies used by vocational teachers in Malaysia and Indonesia, and to explore the Stages of concern of vocational teachers to the implementation of Curriculum 2013 (K13).

Based on two reseachs which had been conducted , first , It was a research of measuring stages of Indonesian Voational teachers in implementing New Curriculum (K13), and second research was joint reseach concerning strategy of teaching and learning of Vocational teachers in Malaysia and Indonesia in the era of RI.4.0. These a type of survey method , the first research in measuring Stages of teachers concern 224 teachers in west Sumatera were participated as respondents of research. Second research 200 teachers from Malaysia and 200 teachers from Indonesia were involved in the research. Two types questionnaires were developed and adopted , those were teaching and learning method instrument and Stages of Concern Questionnaire.

The result revealed that Vocational teachers in both countries were changing, majority teachers (69.975%) used student centered learning in their teaching and learning strategy in class teory as well as 79.75 % of teachers role as facilitator of students in classroom as well as in practical work. Most teachers have already used ICT in their teaching and learning, at least they use power point as media of learning. Especially for Vocational teachers in Indonesia (West Sumatera) The relative intencity of vocational teachers tend tobe users of K13 , They were in SoC4 in implementing K13 eventhough still in category of trials . As the conclusion, its can be taken to mean that majority of vocational teachers in Malaysia and Indonesia were on the way process to be faciltators and innovators of students learning, and they are involved in process of the world changing (RI 4.0).

Keyword : Change, Vocational teachers, Teaching and Learning Strategy, K13
Topic : Education Technology

[GS.AB-6]

The Difference Effect of Physical Activity Before And After School Toward Physical Education And The Ability of Social Interaction in Gajah Mada Medan Primary School Student

Rahma Dewi, Bessy Sitorus Pane, Chairul Azmi
Universitas Negeri Medan

Abstract

The purpose of this study was to see differences in the influence of physical activity before school and after school on physical fitness and social ability in Gajahmada elementary school students in Medan. The analysis technique uses the T Test with a significance level of $\alpha = 0,05$. Obtained: (1) Physical activity before school affects the physical fitness of students, (2) Physical activity before school affects students' social skills, (3) Physical activity after school has an effect on students' physical fitness, (4) Physical activity after school affects students' social skills (5) Physical activity before school is better than physical activity after school towards physical fitness of students, (6) Physical activity before school has the same effect as physical activity after school on students' social skills.

Keyword : Physical activity, physical fitness and social skills

Topic : Physics Education

[GS.AB-9]

E-learning Quality Evaluation Instrument for SPADA Indonesia

Hari Wibawanto
Universitas Negeri Semarang

Abstract

Quality evaluation of the online learning needs to be conducted before learning process. The intrinsic quality and some contextual quality are evaluated to ensure the quality of the learning object itself and its pedagogical foundation in an online learning environment. This research deals with the quality of online learning preparation, consist of quality of learning object itself, its placement and integration with Learning Management System. The measurement system consists of the items to measure the intrinsic quality of learning objects and items to measure their relation to the pedagogical aspect. Pedagogical aspect of learning objects can be seen partially by its placement and integration with Learning Management System. There were 4 (four) steps in developing the instrument : (1) evaluating the existing e-learning instrument, (2) focus group discussion to determine instrument dimension, (3) instrument try out, and (4) instrument revision. As a result, two kinds of instrument for SPADA Indonesia had been developed in this research: (1) instrument to measure the quality of learning objects and its' placement and assembly in Learning Management System, and (2) check list the availability of elements forming the face validity of e-learning.

Keyword : e-learning, learning object, quality evaluation

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-11]

The Needs for Development of Flash-Based Learning Media on Civics Education Study in the Junior High Schools

Tijan, Andi Suhardiyanto, Suprayogi, Yan Amal Abdilah
Universitas Negeri Semarang

Abstract

Civic Education is designed as a way to develop citizen skills of 21st century. For this reason, Civic Education teachers are required to be creative and innovative in managing and developing their learning. One effort in the development of learning is done by developing flash-based learning media. This study aims to determine the needs of the Civic Education teachers at Junior High Schools in Semarang related to the development of Flash-based learning media. This study uses descriptive quantitative and qualitative methods that collect and analyze data using web-based applications. The results showed that Civic Education teachers desperately needed flash-based interactive learning media. The teacher's needs are related to these indicators: first, the teacher still has difficulty in determining Flash media that is easy to use, according to the development of students and supports the achievement of competencies, and encourage students to be involved in active learning; second, flash media designed contextually and in accordance with the needs of students, cheap, and easy to make; third, the

development of flash-based learning media that can build collaboration between students, be easily accessed individually and in groups, and can be used for learning in schools and independent assignments at home.

Keyword : flash-based interactive learning, media, civic education

Topic : Others relevant Fields

[GS.AB-14]

Addie Instructional Design Model for E-Learning Non Rice Staple Literacy With B2SA Pattern With Life Based Learning Approach

Nunung Nurjanah, Teti Setiawati, Titi Mutiara K. .Rina Rifqie Mariana
Universitas Negeri Malang

Abstract

The development of information technology influences learning, changing the way students learn and how to teach teachers. Information technology can be utilized as learning media, with virtual model without having to internet face to face. A student-centered learning approach that emphasizes learning independence and responsibility, becomes an important part of designing online learning. However designing an online learning is not easy. Dietetic course converges students' needs and is based on life-based learning to gain optimal health. The use of non-rice staple food consumption becomes important lesson which entails diversity of staple foods as rice substitutes. The learning design of online dietetic course is using ADDIE design model

Keyword : ADDIE design model, e learning Dietetics, life-based learning approach

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-15]

Career Model in the Field of ICT in Informatics Engineering Students

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Universitas Negeri Padang, Universitas Pasir Pengaraian

Abstract

This research in the field of Information and Communication Technologies (ICT) careers in Informatics Engineering students based on expert systems to answer the challenges in the era of industrial revolution 4.0, where this research was conducted in the final semester students to find out career profiles in the field of what is potential for students to become a reference for working in the field of Information Technology, especially Informatics Engineering and expertise in accordance with the achievement and mastery of the material field with a proven 80 to 100 according to the achievement of the Semester Learning Plan (SLP) in each course, then if the student reaches the value of 80 to 100 then it is declared successful and becomes a determinant of career profile by managing the forward chaining method on the expert system so that students can find out their profile for potential work

Keyword : Career, ICT, expert systems, Semester Learning Plans

Topic : Informatics and ICT at Higher Education (IHE)

[GS.AB-16]

Communication Skill and mathematics conceptual understanding of Senior High School Students

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Universitas Negeri Makassar

Abstract

The aims of this research are to describe about mathematical communication ability either written or oral form and find the relation between mathematical communication and mathematics conceptual understanding of senior high school students. Mathematical communication is process of social interaction involve process of exchange and reflection of information, ideas, and understanding the mathematics from someone to others. Conceptual understanding of mathematics involve understanding of the basic concepts behind algorithms in mathematics. This study used mixed method, quantitative and qualitative method. Mathematical communication ability is measured by written test, and non-test with specific indicators to measure mathematical communication. In other hand, mathematics conceptual understanding is measured by written test. The number of subject in qualitative phase is four subjects categorized based on their mathematical communication ability, namely very

low (VL), low (L), high (H), and very high (VH). The result of this research revealed the students in doing mathematical communication of every ability level. In addition, we find that there is no relation between mathematical communication and mathematics conceptual understanding of students.

Keyword : mathematical communication, mathematics conceptual understanding

Topic : Mathematics Education

[GS.AB-17]

The Development of Model Strategy of Theory, Application and Reflection as an Innovation on Models Strategy of Learning at Higher Education

Dr. Aisiah, S.Pd, M.Pd
Universitas Negeri Padang

Abstract

This research illustrates the model development Strategy of Theory, Application and Reflection as an alternative learning models strategy at higher education. This research conducted because the lack of innovation in learning strategies and also response student complaints about monotonous learning activities. The purpose of the study is to produce a varied and innovative learning strategy model. This research focuses on the development of procedural models (syntax) of the learning strategy developed by using applied research and development methods. The syntax of the learning strategy model carried out through library research. The practicality testing of the learning strategy model conducted at history major of Universitas Negeri Padang. The participants involved students who were taken courses the Historical Learning Methods and Models 2018 academic year. The data gathered form questionnaire and analyzed by mean score. The results are; the syntax of the learning strategy model includes five steps; 1) Exploration, 2) Presentation. 3) Simulation, 4) Reflection, and 5) Report. The learning strategy model is very practical (mean score 3.3) and very effective (mean score 3.2). The advantages of the learning models strategy are able to improve students' critical thinking skills and creativity. The weakness is takes long time. It needs further research.

Keyword : learning strategy, theory, application, reflection, model

Topic : Others relevant Fields

[GS.AB-18]

Estimating and Monitoring the Land Surface Temperature (LST) Using Landsat OLI 8 TIRS in Makassar City

Ichsan Ali and Muh Rais Abidin
Universitas Negeri Makassar

Abstract

Land Surface Temperature (LST) is Average temperature of an element of the exact surface of the Earth calculated from measured radiance which depends on the albedo, the vegetation cover and the soil moisture. LST can affect human discomfort, health problem, higher energy bill and further reduce the habitability of urban and sub urban area as Makassar city has been recently undergoing massive urban development. This study tries to monitor and estimate LST by using Landsat 8 TIRS and the data analyzed by vegetation index, urban index and temperature index in order to derive LST value. The result shows that the vegetation area declined around 3470 hectare in the last 4 years while the urban area increased approximately 1509 hectare. In addition, 2013, Makassar city experienced the highest temperature at 320C while 2017 shown that the maximum heat reached 290C. However, the moderate and high temperature (26 – 290C) in 2017 expand and cover wider area than in 2013 as the area of vegetation declined and built up area increased significantly.

Keyword : Vegetation index, Urban Index, Land Surface Temperature (LST).

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-19]

Blended Learning in Vocational Education in the Era of the Industrial Revolution 4.0

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University Negeri Medan

Abstract

In the era of Industrial Revolution 4.0, blended Learning is now very important for higher education, focusing on pedagogical techniques in blended learning to utilize this teaching model. This type of research is qualitative research using interview techniques with lecturers and students who apply mixed models in vocational organizations. This qualitative study aims to determine whether blended learning is effective in CNC machining learning based on the ideas of lecturers who apply mixed models in vocational. The results of this study indicate that blended learning can play an important role in learning sessions at CNC machining subjects. The application of blended learning turned out to not only solve the problem of higher education, especially the Department of Education, Mechanical Engineering, Medan State University. Blended learning This can be used for all jobs based on student skills development. applying blended learning models in very specific fields such as vocational education shows that the blended learning model can help courses with well-designed material.

Keyword : Blended learning, vocational education, CNC machining, Industrial Revolution 4.0

Topic : Science Education

[GS.AB-20]

Teacher's attitude to using ICT for children with disabilities in Inclusive classrooms in Indonesia

Sujarwanto, Khofidotur Rofiah
Universitas Negeri Surabaya

Abstract

An inclusive education approach is a new program and techniques which is needed for supporting children with disabilities (CwD) in Indonesia. Using ICT in inclusive classrooms has proved useful both in supporting the empowerment and accessing learning. There is evidence that the utilize of ICT within classrooms is significantly influenced by teacher attitudes and beliefs. This paper examination the attitudes towards such an approach based on semi-structured interviews with 40 teachers in 16 schools in East Java and questionnaire responses from 100 teachers and educational professionals more widely located across Indonesia. The results suggest that teacher hold broadly positive attitudes to the using of ICT in their classrooms. These issues need to be considered if the development of an Indonesian inclusive approach is to proceed successfully.

Keyword : ICT in classrooms; teachers' attitudes; inclusive education

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-22]

Analysis of Student Learning Results Using a Probing Prompting Learning Model

Philotheus Tuerah, Vivian Eleonora Regar
Universitas Negeri Manado

Abstract

This research is an experimental research with 2 factors factorial design, conducted at Eben Haezar High School in Manado. The research subjects were Class XI MIA students consisting of two classes, where 33 students in class XI B received prompting probing treatment and 34 students in Class XI C received direct learning treatment. The purpose of this study was to describe the effectiveness of the prompting probing learning model and analyze the interactions between the prompting and direct learning probing models with numerical abilities on the mathematics learning outcomes. From all students who took part in learning activities with this model, the results were observed when presenting the results of their respective groups, of the 31 who attended the study there were 27 students or 83.87% able to answer questions well, 23 students or 74.19% could give reasons for the answers given and there are 20 students or 64.5% who have dared to give a response. Likewise for learning completeness, classical learning completeness has met the minimum completeness requirements of 80%. There is an interaction between the mathematics learning outcomes of conical slices of class XI MIA who are given probing treatment and direct learning in terms of numerical abilities.

Keyword : prompting probing, numerical ability, learning outcomes

Topic : Mathematics Education

[GS.AB-25]

Use of Rabbit Tocer Toll Paper Tools to Improve The Results Of Learning Debit Materials in Basic School

Exsaris Januar, Alwen Bentri
Universitas Negeri Padang

Abstract

In the context of learning mathematics in elementary schools, students do not understand the concept of debit. necessary props are needed to improve learning outcomes. this type of research is classroom action research. This research is based on the problem of whether ytpol rabbit board props can improve learning outcomes in 44 middle grooves ?.While the purpose of this study is to improve learning outcomes. The conclusions of this study are that the tolls of rabbit tocer can improve student learning outcomes. An increase in learning outcomes in the initial test is at the number 48 to 83 after the use of teaching aids.

Keyword : Rabbit Tocer, Debit, Volume Convers

Topic : Mathematics Education

[GS.AB-27]

Development of Android-Based Integrated Science Teaching Materials with Critical Thinking Skills

Hilda Maulida, Parlindungan Sinaga, Hernani
Indonesia University of Education

Abstract

The results of the preliminary study show that students have low critical thinking skills. Teaching materials have an important role in learning. Learning cannot be done without teaching materials. This study aims to (1) develop teaching materials in the form of android applications with the development model of the Teaching Material Writing Process Model (MPM2A), (2) find out the feasibility of teaching materials, (3) the effectiveness of teaching in improving students' critical thinking skills, (4) knowing the students' responses to the teaching materials developed. This study used the Quasi Experiment design using a pretest-posttest control group design in one of the state junior high schools in the city of Bandung. The results of the study are based on the size of the effectsize that teaching is explained to be effective in improving critical thinking skills. Hypothesis testing shows that there is a significant difference in the ability of critical thinking skills in the experimental class, with each n-gain value of 0.58 and 0.67 which is greater than the control class, ie with each value of n- gain of 0.36 and 0.50.

Keyword : Keywords: Teaching materials, Android, Integrated Science, Critical Thinking Skills

Topic : Science Education

[GS.AB-29]

Application of Artificial Artificial Intelligence Application in Computer Troubleshooting: Media Learning Aids for Computer and Network Engineering Students

Andri Eka Putra, Kasman Rukun dan Dedy Irfan
Universitas Negeri Padang

Abstract

Vocational High School is education for work. Computer and Network Engineering is one of the expertise packages at the Vocational Middle School from the Computer and Informatics Engineering expertise program with Information and Communication Technology expertise. One of the subjects of this expertise package is Basic Computers and Networks. In this subject there is a basic competency in the knowledge of analyzing problems in computer hardware and installation of application software. The realm of students' skills is able to improve and manage improvements. Students in this material have not been able to achieve completeness and expected technical abilities. This learning aid media is made with the Codeigniter Framework and Bootstrap uses steps from the 4-D model. The website produced from this learning aid media already has an artificial intelligent algorithm that is backward chaining. This application has been successfully developed validly based on black box, white box and gray box testing, practically based on the results of quality analysis with FURPS (Functionality, Usability, Reliability, Performance, and Supportability), and effective based on the test results of the gain score.

Keyword : applications, artificial intelligence, computer troubleshooting, media learning aids, computer engineering and networking

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-32]

LMS Edmodo To Improve Student Understanding Of The Arithmetic Concept In Microsoft Excel

Amril

Universitas Negeri Padang

Abstract

This study aims to design and implement LMS Edmodo on Microsoft Excel applications specifically for arithmetic functions in the first semester students of AMIK Kosgoro Solok. The research and development phase refers to the ADDIE development model. The research instrument consisted of 3 instruments: (1) validity instruments (2) practicality instruments, and (3) instruments of effectiveness in the form of student learning outcomes. the results of data analysis showed that the validity of LMS Edmoodo was 4.75 (very valid). The activity of LMS Edmodo from the lecturer response was 4.50 (high) and the student response was 4.60 (high). The effectiveness of LMS Edmodo based on normalized gain analysis is 0.73 (very high category). based on the results of the study it can be concluded that the developed LMS Edmodo is valid, practical and improves student learning outcomes

Keyword : Edmodo LMS, Number Processing, Arithmetic Function

Topic : Informatics and ICT at Higher Education (IHE)

[GS.AB-33]

Implementation of the Revised Bloom Taxonomy in Assessment of Physics Learning

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Manado State University, Indonesia

Abstract

Studies have been conducted relating to the use of representation diagrams in physics learning. This study was conducted as a didactic strategy in solving problems related to student difficulties in learning physics. The purpose of the research was to study the perceptions of students about Lower Order Thinking Skills (LOTS) and Higher Order Thinking Skills (HOTS) from aspects of one-dimensional cognitive domains transformed into the analysis in two dimensions of Revised Bloom's Taxonomy. The study was conducted on 22 pre-service teacher students who had studied Evaluation of Physics Learning courses. Tests designed only require answers in the form of drawings or diagrams related to physics topics regarding free body diagrams. The research implications are the of determination criteria LOTS and HOTS tend to be inaccurate if they are only based on the one-dimensional category of cognitive domain processes. In this case, it is necessary to develop the determination criteria of LOTS and HOTS based on two revised dimensions of Revised Bloom's Taxonomy, namely the cognitive dimension and the knowledge dimension.

Keyword : Revised Bloom's Taxonomy, Assessment, Physics Learning

Topic : Physics Education

[GS.AB-34]

Strengthening LPTK (Institute of Teachers' Education) through Internationally-Standardized Educational Journal Management

Parmin

Universitas Negeri Semarang

Abstract

The number of nationally accredited journals in Sinta as per February 2019 is 2,275 journals and 47 of them have been indexed by Scopus. The number of nationally accredited educational journals is 370; Sinta 1 (4 journals), Sinta 2 (42 journals), Sinta 3 (103 journals), Sinta 4 (129 journals), Sinta 5 (72 journals) and Sinta 6 (20 journals). Meanwhile, there are only four educational journals that have been indexed by Scopus, and Jurnal Pendidikan IPA Indonesia is only one that has been indexed by Scopus as well as recognized at Scimago (Q3 level). Generally, Indonesian journals of education are managed by the Institute of Teachers' Education or LPTK (Lembaga Pendidikan Tenaga Keguruan). An analysis performed on Sinta 2 educational journals revealed that the main problem laid on manuscripts' substantial aspects. Therefore, the LPTK is obliged to increase the number of internationally reputed journals. The analysis concluded that in achieving reputable indexation, five aspects should be highlighted: (1) novelties; (2) citations to articles of internationally reputed journals; (3) authors of international collaboration; (4) strict peer-review processes; and (4) professional website management. These five aspects require a strong commitment from leaders in each LPTK.

Keyword : educational journal, international, management

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-37]

Decision Support System Using Data Warehouse for Drop Out Rate in Indonesia Elementary School

*Abba Suganda Girsang, Sani Muhamad Isa, Dhani Prayudi, Arief Widhi Pratama, Sebastianus Bara
Primananda*

Bina Nusantara University

Abstract

Education is a foundation towards better civilization. In Indonesia 39.213 elementary school students is dropped out from school due various factors, such as poverty and forced labour. As a policy maker, government officials need quick, concise and precise data for in order to take decision and make better education policies. This paper proposes data warehouse for supporting government officials in Indonesia to get better information about elementary school student drop out of each province for taking decision. The data warehouse development consists nine step methodology designed by Kimball and Ross. Furthermore, the data is able to be presented in dashboard using Qlik Sense Cloud or produce detail report using Pentaho Report Designer.

Keyword : Data Warehouse, Education, Decision Support System, Drop Out Rate

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-38]

Business Intelligence for Education Management System

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Abstract

Education management system aims at bringing a total quality of education by ensuring an efficient way of day-to-day school operations. All of these operations are done through applications and can be accessed through web portal. The main function of school operations is scoring and reporting. Each of them is unique in every school and cannot be generalized although using the same curriculum. School personnel such as headmaster, teacher, and staff also not only assigned to one school location and can have multiple roles in each school location. With that complexity, a single query is not fast enough to generate a scoring report. To help teachers and school staff in each client, this paper proposed the system business intelligence which can analyse the progress of student learning. This paper used nine steps to design a data warehouse as a tool for business intelligence. The On-line Analytical Processing (OLAP) is used to analyse the data and visualize them using dashboard. By using data warehouse, each school can answer business question relation to scoring and visualize them in a dashboard to make a decision.

Keyword : business intelligence, progress student, analyse, management school

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-39]

Developing Social Competence and Teacher's Personality Model Based on Myers Briggs Type Indicator (MBTI)

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Abstract

The aim of the study was to develop a Myers Briggs Type Indicator (MBTI) Development Model of Social Competence and Teacher's Personality. It used the Research and Development method. In the first stage, the research presents a needs analysis and a model design and in the second stage, the research tests the model that has been designed, until the final results are obtained from the MBTI-based personality competency and personality development model. From the results of data analysis it can be concluded that the majority of state elementary school teachers in DKI Jakarta have extrovert personality types. When viewed from the personality type, it can be said that the personal and social competencies of teachers who have extroverted traits tend to be high, while teachers who have introverted traits tend to have low personal and social competencies. Teachers with intuitive and sensing trait tend to have high personal and social competencies. Teachers with personality traits feeling and thinking; and judging and perceiving which also tend to have high personal and social competencies. The design of the MBTI-based teacher's social competence and personality improvement model

in the core research consisted of a series of trainings, including: personal grooming, multicultural learning, interpersonal

Keyword : Teacher Competence, National Qualification Standard, individual differences

Topic : Science Education

[GS.AB-41]

Pre-Service Science Teachers' Skills in Applying Guided Inquiry, Modified Inquiry, and Open inquiry in Micro-teaching Course

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Abstract

The study aimed to measure the skills of pre-service science teachers in applying three inquiry models in a microteaching course. The study was conducted on 56 pre-service science teachers who joined the microteaching course. A comparative study method was adopted by comparing the research target skills in applying three different inquiry learning models. The results revealed that the pre-service science teachers scored 84 for the guided inquiry or categorized as 'very good', 79 for the modified inquiry or in a 'good' category, and 75 for the open inquiry or belonged to the 'good' category. A correlation coefficient analysis showed that the r count was 0.620 while the r table with a significant level of 5% for $N = 56$ and $df = N - 2 = 54$ was 0.354. Thus, the r count $>$ r table or $0.620 > 0.354$ and H_a was accepted. The results indicated that there was a significant correlation between pre-service science teachers' skills in applying three different inquiry models. Therefore, it concluded that the pre-service science teachers achieved the highest score when applying the guided inquiry yet remained to get good scores when implementing the modified and open inquiry model.

Keyword : pre-service teachers, science, inquiry, microteaching

Topic : Science Education

[GS.AB-42]

The Effect of Supervision, Self-Efficacy, Engagement Toward Work Effectiveness of Public Junior High School Teachers in Jakarta

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Universitas Negeri Jakarta

Abstract

The objective of this research was to study the effects of supervision, self-efficacy, and engagement toward work effectiveness of public junior high school teachers in Jakarta. It was quantitative research with survey method. The research samples selected as much as 230 regrouping public junior high school teachers using simple random sampling technique. Based on the research, it was founded that: (1) supervision implies a direct positive effect on effectiveness, (2) self-efficacy implies direct positive effect on effectiveness, (3) engagement implies a direct positive effect on effectiveness, (4) supervision implies a direct positive effect on self-efficacy (5) supervision implies a direct positive effect on engagement.

Keyword : collaborative learning, tranformational leadership, organizational behavior

Topic : Science Education

[GS.AB-46]

Student Psychological Responses to English for Biology Course in Biology Department of Universitas Negeri Padang

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Abstract

Education at the university expects graduates who are able to integrate with social life, including with international life. Students who graduate become a benchmark for the quality of the place they study. So, the quality of a university depends on the quality of the individual graduates. The quality of graduates is marked by their achievement index at the end of each semester. Students who have high intelligence have the possibility of getting high scores, and vice versa. The "English for Biology" course is an effort to harmonize the world's needs

of qualified graduates with the role of the university's function as a place to prepare it. In each lecture will appear a variety of student responses psychologically to the lectures that are happening. These responses include perceptions, interests and attitudes. The response has an effect on student competence after lecturing. We have observed these psychological responses and analyzed them on Biology Department students at Universitas Negeri Padang.

Keyword : Psychological Responses, English for Biology Course

Topic : Biology Education

[GS.AB-47]

Strengthening Lecturer Resources Model; the Efforts to Improve the Reputation of Universities in the Disruptive Era

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Abstract

The challenges of lecturers in the disruptive era are very high. Lecturers are faced with the development of information technology and ethical actions. This study aims to develop a model of strengthening lecturer resources that should be carried out by UNNES. Respondents in this study were lecturers to reveal three variables, namely education, training, and development; performance assessment; and management of lecturer careers. The method of data collection is a questionnaire. The data analysis method used is descriptive analysis and focus group discussion (FGD). The model of strengthening lecturer resources in the disruptive era has been successfully developed. The characteristics of lecturers in the disruptive era are (1) religious and ethical behavior; (2) quality doctoral studies in the country / abroad; (3) productive writing scientific works (articles and books); and (4) information technology literacy. The results show that the lecturers strongly agree that there is assistance for lecturers who are pursuing further doctoral studies both domestically and abroad. The lecturer considers it important training that is able to increase innovation in information technology-based learning and the ability to produce quality research proposals. Lecturers also strongly agree on ethical behavior in accordance with existing regulations.

Keyword : disruptive era, lecturer, human resources strengthening

Topic : Others relevant Fields

[GS.AB-48]

Contribution of Early Ability and Welding Practicum Facilities on the Results of Following Welding Practicum Learning Students in Education Engineering Mechanical Engineering

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Abstract

This study uses a quantitative approach with correlational research. The variables in this study are initial ability (X1) and welding facilities (X2) as independent variables, while practical learning results (Y) are dependent variables. The data analysis used in this study is descriptive analysis and regression test. The results of this study revealed that there were differences in the results of the initial capability between offering A2 and offering A3 with a low initial ability average. There is a correlation between practicum welding facilities and practical learning outcomes, this is proved by the value of F count = 90,093 greater than the value of F table = 4,171 and a significant value of 0,0001 smaller than the significance of 0,05. There is a significant relationship between the independent variables in the form of initial ability and welding practice facilities on the dependent variable in the form of learning outcomes of advanced welding practicum. This is evidenced by the results of multiple linear regression analysis model summary b for offering A2 shows the value of R Square of 0.751. Results of regression analysis of summary models on offering A3 shows R Square of 0.809.

Keyword : Initial ability, welding practicum facilities, practical learning outcomes.

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-50]

Marketing Strategy of Educational Technology Digital Learning Product in the Marketplace

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Abstract

Learning products developed by students majoring in Curriculum and Educational Technology have not been utilized for entrepreneurial capital. They can get grades from the lecturers and also earn a profit. This study aims to analyze the opportunities for entrepreneurship in digital learning products on the marketplace, as well as the utilization of digital learning products for entrepreneurship. The method used is qualitative research. The data analysis technique uses interactive models and data validity techniques using data triangulation. Learning products have the opportunity to be marketed in the marketplace. The use of digital learning products can be marketed in marketplace by registering and uploading digital learning products. Digital learning products are used to be distributed to educators to be used in learning activities. Students are able to utilize digital learning products to be disseminated (distribution) in the field of Educational Technology, especially in the dissemination of learning media.

Keyword : Educational technology, learning product, digital learning, marketplace

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-54]

Implementing Flipped Learning in Microeconomics Course

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Abstract

E-Learning is one of the breakthroughs in education that utilizes information technology. Various online learning models began to be developed. For example blended learning, distance learning and flipped learning. Online learning basically is trying to innovate and change the paradigm in learning. One of the online learning models which is currently quite a lot of studies in educational research is flipped learning. Flipped learning is learning that combines classroom meetings with online learning. In flipped learning things that are usually done in the classroom such as explaining the material, giving assignments, exercises and homework are transferred to online learning. In the classroom, learning is really more student centered because the students will have more time to complete case studies, conduct problem-based learning, practice and discuss. This research was conducted with a two-year development research design. The results of the first year research are the learning design and lesson plan for the implementation of flipped learning in introduction to microeconomics course.

Keyword : E-Learning, Flipped learning, Microeconomics Course

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-55]

Soft Skill Evaluation Management in Learning Processes at Vocational School

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Abstract

Level of unemployed vocational high school graduates reach 9.27% from the productive ages. It is because of the learning evaluation is still centered on a hard skill teaching (skills evaluation), and ignores evaluation of soft skills (Creativity, Critical Thinking, Communication, and Collaboration = 4C). The government is trying to improve the quality of graduates. The aim of this study is to develop 4C evaluation management in vocational high school productive learning. The results are expected in helping the vocational high school revitalization program. The Research and Development (R & D) approach is applied to this study and project-based learning is used to test the effectiveness of the model on vocational students in Semarang. Test-shaped evaluations are used to measure the cognitive domain (knowledge) while to measure the affective domain (4C) and psychomotor (skills) are used non-tests to evaluate performance (performance test). The results of the trial model shows that it is quite effective to improve the mastery of the competence of 4C soft skills of vocational students.

Keyword : Management Model, Evaluation, 4C

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-56]

Augmented Interactive Wall as a Technology-based Art Learning Media

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Abstract

Art plays an important role in stimulating the development of the individual right brain. Art learning can improve the intelligence of individual expression, increasing sensitivity and concentration, and fostering brilliant creativity. Formal education institutions in Indonesia have not provided an appropriate portion for art learning. This causes the development of visual art in Indonesia tends to be slow and hampered. This research will reveal the potential of the Augmented Interactive Wall as a medium for expressing ideas using digital technology. This is qualitative research using observation and interviews to obtain data. The result shows that collaboration between technology and art will produce innovations that will help individuals to explore and express their ideas better, and bring them into various forms of physical, social and cultural interactions.

Keyword : augmented interactive wall, STEAM, art learning, art education, technology

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-57]

Catalytic Transformation of 1,8-Cineole from Cajeput Oil to p-Cymene and Its Anti-Inflammatory Activities

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Universitas Negeri Semarang

Abstract

Transformation of 1.8-cineole from eucalyptus oil into p-cymene as anti-inflammatory has been investigated. The method of p-cymene formation is aromatization reaction of 1.8-cineole with acetic anhydride. The purpose of this research was to determine the activity and selectivity of Fe³⁺-beta zeolite and Ni²⁺-beta zeolite catalyst and p-cymene activity as anti-inflammatory by Rat hind paw edema method. The catalyst was prepared by modifying the exchange of Fe³⁺ and Ni²⁺ ions. 1.8-Cineole was reacted with acetic anhydride using H-beta zeolite, Fe³⁺-beta zeolite, Ni²⁺-beta zeolite and FeCl₃ catalysts at 80 °C. The aromatization results were analyzed by GC and GC-MS. Furthermore, the best reaction product was tested as anti-inflammatory compared to 99% p-cymene. The reaction product of Ni²⁺-zeolite beta catalyzed contained highest product of p-cymene 11.34% and for catalyst Ni²⁺-beta zeolite catalyst is relatively most selective than using Fe³⁺-beta zeolite and H-beta zeolite catalyst. Anti-inflammatory test the edema in rat's leg was measured by plethysmometer for four hours after the rats were induced by 1% carragenan subplantar. The obtained data was analyzed using the Shapiro-wilk test, continued by using the Levene's test and one way ANOVA with the 95% trust scale and continued with Scheffe test. The percent value of anti-inflammatory power (AIP) of positive control group, p-simena 99%, catalyzed reaction product Ni²⁺-beta zeolite were 72.85, 86.05 and 25.78%, respectively. The results indicate that the catalyzed reaction product Ni²⁺-beta zeolite has the highest % AIP.

Keyword : 1,8-cineole, p-cymene, catalytic transformation, anti-inflammatory activities

Topic : Others relevant Fields

[GS.AB-61]

Algorithm K-Means for Generating Sets of Items in Educational Evaluation

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Abstract

In a national-scale educational evaluation system, such as the National Examination, the need for several sets of questions that have the same level of difficulty is very required to avoid cheating by students. Therefore, this research aims to make a set of questions with the same level of difficulty automatically using a machine learning approach, namely K-Means. To achieve this goal, several procedures need to be implemented, that are building training data by determining the value of each question based on Bloom's Taxonomy, item characters/types, and other parameters. Then, with utilizing K-Means, several cluster centers are obtained to represent the uniformity of the questions in the cluster members. By using several heuristics criteria defined previously, several sets or

packages of questions that have the same characteristics and difficulty levels are obtained. From the experiments conducted, the validation and analysis of results are presented. By using this system, the contents of the questions in the generated set do not need to be the same, the package of questions can be generated automatically quickly, and the level of the difficulties can be measured and guaranteed.

Keyword : Machine Learning; Educational Evaluation, Bloom's Taxonomy

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-62]

Building Performance Simulation in Design Process: A Learning Experience of Indonesian Architectural Education

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Abstract

The rapid development of digital technology recently makes the design process faster, easier and integrated. Digital studio often helps students to make more alternative ideas. Conversely, it is also interesting that only a few students are likely to use building performance simulation (BPS) in their design process. The use of BPS in India, Australia, and the US are not parallel with the design studio. Nevertheless, the sophisticated and useful digital calculation, there is a gap in architectural education while the students merely simplified the design process as a face-value only. Those phenomena drag the idea to seek the condition in Indonesian architectural education. This paper aims to look into the use of building performance simulation (BPS) as the tool to develop the design process on an architectural studio. Furthermore, this paper will provide an overview of student self-assessment of their design process compared with their score of the design studio. The questionnaire distributes via online for architectural students in Indonesia. There are 97 respondents from 19 universities. The majority of respondents are from UPI 29% and 14% from ITB. In early sampling in UPI, it was found that students use BPS because of the course mandatory, not for the design approach.

Keyword : Building Performance Simulation (BPS), architectural education, architecture design process.

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-63]

Microclimate Effect Toward Indoor and Outdoor Temperature Of Villa Isola UPI

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Abstract

Villa Isola is one of the heritage buildings with art deco relic of the Dutch East Indies, now became the rectorate of Universitas Pendidikan Indonesia (UPI). The building was built in October 1932 – March 1933 and changes its function into office in 1954. The changes in the spatial structure from 4 floors into five floors to meet the needs of space, it also changed the interior with a segmented room. Measurement of the globe temperature (T_g); air temperature (T_a) and the surface temperature (T_s) were performed at a point indoor and outdoor with a 15 minutes interval. The phenomenon of heat temperature difference (ΔT_s) at 0.50°C indoor, meanwhile the outdoor $\Delta T_s = 2.2^\circ\text{C}$. This paper then will give a description of Villa Isola, its temperature alteration both indoor and outdoor.

Keyword : microclimate, Isola Bumi Siliwangi, indoor and outdoor temperature

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-64]

Chronolux Plugin Sketch Up to Optimize The Placement of Vegetation

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Universitas Pendidikan Indonesia

Abstract

This study describes the software functions of Chronolux Sketch Up plug in. This software aims to simulate insolation at some point. Insolation areas and sky view factor (SVF) which is integrated as where the initial phase of a design process at an analysis site. Chronolux is proven as the simple tool to help a designer to know

the grade of insolation, which then decided the vegetation spot based on the level insolation. Based on this experiment, it is known that north part area is an area with maximum insolation within 10 hours, and west part area is an area with the minimum insolation within 7 hours. From the SVF calculation, it is found that the north part with 77.28% later can reduce the SVF until 42.69% by optimize the placement and determine the characteristic of vegetation. After the placement of vegetation, the solar insolation then is able to reduce from the average 6h5m into 4h35m . The vegetation then is proven as an important aspect to reduce the insolation

Keyword : Chronolux, Sky view factor, vegetation optimization

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-66]

Antibacterial Test of α -pinene compounds from Turpentine oil in Hand Sanitizer Gel

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Universitas Negeri Semarang

Abstract

Research on the antibacterial test of the α -pinene compound from turpentine oil in hand sanitizer gel has been carried out. The purpose of this study was to determine the antibacterial activity of turpentine oil gel and α -pinene gel against *S. aureus* and *E. coli*. The method used for α -pinene isolation is done by fractionation distillation with pressure reduction. Analysis of α -pinene compounds from turpentine oil using FT-IR and GC-MS. The results of GC-MS analysis show that α -pinene is a terpenoid group compound. Antibacterial activity testing uses the paper disc diffusion method. Antibacterial activity test of turpentine oil and α -pinene showed inhibition of *S. aureus* and *E. coli* bacteria. Turpentine oil has the highest antibacterial activity with a inhibition zone of 13.8 mm against *S. aureus* and 8.83 mm against *E. coli* bacteria, whereas α -pinene has the highest antibacterial activity with a 2.2 mm inhibition zone against *S. aureus* and 2.34 mm against *E. coli* bacteria. Based on the results of the antibacterial gel test showed that the turpentine oil gel gave a better antibacterial effect than the α -pinene gel, so that it can be applied in the form of hand sanitizer gel.

Keyword : antibacterial; α -pinene; turpentine oil; hand sanitizer

Topic : Chemistry Education

[GS.AB-67]

Effectivity of Online Learning Teaching Materials Model on Innovation Course of Vocational and Technology Education

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Universitas Negeri Padang

Abstract

In Indonesia, development of education was not faster than technology development (era of revolution industry 4.0), so that combination between education and technology were needed so that both of them could be balance. So that, it needed development of teaching materials on innovation course at Technical Vocational Education and Training (TVET) used Problem Based Learning by online. This study was carried out in TVET Magister Program at Universitas Negeri Padang. The type of study was Research and Development (R&D) and model of study was 4-D model (define, design, develop, disseminate). The instrument was validated by 3 of experts judgment, Aiken's validity result was 0,929 and ICC reliability was 0,811. Effectivity result was obtained of gain score, it was 0,774 that was showed from increasing of student outcomes (pretest-posttest). This study produced teaching materials that were effective and appropriate for learning in the revolution industry 4.0 era.

Keyword : Revolution Industry 4.0, Problem Based Learning, Technical Vocational Education and Training, Online Teaching Materials

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-68]

Learning Tools For Motorcycle Electricity Maintenance Subjects Use Problem-Based Learning

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Universitas Negeri Padang

Abstract

The low learning outcomes, teaching methods are not in accordance with the plan, and the lack of adequate learning tools is the core problem of this study. This study addresses these problems by producing problem-based learning tools (PBL) on subjects that are valid, practical and effective in Motorbike Maintenance in Vocational Schools. Research and Development (R & D) this study consisted of four stages; define, develop, design and be pessimistic. The type of primary data is taken from experts, teachers and students. Data were analyzed using descriptive data analysis techniques by describing the validity and effectiveness of this learning device. The results of this study are: (1) Creation of PBL-based learning learning devices on Motorbike Electrical Maintenance subjects, (2) Validity of PBL-based Learning Devices declared valid (value 87.70%). While the learning device is declared effective in improving student learning outcomes. Based on the findings of this study it was concluded that PBL-based learning devices are valid and effective

Keyword : Learning Tools, Problem Based Learning, Validity, Effectiveness

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-70]

Investigating the Effect of Learning Multimedia and Thinking Style Preference on Learning Achievement on Anatomy at Universitas Kristen Indonesia

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Universitas Kristen Indonesia

Abstract

This study is aimed to investigate the effect of learning multimedia and thinking style preference on learning achievement of anatomy. It was done at Medical Faculty of Universitas Kristen Indonesia. It was quantitative research with the quasi-experimental design. The population were the students batch 2017 and 2018, and the sample was chosen randomly. Test (consisted of 37 test items) and nontest (a set of the questionnaire consisted of 15 items) were used as the instruments in this study. The data which was obtained through the instruments of the study were analyzed using descriptive statistics and inferential analysis through anava test 2x2. The results were; a) the student's learning achievement average when they were taught using multimedia (video) was 27.37, while student learning achievement average when they were taught using multimedia (powerpoint) was 23.6, means that H₀ was rejected and H_a was accepted; b) the student learning achievement average with abstract thinking style preference was 30.89 and student learning achievement average with concrete thinking style preference was 21.01, means that H₀ was rejected and H_a was accepted. As a conclusion that there is no interaction between learning multimedia and thinking style and the effect on students' learning achievement of Anatomy.

Keyword : learning multimedia, thinking style preference, learning achievement

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-71]

The role of industry partners to improving student competency in vocational high school

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Universitas Negeri Semarang

Abstract

The partner industry has an important role in increasing the competence of vocational students. So that vocational students have the competencies needed by the partner industry, the partner industry must play a role in increasing student competence. This study aims to determine the relationship of the role of partner industries in improving milling machine competencies, to find out the differences in student competencies after engagement with industry. This study is an ex-post facto study and the population from 34 students of class XI in SMK N 1 Semarang. Data collection techniques in the form of observations, in-depth interviews, and questionnaires. Data analysis uses descriptive statistics. The results of the study show that there was a positive and significant relationship between the role of industry in improving student competence. Based on data

analysis using IBM SPSS Statistics 20, the results of coefficient number correlation between the role of industry and increasing competency are classified as high with a value of 0.690. There are differences in student competencies before and after partnering with industry average to 8.75%. Vocational High Schools should always involve the industry in improving student competencies to be relevant to industry needs.

Keyword : The role of industry partners, competence, milling machine

Topic : Others relevant Fields

[GS.AB-72]

Science Environment Technology and Society Approach Learning to Improve Natural Disaster Mitigation Literacy

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Universitas Negeri Semarang

Abstract

This research is motivated by the location of Indonesia in disaster areas. But the readiness of citizens to deal with disasters is still low. One effort to mitigate through education. This study aims to (1) develop natural disaster learning devices with the vision of the Science Environment Technique Society (SETS) which is integrated in science subjects, (2) implement disaster prepared teaching materials, (3) improve teacher understanding and skills, students about concepts, principle, the practice of saving oneself in the event of a natural disaster. The research was conducted in collaboration with teachers in primary and secondary education. A theoretical exploration and expert evaluation were carried out on the theme features and sub-themes of the disaster learning model integrated in the SETS vision science subject. Data analysis techniques with (1) descriptive percentages, (2) normalized gain test, and t test. The results of the study were in the form of five features of learning models such as: (1) Syllabus, (2) lesson plans, (3) learning methods, (4) teaching materials, and (5) techniques and types of assessment. The results of desimination show that the learning devices developed are worthy of being given to students, and can improve students' understanding of mitigation which includes recognizing

Keyword : mitigation; natural disaster; SETS

Topic : Science Education

[GS.AB-73]

Is the use of reference managers driven by necessity or policy pressure?

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Universitas Negeri Semarang

Abstract

The use of a reference manager (RefWorks, Mendeley, EndNote, Zotero) has become very important in the writing of scientific papers for students and lecturers. The Faculty of Economics of Universitas Negeri Semarang (FE UNNES) has called on students to use a reference manager when composing a thesis. This study aims to analyze factors that influence the utilization of reference managers by FE UNNES students. The theories used are the Unified Theory of Acceptance and Use of Technology (UTAUT) and the Theory of Planned Behavior (TPB). The research population was students working on their theses at FE UNNES. The data collection method used is a questionnaire distributed online through the Google platform. The data analysis method used is path analysis. The results show that performance expectancy and social influence have positive and significant effects on a student's intention to use a reference manager. Effort expectancy, performance expectancy, and social influence have a significant effect on the use of reference managers. Other results show that behavioral intention, lecturer guidance, and policy pressure do not significantly influence the use of reference managers. The results demonstrate that the use of reference managers by students is more influenced by perceptions of their usefulness.

Keyword : actual use, behavioral intention, necessity, policy pressure, UTAUT

Topic : Informatics and ICT at Higher Education (IHE)

[GS.AB-75]

Increasing Quality Test Ability of Vocational School Students of Agribusiness of Processing Agricultural Products through Virtual Laboratory Development as a Solution of Limitation the Facilities

Siti Muidalipah

Universitas Pendidikan Indonesia

Abstract

One of the competencies that must be possessed by Vocational School students of Agribusiness of Processing Agricultural Products is having the ability to carry out quality tests. Quality testing cannot be separated from the competency of processing agricultural products because agricultural materials and agricultural-based products contain components of nutrients such as minerals, carbohydrates, fats, proteins, vitamins and other components. In addition, food and agricultural products may also contain dangerous components such as mercury. Quality testing has many important roles for the food industry. However, Vocational School of Agribusiness of Processing Agricultural Products is not equipped with facilities to conduct proper quality tests. Based on several studies that have been conducted, the virtual laboratory that was developed can provide an overview of quality test procedures that have not been able to be carried out in Vocational School of Agribusiness of Processing Agricultural Products. Virtual laboratories were developed by following the R & D method and validated by 3 expert validators, namely media, subject, and language experts. Based on the results of validation and large-scale trials, it was found that the virtual laboratory developed was very feasible to be used in the learning process.

Keyword : virtual laboratory, vocational, quality test, agribusiness

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-77]

Effect of Porosity on Soil Permeability in the Flood Area of Padang City

M Giatman, S Haq, T Andayono

Universitas Negeri Padang

Abstract

Abstract – The diversity of soil types in Indonesia causes the design of development to have to adjust its planning carefully in accordance with the type of soil, so that it is necessary to test the mechanical properties such as porosity, pore number, and density. In the city of Padang, there are several areas often flooded (flood). This associative study was conducted to reveal the relationship of the influence of porosity and permeability of the soil which is often inundated in the city of Padang. This research was conducted in May-June 2018 in the Soil Mechanics Labor Department of Civil Engineering FT UNP with soil samples in the area of Kampung Jambak Lubuk Buaya, Padang City. The analysis technique used the Microsoft Excel application to present data into simpler information and analyze the relationship using the Pearson Product Moment formula. The results of the study obtained soil porosity values of 63.53% (large porosity). Soil permeability value is 0.0000633 cm/second or 0.23 cm/hour (very slow). The effect of porosity on soil permeability in the Kampung Jambak Lubuk Buaya Padang City is 3.37% with t-count smaller than t-table or $0.324 < 3.182$ or insignificant.

Keyword : porosity, permeability, correlation, and flood area

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-79]

Animation For Improving Learning Results of Braking System Expertise

Hendro Maxwell Sumual, Parsaoran Tamba, Moureen Moudy Kambey, Deivy Musa Ombuh

Universitas Negeri Manado

Abstract

The purpose of this study was to determine the effect of the use of animation in improving learning results braking system expertise in the automotive department of SMK Negeri 1 Airmadidi. The design of this experimental study nonequivalent control group design. The number of respondents as many as 28 people. The learning results data collection instrument was a test. Data were analyzed with parametric statistics, the t-test with techniques independent sample t-tests was calculated using the Statistical Product and Service Solution. The result is a significant influence on the results of the use of animated learning material braking system

subjects in class X Automotive at SMK Negeri 1 Airmadidi, of student learning results that are taught by the media Microsoft office powerpoint.

Keyword : Animation Media, Learning Results, Braking System

Topic : Informatics and ICT at Higher Education (IHE)

[GS.AB-80]

Implementation of Problem Based Learning to Improve Critical Thinking Skills in Entrepreneurs Learning

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Abstract

Critical thinking skills are one of the 21st century skills in the industrial era 4.0 that are integrated in the ability of knowledge, skills and attitudes and mastery of Information and Communication Technology (ICT). The purpose of this study was to see the effect of applying Problem Based Learning to improve critical thinking skills in Entrepreneurship learning. This research method is a quasi-experimental method that will compare the results of the experimental class treatment with the control class. The design used in this study is Nonequivalent Control Group Design. The sample of this study was students of the Electronics Engineering Education study program at the Faculty of Engineering, Makassar State University who participated in entrepreneurship courses. The results showed that: (1) Application of Problem Based Learning on Entrepreneurship Learning can significantly improve critical thinking skills, (2) the application of Problem Based Learning can improve student learning activities.

Keyword : 21st century skills, Critical thinking, Problem Based Learning, Entrepreneurship

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-82]

Analysis Javelin Throw Technics at Student Athletes in Central Java

Rumini
Universitas Negeri Semarang

Abstract

The purposes of this study are (1) to analysis motion technique on javelin thrower from Central Java and (2) analyze errors that are often done by javelin throwers. The study subjects were male student javelin throwers in Central Java with a sample of 4 athletes. The research data was taken at the student athletic championship in Central Java in 2018. Research method with qualitative descriptive, with the method of observing javelin throw techniques (grip, approach phase, 5-stride rhythm phase withdrawal and impulse stride, delivery phase (transition, power position) delivery phase final arm movement, foot placement, recovery phase). The results showed that thrower motion errors occurred when pulling the javelin backwards, especially the balance of the left hand position below the shoulder and the throwing power position technique still carrying the point of weight with the position in front. Conclude that the throwing technique error in student javelin thrower athletes in Central Java, especially in the phase of withdrawal of javelin in the phase and impulse stride including the high category. Suggestion, basic javelin throwing exercises for student athletes is done by drill methods with various variations of repetition of high intensity movements.

Keyword : analysis, technique, javelin throw, student athletes words: analysis motion, technique throwing the javelin

Topic : Physics Education

[GS.AB-84]

Managing Environmental Higher Education towards Green University's Long Road: Case of Universitas Negeri Semarang

Rudatin Windraswara, Tandiyo Rahayu
Universitas Negeri Semarang

Abstract

Nowadays, higher education institutions have been incorporating sustainable development principles into their system (for instance education, research, campus operations, and community outreach). Responding to this,

UNNES declared itself as a Conservation University which has a concept that refers to the principles of conservation (protection, preservation, and sustainable use) both conservation of natural resources, environment, art and culture integrated into education, research, and community service (Regulation of Rector UNNES No 27, 2012). Although there have been some signs of progress in the implementation of sustainable development fields in UNNES, there are still numerous challenges that need to be overcome. During stakeholder's analysis using ANP (Analytical Network Process), it can be inferred that the main barriers to the construction of a green university system lie within internal institutional decision-making processes. This led to the financial barriers that were identified in this study ranged from negative perceptions of green university in general, the perception that green buildings incur higher initial capital costs and a lack of incentives to reduce long-term energy and maintenance costs at both the faculty and facilities level.

Keyword : green university, environmental higher education, UNNES, sustainable development

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-86]

School Mapping Using Geographic Information System

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Universitas Pendidikan Indonesia

Abstract

The development of school mapping research in various countries illustrates how to improve the quality of human resources by optimizing mapping research. This article aims to explore the development of school mapping, examine the types of school mapping tools used, and explore the data presented in school mapping. The method used is a systematic literature review. The results showed that several countries had conducted school mapping research are UK, Malta, Spain, Kenya, Ghana, India, China, Malaysia, Myanmar, Chile, Canada, Minnesota, Hawaii, New Zealand, and Australia. School mapping research focuses on three topics, consisting of evaluating school policies, mapping as an infrastructure database, and school information tools. The mapping method used for evaluating school policies is a qualitative method, while as a database using geographic information system. This article provides an overview of school mapping research as a solution to improve the quality of human resources, such as mapping vocational schools with industrial availability, and their suitability for regional potential.

Keyword : Keyword: mapping, school mapping, vocational school, geographic information system

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-87]

Cultivating Growth Culture for Higher Education Leaders

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Universitas Negeri Semarang

Abstract

Leaders should grow in their capacities and characters. Growth is not an option. It is an inevitable endeavor in this ever-changing time period called disruption era. Leaders who fail to update themselves will be left behind and their organizations will suffer. I believe that leaders shall continuously upgrade themselves in order to make themselves and their organizations relevant to the disruptions. With that principle in mind, I design a leadership upgrading model for university leaders called "Kepemimpinan Bertumbuh" or Growth Leadership. This model has been trialed and administered in different occasions. Results, feedbacks and inputs have been acquired from various users and stakeholders. This paper reports the development of this model and discusses the potential future improvement of this model. Latest results show that higher education leaders need a structured model of leadership upgrading in addition to their informal leadership upgrade based on their experiences and past performances.

Keyword : higher education leader, growth culture

Topic : Others relevant Fields

[GS.AB-88]

Morphological Alteration of Nike Fish from Sea To Estuary Area of Gorontalo Bay, Indonesia

Femy M. Sahami, Rene Charles Kepel, Abdul Hafidz Olii, Silvester Benny Pratasik
Gorontalo State University, Sam Ratulangi University

Abstract

Nike is a term for a minuscule fish that frequently appears in Gorontalo waters. This type of fish belongs to the amphidromous gobi group. This study aims to describe the morphological alterations of nike fish from the sea to the estuary area of Gorontalo waters. The small size of this fish (larval stage/postlarva) causes it tough to analyze morphometric and meristic aspects. Therefore, melanophore pattern approach and molecular analysis using the CO1 gene was used to identify these fish species. Sampling was carried out on 5 to 11 October 2018 in the Gorontalo Bay area towards the mouth of Bone Bolango river when this type of fish appeared. Genetic investigation results showed that from several groups of samples, there were found two groups of samples identified as *Belobranchus segura* species. Morphological development of nike species of *Belobranchus segura* in the sea and estuary are indicated by changes in the melanophores pattern that perform to be more numerous and spread to all parts of the body when entering the river mouth.

Keyword : *Belobranchus segura*, melanophore, molecular, Nike

Topic : Others relevant Fields

[GS.AB-89]

Skills for Presenting Statistical Information with Tables and Graphs of Postgraduate Students in South Sulawesi

Muhammad Arif Tiro, Ruliana, Zakiyah Mar'ah, and Adiatma
Universitas Negeri Makassar

Abstract

This study describes and examines the skills of presenting statistical information with tables and graphs of postgraduate program students in South Sulawesi. A sample of 134 postgraduate students from Makassar State University, Hasanuddin University, and Cokroaminoto Palopo University. Four basic competencies in statistical literacy: (1) understanding concepts, (2) application ability, (3) ability to make tables and graphs, and (4) accuracy of interpretation of tables and graphs receive special attention. Presenting statistical information with tables and graphs is the fifth competency of statistical literacy. The results of data analysis of these four competencies are between 51% and 80%. From this description we identified weaknesses that must be sought for solutions, especially those that would improve statistical literacy learning, especially the skills of presenting statistical information with tables and graphs. Statistical learning strategies that emphasize statistical literacy, which means context-based statistics for students need to be well designed.

Keyword : statistical literacy, statistical information, descriptive statistics, inferential statistics

Topic : Mathematics Education

[GS.AB-90]

"Tumbutana" As a Oral Tradition of Hospitality and Character Education For the Arfak Tribes of West Papua

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Universitas Negeri Manado, Sekolah Tinggi Theologi IKAT

Abstract

This research is a qualitative research with an ethnographic approach to find out how Tradition can be used in Character Education. This research was conducted in the Arfak Mountains region of West Papua which has a dance tradition "TumbuTana" as a hereditary cultural heritage. the "Tumbutana" tradition is often carried out by the Arfak tribe in every joint activity involving the wider community. This is one form of politeness and friendliness from the Arfak tribes. Research with a cultural approach is very interesting with the study of digging deeper into rules, values, narration of song lyrics and so on so that understanding the tribal tradition will be able to find the key to character education to build a society that is cultured and loves diversity. Indonesia, which is inhabited by many indigenous tribes, provides a variety of regional dances that are passed down from generation to generation. Every province in Indonesia has regional dances. Character education can also be developed through traditional values for Papuans.

Keyword : Tumbutana; Oral Tradition; Hospitality; Character Education

Topic : Others relevant Fields

[GS.AB-91]

Development of Education Game Media For XII Multimedia Class Students in Vocational School

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Universitas Negeri Surabaya

Abstract

According to the results of interviews with teachers it is known that students experience difficulties in understanding actionscript material. This is because this material has a high level of complexity, it is proven that only 30% of students are able to achieve the learning objectives. This study aims to produce educational game media in terms of the feasibility and effectiveness of the media. The development model used is ADDIE (analyze, design, development, implementation, evaluation). Methods of data collection using interview techniques, questionnaires, and tests. From this study the results are based on validation with material experts and media experts by getting a very good category, so that the media can be said to be suitable for use in learning. The results of the post-test value of the experimental class and the control class were analyzed using the t-test obtained by $t_{count} = 4.584 > t_{table} = 2.038$ which is a significant difference, so it can be concluded that the media is effectively used in learning.

Keyword : development; educational game

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-92]

Health Related Fitness Profile of College Students: Gender Based Analisis

Nur Indri Rahayu, Adang Suherman, Kuston Sultoni
Universitas Pendidikan Indonesia

Abstract

Abstract. The purpose of this research is to examine the differences of health related fitness of college student based on gender. The researchers used comparison method and Analyzed using independent sample t-test (significance at .05) to inference the result. Fitnessgram by Cooper Institute was use to collect the data of health related fitness included BMI, body fat percentage, flexibility, strength (upper body & core body), and Vo2Max. Sample as much as 300 college students, both of female and male are Voluntary participated in this research. Results showed that there are significance differences between female and male in Body fat percentage, Strength (upper & core body), and Vo2max. Males are higher than females on four item of health related fitness above, however, there are no differences on BMI and flexibility of students based on gender.

Keyword : Health Related Fitness, College, student, gender

Topic : Others relevant Fields

[GS.AB-93]

Softskill Needs Analysis In Industry Electronics for Expertise Operation and Maintenance for Technical Levels

Mukhidin, Sri Prihatiningsih, Bachtiar Hasan
UPI

Abstract

Indonesia entered Industry 4.0. that have integrated various systems. The Electronics Industry is part of Industry 4.0. The electronics industry is built on various expertise positions including: senior engineer, engineer, supervisor, senior technician, technician and operator. Operational and Technician competency expertise in the Electronics industry is very much needed. There are people who work in the electronics industry who come from vocational high school graduates. This study is to find out what soft skills are needed in the electronics industry at the level of O & M technicians. The industry studied is at 4.0 home industry. The method used is Qualitative research methods. Softskill's research results in the electronics industry, namely the need for resilience in the work required, communication skills needed to work, responsibility required in work, precision in working very needed, caring for others needed in work, perseverance in work is needed in work, maintaining ethics and morals are needed in work, maintaining cleanliness is needed in work while being able to work safely is needed in work. Implications for vocational secondary schools should be implemented in the curriculum with soft skills in the industry so that there is continuity between soft skills in industry and vocational schools.

Keyword : electronic industry; soft skills

Topic : Others relevant Fields

[GS.AB-95]
Power System Analysis Course Learning A Literature Review

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Universitas Negeri Padang, UIN Suska Riau, Universitas Negeri Padang

Abstract

This article discusses about issues and solutions of power system course to be made as a development reference for improvement. The method used is descriptive analysis by article studying which published from year of 2001 to 2018, and from other sources. For achievement of competency and problems solving happened in this course, there are solutions offered in literature review. Based on that literature review, there are learning solutions that has been applied by previous researchers are 32% using learning model, 26% using simulation (software), 21% using combination (of simulation, experiment, and model), 21% using education or laboratories tools.

Keyword : system analysis, literature study, problem and solution.

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-98]
Development of Assessment Devices Science Process Skills in Learning Science of Junior High School

Enos Taruh and Muhammad Yusuf
Gorontalo State University

Abstract

This study aims: (1) to develop a tool for assessing science process skills in junior high school science learning; (2) produce a tool for assessing the process of science skills that are suitable for use in science learning. The method used in this study is development research, which is developing a tool for assessing the process of science skills in junior secondary science learning. The procedure of this study refers to four-D model that is define, design, develop, and disseminate. The assessment tool developed has been tested at Gorontalo State 1 Middle School in the odd semester of the 2018/2019 academic year. The results of this study are to obtain a product for developing the assessment tools for science skills in Secondary School Science Grade VIII learning which have been validated by expert validators and users (science teachers), as well as through validity, empiric, the results of which are stated that the appraisal of science process skills in the learning of Class VIII Science in Junior High Schools that have been developed is feasible, valid, effective and practical to be used in measuring the results of junior high school science learning.

Keyword : Development of assessment tools, science process skills

Topic : Physics Education

[GS.AB-99]
Developing a Discovery Learning Model-Based E-Modules on Indonesian Language Teaching Course

Mulyadi, Atmazaki, Agustina, Syahrul, R.
Universitas Negeri Padang

Abstract

This study aimed at producing a design and implementing the results of the design of the E-modules in Indonesian language teaching courses at Higher Education. The learning model applied in developing this E-module is a Discovery-Learning Model. The type of research made use of is Research and Development, henceforth R&D with the approach of the ADDIE Instructional Systems Design (ISD). The research subject was the students of the Computer Information Technology Education Study Program in IAIN Bukittinggi West Sumatra Indonesia. To find out the validity, effectiveness, practicality of the Discovery Learning-based E-Modules, the researchers distributed the questionnaires as the instruments of collecting the data. The results indicated that the developed E-module's validity based on Discovery Learning was obtained at 85.16% to 88.27% with the average value/score of the validation results being 86.47% and appraised very valid. From the results of the E-module validation, it can be concluded that the E-module validation assessment sheet is categorized very valid. The practicality of the Discovery Learning-based E-modules is very practical with a score of 88.57. Hence, it can be concluded that the practicality of the Discovery Learning-based E-modules is stated very practical and highly motivated the students to learn it. The students' activities

Keyword : Keywords: E-Module, Indonesian Language Teaching, Discovery Learning

Topic : Informatics and ICT at Higher Education (IHE)

[GS.AB-100]

The Efficiency of Applying The Learning Media of “Macromedia Flash” As a General Geology Lecturing at Almuslim Aceh University

Sumanti, Z. Mawardi Effendi, Festiyed, Ridwan
Universitas Negeri Padang

Abstract

This study aimed at assessing the effectiveness of applying the macromedia flash's learning media in general geology lecturing. The effectiveness of learning is seen from the activities and responses of students in attending lectures. This type of research is a qualitative descriptive study. According to Denzim and Lincoln in Moleong (2006: 5) explains that qualitative research uses natural background with the intention of interpreting the phenomena that occur and carried out by involving various methods that exist. The analysis of the data used in this study is the theory of the Miles and Huberman' model. The research finding signified that the students' activity in the learning process using the macromedia flash's learning media is 85% of students participating in the activities. This can be interpreted that the media is able to create a classroom situation that encourages students to ask each other questions, answer or express opinions or respond to them. Responses or impressions given by the students to this learning media in general geological learning are sensibly and positively welcomed. The students feel contented and enthusiastic in learning. In conclusion, the use of this macromedia flash's learning media can be performed well.

Keyword : Keywords: macromedia flash, learning media, general geology

Topic : Informatics and ICT at Higher Education (IHE)

[GS.AB-101]

The Utilization of E-Learning in the Learning Process by the Students of Educational Sciences Faculty Universitas Negeri Padang

Eldarni, Fitri Maiziani
Universitas Negeri Padang

Abstract

The aim of this study is to describe the use of e-learning in learning process by the students and the lecturers in the faculty of education, Universitas Negeri Padang academic year 2018-2019. Learning is a process where students can search, manage, and build the information into knowledge with the guidance of teachers whose role as facilitators, mediators, and evaluators. To create a good quality of learning, it requires learning adequate and appropriate media, materials, tools, etc. as learning resources to students. In particular, Universitas Negeri Padang implements this application to increase the learning quality and facilitate students and lecturers through website: e-learning.unp.ac.id. The lecturers can upload learning materials, modules, media, video, and etc. It applies a descriptive quantitative method and the data is collected through the spreading of questionnaires. It is found that most of the students and the lecturers have utilized e-learning.unp.ac.id as learning resources to support their learning process in the Faculty of Education, Universitas Negeri Padang.

Keyword : e-learning, learning process

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-102]

Impact of The Implementation of Problem Based Learning in Soil and Rock Mechanic Subject to Activities And Student Learning Outcomes of Study Programs Outside Domisile, Sawahlunto State Community Academy

Rijal Abdullah dan Muhammad Iqbal Sy
Universitas Negeri Padang

Abstract

This research was motivated by the low achievement of learning outcomes of Land and Rock Mechanics subject by students of Study Program Outside Domicile of Sawahlunto Community Academy. This study purpose was to reveal the impact of Problem Based Learning application to the activities and the learning outcomes of Soil and Rock Mechanics subject of students of Study Program Outside Domicile of Sawahlunto Community Academy. This research was in the form of Class Action Research Model Kemmis and Mc Taggart, consisting of four components (planning, action, observation, and reflection). After learning in three cycles, the results showed that the application of Problem Based Learning in Soil and Rock Mechanics subjects to Study Programs Outside Domicile of Sawahlunto State Community Academy turned out to be able to increase student learning

activities, reaching very high categories, and achieving student learning outcomes average 83.33, above of the Minimum Graduation Standards value (70).

Keyword : Problem Based Learning, Activities, Learning Outcomes

Topic : Science Education

[GS.AB-103]

Ethnomathematics: Formal Mathematics Milestones for Primary Education

Mega Teguh Budiarto, Rini Setianingsih, Rudianto Artiono

Universitas Negeri Surabaya

Abstract

Ethnomathematics is a study of the different ways in which people solve mathematical problems and practical algorithms based on their perspectives. This study refers to various forms of mathematics as consequences which are embedded in cultural activities. Meanwhile, culture-based mathematics learning is one way that is perceived to make meaningful and contextual mathematical learning highly related to the cultural community and will be applied later in harmony with that community, as well as interesting and enjoyable learning. If this is done habituation from an early age will build the character of students. The researcher proposes possibilities for ethnomathematics to engage the curriculum and have a relatively similar role in formal mathematics, namely; (1) substitute for school mathematics; (2) supply for school mathematics; (3) milestones into school mathematics; (4) motivation for school mathematics and (5) as a local content of school mathematics and scheme to develop student's character.

Keyword : Ethnomathematics, Formal Mathematics

Topic : Mathematics Education

[GS.AB-104]

Hybrid Learning versus Traditional Course in Higher Education: Students' achievement and Students' experiences

Rudianto Artiono, Mega Teguh Budiarto, Yuliani Puji Astuti

Universitas Negeri Surabaya

Abstract

This study aimed to examine the outcome of lectures conducted using hybrid learning in Integral Calculus courses. It was focus on students' achievement and students' experiences. Teaching materials were developed using the Plomp development model in the form of learning videos which met valid, practical and effective criteria. While the data analysis techniques were carried out by quantitative-descriptive and qualitative-descriptive methods. The results showed that students' learning achievement increased significantly using hybrid learning compare to traditional course. A number of students have met the mastery learning criteria. Regard to students' experiences, some students felt that lectures conducted using hybrid learning were easier to understand because the video could be played repeatedly. It helped student to understand the material. It also gave freedom for students to determine time and place. Unfortunately, some students revealed that the implementation of lectures using hybrid learning also had disadvantages.

Keyword : Hybrid Learning, Students' Achievement, Students' Experiences

Topic : Mathematics Education

[GS.AB-106]

Development of Mathematical Learning Tools to Promote Higher Order Thinking Skills For Elementary School Students

Rini Setianingsih, Mega Teguh Budiarto, Rudianto Artiono

Universitas Negeri Surabaya

Abstract

Based on the revised K-13 in 2017, the learning tools made by a teacher must bring up and involve 4 (four) aspects, namely Character Education Strengthening (KDP), Literacy, 4C, and Higher Order Thinking Skills (HOTS). Therefore, teachers are required to have sufficient knowledge in these four points, in order to be able to grow their creativity to mix and make it happen in the form of a complete learning device. This research is a

design research that aims to describe the process and results of the development of HOTS-based mathematics learning devices that meet the criteria of valid, practical, and effective. The learning devices developed in this study are in the form of lesson plan, student worksheet, and instrument for assessing students' learning outcomes. To develop the product, the researchers implemented Plomp's development model, which includes the initial research stage, design/ prototype stage, and assessment stage. The results of data analysis show that HOTS-based mathematics learning tools for elementary school students developed by the researchers meet the criteria of valid, practical, and effective, with a mean score as the following: Lesson Plan (3.41), Student Worksheet (3.39), Learning outcomes (3.73), learning feasibility (4.03), positive student responses (94.44%).

Keyword : Design research, mathematics learning tools, higher order thinking skills, elementary school.

Topic : Mathematics Education

[GS.AB-107]

Development of Skill Assessment Instruments Based on Food Hygiene Principles in Learning Food Processing Practices of Culinary Program in Vocational High School

Teti Setiawati, Lismi Animatul Chisbiyah, Nunung Nurjanah, Rina Rifqie Mariana
Universitas Negeri Malang

Abstract

This study aims to produce skills assessment instruments based on the principles of food sanitation hygiene in learning food processing practices of Culinary Program in Vocational High School in Malang City. The research approach uses development research (R and D) adapted from the procedure of developing Borg and Gall, without the last stage, namely dissemination and implementation. Data analysis uses quantitative and qualitative approaches. The development of the instruments produced is a hygiene principle-based learning evaluation instrument based on food processing practice learning. The results of the validation test from the expert validator and user validator indicate that the assessment instrument can be used by the teacher in conducting assessments to measure students' skills in implementing the principles of hygiene and food sanitation in learning food processing practices.

Keyword : assessment instruments; skills assessment, the principles of food hygiene

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-108]

E-Learning Program Evaluation at the University of Pamulang

Dewi Gunherani, Wiwit Irawati, Aeng Muhidin
University of Pamulang

Abstract

One form of learning at the University of Pamulang is to use a system that we call e-learning. e-learning is learning that uses technology and information. E-learning learning is a must for every lecturer at Pamulang University, where the institution has declared 40% of the overall learning is in the form of e-learning while 60% is direct face-to-face learning. The e-learning program was first launched in order to achieve one of the missions of the Pamulang University to organize education and teaching for all community groups. The study was conducted with a qualitative approach using program evaluation design. Program evaluation using a discrepancy model. Data obtained for this study by conducting interviews, observation, and documentation study. The results of the study included aspects of the design, installation process and products of the e-learning program in accordance with the criteria set by the University of Pamulang which would be compared with the realisation of achievement. Research recommendations indicate that the e-learning program must be continued and improved to meet the aspects of supervision and assessment of lecturers and students.

Keyword : Discrepancy evaluation model, Evaluation of e-learning program at Pamulang University.

Topic : Science Education

[GS.AB-110]

Learning Analysis on Audio Video Electronics's Workshop Standard in Vocational School

Mukhidin, Selvi Zanita Putri, Tuti Suartini
Universitas Putra Indonesia

Abstract

The purpose of this research is to find out how far applied and the learning process on audio video electronics's workshop (TEAV) in SMKN 4 Bandung by SNI ISO/IEC 17025, in Radio System and Television Engineering subject in grade XI Audio Video Electronic technique skill program. This research with use qualitative method. There are some steps in this research, starting by produce the research instrument, then construct validation with expert judgment, after that collecting the data by observing, interviewing, and documenting, the last is analyzing the data about workshop management that fitted the SNI component ISO/IEC 17025 along with the data about learning process in accordance with the process standard. The research result showed the condition of the workshop TEAV 70% is applying with the component in SNI ISO/IEC 17025, in which the condition of workshop is accordance with 17 out of 25 component of SNI ISO/IEC 17025. The learning process could be said better, in learning process plan aspect, the syllabus and lesson plan is in accordance with the demands of the curriculum 2013. Along with that, the implementation of learning process is focused in student although the lesson plan is situational. From the aspect of learning outcomes, student is rated from different aspect and learning process supervision under the supervisor.

Keyword : SNI ISO/IEC 17025, Learning process

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-113]

The Development pf Employability Skills' Diploma 3 Mechanical Engineering Students, Faculty of Engineering, Medan State University

Sumarno, Suherman, S Purba
Universitas Negeri Medan

Abstract

Graduates of Diploma 3 (D3) program in Mechanical Engineering, Faculty of Engineering , Medan State University (Unimed) as labor forces face quantitative and qualitative matching problems. The qualitative matching problem that must be known and addressed immediately is employability skills. The purpose of this study is to obtain a description of the development of employability skills' D3 Mechanical Engineering students. The subjects of this study were D3 Mechanical Engineering students enrolled in 2017/2018 academic year (62 students)). This research is a cross sectional study. To collect data, the employability skills self-inventory instrument was used. Statistical analysis to describe: (a) differences in employability skills between classes used Analysis of Variance, and (b) further analysis to find out sub components of employability skills (technological skills, fundamental skills, personal management skills, and team work skills) between classes used Multivariate Analysis of Variance. The research findings: (a) there are differences between inter-class employability skills, (b) 2017 technological skills are significantly lower than class of 2016, 2015, and 2014 at $\alpha = 5\%$; 2017 fundamental skills are lower, significantly from the 2016 and 2015 classes at $\alpha = 10\%$; (c) Personal management skills and team work skills are not different from all classes.

Keyword : Employability Skills

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-114]

The Increasing of Professional Commitment Teacher Through of Self Learning in Junior High School Distric Duren Sawit Jakarta Timur

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SMP Negeri 139 Jakarta Timur

Abstract

The purpose of this study was to determine the increasing of professional commitment teacher through the enlargement self learning in junior high school disctric duren sawit. This research tried to answer problems evidence increasing of teacher junior high school. This study used a quantitative approach, the survey and the.

analysis techniques Variable in the analysis the consisting of endogenous. exogen variable and variable the population of the research is all teachers SMPN in duren sawit, sample in research is one of the population. The research was conducted on professional commitment teacher junior high school in distric duren sawit involving of 86 teacher junior high school had been selected from the target populations of 640 teacher junior high school by using quantitative approach with path analysis methods. The research of hypothesis testing show: the increasing of professional commitment teacher had a direct positif on the enlargement of self learning; therefore to improve the professional commitment state junior school in distric duren sawit, need to increase self learning. Of the results of the analysis and discussion that has been above it can in concluded: there has been increasing professional commitment through the development of self learning .It means self learning that suits his high price hike would indeed bring the commitment of the teaching profession

Keyword : professional commitment and self learning,

Topic : Others relevant Fields

[GS.AB-116]

The Design of Blended Learning Management Model in Civil Engineering Department, Universitas Negeri Semarang

Nur Qudus, Sri Handayani, Virgiawan Adi Kristianto
Universitas Negeri Semarang

Abstract

Integration of technology into learning process is one of the key factors in learning process in the era of industry 4.0. Blended learning is one of the learning method to facilitate the integration of technology into learning process. It enables learning process by utilizing digitalization. However, blended learning alone cannot result more optimal learning outcomes. Therefore, this study aims to design blended learning management model for the students Civil Engineering, Universitas Negeri Semarang to optimize learning process. This study employed 4-D Design of Research and Development Interview and observation were used to collect the data on the initial learning blended learning model. The result of this study was the empirical design of blended learning management model used in Civil Engineering Department, Universitas Negeri Semarang

Keyword : E-learning, Blended Learning, Technology integration, learning management

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-118]

The Development of Personal Character ThroughSTEM Integration in Learning of Elementary School

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Universitas Negeri Padang

Abstract

The current phenomena in the field indicate that most of students have not possess the 21st century skills namely the ability to creative thinking, autonomous, and hard work. The students tend to keen on the instant culture, especially in searching information. This study aims to develop the personal character by taking the interdisciplinary approaches among Science, Technology, Engineering and Mathematic (STEM) in course' content-based. This study utilized the research and development design method with ADDIE Model comprising of five stages, namely Analysis, Design, Development, Implementation, and Evaluation. This research is conducted in four regions in West Sumatra province, two areas that represent counties (Agam, Pasaman Barat), and the two regions represent cities (Padang and Padang Panjang). The four regions are chosen because the area has the number of character education programs largely in local schools. The sampling has been selected purposively and involving 78 elementary school students. The findings describe that there was a significant distinction between the student' personal character taught using STEM Approach and conventional methods.

Keyword : Integrated Learning Model, Character, Elementary School.

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-119]

DC Motor Control Based on Image Processing Using Fuzzy Logic

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Universitas Negeri Yogyakarta

Abstract

Image processing is a technique to process input signals in the form of an image. Images as inputs are transformed into other images through certain techniques. Several techniques used in image processing includes Intensity Adjustment, Histogram Equalization, Thresholding, Motion Blur, Canny, and Median Filtering. The image processing results can be used for conducting an object tracking. An Object Tracking is a job to track or identify the movements of objects caught on the camera. Object Tracking using image processing can be implemented in various fields including the DC motor control system. In this study, for controlling DC motor based on image processing with fuzzy logic method to detect hexagon shaped objects. In addition to detecting object shapes, image processing also perform color detection. The color detected in this study is orange. In this study, DC motor speed control system follows the motion of the object in the horizontal direction. While the object is shifted to the right, the DC motor will rotate slowly, otherwise it is shifted to the left, the DC motor will rotate quickly. In this study using a DC motor of PG45, webcam, and a PC for data processing. While for software using Visual studio 2017, Arduino

Keyword : Motor Control, Image Processing, Fuzzy, Tracking

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-121]

Conceptual Model of Pamphlet Exhibition for Literacy Acceleration for Inmate-Students

Misran Rahman and Ruslin Badu
Universitas Negeri Gorontalo

Abstract

Improving knowledge is crucial after learning, including literacy education. After learning activity about literacy in Gorontalo City Penitentiary, it is necessary for inmate-students to improve their knowledge. One of the efforts made is through pamphlets contained moral messages, which is expected to "improve" the literacy education as well as the behavior. The final objective of this research is creating an effective pamphlet exhibition model in order to accelerate the literacy of inmate-students post literacy education in Gorontalo City Penitentiary. The study is planned to be carried out in two stages with the first stage is designing the conceptual model of pamphlet exhibition. The method used in this study is Research & Development (R&D) with four stages in two years. The result of the study is a design of conceptual model for the pamphlet exhibition that could be used to accelerate the literacy competency of the students in Gorontalo City Penitentiary.

Keyword : Exhibition, pamphlet, acceleration, literacy.

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-122]

Student Satisfaction on Distance Education Academic Service

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Universitas Terbuka dan Universitas Negeri Padang

Abstract

Open University is the 45th State University in Indonesia that implements open and distance education. Educational services are delivered through modules and internet-based media. Developments at technological cause internet-based electronic media to be more widely used. In the 2018.1 semesters, the number of UT students was 302,484 people at 38 UT Regional Offices throughout Indonesia and 2,099 students at 39 Countries. Generally, academic services provided by UT to students include services at 1) guidance from study programs with distance education models; 2) registration services; 3) student learning materials (modules and non-print teaching materials); 4) face-to-face tutorials and online tutorials; 5) learning assistance counseling services; and 6) evaluation of learning. The level of student satisfaction with UT's academic services needs to be measured regularly to maintain service quality. This research was conducted on UT students with a sample of 370 students from 13 UT Regional Office. Sampling is representative of students from the regions of Western Indonesia, Central Indonesia, and Eastern Indonesia. Data is processed using Importance-Performance Analysis

(IPA) and Customer Satisfaction Index (CSI). In general, the level of student satisfaction with distance education attributes is at the value of 90.20%. That is, students feel very good satisfaction with the services provided by UT include aspects of distance education study programs and models, registration, teaching materials (modules and non-print teaching materials), face-to-face tutorials and online tutorials, learning assistance counseling services, and evaluation learn. When examined in more detail, there are several aspects that are above or below the index value (90.20%), for example, the number of face-to-face Tutorial meetings 8 times in one semester and online Tutorials can be accessed easily. Analysis with CSI shows that 4 academic services are in quadrant 1, 22 services are in quadrant 2, 15 services are on quadrant 3 and 7 services on quadrant 4.

Keyword : student satisfaction, distance learning, academic services, IPA, CSI

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-123]

Analysis of Factors Affecting Student Learning Difficulties Towards Physiology Anatomy Lesson at SMK Negeri 3 Tangerang (Case Study Class X of Cosmetology at SMK 3 Tangerang).

Eti Herawati Dan Diah Ayu Hapsari Purnomo.
State University of Jakarta

Abstract

This study aims to determine factors that cause learning difficulties to anatomy and physiology subjects lesson by class X student cosmetology Programs at SMK Negeri 3 Tangerang in Academic Year 2016/2017 with a survey method. The populations were 64 people from class X students and Data collection tool used is questionnaires. The trial questionnaires carried out by 25 class XI cosmetology respondents. Instrument analysis carried out on validity and reliability, with 40 statement items and reliability result $r_{11} = 0.954$. The results of this study showed that the factors affecting students' difficulties mainly on internal factors that are motivational factors indicators with sub student 88% learning persistence factor and independent learning factor equal to 94%. While external factors are indicators of teacher attention factor, with teachers sub-factor appreciation to students' difficulties by 84%, and the factor of teachers' involvement in students activities is equal to 91%. The hypothesis testing results were obtained through a regression equation where the results obtained $Y = 101,286 + 879X$, showing that any increase in the value of a teacher's attention every 101,286 can cause an 879 increase with learning difficulties showed the 6.1% test effect, coefficient determination while the remaining 93.9% is influenced by other factors.

Keyword : Keywords: Factors of Learning Difficulties, Physiology Anatomy

Topic : Others relevant Fields

[GS.AB-124]

The Relationship of Self-Confidence with The Results of Learning The Make Up Character of Class XI TP4 (Teknik Produksi dan Penyiaran Program Pertelevision) Students of SMKN 48 Jakarta

Lilies Yulastri Dan Devi Ruth Widayanti
State University of Jakarta

Abstract

The purpose of this study is to determine whether there is a relationship of self-confidence with the results of learning make up character of students of class XI TP4 (Teknik Produksi dan Penyiaran Program Pertelevision) SMK Negeri 48 Jakarta. As a sample of the research, researchers used 30 students of class XI TP4 (Teknik Produksi dan Penyiaran Program Pertelevision) SMK Negeri 48 Jakarta, who have followed the character make up lessons in artistic subjects. The method used is descriptive correlation with sampling technique in Total Population Sample. The instrument used in the form of questionnaire. Based on the results of research that has been done, there is a positive and significant relationship between self-confidence with the results of learning make up character class XI TP4 (Teknik Produksi dan Penyiaran Program Pertelevision) SMK Negeri 48 Jakarta. The result obtained is $KD = r_{xy2} = 0,3774 \times 100\% = 37,74\%$ so it can be concluded that 37,74% result of learning make up character of student of class XI TP4 SMK Negeri 48 Jakarta determined by confidence, while 62,26% determined by other factors. Thus, the higher the students self-confidence the higher the learning achievement achieved by the students. Students who have completed character make up learning are expected to have knowledge and insights that are appropriate to the lessons at school as well as in the industrial world so as to add student ideas and creativity.

Keyword : Keywords: Relationship, self-confidence, result of learning make up character

Topic : Others relevant Fields

[GS.AB-126]
STEM Based Learning to Overcome Math Anxiety

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Abstract

Quality learning can be interpreted as learning that achieves learning goals through an effective, efficient, interesting and fun learning process. Low-quality learning is unpleasant learning so that the learning objectives are not optimally achieved. Math anxiety impacts students as early as the first grade by affecting their working memory. Working memory is like a 'mental scratchpad'. This study is qualitative research that aims to determine the level of decreasing of mathematics anxiety (MA) in students' perspective at Elementary School level in Bukittinggi after they have learned with STEM-Based Learning. The subject of this study is 58 elementary school students. This research uses a qualitative descriptive method. The data collected by observation and using a questionnaire. The results showed that after applying STEM-Based Learning, the most decreased in students mathematical anxiety were anxiety about mathematical tests and anxiety about numerical calculations.

Keyword : Math Anxiety; STEM-Based Learning; Elementary School

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-127]
The Characteristics and Nutrients Concentrated Leaves Of Vegetable Fern (*Diplazium Esculentum* (Retz.) Swartz) Live In Different Locations

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Gorontalo State University, Sam Ratulangi University

Abstract

The vegetable fern (*Diplazium esculentum*(Retz.) Swartz) is the types of plant that have a high economic value, used as a medicine ingredient, for consumption, and a lot of benefits. The purpose of study to identify the characteristics and nutrients concentrated of the vegetable ferns. The Research is done at the FMIPA biology lab and the testing hall for the fisheries quality of the gorontalo province. The research stage is Material preparation, determination, simplisia test characterization and chemical nutritional analysis. The taking of the sample was done on two places in the lowland area and the hills in bone bolango district of gorontalo province. Based on the results of the determination obtained samples used on research are vegetable ferns (*Diplazium esculentum*). The results of the characteristics analysis are suspected have a macroscopic different location. The nutrients concentrated of vegetable fern in lowlands indicate a result of 8.30% proteins, water levels 3.08%, ash content 2.11%, fats 0.51% while in plateau indicate a result of 6.20% Proteins, water levels 2.70%, ash content 1.90%, fats 0.69%.

Keyword : Characteristics , Nutrients Concentrated, Vegetable Ferns

Topic : Biology Education

[GS.AB-128]
E-Supervision Using Web: Elementary School Teachers' Reaction

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Universitas Negeri Padang

Abstract

The aim of this study is to analyze in depth the perceptions of teachers in Bukittinggi city towards e-supervision using web. This type of research is descriptive research. The sample of this study was all teachers at SD Al-Azhar Bukittinggi consisting of 28 people. The instruments of this study were interviews and questionnaires. The results showed that 75% of teachers positively responded the development of this e-supervision using web. There are some positive responds conducted by teachers. First, e-supervision using web can be done anywhere and anytime. It will be easier for the teachers to interact and discuss with the principal and colleagues about the problems faced in the learning process. Second, the principle announce and analyze the feedback on the results of instructional supervision effectively and steadily. Third, e-supervision is a good means to avoid miss-communication between principals and teachers in communicating the results of supervision, and fourth, teachers will get clear supervision results because of this systematic supervision which integrated with

technology. In addition, e-supervision also faced several problems. First, the teachers is still face the difficulties in using technology devices, such as computer. Second, the lack of training to develop teachers' capabilities in implementing technology and information.

Keyword : Instructional Supervision, E-supervision, Web, Teachers of Elementary School

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-129]

The Feasibility Study of Production – Based Learning Model with 21st Century Learning Skills Integration to Improve Mechanical Engineering Competence

Heri Yudiono, Pramono, Basyirun
Universitas Negeri Semarang

Abstract

The improvement of the students' learning experience and performance of vocational education graduates in 21st century can be achieved by the implementation of sustainable innovation. This study aims to examine the feasibility of the production – based learning model with 21st century learning skills integration in improving the competence of mechanical engineering. The research approach used in this feasibility study was quantitative research through limited testing. Each subject was measured and given the treatment twice for the development of the mechanical engineering with the basis of individual and group. The research subjects consisted of 33 students. The research data collection employed learning product instruments in these following aspects: dimension conformity of the workpiece, the workpiece profile accuracy and workpiece surface flatness. The data analysis technique used the paired samples t test. The results of the study revealed that the production based learning model with the integration of 21st century learning skills is appropriate to be implemented to improve mechanical engineering skills. Feasibility was indicated by an increase of 32.23% in the final score of group learning products compared to individual products. The workpiece dimension aspect of the group – based learning increased by 119.44% compared to individual – based learning, the workpiece profile accuracy aspect of the group learning product profile increased by 0.852% compared to individual products, and the workpiece surface flatness aspect of group learning products increased 3.61% compared to individual groups .

Keyword : Feasibility of the model, Production based learning, Learning 21st century

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-130]

Development of Trainer Instructional Media at Vocational High School And Technology: Need Analysis Description

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Universitas Negeri Padang

Abstract

This study aimed to analyze various needs in the Electronic Power Base learning process. Those are 1) Analysis of Core Competencies and Basic Competencies, analysis concept and analysis of students; 2) To analysis what the constraint was faced by the teacher in the learning process; 3) To analysis what was the instructional media that need to be developed on Electronic Power Base. This study was Research and Development (R&D), the model was 4D (four-D) model. Need analysis was conducted in the define stage, with the analysis' instrument of the questionnaire. Subjects of the study were teachers and students of vocational high school and technology. The results of this study followed: 1) Trainer instructional media was conducted on voltage and current measurement, and Basic competencies were the implementation of electrical current and voltage measurement and conducting the electrical and current measurement. Subjects of the study were teachers and students of vocational high school and technology. 2) Electronic Power Base was a difficult material to been taught because it was abstract material. So, teacher needs trainer to teach effectively; 3) Instructional media that need to be developed on Electronic Power Base was trainer, so that students could learn independently and effectively.

Keyword : Need Analysis, Trainer Instructional Media, Electronic Power Base

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-131]

The Urgency of Entrepreneurship Learning in the Industrial Age 4.0

E. Handayani Tyas & Lamhot Naibaho
Universitas Kristen Indonesia

Abstract

This study was aimed to provide information on the urgency of learning entrepreneurship in the era of industrial revolution 4.0. The 4.0. Industrial revolution not only provides opportunities but also challenges for the millennial generation. The developments of science and technology as a trigger for the industrial revolution cause some implications such as unemployment, human vs. machine competition, and increasingly high demands on competency. It is estimated that in the next five to ten years it will eliminate 35 - 75 percent of the work. As a result, the production process becomes faster and easier to distribute. Then what about human energy? New business opportunities will stimulate the emergence of young entrepreneurs. This is what encourages the emergence of the spirit of entrepreneurship along with changes and developments in the times. The purpose of this study is to explain the importance of learning entrepreneurship in the industrial era 4.0 from elementary to university. The method used in this study was literature and scientific journals studies through a theoretical descriptive approach. The finding of this paper is: In order to be able to compete in the industrial revolution era 4.0, the early creative and innovative entrepreneurship learning is and innovative.

Keyword : learning, entrepreneurship, industrial revolution era 4.0.

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-132]

The Rate of Change in the Quality of Herbal Skin Cream Using Gelatin Extracted from Tuna Bone as Stabilizer Agent

Asri Silvana Naiu, Nikmawatisusanti Yusuf, Laksmyn Kadir
Universitas Negeri Gorontalo

Abstract

Changes that lead to product damage can be caused by intrinsic or extrinsic factors which will then react in the product in the form of chemical reactions or other physical processes such as air or gas absorption from the environment. The purpose of this study was to assay the rate of change in the quality of herbal skin cream using gelatin extracted from Tuna bones through physical, chemical and microbiological parameters during storage. The herbal skin cream product tested was formula using 7% gelatin. Data analyzed were vitamin C, viscosity, antioxidant activity, sensory values, and total bacteria during storage at room temperature, temperature 35 ° C, and 45 ° C. The method used was experimental methods which is Linear Regression and Arrhenius Equations to compile the rate of change in the quality of the product. The results show that the longer the storage, vitamin C increases but the sensory values, antioxidant activity and viscosity decreases. The rate of change in antioxidant activity, vitamin C, viscosity, and sensory values respectively, ie 104.8 / day, 0.87 / day, 2044 / day, and 7.04 / day.

Keyword : Fishbone, gelatin, stability of product quality

Topic : Others relevant Fields

[GS.AB-133]

The Effect of Mosaic Activity toward the Fine Motoric Skills of Children in Group a in Kindergarten of Makassar

Muhammad Yusri Bachtiar & Wahyuni Ulpi
Universitas Negeri Makassar

Abstract

The Effect Of Mosaic Activity Toward The Fine Motoric Skills Of Children In Group A In Kindergarten Of Makassar ¹ Muhammad Yusri Bachtiar Universitas Negeri Makassar, Indonesia. ² Wahyuni Ulpi Universitas Negeri Makassar, Indonesia. Abstract: This study aimed at finding out the effect of mosaic activities on the fine motoric skills of children in the Kindergarten of Makassar. The type of the study was Pre-experimental research. The study took 15 children as the study subjects in which 5 boys and 10 girls. Data collection techniques use observation techniques. The Data were analyzed by uses the Wilcoxon different test analysis technique. The findings showed that there was an increase in the acquisition of the value of fine motor skills of children after

being given treatment compared to before being given treatment with a value of $Z(16) Z_{\alpha/2}(0.4)$. Thus the hypothesis is accepted. Thus it can be concluded that there was an effect of mosaic activities on fine motor skills in group A children in the Kindergarten of Makassar. Keywords: Fine motoric skills, Mosaic.

Keyword : Fine motoric skills, Mosaic

Topic : Others relevant Fields

[GS.AB-134]

Bridging Literacy and Curriculum: Development of a Thematic Children's Book

Anak Agung Istri Ngurah Marhaeni; Nyoman Dantes, Dewa Gede Firstia Wirabrata, Dewa Ayu Puteri Handayani, Dewa Gede Purwitha
Ganesha University of Education

Abstract

The study aimed at facilitating and promoting meaningful learning in the current thematic learning approach in elementary schools through developing a K-13's content-based thematic children's book. The study used ADDIE research and development model. Product of the research was a children's book entitled Mencar (going fishing) which was meant to be used as a supplementary reading material for four graders on the subtheme Occupations Around Me. To make the book contextual, cultural aspects of Bali were also included. After completion, four reviewers containing two teachers, a writer, and an illustrator were asked to assess the quality of the book. Further, the book was tried out to twenty six students to see whether the book - when used together with the subtheme's textbook - had an effect on students' attitude, reading interest, and learning outcome. Results of the study show that the children's book Mencar was proven effective in supporting learning, including children's reading interest which is the primary goal of our national literacy movement or GLS.

Keyword : Key words: children's book, literacy, thematic learning

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-135]

Impact of the Use of Gadgets on the Development of Language and Socio-Emotional in Children with Speech Delay

Fitriyani, Mohamad Syarif Sumantri, Asep Supena
Universitas Negeri Jakarta

Abstract

This research was conducted to describe the language development and socio-emotional behavior caused by the use of gadgets in speech delay children, early detection of language and speech problems, intervention programs, academic development and socio-emotional development children with speech and language disorders. The study was based on observations of a 9-year-old child, conducted since September 2018 until January 2019, with some data acquisition since 2012 when early detection of language and speaking disorders. The study was conducted using a qualitative approach with a case study method. Data collection through observation, interviews and document studies. The purpose of this study was to determine the impact caused by the use of gadgets in children who experience problems of speech delay and language, judging by the parenting style of the family environment and the surroundings that affect their socio-emotional behavior. The findings in this study are the socio-emotional behavior caused by the influence of the use of gadgets that have a major influence on the development of a child with language delay problems, for which an intervention program is needed that is in accordance with the support of the family and the environment.

Keyword : Speech Delay, Gadgets, Parenting, Social Emotional

Topic : Science Education

[GS.AB-136]

A Feasibility Study on a Partnership Model between Vocational Schools, Industry and Workplace Based Core Strategies

Purnamawati, Muhammad Yahya, Syahrul
Universitas Negeri Makassar

Abstract

This study aims to examine the feasibility of the partnership model of vocational high school (SMK) with the Core Strategies-based Business and Industry (DUDI). The research method uses Plomp stages development of Research and Development (R & D) approach. The research site is Makassar City Public Vocational School in industrial electronics specialization. The collected data are analyzed using descriptive statistics. The results of the research are: (1) description of DUDI partnership model activities in curriculum development, industrial practice, in house training, on the job training for students and teachers; (2) Analysis of the problems in partnering: (a) the program has not run optimally, (b) the work unit is not yet appropriate, (c) the contents of the MoU have not been fully realized, (d) the partnership activities are unclear, (e) graduate competencies have not been absorbed, (f) graduate competencies have not been traced, (g) there is no legal basis yet; (3) The partnership model design has 7 (seven) components including (1) government policy, (2) core strategy, (3) Vocational school policy, (4) industrial management, (5) service principles, (6) graduate competency, and (7) the employability of vocational school graduates. In addition, the feasibility study results of the partnership model has met the validity

Keyword : Feasibility study, Vocational Partnership Model with DUDI, Core Strategies

Topic : Others relevant Fields

[GS.AB-138]

Variations in the Number of Layers and Variations in the Number of Neurons in Artificial Neural Networks: Case Study Pattern recognition of Alphabetic and Shape

Fatchul Arifin, Thia Anissa, Habib Robbani
Yogyakarta State University

Abstract

Artificial neural network (ANN) is a network system consisting of a group of small processing units that work like a human nervous system. In general, the ANN has 3 layers, namely input layer, hidden layer and output layer. In the hidden layer, the number of neurons and the number of layer were used to improve network ability to solve problems. So far the users still find it difficult to determine the ideal number of hidden layers and the number of neurons on ANN. This paper presents research aimed at analyzing the amount of layers and the amount of neurons in the hidden layer. In this study, case studies were taken in alphabetic pattern recognition, as well as shape patterns recognition. First, the amount of layers is varied to get the best number of layers. Furthermore, the number of neurons is varied to get the best number of neurons. The results of the study indicate that the best number of layers is 1-5 layers in the hidden layer, with the validation value of the 96-100% recognition system. While the best number of neurons was obtained by the number of 19 neurons, with an average percentage accuracy of 81%.

Keyword : Artificial Neural Networks; Number of layers; Number of neurons

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-139]

Model of Industrial Work Practice in Improving Psychomotoric Ability Graduates of Vocational School in Industry

Tuti Suartini
Universitas Pendidikan Indonesia

Abstract

The process of professional expertise education in Vocational High Schools cannot only be obtained from education in schools. The problem is that the psychomotor abilities of students without work practices in the vocational school industry are no different from those of senior high school graduates. This research was conducted to examine the model of work activities directly in the world of work on students' psychomotor abilities as a reflection of industrial work practices. The research method used in the study was ex-post facto

descriptive with a comparative approach. Psychomotor abilities of students who have carried out work practices in the industry 75% of the total sample achieve increased psychomotor abilities. With an effective model of industrial work practices, the model can be recommended in the vocational education model in Indonesia.

Keyword : model of work practice, industry, vocational school, psychomotor

Topic : Science Education

[GS.AB-144]

**Needs Analysis Competence Pedagogy Project Management Of Technology and Vocational Education
Whit The Approach Of Project Based Learning In Higher Education**

M. Giatman, Iqra Natun Nafsiah, Fahmi rizal, Aldo Leonanda
Universitas Negeri Padang

Abstract

This study aims to analyze the needs of pendagogi in project management courses in building education engineering in Universitas Negeri Padang. This needs analysis is an in depth look the importance of project management in building engineering education from the aspect of curriculum, pendagogy and teaching materials needs based on current conditions, a standard process and priorities in learning. This type of research is descriptive with survey method. Data collection techniques questionnaires and interviews. Sample from this studi are the students of building engineering education and lecturer. Data analysis techniques qualitative and quantitative. Based on the results of the analysis it can be concluded that (1) there is a gap in the needs of the students and lecturers of project management to models of learning related to the method, learning approach, teaching materials used, the assessment and evaluation of learning (2) students require the development of learning models to increase knowledge, skill and attitude

Keyword : Need Analysis, Pedagogy, project management

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-145]

Analysis on computer self-efficacy instruments

Nurhikmah H
Universities Negeri Makassar

Abstract

This study aims to investigate computer self-efficacy of students in online education sociology courses at the Department of Educational Technology, Universitas Negeri Makassar. This paper reports analysis of an instrument used in our study. The instrument developed to measure computer self-efficacy of students in online education. It is adapt from Cuse (Computer User Self-Efficacy Scale). The instrument be measured by weighting the scale, testing the validity and the reliability. The measurement result show that 15 items are dismissed because it has no fixed scale intervals. The validity score of the instrument is above 0.30 which are valid. The research scale is moving from 0.336 to 0.747. Furthermore, all items in computer self-efficacy instrument are reliable since the Cronbach's Alpha coefficient (0.930) is 0.7.

Keyword : Instrument Analysis, Computer Self-efficacy, Instrument development, Cuse scale

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-146]

Development of Online Project Based Learning Models in Graphic Media Development Courses

Utari Dewi, Rusijono, Miftakhul Jannah, Fajar Arianto
Universitas Negeri Surabaya

Abstract

Current learning patterns require synergy with technology. In the era of disruption of online-based learning answers the challenges of the time, learning without being bound by space, distance and time that requires the active role of students in the learning process itself. Integrating project-based learning models and online learning methods, the purpose of this research is to produce a Online Project Based Learning model in the subject of Graphic Media Development that has feasibility aspects for students of Educational Technology. This research is a development research using the development model of Borg and Gall which has ten steps. The results of this study indicate that the Online Project Based Learning model has been validated by learning design

experts and material experts. Learning design experts and material experts have assessed and stated that this model is feasible. Thus, it can be concluded that the Online Project Based Learning model is declared suitable for use in learning subjects in Graphic Media Development

Keyword : Model, Online, Project Based Learning

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-147]

Designing of Enactive-Iconic-Symbolic Problem Based Learning Model (PBM-ENIKSI) for Elementary School

Siti Mas'ula, Ahmad Fauzan, Ellizar, & Darmansyah
Universitas Negeri Padang, STKIP Muhammadiyah Muaro Bungo

Abstract

The aim of this study was to develop an enactive-iconic-symbolic problem-based learning model (PBM-ENIKSI) in elementary school students so that students have a strong foundation when entering higher behaviors. This type of research is village research which was developed by Plomp to have three stages, namely preliminary research, development phase or prototyping, and the assessment phase. This study produced a system model of PBM-ENIKSI consisting of 6 stages, namely 1) initial debriefing of problem solving, 2) finding solutions to problem solving through concrete objects, 3) representing problems in tables / pictures / diagrams / graphs, 4) Resolving Problems using Mathematical symbols, 5) Re-assessment of Problem Solving Solutions, and 6) evaluation. This model will produce models in the form of books, student books and teacher manuals as a support system that can assist users in their application.

Keyword : Enactive-Iconic-Symbolic Problem Based Learning model, Plomp, syntax

Topic : Mathematics Education

[GS.AB-149]

Simulation of a Prototype D-Statcom for Voltage Sag Mitigation

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Abstract

This paper presents Simulation of a prototype distribution static compensator (D-STATCOM) for load compensation in an unbalanced distribution system. The D-STATCOM is intended to replace the widely used static var compensator (SVC). The compensation scheme of the D-STATCOM is derived using the symmetrical component method. In this work, the 12-pulse D-STATCOM configuration with IGBT has been designed and the graphic based models of the D-STATCOM have been developed using the PSCAD/EMTDC electromagnetic transient simulation program. Accordingly, simulation is first carried out to illustrate the use of D-STATCOM in mitigating voltage sag in a distribution system. The D-STATCOM has been developed using SPWM controller to achieve excellent overall performance. Simulation results prove that the D-STATCOM is capable of mitigating voltage sag by controlling SPWM of the system using SPWM board.

Keyword : Simulation, D-STATCOM, SPWM, load compensation, voltage sag.

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-151]

The Implementation of Systematic Approach to Solving Problem (SAP) Learning Model to Improve The Students' Learning Outcomes in Soil Mechanics Course at Civil Engineering Department of State University of Malang

I Wayan Jirna and Pribadi
State University of Malang

Abstract

The purpose of this study is (1) to improve the students' learning outcomes in Soil Mechanics course through the implementation of SAP learning model, and (2) to improve learning process in Soil Mechanics course through the implementation of SAP learning model. The research design is classroom action research. This study is

considered collaborative and reflective research because the alternative actions are conducted to improve the teaching activities more professionally. This research is conducted at the Civil Engineering Department, Faculty of Engineering of State University of Malang. The subject is 36 students at fourth semester. This research procedures have 3 cycles. Each cycle has three meetings with different goals that will be achieved, such as what has been designed and will be investigated. Based on the results of the study, it can be concluded that (1) the implementation of the SAP learning model had improved the students' learning outcomes significantly, and (2) had improved the learning process at the Soil Mechanics course.

Keyword : Systematic Approach To Solving Problem, Learning Outcomes, Soil Mechanics, Civil Engineering

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-152]

Evaluating Education & Training Program of the Human Resources Personnels

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Universitas Negeri Jakarta

Abstract

The aim of this research was to evaluate the education and training of human resources apparatus at Public Hospital, Bunut Sukabumi, West Java. It was conducted through the use of a qualitative method by applying the Context, Input, Process, Product (CIPP) model, with four different stages: Context, Input, Process, and Product. The result of the study revealed (1) Program setting/context had 3 high scoring categories, (2) Education and training input had 3 high scoring categories, (3) Program implementation had 3 high scoring categories, and (4) Education and training program result had 3 high scoring categories. It was concluded that education and training evaluation targeted to the human resources apparatus was a recommended act to be developed as a quality improvement Sukabumi Public Hospital services to all of its costumers.

Keyword : human resources development, hospitality, Sukabumi

Topic : Science Education

[GS.AB-156]

Applicating Constructivist Aproaches to Increase The SMA Negeri 5 Parepare's Student Physics Concept Understanding

Ahmad Yani, Andi Willi Wijaya, Abdul Haris
Universitas Negeri Makassar

Abstract

This study aims to improve the student physics concept understanding (SPCU) by applying a constructivist approach in SMA Negeri 5 Parepare. The increasing of SPCU describes as the comparison between before and after palying constructivist approach. 27 samples of X grade of science program student were taken by simple random sampling metodh. The study results showed that student pretest SPCU average score was 11.07 and student posttest SPCU average score was 18.26. Data analyzing result showed that the student total gaining score at 0,45 and can be inferred that SPCU was in medium category.

Keyword : Constructivist Approach, Concept Understanding, Student Physics Concept Understanding (SPCU)

Topic : Physics Education

[GS.AB-157]

The Contribution of Environmental Impacts on Kertajati Aviation Fuel Development with Hydrant Automation System

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University of Indonesia

Abstract

The paradigm shift in Industry 4.0 has transformed the operational base from human operation into the digital automation system operation. Kertajati Airport as a new airport located in Majalengka, Indonesia, building depot facilities to implement an automation hydrant system for aircraft refueling. The development of this hydrant automation system requires complex construction: construction of buildings and infrastructure,

construction of pipelines, instrumentation, and electrification, installation of equipment and construction of avtur storage tanks. This objective of this research is to review the environmental impact of Kertajati Aviation Fuel Depot Construction. Methods: An in-depth literature review was conducted to provide a comprehensive study of environmental impact especially the greenhouse gas emissions and their contribution to global warming potential. Results and discussion: The considered impacts are caused primarily by civil and structural works. As for the energy and resource inputs, concrete, steel, water, and electricity are the four dominating ones for the overall environmental impacts. Conclusions and recommendations: civil and structure works is the most important source of environmental impacts. To minimize the impacts of this stage, optimization of the structural design and application of new construction materials and good construction practices is recommended.

Keyword : hydrant automation system, greenhouse gas

Topic : Others relevant Fields

[GS.AB-159]

Concept and Implementation of Family Education as An Efforts to Prepare Youth Generation for Industrial Revolution 4.0

Rusijono, Khusnul Khotimah, Bachtiar S Bachri
Universitas Negeri Surabaya

Abstract

The purpose of this study is to find a model of successful family education instilling moral and religious values in an effort to prepare the young generation to face the 4.0 industrial revolution. The findings can be used as best practice for families who want to instill moral and religious values for their children and also can be used as a basis for compiling a theory of family education that is in accordance with Indonesian culture. The research approach is Qualitative. The sampling technique was purposive snowball sampling. Data was collected using the method of in-depth interviews and observations, while to maintain the credibility of the data using triangulation methods and sources. The data analysis technique uses qualitative descriptive. There are three findings, the first is that education begins when the child is still in the womb of the mother. Secondly, the principle used in educating is *ing ngarso sung tulodho, ing madya mangun karsa, tut wuri handayani*. Third, the pattern of cooperation between father and mother in educating children using the philosophy of “successful children's education because of the role of wise mothers and mothers who successfully educate children because of the support of wise fathers”.

Keyword : family education, mother's role in family education, father's role in family education, industrial revolution 4.0

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-166]

Tutorial Learning Media Development by Using Adobe Premiere Pro on Welding Techniques at SMKN 10 Makassar

Dr. Hamzah Nur, S.Pd., M.Pd. & Ismail Aqsha, S.Pd., M.Pd.
Makassar State University

Abstract

This is a Research and Development study that aims to know the process of development, validation, practical and effectiveness of tutorial learning media development by using Adobe Premier on manual arc welding techniques. ADDIE development model is employed in this study which include in five phases, namely analysis, design, development, implementation, and evaluation. The developed learning media was validated by to experts through revision, so it is worth to be used. The trials were conducted three times: those are by individual trial, small group trial, and large trial. It is also shows that the learning material is valid, practical, and effective to be used in welding technique subject at SMKN 10 Makassar. The result of validation manuscript sheet media is valid under the mean score of 3.30; result of experts' validation is valid under the mean score of 3.19; and the result of media experts' validation is also valid under the mean score of 3.23. The result of teacher and students' response is in the very good category, so it is practical to be used in learning; and the result of teacher and students' activities is in the very good category, so is effective to be used in the learning.

Keyword : Media, Tutorial, Adobe Premiere, Development

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-167]

Integration of Treffinger Model to Increase Student's Creative Thinking and Mathematics Problem Solving Abilities

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Abstract

Habibie (2014) states that one of the obstacles in achieving optimal results in the learning of science and mathematics is the lack of creative activity conducted in classrooms. Mathematics problem solving needs creativity, in which students can understand the power and benefits of mathematics concepts by themselves. This creative learning environment can be achieved by integrating a creativity-development learning model in the classroom. This study is an experimental study aimed to observe how is the Treffinger model, based on creative-learning model proposed by Treffinger in 1980, can increase students mathematics problem solving, especially for 8th grade students in Gorontalo city. Results show a significant positive effect of Treffinger model in increasing the creative thinking and mathematics problem solving abilities; therefore it can be used to improve mathematics learning outcomes.

Keyword : Treffinger model, creative thinking, mathematics problem solving

Topic : Mathematics Education

[GS.AB-168]

PjBLL Project Based Laboratory Learning As an Alternative Learning Model to Improve Sciences Process Skills And Creativity of Physic Teacher Candidate

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Abstract

The PjBLL model was designed to improve students scientific process skills and creativity. This study aims to developed valid, practical, and effective PjBLL model to improve students scientific process skills and creativity of physic teacher candidate. The development PjBLL model with steps: preliminary study, prototype stage, assessment phase. The try out used in this research is pre-experiments with one-group pretest-posttest design. The number of subjects for the limited trial test was 30 students of physics lab course programmers. The data collection process was going through the validation from the experts, observation, test, documentation, interview and questionnaire. The data analysis process using quantitative and qualitative descriptive statistic. The results model developed show: (1) valid category in terms of content validity and construct validity, also supported by learning materials included valid category. (2) practical category because component of models able to carried out by modelling activity, limited trial test and wider test with a good result, without any challenge. (3) effective category because the significant improvement of student scientific process skills in trial test by means of N-gain 0,58 middle category, student able to produce creative product by means of N-gain 0,56 and give positive response to learning material and learning process.

Keyword : PjBLL, learning modes, sciences process skill, ceativity, candidate physics teacher

Topic : Physics Education

[GS.AB-170]

Servo Motor Trainer for Basic Control System Practicum

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Universitas Negeri Surabaya

Abstract

The purpose of this study was to determine the learning outcomes of students in understanding the technique of setting and characteristics of servo motors using a Servo Motor Trainer. The research respondents consisted of 54 Unesa Electrical Engineering students in semester 4 of 2016. Data analysis used quantitative descriptive analysis. To test the learning outcomes of students using a servo motor trainer the normality test and significance test were used. The results of the study are as follows. Student cognitive learning outcomes ($\mu = 81.5$) greater than 66 or it can be said that the results of student cognitive learning are complete. Student affective learning outcomes ($\mu = 81.3$) is greater than 66 or it can be said that the student's affective learning outcomes are complete. Student psychomotor learning outcomes ($\mu = 82.0$) are greater than 66 or it can be said

that student psychomotor learning outcomes are completed. Thus, the servo motor trainer can be used as a learning technique for control engineering practicum in Unesa's electrical engineering control system laboratory.

Keyword : cognitive domain; affective domain; psychomotor domain; servo motor trainer

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-172]

Implementation EDS-AV (Educational, Develop, Society-Audio Visual) SCRIPT Model In Practices Learning

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Universitas Negeri Makassar

Abstract

Practice learning is laboratory activity to carry out stages of experimental competence through job sheet learning devices. Job sheet used in generally still in the form of written documents, so it takes a development that can make easy for practitioner. Implementation EDS-AV script model in practical learning is the right solution. The purpose of this study (1) planning design of EDS-AV script model in analog electronics practice learning (2) motivating students to carry out practical learning with EDS-AV script model to experiment complete, and (3) EDS-AV script model can increase attractiveness students in conducting experiments of audio-visual job sheet. The development model is combination several models that have been developed previously and modified into EDS-AV script models of Audio-Visual based job sheet documents. The result obtained based on description of expert validation data include aspects: material feasibility, language feasibility, presentation feasibility, media effects on learning, and overall appearance that are is very good category. Implementation of learning results is very good category, as well as students responses to EDS-AV script model is very good category. The conclusion of implementation EDS-AV model in analog electronic practical learning has been well implemented as well as student response are in very good suggestion.

Keyword : Practice learning, EDS-AV script model, student response

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-173]

Trend and Impact of Online Learning in Informatic Engineering Department at Gorontalo State University

Rochmad Mohammad Thohir Yassin
Gorontalo State University

Abstract

The impact of internet growth and increase of mobile phone user triggering online learning application development. Online learning such as learning management system, website, blog, wiki, presentation sharing and also lot of social media such as online video, microblogging, social network website used in order to provide information and knowledge used by student of informatics engineering department of Gorontalo State University. The aim of this research is to provide information of trend of online learning user by the students and also the impact of online learning activities to their grade and percentage of understanding about the courses. This method research is survey research. Result of this research are online video such as youtube is the most accessed site by the student to learn about programming, networking and multimedia materials. Learning Management System (LMS) using Moodle results show that most of the students passed the final exam.

Keyword : Online Learning, LMS, Online Video

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-174]

The Development of Jump Strength Measurement Devices as a Media Exercise in a Long Jump

Andry Akhiruyanto, Wahyudi, Donny Wira Yudha Kusuma
Universitas Negeri Semarang

Abstract

Jump power / repulsion power is an important factor in determining the distance in the long jump. Unfortunately to be able to see the results of doing the long jump so far it can only be known from the end result, namely the distance reached in the long jump and not yet able to know the strength of the leg muscles when making

repulsion. Though this is very important to know both for athletes and coaches. The trainer will find it difficult to precisely see the advantages and disadvantages of the athlete's leap quality whether due to lack of resistance or other factors. Therefore an accurate measuring instrument is needed that can measure the repulsion strength when a jump or long jumps. The objectives of the study were: 1) Designing and producing a valid device to determine the repulsion strength in the long jump, 2) Displaying numerical information on leg muscle strength when performing a long jump. This research was carried out using the Research and Development method. The research on the development of measuring devices to determine the strength of repulsion in the long jump has stages: Analysis of products developed, System design and development, Expert Validation, Field trials

Keyword : Jump Strength, Load Cell, Long Jump

Topic : Others relevant Fields

[GS.AB-175]

Developing a Soccer Shooting Skill Test

I Wayan Artanayasa, I Gede Suwiwa, *Ni Luh Putu Spyawati*.
Universitas Pendidikan Ganesha

Abstract

Shooting is an important component in soccer that has to be trained to enhance the quality of the individual play in the team in scoring goals. In reality, shooting test has not yet got a special attention, and thus needs to be developed. This study aimed at developing such a test. The procedure was: (1) determining ideas, (2) writing a media text, (3) product evaluation, (4) first product revision, (5) small group try-out. The subjects were (1) three experts who judged the product, (2) the product try-out was done to a small group (10 students) of Penjaskesrek FOK Undiksha selected at random. From the development and the procedure then a model for the soccer shooting skill test was resulted. It is suggested that a large scale try-out with some repetitions should be done with more subjects.

Keyword : development, test, shooting, soccer.

Topic : Others relevant Fields

[GS.AB-176]

Blended Learning as a Learning Strategy in the Disruptive Era

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Universitas Negeri Surabaya

Abstract

In this disruptive era, the need of independence and innovation in learning strategy are required. Blended learning strategy offers face-to-face learning and self-study that combined both online and offline. In other words, it is a combination of traditional learning in a classroom and e-learning via disruptive technology device. There are several courses were encouraged to provide e-learning and face-to-face in delivering material in Mathematics Department of Universitas Negeri Surabaya such as Computer Application (<http://spada.ristekdikti.go.id/course/aplikasi-komputer-2>), Basic Mathematics (<https://vi-learn.unesa.ac.id/course/view.php?id=2605>), Contextual Mathematics (<https://vi-learn.unesa.ac.id/course/view.php?id=2744>), Visual Programming (<https://classroom.google.com/c/NDcyNjc3NzU5OFpa>) and Discrete Mathematics (<https://new.edmodo.com/groups/matematika-diskrit-2017e-26425712>). At the end of the semester, we gave the final exam followed by giving questionnaire about students' opinion regarding the blended learning strategy. Positive response of the application of blended learning were showed by students. Furthermore, the learning result of each courses are above 75. By this condition, blended learning is considered as a way to support students' learning in the disruptive era.

Keyword : blended learning, e-learning, mathematics, disruptive era

Topic : Mathematics Education

[GS.AB-177]

Influence Of the Simulation Program Methods to the Students Learning Outcomes On the Subject Of the Microkontroller System

Edidas

Universitas Negeri Padang

Abstract

This study aims to see the effect of program simulation methods on the learning outcomes of microcontroller systems. The microcontroller program simulation method is done in two ways, namely through hardware assembly and software assembly. Simulation through hardware devices using trainer kits, while simulating through software use Proteus application software. This type of research is a quasi-experimental. The research design uses nonequivalent control group design techniques. The sample group is not randomly selected but is chosen based on the class that is already in the lecture. Learning outcomes variable (Y) while program simulation method (X). The research data analysis was carried out with Variance Analysis (ANOVA) to see the effect of the program simulation method on the learning outcomes of the microcontroller system.

Keyword : Keywords: Program Simulation Methods, Quasi Experimental and ANOVA

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-178]

The Effectiveness of Teaching Materials using Project Based Learning (PjBL) in Concrete Stones Practice Course

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Universitas Negeri Padang

Abstract

The magnitude of the impact of technological development (Industrial Revolution 4.0) has become a challenge for the world of education to continue to improve, even this situation demands very rapid change, which becomes a serious threat to the world of education, especially the vocational field. There are several problems in concrete rock practice learning such as (low student grades, not yet having teaching materials relevant to the demands of the industrial revolution 4.0, and not optimal use of technology in learning. Research development (R & D) with 4-D models (define, design, develop, disseminate) it aims to answer the challenges of the revolutionary industry 4.0 by creating effective teaching materials and learning strategies with video combination by optimizing the use of technology (smartphone). This research produces module and video that is valid (expert judgment), and effective that can evidenced from the increase in student learning outcomes (average pretest 50.72 and posttest average 86.04). Module teaching materials and video combinations are very suitable to be used for practical learning, especially in concrete stone practice course

Keyword : Effectivity, Learning Material, Video, Project Based Learning, Concrete Subject

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-180]

DesignAnd Testing Impact Attenuator on Formula SAE FG17 Garuda UNY

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Yogyakarta State University

Abstract

Objective of this research to find out the design and testing of Impact Attenuator (IA) on the Formula SAE FG17 Garuda UNY. The method used in this research is using research and development model (R & D). Product development model used ADIIE development model (Analysis, Design, Development, Implementation, and Evaluating). Based on the result of impact attenuator test with dimension length 220 mm, width 250 mm, height 250 mm and using 1 mm with the aluminum plate material in Abaqus software, it can be seen that the result of "Total Energy of The output set" on the test 7777724 mJ at 0.0325 s. Furthermore, based on the results of the impact attenuator test using Universal Testing Machine tool, capable of absorbing energy of 7722.25 Joule, Peak deceleration on impact attenuator specimens is 28.212 g's, Average deceleration in this impact attenuator specimen is 15.908 g's, The shape change on anti-intrusion plate test is 21.4 mm. From the test result, the Impact attenuator fulfills the 2017 Formula SAE (T3.20 Impact Attenuator) regulation

Keyword : Impact Attenuator, Formula SAE

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-182]

Effectiveness of Web-Based Interactive Learning Model Programmable Logic Control (PLC)

Syahrul, Fathahillah

Universitas Negeri Makassar

Abstract

This study aims to determine the impact of the implementation of interactive learning media Programmable Logic Control (PLC) on the process and student learning outcomes, in the Department of Electrical Engineering Education FT UNM. The subjects of this study were students of Programmable Logic Control (PLC) students and lecturers. The data were collected using test, observation and questionnaire techniques. Data analysis was done by qualitative descriptive technique. The results showed as follows. (1) Interactive learning media of web-based PLC courses qualify for effectiveness. This is seen from several aspects, namely the implementation of all student activities and lecturer activities, as well as positive responses of students exceed the minimum, motivation and student achievement in the PLC classified as high. (2) Interactive learning media of web-based PLC courses meet the requirements of practicality, where based on observations during learning activities are very dynamic learning activities, the interaction between lecturers and students and among students running very active. Therefore, this learning media can be used as one of the teaching media in the Department of Electrical Engineering Education FT UNM

Keyword : PLC, Interactive learning, Effectiveness

Topic : Informatics and ICT at Higher Education (IHE)

[GS.AB-184]

Simple Smart Glasses based on Microcontrollers as Detector of Nominal and Money Authenticity

Marie Muhammad, Muhammad Yusro, Pitoyo Yuliatmojo

Universitas Negeri Jakarta

Abstract

This study aims to make a detector for the nominal value and authenticity of money (rupiah currency). The working principle of this tool is as follows: UV LEDs function to provide lighting to objects (money). The light will circulate hidden colors in real money so that can differentiate original money or money whose authenticity is doubtful. The White LED provides lighting for the object, then the light is received by the TCS 3200-DB color sensor to read its red, green and blue (RGB). Furthermore, the RGB value will be processed by Arduino Mega 2560 to be compared with the RGB values in the program. The mini DFPlayer functions to play sound according to the sound that has been recorded with the program. Testing the tool is done to determine the percentage of success of the tool in distinguishing between original money and the authenticity of money is doubtful. Testing of 7 (seven) nominal 2016 emission rupiah, namely Rp. 1,000 (80%), Rp. 2,000 (60%), Rp. 5,000 (100%), Rp. 10,000 (100%), Rp. 20,000 (80%), Rp. 50,000 (100%) and Rp. 100,000 (66%), so the average percentage of success of the tool is 83.71%.

Keyword : money detection, microcontroller, Arduino Mega 2560, a color sensor

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-186]

Using Metacognitive Strategy to Teach Mycology

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Abstract

The research aims at exploring Indonesian students' metacognitive skills, understanding of mycology concept in the learning process implemented of metacognitive strategy. The metacognitive skills included ability to determine the level of confidence and ability to judge oneself. There were 41 subjects studied using a pretest-posttest design. Result showed that there was increase in student's metacognitive skills and their understanding of mycology concept. Fortunately, the students stated that they had got a lot of experiences and benefits after learning process. This research concluded that metacognitive strategy can be used to teach mycology in order to students can reach the learning objectives.

Keyword : metacognitive strategy, teach, mycology

Topic : Biology Education

[GS.AB-187]

The Analisis Of Flora in State University of Medan Environment as Complement Learning Resources on Plant Morphology

Ashar Hasairin

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Abstract

This study aims to know how the use of flora that life in the Unimed's environment as complement learning resources on Plant Morphology and the extent of knowledge from collegian of department biology know species of flora in Unimed's environment. The sample of this study were 3 classes for grade of 2017. The technique of take the sample was "Random sampling". The method used in this research is descriptive method using questionnaires and interviews collectively to obtain documentation from tasks ever given by the lecturer. The results showed that the use of flora in the State University of Medan as complement learning resources on Plant Morphology for Collegian of Department Biology the State University of Medan were Theory of Plant Morphology was not enough good (56.34%), Practicum of Plant Morphology was enough good (64.10%), on the completion of tasks Plant Morphology was not enough good (55.34%) and the extent of knowledge collage to know flora in the Unimed's environment was not enough good too (56.57%).

Keyword : Utilazing flora, learning resources, plant morphology

Topic : Biology Education

[GS.AB-189]

The Development of Parenting Digital Multimedia as an Educational Technology Product to Support Early Childhood Learning Process

Luluk Elyana, Yuli Utanto

Universitas Ivet Semarang Indonesia

Abstract

The purpose of this study is to innovate a product in order to support the learning process of early childhood and to identify the increase of early childhood enthusiasm in following the learning process by using parenting digital multimedia as educational technology products. The researcher used ADDIE as the development method. The results obtained is that the parenting digital multimedia as an educational technology products proved to be worthy enough to be used in supporting the early childhood learning process. This can be proven through the results of media assessments conducted by media experts and material experts, as well as the increasing of early childhood enthusiasm in a process of learning. The assessment results obtained from media experts amounted to 79.2%, material experts amounted to 85.3% and the increase in enthusiasm for early childhood was 87% of the total maximum value of 100%. Then the results of the paired t test are obtained by the average difference of - 6.75 with a standard deviation of 3.808. The results for sig are $0.002 = 0.2\% < 5\%$, so, H_0 is rejected. It can be described that there is a significant change in the average enthusiasm of early childhood before and after using parenting

Keyword : Educational technology, Digital multimedia, Parenting, Early childhood

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-190]

Modification of Automatic Semi System and Addition Of Spin Polishing Function on Metalography Grinder Machine

Nur Aini Susanti, Hanna Zakiyya, Muchlas Samani, Arya Mahendra Sakti

Universitas Negeri Surabaya

Abstract

Grinding machines was available in the laboratory cannot be used for several reasons: first there are no inlet and outlet fluids used during the process. Secondly, the motor speed control has not been carried out, the third is the grip specimen is not available. Based on the same coating working principle with unidirectional rotation on the grinding plate, the product will also be used as a specimen holder for coating complicated layers of the spinning method. This research was conducted to optimize the function of coating laboratory. The result is the manufacture of semi-automatic workpiece clamping devices using a DC motor on polishing grinder. The

dimensions of this tool are produced length 500 mm, width 600 mm, height 570 mm using a 1F Denso motor capacity of 12V 5A, with a maximum capacity of 50 mm long diameter.

Keyword : metallography, grinder machine, spinner

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-191]

The Effect of Physical Activity Level on Health-Related Physical Fitness of University Student

Kuston Sultoni, Adang Suherman, Mustika Fitri

Universitas Pendidikan Indonesia

Abstract

The purpose of the study was to clarify the effects of physical activity on physical fitness. The study was conducted by using cross-sectional study design. The participants of the study were 322 sophomore students (92 Male, 230 Female, 23+5 Years old). Physical fitness was measured by Fitnessgram (PACER, Push-Up, Curl-Up, Sit and Reach) as well as body fat percentage and BMI. The data of physical activity were collected by distributing International Physical Activity Questionnaire Short-Form asking vigorous activity, moderate activity, walking activity and sitting time in the last 7 days. All the data of participants were categorized into high, moderate and low physical activity. The results show that there are significant differences on Curl-Up, Push-Up and Flexibility. Students with higher physical activity level got higher scores in the test. There are no significant differences in Vo2max, BMI and Body fat percentage.

Keyword : Fitnessgram, University students, Physical activity, Physical fitness.

Topic : Others relevant Fields

[GS.AB-196]

Small Change, Candy, or Donation? The Phenomena of Refunds: Judging from the Consumer Protection Act and the Sharia Business Ethics Perspective

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Universitas Negeri Surabaya, Universitas Adi Buana Surabaya

Abstract

This article aims to examine and analyze the phenomena related to the currency value that getting smaller. As with the phenomena of small denominations (small change) which are now increasingly used in transactions especially on supermarkets, often small pieces of money (small change) is losing its role and replaced by candy and donations to donate. This article intends to analyze the phenomena of frequently replaced candy money or offers to donate change in terms of the Consumer Protection Act and reviewed from the perspective of Sharia Business Ethics. This study uses a qualitative descriptive method. The results of this study state that change of money replaced by candy or offer to donate coins is considered to violate Law Number 8 of 1999 concerning Consumer Protection and not in accordance with Divine values in QS. An-Nisa Ayat 29.

Keyword : small change, currency, consumer protection

Topic : Others relevant Fields

[GS.AB-197]

Biscuit Based on Corn Flour Formulation for Alternative Nutritious Snack

Ade Irferamuna, Asmar Yulastri, Yuliana, Elfrimo Dwi, Mercylia Ningrum

Fakultas Teknik, Universitas Negeri Padang

Abstract

Consumption of healthy snacks could provide extra energy for activities and helped meet energy needs until the main meal time arrived. Criteria for healthy snacks include vitamins, protein, and dietary fiber. Corn flour contained high fiber. The fiber content of corn flour was 4.24% of 100 grams of corn flour. This study aimed to develop a ready-made biscuit formula containing high fiber. Four types of biscuit formulas were developed with the substitution of corn flour at 0%, 50%, 60% and 70%. Then the biscuits were tested to validity based on organoleptic tests by limited panelists. Substitution of 70% had the best uniform form, 0% substitution had the best neat form, 50% substitution had the best color appearance, 50% substitution had the best texture, 70%

substitute had the best corn aroma level, 50% substitution had a level the best savory flavor, and 70% substitution had the best level of corn flavor than other formulas.

Keyword : Corn Flour, Biscuit, Snack, Nutritious Snack

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-199]

The Effect of Information and Communication Technology on Indonesian Exports and Imports in Industrial Revolution 4.0

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Universitas Negeri Surabaya

Abstract

The world faces the Industrial Revolution 4.0. Of course, Indonesia faces the same conditions. Industrial Revolution 4.0, requires the use of more information and communication technology than manuals in all fields, as well as in the economic field. This study aims to analyze the influence of information and communication technology on Indonesian exports and imports. Simple linear regression analysis is used to analyze the influence of information technology and communication on Indonesia's exports and imports. Based on the results of data analysis, the results show that Information and communication technology have positive effect but not significantly on export and have positive effect and significantly on import.

Keyword : Information and Communication Technology; Exports; Imports

Topic : Others relevant Fields

[GS.AB-201]

Effect of Example Non Example Method Implementation in Scientific Approach and Discovery Learning Model on VII Grade Students' Cognitive Competence in Learning Natural Science

Amrianto Amrianto, Lufri Lufri
Universitas Negeri Padang

Abstract

The 2013 Curriculum emphasizes on active learning pattern, student-centered learning and cooperative learning. Considering this fact, there is an alternative solution to be used by teacher in learning process, which is using example non example method. This method fulfills three learning patterns required by the 2013 Curriculum. Beside that, it can also support the implementation of discovery learning model and scientific approach in learning process. The scientific approach and discovery learning model are recommended in the 2013 Curriculum. The purpose of the research was to know effect of example non example method in scientific approach and discovery learning model on students' cognitive competence in learning natural science (IPA). It was a quasi-experimental research. It was done in grade VII of junior high school 18 Padang. Instrument used was written test (multiple-choice and essay). Technique of data analysis used T-test. The Analysis was done by assistance of SPSS software. The finding shows that there is effect of example non example method on students' cognitive competence in learning natural science (IPA). From the hypothesis testing, it is known that significant $(0.038) < 0.05$.

Keyword : Example Non Example, Discovery, Scientific, Cognitive

Topic : Biology Education

[GS.AB-202]

Application of Learning Model Reading-Concept Map-Group Investigation (ReMap-GI) to Increase Cognitive Learning Outcomes and Collaboration Skills

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Abstract

This study aims to improve cognitive learning outcomes and the ability of student collaboration through the implementation of the Reading-Concept Map-Group Investigation (ReMap-GI) learning model. This research is participant class action research. This research was conducted in two cycles. Each cycle consists of the stages of planning, action, observation and reflection. The research subjects consisted of 34 students consisting of 19

women and 15 men. The data collection instruments used in this study were student learning outcomes tests, observation sheets of students' collaboration skills, and field notes at the end of each cycle. The results of the study show that the application of the Remap-GI model can improve cognitive learning outcomes and student collaboration skills. The percentage of classical completeness of cognitive learning outcomes of students has increased, in the precycle was 40.63% (less), in the cycle I was 67.65% (good) and in the cycle II was 85.29% (very good). The percentage of students' collaboration skills also increased, in precycle it was 39.84% (less), in cycle I it was 72.79% (good) and in cycle II was 86.03% (very good). The improvement data then proves that the application of the ReMap-GI model can improve cognitive learning outcomes and the collaboration skills.

Keyword : action research, remap-GI model, cognitive competence, Collaboration skills

Topic : Biology Education

[GS.AB-203]

Development of rice powder masks with the addition of egg white

Mercylia Ningrum, Asmar Yulastri, Ernawati Nazar, Ade Irferamuna, Elfrimo Dwi
Universitas Negeri Padang

Abstract

This study aims to develop traditional rice powder with the addition of ready-to-use egg whites, dealing with organoleptic tests (aroma, color, texture, and stickiness), the level of preference of panelists, and consumer preference for the development of traditional rice powder with the addition of egg white, knowing how much percent of the results of the test of water content, ash content, and metal surfaces, in the development of rice powder with the addition of egg white. Based on the descriptive test by a standardized traditional rice powder expert which has the characteristics of bright colors, a very fishy scented aroma, a very soft texture, sticky power that was very sticky and the level of preference by interpretation was very like. Based on discriminatory testing by the expert, it was found that the BBP3 sample was in accordance with the characteristics of traditional rice powder with bright color characteristics, a very fishy aroma, very soft texture, very sticky power and the level of preference with interpretation was very like. The laboratory test results stated that the content of metal contamination in this product was less than 0.0060 mg / kg, test water content was 28% and ash content was 0.87%.

Keyword : rice powder, egg white, and mask

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-204]

The Effect of Active Learning in the form of Scientific Approach with the Use Of Students Worksheet Based on Problem Based Learning (PBL) on Students' Biological Knowledge

Fitria Laili, Lufri Lufri
Universitas Negeri Padang

Abstract

Abstract. The effect of Active Learning in the form of Scientific approach with the use of students worksheet based on Problem Based Learning on Biological students knowledge. This kind of research is quasi-experimental by using research design; Randomized Control Posted only design. The population used here is students of X IPA Senior High School. The technique used is Purpose sampling and Class X IPA 4 act as experimental class whereas X IPA 3 as control class. Instrument that is conducted here is Objective and Essay. Data analysis by using T-Test. The result shows that there is significant differentiation between both class where experimental class knowledge is higher than another one. Average of experimental class students score is 86.74 and another class is 82.00. Based on the result of hypothesis test significant $(0.008) < 0.05$ so H_1 was accepted. The conclusion of this research is Active Learning in the form of Scientific approach with the use of students worksheet based on Problem Based Learning on student enable them to improve their Biological knowledge.

Keyword : Active Learning; Student Worksheets; Saintifik Approach; Problem Based Learning.

Topic : Biology Education

[GS.AB-205]

Development of Sala Lauak Products with Gelatinization Techniques.

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Universitas Negeri Padang

Abstract

Sala lauak is one of the traditional foods that was easily found in West Sumatra. The development of sala lauak products was done by making oil with gelatinization technique. The process that occurs in gelatinization which was the compilation of starch granules was given water and heat so that the starch granules would expand. This research aimed to look at the oil in the sala lauak product. Based on the results of sightings could be seen in the sala lauak with flour gelatinization was best than the control. The results of the appearance of the color values of the control and flour gelatinization have the same value. The results of the texture that could be seen from the value of the Sala Lauak control was higher than the gelatinization technique. The outer texture results were seen to be better in the control than gelatinization flour. The results of the flavors look better in flour than the controls. The results of laboratory tests stated that the oil in sala lauak using ordinary rice flour, containing oil of 7.71 g and sala lauak using rice flour gelatinization technique absorbed oil at 2.98 g. Sala lauak test was done by amone of fat.

Keyword : Sala Lauak, Gelatinization Technique

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-206]

Exploration of Ethnomathematics in Kudus Regency and its Optimization in Mathematics Learning

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Universitas Negeri Semarang

Abstract

The purposes of the study were to explore the forms of ethnomathematics in Kudus Regency, Central Java Province and to optimize it in mathematics learning. The research was conducted at the cultural sites and customs of the Kudus community, including traditional clothing, food, local units, and children's games. Data were collected by observation, interview, documentation and literature review and then analyzed descriptively. The results showed that various forms of ethnomathematics were found in Kudus Regency, such as the Menara Mosque and Kudus traditional house loaded with mathematical concepts (two- and three-dimensional shapes), as well as bordir motifs as traditional clothing and their traditional hat called caping (cone-shaped), some local units, such as sa-unting, sa-ombyok, and se-tandan, as well as traditional children's games, such as gundu. Various forms of ethnomathematics can be optimized to improve the quality of mathematics learning with problem based learning and project based learning models.

Keyword : Ethnomathematics, Mathematics Learning, Cultural site.

Topic : Mathematics Education

[GS.AB-207]

The Contribution among Physical Activity, Type of Transportation, Distance of Residence, and Body Mass Index in Adolescents : Cross-sectional Study in College Students

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Universitas Pendidikan Indonesia

Abstract

Body weight in adolescents, especially among college students, has generally increased. It is feared to increase the risk of obesity. The purpose of this study was to determine the relationship between Physical Activity, Type of Transportation, and Distance of Residence of the students and their Body Mass Index. This study used a cross-sectional study design. The participants were 322 students (92 Male, 230 Female). International Physical Activity Questionnaire was used to measure students' physical activity by asking vigorous activity, moderate activity, walking activity, and sitting time in the last 7 days. The data was analyzed by using Multinomial Regression Logistics. The results show that 69.05% students with overweight category had low physical activity level. The data also show that 64.57% students with overweight category lived less than 1km from campus. Moreover, 68.87% students who walked to campus were in overweight category. The findings indicate that, overall, there is no relationship between Physical Activity, Transportation Type, and Distance of Residence with

BMI. Individual factors are not enough to control normal BMI. However, environmental factors are considered to have contribution on BMI. So it is necessary to do research and policy that encourage students to be able to control their weight.

Keyword : Body Mass Index, College Students, Distance of Residence, Physical Activity, Type of Transportation

Topic : Others relevant Fields

[GS.AB-209]

The Application of Picture and Picture Learning Model in Improving Students' Learning Motivation And Outcomes at Grade III of Elementary School

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Abstract

This classroom action research intends to determine the improvement of students' learning motivation and outcomes in social sciences subject at a third grade of Elementary School SDN 01 Wonosari, Boalemo Regency. The data were collected from action observation guidelines and learning outcomes test; they were further statistically analyzed using a percentage analysis of the determined aspects. The results reveal that the Picture and Picture learning model applied in social sciences subject in the site area can improve students' learning motivation as they reach the optimum criteria of 89% at the third meeting of cycle I; this model is also able to increase students' learning outcomes by arriving at the percentage of 92% of mastery criteria in cycle II.

Keyword : Picture and Picture learning model, Learning Motivation, Learning Outcomes.

Topic : Others relevant Fields

[GS.AB-210]

Learning Media of Vehicle Power Train Systems

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Makassar State University

Abstract

This study aims to develop a valid, practical and effective learning media for power train systems for vehicles. This learning media is developed consisting of a clutch, transmission, propeller shaft, differential and wheel shaft. All of these systems are made with parts (cutting) so that the movements of the parts appear. The results of media validation by media experts stated that the media developed was valid. The results of user evaluations stated that the media developed was declared practical. The quasi-experimental results of the control group with the experimental group gave different results of 17.7% better than the control group in the experimental group. This indicates that the learning media of the vehicle power train system developed was effectively used for learning in the subject of the power train system in the Department of Automotive Engineering Education, Faculty of Engineering, Makassar State University.

Keyword : power train, learning media

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-211]

Suitcase Security System Using Android and GPS

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Abstract

Technological progress is something that cannot be avoided in line with the development of science. Technology provides many benefits because technology is present to facilitate human work. One of the technological advances is the presence of airplanes. To go wherever humans are not restricted by distance and time. Generally, people will use a suitcase to store their luggage when they travel because it is easier to carry. But the theft of items in the suitcase is rampant. For this reason, a security system can be made that can inform the owner that the suitcase has been forcibly opened. The PIR sensor installed in the suitcase will detect if there is movement and temperature of the human body heat in the suitcase. Then GSM SIM900A will send a notification to the owner and the buzzer will sound. If the suitcase has been stolen and taken away then we can

see the location of the suitcase in the application that has been made with coordinates obtained from the GPS module installed in the suitcase. In addition, we can activate or deactivate the sensor through an application that has been made with the aim that when the owner opens the suitcase there will

Keyword : Suitcase, Arduino, GSM SIM900A Module, GPS Module, and MIT App Inventor

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-212]

Validity of android-based learning media in subject measurement and instrumentation

Fivia Eliza, Dwiprima Elvanny Myori, Hastuti, Radinal Fadli

Universitas Negeri Padang

Abstract

Electrical Measurement and Instrumentation is an important thing that must be mastered by students majoring in electrical engineering. But the problem that arises is the decreased interest in reading books, so that students need to be given the other ways to learn. Then by utilizing the development of android technology, this study aims to develop the android based learning media to assist students to understanding the material. The research has adopted 4D model that have 4 development steps (define, design, develop, disseminate). Validity of the media was measured by instrument of validity that had been validated before. The average calculation result from the validity analysis of the learning media is 85% with valid category. So it can be concluded that android based learning media on Electrical Measurement and Instrumentation was valid to be used as a learning media

Keyword : Measurement, android based learning media, electrical, engineering

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-214]

The Development of Vocabulary for Early-Grade Elementary-School Students

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Universitas Negeri Surabaya, ITS

Abstract

Vocabulary mastery is very important for elementary-school students. The amount of vocabulary in the student book will show how many vocabularies should proficient at that level. This study aims to describe the development of vocabulary in the books of early-grade elementary-school students (level 1,2,3) and shows the number of vocabularies. Each level has eight books/themes. Therefore, this study uses 24 books. In this study, we apply "lema" application as the documentation method. The results of the study showed that the highest number of vocabularies is in class 3 theme 7, the least is in class 1 theme 6. The highest of vocabulary in class 1 is 2,105 (theme 3), class 2 is 2,328 (theme 5), and class 3 is 2,383 (theme 7). The development of vocabulary does not always rise from one theme/level to the theme/class above it. Writing books for the student should consider increasing vocabulary, not just the number of words or pages.

Keyword : Development of vocabulary, elementary school, "lema" application

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-215]

Does Competency Certification Really Matter to Decrease Unemployment?

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Abstract

This paper aims to divulge the importance of competency certification toward unemployment particularly in the field of Islamic Economy. Escalation of numbers, types, as well as office of Islamic Financial Institution happens almost every year. It shows that Islamic Economy is well developed in Indonesia, which affects the demand of qualified human resource to cater the need of Islamic Financial Institution. On the other hand, the number of Islamic Economics graduate who are accepted in Islamic Financial Institution is not much. Nowadays university provide certification to certify competency of its graduate in order to enhance their value to land work correspond to their field. However, the effectiveness of the competency certification to decrease unemployment needs to be confirmed. Furthermore, it also needs clarification from the industry side regarding competency needed for employment. This paper uses qualitative method through interview. The result shows that

competency certification is not really matter to the Islamic Financial Institution, since the company requires more on leadership and teamwork.

Keyword : competency, certification, unemployment

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-216]

Policies for Implementing Internship Study 1 and 2 in Improving Student Achievement Index in FIP Unimed

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Universitas Negeri Medan

Abstract

This study examines the problem on (1) how's the impact of the policies on the implementation of Internship studies 1 and 2 programs in Unimed (2) how to Increase the Unimed Student's Learning Achievement Index. This study population consists all 2016/2017 academic year students who had conducted Internship Programs 1 and 2, with sample consisting 142 people determined by random sampling techniques. The data of this study collected using a questionnaire instrument with a Likert Scale pattern. The results of data processing show that this research data contributes normally with a significant value of more than 0.05 at homogeneous variant level. The correlation coefficient obtained between the perceptions of students about the policy of implementing Internship study 1 and 2 program activities with the cumulative learning achievement index only reached 0.162 with contribution amount about 2.62 percent. The findings of this study indicate that the policy of implementing Internship study 1 and 2 program activities in Unimed has less impact on the increase on student achievement indexes. Although it can be proven to correlate with learning commitment of 0.580 with a contribution of 33.64 percent, but the learning commitment does not necessarily affect the increase in the learning achievement index.

Keyword : Policy, Internship, Learning Achievement Index, Students

Topic : Science Education

[GS.AB-217]

Using Brain Gym for Developing Elementary School Students' Mathematical Disposition and Skills

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Universitas Pendidikan Indonesia

Abstract

There are many ways to overcome the problems of elementary school students who have difficulty in solving math problems. This is also the way to develop their attitudes in appreciating the usefulness of mathematics in daily activities. However, there are still students who do not like to learn mathematics and have problems in solving math problems. Another solution is to be given learning activities through several brain gym movements. Brain gym is a simple movement and touch that can optimize the potential of the brain. Therefore, when the brain has potential, students can solve math problems, while motivating the disposition of mathematics during the learning process. To test it, research was conducted using the quasi-experimental nonequivalent control group design method. The data collection technique is done by giving a description test. The results showed that the students solving math problems and mathematical disposition that apply brain gym activities in learning was better than the solving math problems and mathematical dispositions of students who did not apply brain gym activities in learning.

Keyword : brain gym, disposition and mathematical skills

Topic : Mathematics Education

[GS.AB-218]

Exploration Learning for Writing Poetry Using Botani Literature Perspective

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Abstract

This paper seeks to apply exploration learning to poetry in literary botanical models. During this time learning to write poetry is rarely done exploratively. What is meant by exploration, poet feels a direct phenomenon, to explore ideas, then write aesthetically. Exploration meant using the latest perspective called botanical literature.

The botanical perspective of literature is also called transdisciplinary learning. In it try to combine the tradition of literature as humanism with botany (exact). Botany is plant science. Botanical literature is the perspective of the creation of poetry that is nuanced by plants. Exploration of poetry writing is carried out through five stages, namely: (1) exploring plant life outside the classroom, looking at roots, leaves, trees, flowers, from changing colors, when touched angina, etc. (2) doing deepening, internalizing ideas, incubation of ideas, through breathing exercises, (3) enrichment of ideas, reading botanical poems that have been published, (4) pouring ideas, in paper or typing, (5) examining the work itself, given to friends to comment. These steps can take advantage of a variety of literary botanical perspectives, including: (1) Anthropobotanical literature, which links human action with plants, (2) botanical simulacrum literature, which imitates plants to describe human life, (3) literary ethnobotany, namely expressing

Keyword : exploration, poetry, and botanical literature

Topic : Science Education

[GS.AB-219]

Jakarta's Commercial Waste as a Potential Renewable Energy Sources

Fahhamul Mudaqqiq Adiandri, Gabriel Andari Kristanto
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Abstract

The high development of the commercial area in Jakarta starting in the 90s which shopping centers sprawling across the city with the concept of a modern market or mall. These commercial waste generated high amount of waste which contains a very high mass fraction of combustibles (such as plastic, paper, and textile). Waste that characterized by a high calorific value would suitable for direct combustion in waste-to-energy (WtE) plants. The objective of this study is to apply the waste to energy concept for utilizing commercial waste as potential energy of Jakarta's The result showed that the energy content of Jakarta's commercial waste 189.78 ± 23.51 GWh/month, with waste composition 36.33% (paper), 35.71% (plastic) and 14.54% (organic). That potential energy is equivalent to 7.19% of the total energy needed in Jakarta every month

Keyword : commercial Waste, Sustainable Energy, Jakarta

Topic : Others relevant Fields

[GS.AB-220]

Teaching Applied: Synectics Application using Leadership Instructional on Creative Design Subject for Upgrading Creativity

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Abstract

Synectics learning model leads to develop the creativity of students. Leadership instructional is used as a mentoring and learning assessment. The methodology of this research is Classroom Action Research manage through 6 Phase study. In cycle 1, practice photography techniques are about 70.1% and the technique of photography with the concept of beauty pre-wedding increase 89,6%, in cycle 2, Synectics learning can improve student learning outcomes both cognitive and psychomotor. The percentage of completeness cognitive learning outcomes increase, in cycle 1 completeness study by 82.45% and 88.3%, in cycle 2 psychomotor learning outcomes also influent in cycle 1 to cycle 2. In cycle 1 amounted to 81.25% and on cycle 2 increased to 85%. Classroom action research can be concluded that synectics learning can enhance student creativity and improve student learning outcomes both cognitive and psychomotor, and also all of them exactly influence by leadership instructional like Student discipline, Student attendance, Curriculum and Instruction, Personal Professional Development

Keyword : synectics teaching model, creativity, leadership instructional

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-222]

The Impact of Training and Education Program With Teachers' Competency Test to The Improvement Of Teaching Competency in Adaptive Physical Education of Special Educational Teachers

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Abstract

This study aims to determine the impact of training program with teachers' competency test to the improvement of teaching competency in Adaptive Physical Education (APE) of special educators. The provided training is competency-based and conventional training program. The teaching competency consist of professional and pedagogical of APE. This research using experiment method with factorial model 2X2. The sample are teachers of intellectual disability student. The sampling data collection using stratified cluster random sampling. The samples are 60 teachers divided to four groups that joined 60 hours or six days training program. Written test was conducted. The statistical analysis applied with T-Test sample paired test, Anova test (Two Way Anova with Main Effect and Interaction Effect), and PostHoc Test. The results shows that group of teachers in competency-based training program gain a high competency test score, average score higher than other groups. There is no interaction between training program and competency test result to the enhancement of teaching competency in APE of special educators.

Keyword : Training, education program, teacher competency, teaching competency, adaptive physical education

Topic : Others relevant Fields

[GS.AB-224]

Strategy for Fostering of Students in Boarding School toward Industry 4.0

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Abstract

This study focused on the school's strategy in fostering students in boarding schools. These strategies are: (1) fostering discipline and education in state defense, (2) religious formation, and (3) evaluation of its fostering activities. This study uses a qualitative approach with type of case study. Data collection techniques collected through observation, interviews and documentation. Data analysis was done by reducing data, presenting data and drawing conclusions. The results of this study indicate that: (1) the strategy for improving discipline students' is adopt a military system, which involving personnel of the Indonesian military and police (TNI and POLRI) as trainers for fostering the student's, habitual to give greetings and respect when meeting older people, habituation in eating ethic, inherent supervision and formation and activation of the student organization, (2) a strategy in religious formation that adopts a quasi-Islamic boarding school coaching, for example, is obliged to pray five times in congregation, following Islamic religious obligatory activities, such as Qur'an reading, lecturing, praying in Friday, visit study, Friday sermon and celebrate forty days and working with third parties in conducting religious guidance and (3) evaluating the development of a reward and punishment system that gives an impact to each student.

Keyword : fostering, school strategy, students

Topic : Science Education

[GS.AB-225]

Promoting 21st century learning in the classroom through cyclic model of reflective teaching

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Universitas Pendidikan Ganesha

Abstract

Student-centered pedagogy is emphasized in 21st century learning in Indonesian curriculum nowadays. Students are guided to become independent and responsible toward their own learning through activities that train them to become critical, creative, collaborative and communicative. To accommodate this, teachers are advised to engage students in collaborative activities such as working on a project, solving problems, and learning through discovery process. This article is written based on a continuous classroom research on the pre-service training that prepare prospective teachers to become reflective toward their own teaching. 69 prospective teachers were

trained to implement the 21st century learning principles and utilize cyclic reflective journals. The data collection methods include document study, questionnaire administration, interview guide, and teaching simulation rubrics. The findings reveal that the cyclic reflective journals were effective to improve prospective teachers' abilities to paying into details towards their own teaching, being critical and evaluative towards what need to be improved and finally improving the quality of their teaching performances. These findings could be expected to be transferable to real teaching. It is suggested that professional development program for teachers on the utilization of cyclic reflective teaching journals need to be carried out.

Keyword : cyclic model, reflective teaching, 21st century learning, reflective journal

Topic : Others relevant Fields

[GS.AB-226]

The effect of motivation in learning used an electric installation automation trainer based on Project Based Learning

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Universitas Negeri Surabaya

Abstract

The purpose of this study is to determine the effect of using the Industrial Electric Automation Installation trainer kit using project based learning (PjBL) and motivation on learning outcomes. Project Based Learning is a learning model that involves students actively in designing learning goals to produce tangible products or projects. By using PLC-Zelio as a control device, students can design electrical systems automatically based on electric loads according to priority, so that the use of electric power can be efficient. This kit trainer is used to complete the information conveyed orally by the lecturer in accordance with the demands of the DU/DI oriented curriculum by considering the needs of the students. The study design is categorized as quasi-experimental designed with factorial experimental designs. This study uses research and development methods based on multi-disciplines with a quantitative approach. (1) student learning outcomes with a project-based learning model are better than students who get direct learning, and complete learning outcomes by getting KKM (Learning Completeness Criteria) ≥ 70 . (2) learning outcomes in a group of students with high motivation are better. (3) there is an influence between the application of learning models of interest and motivation to student learning outcomes.

Keyword : PjBL, motivation, learning outcomes, trainer kit

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-227]

The Association Between Types of Domicile and Nutritional Status of College Students in Indonesia

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Abstract

Nutritional status is a requirement of health of a person convinced by the diet, the levels of nutrients containing in the body, and normal metabolic integrity. Types of domicile generally impact the behavior of daily consumptions, which further can affect the health of students. The objective of this study was to identify the types of domicile associated with the nutritional status of college students in Indonesia University of Education. Nutritional status was assessed based on body mass index, and categorized as underweight, normal, overweight, and obese. The collected data was analyzed using multinomial regression logistic method. Samplings were carried out among 322 students with 40% of students were living with parents and the remaining of 60% were lived in boarding house or dormitory. Based on nutritional status categories, 9.01 % of the students were categorized as obese, 67.70 % were overweight, 15.84% were normal, and 7.45% were categorized as underweight. The results showed that there are no significant differences between types of domicile with nutritional status of college students. It is recommended to further investigate the eating habits of college students in Indonesia University of Education and propose interventions to improve nutritional status.

Keyword : Body Mass Index, College Students, Nutritional Status

Topic : Others relevant Fields

[GS.AB-228]

Foundation of Mathematics Courses Using Virtual Learning

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Abstract

This study aims to describe the learning outcomes and students' responses after joining in the Foundation of Mathematics courses using virtual learning. The research subjects were Mathematics students who programmed the Foundation of Mathematics which consisted of 31 people. The method of data collection was carried out by test methods and questionnaires. This learning was said to be successful if the learning outcomes of students at least 70% get A, A-, B+, or B grades or at least 70% the scores obtained by students was more than or equal to 70, and students' responses after joining in Foundation of Mathematics courses using virtual learning is positive category (the percentage of students positive responses was more than 70%). Based on the results of data analysis it can be stated that 90.03% of the final grades of students joining in the Foundation of Mathematics courses are B, B+, A- or A, and the percentage of positive responses of students after joining in Foundation of Mathematics courses was 80.0%. Thus it can be concluded that Foundation of Mathematics courses using virtual learning has been successful.

Keyword : virtual learning, Foundation of Mathematics

Topic : Mathematics Education

[GS.AB-231]

Project-Based Learning Intervention on the Learning Outcome of the Analog Electronics Class to the Electronics Engineering Education Students

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Abstract

The main problems of this research were the low quality of interactions in learning process and low achievement of the learning outcomes, especially in the reinforcement of Analog Electronics course material. This research aimed at describing the quality of implementation of an interactive and effective class which was based on competency (Learning Outcome). This quasi-experimental study involves 32 respondents. The research results on the project-based learning model intervention with random sampling groups using a cognitive test (remembering and using) showed that the interactions and the learning outcomes outperformed those of the direct learning model. In conclusion, in order to improve the interaction and achievement of cognitive learning outcomes of the students in class, the project-based learning model intervention is better to implement by taking into account the steps or syntax of the project-based learning model consistently in the vocational learning.

Keyword : interventions, project-based learning, learning outcomes

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-233]

Achievement of Learning Success in Chemical Bonds by Using the Chembo Collect Game

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Universitas Negeri Surabaya

Abstract

A number of studies state that the game can create a happy atmosphere and can achieve something planned. The study aims to obtain evidence of whether learning using chembo collect as a learning medium can achieve the success of learning chemical bonds. The study was conducted on public senior high school students in Sidoarjo, East Java, before the initial tests were conducted, during the learning activities were carried out by observing student activities, after the final test was conducted, and student questionnaires. The results show that student-centered learning activities, student learning outcomes have reached completeness, and students give positive responses to the use of games as learning media for chemical bonds. The data obtained shows that the use of the chembo collect game as a learning medium can achieve the success of learning chemical bonds and these results indicate that the game can be used as an alternative for chemistry teachers so that learning can be successful.

Keyword : game, chembo collect, bonding chemistry, success

Topic : Chemistry Education

[GS.AB-234]

The Statistical Reasoning Ability Students of Tadris Mathematics IAIN Kerinci Using Spider Web Analysis

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Institut Agama Islam Negeri (IAIN) Kerinci

Abstract

The statistical reasoning ability are important for delivering students to the level of practical ability to select, produce and interpret methods both descriptive statistics and inference statistics appropriately. Without adequate statistical reasoning ability, students will have difficulty solving problems by applying statistics. This study aims to determine the statistical reasoning ability on students of Tadris Mathematics IAIN Kerinci. This study uses a survey method with Statistical Reasoning Assessment (SRA). The respondent are students of Mathematics Mathematics IAIN Kerinci in 7th semester. The Data collecting uses random sampling with 35 respondents. Types of statistical reasoning surveyed include: reasoning for data, reasoning for presenting data, statistical measures, uncertainty or probability, samples and relationships between variables. The data was obtained using descriptive statistical methods and visualized with spider web charts to get a clear picture of student statistical reasoning ability. The results of the study showed that in general, statistical reasoning ability students were not good. If further noted, it appears that the type of statistical reasoning for probability and the sample are the least among the other types of statistical reasoning. Whereas the type of statistical reasoning for presenting data and statistical measures can be said to be sufficient.

Keyword : Statistical Reasoning Ability, Statistical Reasoning Assesment, Spider Web Analysis

Topic : Mathematics Education

[GS.AB-238]

A Comparison of The Physical Fitness Senior High School Coastal Areas And The Mountains in The District Sinjai South Sulawesi

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Yogyakarta State University

Abstract

The level of physical fitness of students is important in students' daily activities. Geographical location has an influence on the state of the child's physical fitness level. This study aims to determine the differences in physical fitness level of SMAN 5 Sinjai and SMAN 11 Sinjai Regency Academic Year 2018/2019. This research is a comparative study using survey methods with data collection techniques using tests. The subjects in this study were all 16-19 year old students of SMAN 5 Sinjai and SMAN 11 in Sinjai District, totaling 120 children, consisting of 60 students of SMAN 5 Sinjai and 60 students of SMAN 11 Sinjai. Data collection used tests with Indonesian Physical Fitness Test (TKJI) instruments aged 16-119 years from the Ministry of National Education. The data analysis technique uses t-test analysis through the prerequisite test for normality test and homogeneity test. The results of the study showed that there were differences in the level of physical fitness of students of SMAN 5 Sinjai and students of SMAN 11 Sinjai in Sinjai District in the academic year 2018/2019. The level of physical fitness of students of SMAN 11 Sinjai is better than students of SMAN 5 Sinjai.

Keyword : Physical fitness, high school coastal areas and mountainous regions

Topic : Physics Education

[GS.AB-239]

Characteristics of Particle Board from Waste Nypa Fruticans Wurm

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Universitas Negeri Padang

Abstract

The development of engineering materials has increased its use. Engineering material which is a combination of various materials that can be made into a product, namely particle board. Nypa plants have the potential to be used as engineering materials. Traditionally, the use of nypa fruit has been carried out by the community, but the skin or nypa fiber only becomes waste that is wasted and untapped. The development of a diversified technology process in the utilization of waste into engineering materials in the form of particle boards is very possible. The particle board innovation made from raw nypa fiber as an interior furniture material that has light

strength and weight as a substitute for wood. The process of making particle boards with compacting and composition optimization methods is an effort to obtain new material that can be developed and has quality according to JIS A 5908 standard. Efforts to develop new materials with better performance to replace wood products as furniture. Through the improvement of process technology and the potential livelihoods of plant waste in obtaining advanced materials as raw material for innovation in the manufacture of particle board products based on the waste of nypa fruit fiber.

Keyword : nypa plants, waste, particle board, characteristics, standards

Topic : Others relevant Fields

[GS.AB-240]

Misconception profile of students in SMAN IV Sidoarjo East Java in Work and Energy concepts and the causes evaluated using four-tier diagnostic test

Frida U. Ermawati, Silvia Anggrayni and Laila Isfara
Universitas Negeri Surabaya

Abstract

The main issue faced by students in secondary high schools in Indonesia is the difficulties in understanding physics concepts. These difficulties are often caused by a conflict between preconceptions and academic knowledge obtained from school. For example, students' preconceptions say that Work is an effort by exerting energy and thought. In physics, Work is the dot product between force and displacement vectors whose value is determined by the angle between those vectors. This conflict phenomenon is assured to produce misconceptions. This present study aims to analyse the 10th grade students' misconception profile in SMAN IV Sidoarjo East Java on Work and Energy concepts and to identify the sources examined using the developed four-tier multiple-choice test. A total of 30 students participated in this study. The data collection instrument contains 25 physics-concepts questions. Serious misconceptions was identified on Work, Energy Change and Mechanical Energy Conservation concepts as a result of preconceptions. Meanwhile, the similar misconceptions found on Power concept was due to incomplete reasoning.

Keyword : preconceptions; misconceptions; four-tier multiple-choice test; work and energy concepts

Topic : Physics Education

[GS.AB-241]

Characterization of Sound Spectrum Based on Natural Animals as an Alternative Source of Harmonic System Audio Bio Stimulators for Increasing Productivity of Food Plants

Nur Kadarisman, Dyah Kurniawati Agustika, Agus Purwanto, Vinna Alvianty, Bagoes Wibowo
Universitas Negeri Yogyakarta

Abstract

Natural Animal Sound Spectrum Characterization based on Fourier analysis is a undamental scientific study of the spectrum of natural animal sounds that can be used as a stimulator of growth and productivity in food intensification. The results of characterization are very useful for adding scientific treasures in the field of biophysics, especially to support the use of natural animal sounds as stimulators of growth and productivity of food crops through spectrum analysis based on Fourier analysis so that it has a strong theoretical basis to be developed into an applied industry in the field of food intensification. Natural animal sound spectrum is obtained by recording animal sounds naturally in nature by using a voice recorder. Furthermore, the sound of these natural animals analyzed their spectrum characteristics using Adobe Audition to determine the peak frequency produced. Sound spectrum characterization which has peak frequency sonic bloom between 3000Hz - 5000 Hz is made as an audio stimulator for growth and productivity of food crops. From various 27 sources of animal sounds recorded and analyzed, there are 17 types of animals that have frequency peaks in range sonic blooms (3000-5000 Hz) and can be produced into stimulators and 1 combined stimulator

Keyword : Spectrum Characterization, Stimulator

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-242]

**Study of Increasing Learning Outcomes Using the Student Facilitator and Explaining (SFE) Method
Vocational Students in Makassar**

Taufiq Natsir, Ishak
Universitas Negeri Makassar

Abstract

This study aims to analyze the improvement of learning outcomes in vocational students in Makassar using the student facilitator and explaining (SFE) method especially in Engineering Mechanics subjects. The method of this study uses a type of classroom action research. Techniques for collecting data through observation, interviews, tests and documentation. learning outcomes analyzed include affective, cognitive and psychomotor aspects. The results of the actions taken in the cycle appears that there is an increase in learning outcomes obtained by students with the average obtained is 86.66 %. it can be concluded that the application of the student facilitator and explaining (SFE) method can improve the learning outcomes of vocational students in Makassar.

Keyword : Learning outcome, student facilitator and explaining (SFE), classroom action research, vocational student, engineering mechanics

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-243]

**The Influence of Entrepreneurship Training, Individual Commitment and Business Motivation Toward
The Small Businesses Performance in City of Parepare**

Muhammad Rakib, Muhammad Azis, & Dian Anugrah Sanusi
Universitas Negeri Makassar

Abstract

The presence of entrepreneurs has been proven to bring benefits to the economic growth of a country. To grow new entrepreneurs, there is a need to improve the quality of human resources through entrepreneurship training, business motivation, and individual commitment. The purpose of this study was to determine the effect of entrepreneurial training, business motivation, and individual commitment toward the business performance in the City of Parepare. This study uses a quantitative method approach. The population in this study was 150 small-scale entrepreneurs who had received entrepreneurship assistance and training in the city of Parepare and determined the number of samples based on Slovin formula as many as 109 respondents, and were taken by proportional random sampling. Data collection was done using a questionnaire and analyzed by SEM analysis. The results of the study show that (1) entrepreneurship training and individual commitment directly influence business motivation, (2) training, individual commitment, and motivation to work directly influence business performance, and (3) entrepreneurship training and indirect commitment of influential individuals on business performance through business motivation.

Keyword : Entrepreneurship Training, Individual Commitment, Business Motivation, Business Performance

Topic : Others relevant Fields

[GS.AB-244]

**Developing a Business Curriculum: Model of Organizational Commitment, Job Satisfaction,
Organizational Citizenship Behavior and Employee Performance in the Era of Industrial Revolution 4.0**

S. Martono, Moh Khoruddin, Rike Oktaviana
Universitas Negeri Semarang

Abstract

The digital world of financial services is moving rapidly towards industrial revolution 4.0. The dynamics of the human resource in the financial-banking sector are important studies in various business-economic faculties. This study aims to determine whether organizational commitment, job satisfaction and organizational citizenship behavior affect employee performance directly and indirectly in the banking industry. The model results of this study are useful for reviewing the business curriculum so that graduate competencies are adaptive in the industrial revolution 4.0. The population was employees of Islamic banks in Semarang, Indonesia. With multi stage sampling, there were 125 employees. Data from the questionnaire were analyzed with Path Analysis. As a result, organizational commitment and job satisfaction have an effect on organizational citizenship

behavior; organizational commitment influences employee performance; there is no direct effect of job satisfaction on employee performance but can be mediated by organizational citizenship behavior.

Keyword : Business Curriculum, Commitment Organization, Job Satisfaction, Employee Performance, Organizational Citizenship Behavior

Topic : Science Education

[GS.AB-246]

Application of Technology Acceptance Model to E-learning Assessment (Kelase) in Agricultural Technology Education, Universitas Negeri Makassar

Andi Sukainah, Reski Praja Putra, Ratnawaty Fadilah, Amirah Mustarin
Universitas Negeri Makassar

Abstract

Kelase is an E-learning program that has been applied in the Agricultural Technology Education (PTP), especially in the Toxicology and Food Safety courses. This study aims to analyze application and acceptance of PTP students to Kelase, as well as variable correlation and linearity used in the Technology Accepted Model (TAM) method. The independent variables in this study consisted of variables perceived ease of use and perceived usefulness, while the observation variable was acceptance. Techniques for collecting data through giving questionnaires. The questionnaire instrument was tested for its validity and reliability. Data measurement scale uses Likert scale. Data processing uses IBM SPSS 20.0 software. The results show that level of perception of PTP student admissions is very high, which is between 70.1-91%. The correlation of TAM variable is significant and positive. Both variables, perceived ease of use (X1) and perceived usefulness (X2), are very influential on acceptance (Y) and both of these variables simultaneously influence the level of student acceptance of Kelase. The regression determination coefficient is generated, which is 52%. These results indicate that the influence of variables perceived ease of use (X1) and perceived usefulness (X2) is only 52%, and the rest, which is 48% influenced by other variables.

Keyword : Technology Acceptance Model, Agricultural Technology Education, E-Learning, Kelase, Regression

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-247]

Developing Students' Entrepreneurial Characters through Downstream Research on Natural Product Learning With Ethno-STEM Approach

Sudarmin, Woro Sumarni, Dwi Yulianti, Zaenuri
Universitas Negeri Semarang

Abstract

This research intended to develop students' entrepreneurial characters through the implementation of Ethno-STEM approach in Natural Product course. The research subject was students of Mathematics and Natural Sciences Faculty, Universitas Negeri Semarang who joined the Natural Product course. This study was descriptive-qualitative one. The data were collected using observation, learning activities, interview, and documentation. The indigenous knowledge about oil distillation, batik technique, creative ideas to produce essential oil and batik motifs as well as the calculation of yield and profit were excavated. Experts were involved in this research to verify the collected data for the students to reconstruct the data to be a scientific concept. Then, an effectivity test was performed to reveal the improvement of entrepreneurial characters. The final product was chemical structure batik which obtained favourable scores from the assessor. Other than that, the students' entrepreneurial characters improved after joining the series of learning activities. Moreover, the motifs created by the students were printed in 'Zie Batik', one of the batik manufactures in Gunungpati, Semarang. In sum, this study was able to develop the students' ability to think creatively and innovatively.

Keyword : Downstream research, Ethnoscience, STEM, entrepreneurial character

Topic : Chemistry Education

[GS.AB-248]

The Effect of Learning Media on Progress Quality in Office Administration Program in Vocational School Negeri 1 Watampone Bone Regency

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Universitas Negeri Makassar

Abstract

This study aims to describe the use of learning media and the quality of learning in the Office Administration Expertise program of Vocational School Negeri 1 Watampone as well as the influence of learning media on the quality of the teaching-learning process in there. This study uses quantitative research with a population of all students in there totaling 208 students, with a sample of 68 students at a level of error of 10 percent. Data collection is done by using observations and questionnaires. The data analysis technique used is descriptive statistics and inferential statistics. The results of this study indicate that the use of learning media in there is classified as good, in terms of aspects of print media, electronic media, and media reality. The quality of the teaching-learning process in there is considered good in terms of active, innovative, creative, effective and enjoyable learning. There is a significant positive influence on the use of instructional media on the quality of learning in the office administration expertise program of Vocational School Negeri 1 Watampone which is 17.9 percent.

Keyword : learning media, quality of learning

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-249]

Entrepreneurship: Solution Industrial Revolution 4.0

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Universitas Negeri Surabaya

Abstract

The computerized era of manufacturing was considered the era of the industrial revolution 4.0. This phenomenon will change the way we deal with a mix of the online world and the world of industrial production where smart technology and real-time data will be used to increase productivity and reduce costs. In some researchers there is an impact on leading entirely to technology while for others there is a labor market disruption. The purpose of this research is to see how strategically carried out in the education sector in Indonesia is intensely handling the provision of knowledge about entrepreneurship in vocational high schools so that their attitudes, behavior and knowledge about entrepreneurship are formed. This study is a survey research and descriptive analysis of the presentation of data so as to provide information. Conclusion of this study is to see and the magnitude of new entrepreneurship opportunities through a number of strategic steps that must be undertaken so that more and more opportunities are expected to achieve optimal results.

Keyword : Keywords: Industrial revolution 4.0, Entrepreneurship, Employment Crisis

Topic : Others relevant Fields

[GS.AB-250]

Effectiveness Concept Attainment Tutorial Based Multi Representation of Mastery Concepts and Scientific Consistency College Student

Supardiono, Munasir, Dwikoranto, Sri Tresnaningsih, Pramonoadi, Titik Setyowati, Abdul Faqih
Universitas Negeri Surabaya

Abstract

This study aims to describe the effectiveness of multi-representation based concept attainment tutorials to improve the mastery of students' concepts and scientific consistency. The trial was limited to 32 prospective teacher students using the matching pretest-posttest control group. The research data was collected using test and questionnaire methods with concept mastery test instruments, scientific consistency and response questionnaires. The data obtained were analyzed using quantitative and qualitative descriptive analysis, N-gain and t-test. The results showed that multi-representation based concept attainment tutorials included in the effective criteria in terms of the increase in mastery of concepts with a mean N-gain of 0.64, scientific consistency of students with N-gain of 0.68 and a positive response. The implementation of the Concept Attainment tutorial needs to be expanded to provide greater support with high yield criteria. Based on the things

above, it can be concluded that the multi-representation based concept attainment model was developed effectively to improve the mastery of students' concepts and scientific consistency

Keyword : concept attainment, multi representation, mastery of concepts, scientific consistency

Topic : Physics Education

[GS.AB-251]

Effectiveness Concept Attainment Tutorial Based Multi Representation of Mastery Concepts and Scientific Consistency College Student

Supardiono, Munasir, Dwikoranto, Sri Tresnaningsih, Pramonoadi, Titik Setyowati, Abdul Faqih
State University of Surabaya, Open University Indonesia

Abstract

This study aims to describe the effectiveness of multi-representation based concept attainment tutorials to improve the mastery of students' concepts and scientific consistency. The trial was limited to 32 prospective teacher students using the matching pretest-posttest control group. The research data was collected using test and questionnaire methods with concept mastery test instruments, scientific consistency and response questionnaires. The data obtained were analyzed using quantitative and qualitative descriptive analysis, N-gain and t-test. The results showed that multi-representation based concept attainment tutorials included in the effective criteria in terms of the increase in mastery of concepts with a mean N-gain of 0.64, scientific consistency of students with N-gain of 0.68 and a positive response. The implementation of the Concept Attainment tutorial needs to be expanded to provide greater support with high yield criteria. Based on the things above, it can be concluded that the multi-representation based concept attainment model was developed effectively to improve the mastery of students' concepts and scientific consistency.

Keyword : concept attainment, multi representation, mastery of concepts, scientific consistency

Topic : Physics Education

[GS.AB-252]

Competency Profile of Teachers of SMP in Developing High Level Study Thinking Problems

Rinie Pratiwi Puspitawati, Sifak Indana, Lilik Mardiningsih, Susi Daryanti
Universitas Negeri Surabaya

Abstract

This study aims to describe the ability profile of junior high school teachers in developing high-level thinking questions for science subjects. This research is a quantitative descriptive study of junior high school teachers from Eastern Indonesia. Data was obtained by collecting questions from the teacher's biopsy prepared for five working days in the bimtek activity. Data were analyzed descriptively quantitatively referring to criteria related to cognitive levels and rules for writing the correct questions. It can be described that 71% of questions are categorized as high-level thinking problems at the implementation level, 61% at the analysis level, 53% at the evaluation level and 38% at the creativity level. From the aspect of overall question writing only 54% met the criteria for writing the correct questions.

Keyword : middle school teacher competency, high level thinking questions, science

Topic : Science Education

[GS.AB-253]

Cone in The Form of Function in The Pre-Service Mathematics Teacher Class Instruction of Tertiary Level (An open-lesson in the World Association of Lesson Study Conference-2014)

Turmudi
Universitas Pendidikan Indonesia

Abstract

Mathematical learning carried out in the context of lesson study becomes an alternative to the professional development of teachers or lecturers. This paper is a lesson study of "cone as a function", in which the problem of formulation of a function formula was given. Students were demanded to determine the value of α (centre angle) in such a way that the value of volume $V(\alpha)$ will be maximum. The forty-three undergraduate students were involved, and at least 50 domestic and international guests as WALs-2014 conference participants,

witnessed the learning process that took place. The purpose of this research paper was to find out how many different strategies students could do in solving these problems. Infact there are at least five different solution strategies in solving the problem. With more than 12 year experience as a coach in the professional development for teachers using the lesson study format, this activity turned out to motivate the author himself to open up and organize open-lesson mathematics in tertiary level. Results indicated that the diverse answers of students were influenced by the educational background and experience of students during college or while obtaining education at the high school level.

Keyword : Cone as a Function Pre-Service Teacher Training Lesson Study

Topic : Mathematics Education

[GS.AB-255]

Integrating Inquiry Based Learning and Ethnoscience to Enhance Students' Scientific Skills and Science Literacy

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Universitas Negeri Yogyakarta

Abstract

Since the indigenous knowledge of factual events in the scientific materials is often doubtful, it arises awareness for science investigation through integration of Inquiry-Based Learning (IBL) and ethnoscience. This research is to reveal the effectiveness of IBL integrated with ethnoscience to enhance the students' scientific skills and science literacy. This study used quasi-experimental research with implementation of pretest and posttest. The research samples were 64 students of the first grade junior high school in Yogyakarta. They were divided into two groups, namely experimental group with integration of IBL and ethnoscience and control group with scientific approach. The instruments were observation sheets on scientific skills and science literacy as well as of students' cognitive test. The scientific skills and scientific literacy data were analyzed using N-Gain, while the testing data were using t-test at the level of significance of 0.05. The result of scientific skills and science literacy enhancement (N-Gain) were 0.73 and 0.69, respectively. On the other hand, the significant number of the given treatment was 0,000 and the value was less than 0.05. It indicated that the integration of IBL and ethnoscience was more effective in enhancing the students' scientific skills and science literacy than the scientific approach.

Keyword : Ethnoscience, Inquiry Based Learning, Scientific Skills, Science Literacy

Topic : Science Education

[GS.AB-258]

Augmented Reality-Based Instructional Media for Electrical Power Protection Learning

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Yogyakarta State University

Abstract

Augmented reality is a technology that combines two-dimensional and/or three-dimensional virtual objects into a real three-dimensional environment and projects those virtual objects in real time. This study was aimed at discussing (1) the development of an instructional media for power system protection learning, especially the fuse cut out, using augmented reality, (2) the appropriateness of the developed media as evaluated by both material and media experts, and (3) the users' responses toward the developed media. This media was developed using the waterfall model proposed by Pressman, consisting of four main stages: analyzing, designing, coding, and testing. The performance test proved that this media functioned properly (100%). This media was categorized as "highly appropriate" in terms of the materials presented as evaluated by the material experts with a mean score of 96.5 out of 112. Meanwhile, the media was "appropriate" as evaluated by the media experts with a mean score of 68 out of 84. For the end users of this media, 75% of them perceived this media as "highly appropriate", while the rest considered it as "appropriate".

Keyword : augmented reality, fuse cut out, learning media

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-259]

The Development of Learning Material of Hybrid Learnings Based to Improve Students Learning Outcomes of Introduction to Microeconomics

Thamrin & Reza Aditia
Universitas Negeri Medan

Abstract

Abstract – One of the implementations of information and communication technology (ICT) in teaching & learning is through hybrid learning which is a combination of face-to-face instructional methods and online learning to answer the challenges of the fourth industrial revolution. This study aims to determine the effectiveness of learning outcomes Introduction to microeconomics with hybrid learning. This research uses a research and development method. Data collection was carried out by conducting one to one formative evaluation and limited trials and tests after the learning process. The results of this study indicate that hybrid learning teaching materials effectively used in introductory learning in microeconomics. The t-test at α 0.05 stated that the learning outcomes of introduction to microeconomics were taught by hybrid learning is higher than the group of students who were taught by direct learning

Keyword : Hybrid learning, learning outcomes, introduction to microeconomics

Topic : Informatics and ICT at Higher Education (IHE)

[GS.AB-260]

The Use Of Classroom Assessment And Formative Assessment in German Language Teaching And Learning for Higher Education

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Universitas Negeri Medan

Abstract

This study focuses on determining the using of classroom assessment and formative assessment on learning and teaching for students of higher education in german language learning and teaching. Formative assessment is integrated in learning and teaching, a great part of classroom assessment is formative. However, classroom assessment has also been not defined clearly, as most of the texts about this type of assessment define it in terms of its formative or summative potentials. This study is an attempt to define different types of assessment, there are compare classroom assessment and formative, and also identifies the areas which need more attention by researchers.

Keyword : Assessment, classroom assessment, formative assessment, teaching and learning in higher education.

Topic : Others relevant Fields

[GS.AB-261]

Success of Management by Objective (MBO) Extracurricular Programs Based on Participation of School Committees

Rismita, Ihsana El Khuluqo, Ahmad Kosasih
Universitas Muhammadiyah

Abstract

This study aims to identify the importance of implementing Management by Objective (MBO) school extracurricular programs based on the participation of school committees in channeling students' talents and interests by acting right brain functions and developing students' creativity, as well as developing students' psychomotor domains. This study uses a systematic review of empirical studies by describing the phenomena of extracurricular program activities about the success of school management by objective practices through theoretical mechanisms, development, and goal setting using SMART (Specific, Measurable, Acceptable, Realistic and Time-bound) Goals. The number of school committees is 24 (each class represents one school committee grouped as follows: Class X = 8, Class XI = 8, and Class XII = 8) with 20 types of extracurricular programs. Specific is the achievement of MBO explaining the ability of students' knowledge, values, attitudes and achievements to be achieved. Measurable is the achievement of MBO according to the target and the results measured. Acceptable is the ability of students to be achieved in extracurricular activities. Realistic is the ability

of students to be realistic and relevant according to the talents and interests of students. Time Bound is the time needed by students to achieve the desired abilities enough.

Keyword : MBO Success, Extracurricular Program, School Committee, SMART Goal

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-262]

Training Effect of Ladder Drill with Ascending and Descending Method on Speed and Agility Increament Result

Muhammad Dzul Fikri, Pudjijuniarto, Fatkur Rohman Kafrawi, Hijrin Fithroni
Universitas Negeri Surabaya

Abstract

This research was motivated by a decrease in the Sidoarjo Antartika High School futsal athlete achievement. The purpose of this research to assess the effect of exercise Ladder Drill with two different methods, namely the ascending training methods and descending training methods to increase speed and agility on Sidoarjo Antartika High School futsal athlete with 40 students. The method used in this was quasi experiment. The data were analyzed using the t test, MANOVA and Scheffe Post Hoc test. The results showed a significant increase in speed and agility from the ascending and descending methods. Whereas based on the post hoc analysis the Scheffe test did not have a significant difference between the ascending and descending group on speed and agility. The conclusion of this research is that both methods can increase speed and agility as much as futsal athletes from Sidoarjo Antartika High School.

Keyword : Training, Ascending, Descending, Speed, Agility

Topic : Others relevant Fields

[GS.AB-263]

The Development of SepakTakraw Skill Test

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Universitas Negeri Surabaya, Universitas PGRI Adi Buana Surabaya

Abstract

The aims of this research are developing: (1) Test model of Sepaktakraw skill; (2) Test validity level and realibility instrument of development result which are: service, receive, smash, feed up, and block. This research target is Sepaktakraw Athletes of East Java which are 30 people. The method of this analysis uses research and development. The result for the test of Sepaktakraw skill instrument: a) reveiving by tight, the highest validity mark from these two receives are 0,762 (criteria: high) and realibility mark is 0,767 (criteria: high), b) roll smash, having the highest validity mark of kedeng smash which is 0,735 (criteria: high) and realibility mark is 0,838 (criteria: high), c) service, the validity mark is 0,791 (criteria: high) and reability mark is 0,887 (criteria: very high), d) feed up, validity mark is 0,775 (criteria: high) and reability mark 0,854 (criteria: high), e) Block, validity mark is 0,754 (criteria: high) and reability mark 0,709 (criteria: medium).

Keyword : Test, Skill of Sepaktakraw

Topic : Others relevant Fields

[GS.AB-266]

Management of Business Center at Vocational High School Gorontalo

Sitti Roskina Mas, Nina Lamatenggo, Sri WilandaBolilio
Universitas Negeri Gorontalo

Abstract

This research aims to examine: (1) business center planning, (2) organization of business center, (3) business center implementation, (4) business center supervision, (5) business center financial reporting, and (6) business center evaluation at SMKN 1 Gorontalo. The method used is quantitative approach of explanatory descriptive type. Data collection techniques used questionnaires, interviews, and documentation. The results showed that: (1) planning in business center management is in good category, (2) organizing in business center management is in good category, (3) implementation in business center management is in good category, (4) supervision in business center management is in good category, (5) financial reporting in business center management is in

good category, and 6) evaluation in business center management is in good category. The management of Business Center in SMKN 1 Gorontalo City is in good category, so it needs to be improved and maximized. Based on the research results it is recommended: For SMKN 1 Kota Gorontalo need to increase the participation of all school staff to in the management process involving all stakeholders. So that will improve the effectiveness of its implementation,. 2) for the teacher suggested in the process of implementation of activities can use IT-based resources to facilitate.

Keyword : management, business center, vocational school

Topic : Others relevant Fields

[GS.AB-269]

The Implementation of the Teacher Professional Program (PPG) at FMIPA UNIMED

Martina Restuati, Herbert Sipahutar, Ani Sutiani
Universitas Negeri Medan.

Abstract

This study aims to analyze the implementation process of PPG at FMIPA Unimed in 2018. There are six components analyzed, namely the availability of documents, management of PPG implementation, lecturer performance, workshop material, implementation of PPL and evaluation systems. The results showed that the availability of documents and workshop materials were very good category, while the other components were management of PPG implementation, lecturer performance, PPL implementation and evaluation system were good category. The PPG problem is that the learning process has not been able to improve the competence of PPG students, both in workshops and PPL. The recommendations for the workshop process are patterns of thinking to prepare learning devices as a form of learning scenarios consisting of 6 stages, namely observation and results of study, reflection and analysis, theoretical studies, preparation of tools, presentations and discussions and peer teaching. The recommendations for the PPL process are maximal involvement of students, tutors and field supervisors in the entire PPL learning process, which includes the PPL process, conferences as the quality control of PPL and PTK as a supporter of the PPL process.

Keyword : PPG, FMIPA, Unimed, Implementation.

Topic : Others relevant Fields

[GS.AB-270]

Developing Android-Based Semester Examination Applications for Vocational High School

Panyahuti, Karmila Suryani, Fahmi Rizal, Ambiyar
Universitas Negeri Padang

Abstract

This research is conducted for developing server applications named "Flyexam" and "FlyExambrow For Client" which can be accessed through Android handphone. The purpose of this research is to create such server application so as to be used by the students of Vocational High Schools in taking computer-based semester examination, and to create an Android-Base Client Application being designed in such a way that both or them shall be valid and practical. The research uses Research and Development (R&D) method by applying 4D model, namely Define, Design, Develop, and Disseminate. To examine the validity of the applications two experts in web-based application and two experts in media application are requested to conduct the examination, and to know the practical value of the applications, the prospective users of the applications, namely the students and the teachers of Vocational High Schools are involved in the trial of the applications and in filling-in the questioners related thereto. The results of research showed that the application is considered valid with 89% validity score and 83% practicality score. Therefore, it can be concluded that this Android-Based Semester Examination Applications are valid and practical for use.

Keyword : Flyexam, FlayExambrow and Android

Topic : Science Education

[GS.AB-271]

Analysis of Application Requirements for Administrative Management to The Web Based on Informatics and Computer Engineering Education Study Programs, Makassar State University

Mustari Lamada, Muhammad Riska and Muhammad Ayat Hidayat
Makassar State University

Abstract

The study aims to produce a document analyzing the needs of administrative management applications in Information and Computer Engineering Education (PTIK) Study Program Makassar State University. This research is the beginning of the process of developing an administrative governance system in the PTIK study program at Makassar State University (UNM). The research was carried out at Computer Laboratory of the Department of Electrical Engineering Education with student and study program manager as the object of analysis. The development model used in this research is Research and Development. The Development Procedure is ADDIE. But in this research focused on needs analysis. The method in the needs analysis used is the method of observation and documentation in the scope of the study program PTIK. Needs analysis refers to the application requirements that will be applied to the PTIK study program. The results of the needs analysis show that the administration and governance process of PTIK requires an application with a score of 83.33% with a total of 30 student respondents and 12 lecturers and education staff. Thus being able to approve web-based governance applications in PTIK is needed.

Keyword : Application, Administrative Management, Web Based

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-272]

The Use of Smartphone Communication Technology as Digital Literacy Learning Instruments in 4.0 Era School

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Abstract

Numbers of institutes report that students' competency literacy on numeracy, readings and science is low. The presence of digital technology such as computers and smartphones has become part of the students' daily life. However, digital technology has not provided benefits for students to improve their competence. The challenges of education in the industrial era 4.0 are changes in learning ways, thinking patterns, actions on creative innovation that students have competitiveness in global market. The aim of the study is to explore: the educators' capability in era 4.0, teaching materials preparation, and digital literacy technical constraints. Explorative methods with descriptive analysis and test. Data is collected by open interviews, in-depth interviews and data reviews. Random samples are limited to 20 teachers and 40 students in Semarang. The acceleration of digital literacy is a necessity, namely data literacy, technology literacy; human literacy has not shown optimal utilization. Through Android-based learning automation and the like is necessary to be applied both media and learning resources. The media use can increase digital literacy by 78%, critical thinking to solve problems more than 60%. Optimization can be achieved by-design by teachers as facilitators.

Keyword : era 4.0, digital literacy, school learning, smartphones

Topic : Science Education

[GS.AB-273]

Developing and Analyzing The Quality of Games Based on Capture The Flag "Jeopardy Using Learning Method of Quiz Team

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Gorontalo State University

Abstract

This research aimed to: (1) develop educational games based on capture the flag "jeopardy" and learning method of quiz team, and (2) determine the quality of the developed educational games by ISO/IEC 25010 standard. This research was research and development (R&D). It used Waterfall of development by Pressman. These model consisted of communication, planning, design, construction, and deployment. The results of this research were as follows. (1) It produced a game based on capture the flag "jeopardy" by using learning method

of quiz team based on the web that was developed by Waterfall. It had the main feature to evaluate participants learning in individual, team and it had exercise as training materials. (2) The test results showed that the developed educational game application met the ISO/IEC 25010 standards on functional suitability, performance efficiency, usability, security, reliability, maintainability, and portability aspects.

Keyword : educational game, capture the flag, ISO/IEC 25010

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-274]

Children's Social Intelligence in Traditional Game "Dingklik Oglak-Aglik"

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Universitas Negeri Surabaya

Abstract

This study was conducted to find out the role of "Dingklik Oglak-Aglik" as traditional game in developing children's social intelligence. This traditional game can develop children's intelligence and implant the positive values. The implementation of Early Childhood Education requires the right approach to optimally optimize the potential for child development. There are many approaches in Early Childhood Education, including local culture approach like a traditional game to introduce traditional games for children as well as to preserve culture so that it does not become extinct. Thus, it can be concluded that the traditional game "Dingklik Oglak-Aglik" is able to provide a positive role to develop children's social intelligence. Through quantitative analysis, it can be seen that in all indicators have a high percentage level and through Qualitative analysis, it can be seen that all of the indicators of children's social intelligence show the increase in social understanding, social skills, social attitudes, and social behaviour.

Keyword : Social Intelligence, Traditional Games, dliklik oglak-aglik.

Topic : Others relevant Fields

[GS.AB-275]

Comparison Plyometric Rope Jumping with Different Work Interval 10, 20, 30 Seconds toward Speed

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Universitas Negeri Surabaya

Abstract

Introduction: Plyometric rope jumping is an easy and cheap training, and it can be done anywhere, also have an effect of physical performance. The goal of this research is to compare the effectiveness of plyometric rope jumping training with 10, 20 and 30 second – work interval toward speed. Method: The total of subjects in this research was 33 students (trained) which would be divided into 3 groups of 10 second– work interval (n=11), 20 second – work interval (n=11), and 30 second – work interval (n=11). The measurement of speed was by using running 40 meters test. This research used consecutive sampling method with pre-test – post-test control group design. Results: Research has shown mean of age $19,30 \pm 0,91$ years old, body mass index $22,05 \pm 2,46$ kg/cm², leg $85,09 \pm 4,98$ cm. There were significant differences ($p > 0.05$) in speed with 10 second – work interval group (0.002), 20 second- work interval group (0.000) and 30 seconds-work interval group (0.037). In the ANOVA test there were not significant differences in speed (0.488). Conclusion: Plyometric rope jumping decrease speed with work interval 10, 20, 30 second.

Keyword : Plyometric rope jumping, speed

Topic : Others relevant Fields

[GS.AB-277]

Psysical Education and Sprorts Skills Learning Model Through Small Games

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Universitas Negeri Padang

Abstract

The purpose of this research to (1) develop a in learning Psysical Education and Sprorts Skills model through small games in instilling a disciplined and confident attitude that was practical and effective of Volley Balls state vocational high school Bengkulu and (2) knowing the valiability and reliability of the learning model, so

that it could be used to measure students' discipline and self-confidence. The type of this research is a research and development that followed up with the development of education. Procedure development on Physical Education and Sports Skills, Skills model through small games in instilling based on the ADDIE model, consisting of five stages, namely analysis, design, development, implementation, and evaluation. The location of this product trials conducted among students state state vocational high school Bengkulu. The instrument used to collect the data were questionnaire and evaluation sheet. Data analysis techniques of this research use descriptive analysis technique in the form of the percentage. The subject of this study was class X (34 students). Data were obtained by observation techniques and analyzed by descriptive analysis. The result of this research shown that learning model develop a in learning Physical Education and Sports Skills model through small games in instilling a disciplined and confident attitude that was practical and effective to enhance the effectiveness of learning organized by teachers and attended by students sampled in this research. The results of this study use affective assessment by observasi, namely variable of students in instilling discipline and confidence in learning physical education and sports skills, with the acquisition of a good average score then the highest score of 76 % who got a very good criteria and criteria less than 0 % did not exist.

Keyword : Physical Education and Sports Skills, Small Game, Discipline and Confident, Volley Balls Materials

Topic : Others relevant Fields

[GS.AB-278]

Model Implementation Lesson Study in Increasing the Quality of Learning for Adaptive Students and Responsive to Industrial Revolution 4.0

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Abstract

In the era of industrial revolution, understanding about self express in the field of media literacy, understanding about information that will be shared with students and finding analysis to solve academics problems concerning digital literacy should be increased. One way to overcome those problems is by implementing a lesson study model to improve the adaptive and responsive learning quality of students while at the same time integrating various breakthroughs in the development of learning that supports the Industrial Revolution 4.0. This research was conducted during the Odd Semester of 2018/2019 Academic Year in the Physical, Health and Recreational Education Study Program, Faculty of Sport Sciences, Yogyakarta State University. The method of learning system development applied in this activity was lesson research by employing lesson study model by Lewis (2002). Data collection techniques in this activity included 1) collaboration between teaching lecturers and collaborators or observers, 2) observation, 3) questionnaire, 4) documentation of college student assignments (in the portfolio model) and 4) interview. Instruments used to obtain data included 1) observation sheets, 2) questionnaires, 3) interview guidelines as well as 4) camera and video recorder. The data analysis technique used was descriptive analysis technique based on collaborative reflection by groups and experts in the field of learning for enhancing collaboration towards digitalization of High Education. By conducting this Lesson Study, the character and mindset of students are expected to change. So that the instructors can sharpen and develop the talents of a college student and are able to develop learning models that are in accordance with the needs in the industrial revolution 4.0 era by preparing adaptive characters of a student to fit the current development without always making cognitive intelligence as a benchmark, but the process of creativity as habituation and instilling creative habits in all fields should be put forward, thus it will support the development of application-based education digitalization technology.

Keyword : Lesson Study, Adaptive and Responsive Learning, Industrial Evolution 4.0

Topic : Others relevant Fields

[GS.AB-279]

Purple Sweet Potato (*Ipomoea batatas* L.) Extract Attenuates Oxidative Stress In Rats Induced- Exhaustive Swimming Exercise

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Universitas Negeri Surabaya

Abstract

Exhaustive exercise has been shown to induce free radicals, which later generates lipid peroxidation. The aim of this study was to investigate the role of PSP extract on oxidative stress markers in healthy and nontrained Wistar

rats after completing exhaustive exercise. Twenty five rats were distributed into five groups (C1, C2, T1, T2, and T3), which rats in treatment groups (T1, T2, and T3) were administered PSP extract with different dosages for two weeks. After each period of PSP intervention, rats were induced by exhaustive swimming protocol. At the end of treatment, intracardiac blood samples were drawn to measure malondialdehyde and superoxide dismutase level. The results showed that mean level of MDA and SOD differed significantly ($p < 0.05$) between groups after the administration of PSP extract. The findings indicated that PSP extract significantly increased SOD level and attenuated the marker of oxidative damage in all treatment groups. In conclusion, PSP extract can protect cells against free radicals produced by exhaustive exercise.

Keyword : Purple Sweet Potatoes, Exercise, Oxidative Stress, MDA, SOD

Topic : Others relevant Fields

[GS.AB-280]

Physical Education College Students' Fear of Failure in Facing Competition

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Abstract

Fear of failure has a significant contribution to stress and anxiety that have impacts on sport performance. Hence, knowing the fear of failure level is important to anticipate stress and anxiety before following a sport competition. This study was aimed at discovering Physical Education college students' fear of failure level and their strategies in dealing with their fear. The study was a descriptive study. The Performance Failure Appraisal Inventory (PFAI) questionnaire and an open-ended questionnaire were distributed to collect the data. The participants were 28 Physical Education students. The data were analyzed by using descriptive data analysis. The result shows that 39.3% of the students were in the moderate level of fear of failure, 39.3% students were in low level of fear of failure, and 21.4% of the students were in very low level of fear of failure. The finding also shows that there were three techniques the participants used to decrease their fear, including relaxation, positive thinking, and focus on the competition. It concludes that Physical Education College students' fear of failure levels do not exceed the moderate level. It indicates that the students might have been able to control their fear by doing the three techniques before competition.

Keyword : Fear of Failure, Physical Education Students, Sport Competition

Topic : Others relevant Fields

[GS.AB-281]

The Design Thinking Method in the Learning of Store Interior Design

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Universitas Negeri Yogyakarta

Abstract

This study aims to describe the application of design thinking method in innovative Interior Design learning with five stages: empathize, define, ideate, prototype, and test, and to find out whether the design process and results are in accordance with the set reference. Data collection through observation by observing 20 students participating in the Public Building Interior Design Course with a visual merchandising project. From the results of the observations it can be concluded that students are able to think creatively, understand theories, formulate problems, and provide design solutions with an emphasis on creating attractive, effective and efficient spaces in accordance with the image of the store. Even with the same stages, the methods used by each individual are different because of the different working styles of individuals. The difference can be caused by the client and the solutions offered vary, also the mindset and work of each different participant.

Keyword : design thinking, learning, design, interior, store

Topic : Others relevant Fields

[GS.AB-282]

Effect Of Annealing On ZnO:Al Thin Film Growth On Preparatory Glass Substrate By DC Magnetron Sputtering

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Semarang State University, Research Center for Physics, Indonesian Institute of Sciences

Abstract

ZnO:Al semiconductor material is potential to be used as transparent conduct oxide (TCO). ZnO:Al thin film was grown on a preparatory glass substrate by dc magnetron sputtering. The film is grown at 400 °C with 40 watt of power for 120 minutes. The thin films were annealed with variations in the duration of annealing, namely 0, 30 and 50 minutes at 300 °C. The X-ray diffraction characterization (XRD) showed that each sample had an amorphous structure. ZnO:Al thin film characterization with photoluminescence (PL) produced two emission peaks. The first emission peak occurred at a wavelength of 447 nm which proved the presence of zinc interstitial defects, and the second emission peak at a wavelength of 752 nm which replaced the vacancy oxygen. ZnO:Al thin film with a 50 minutes annealing duration is a sample that has the highest intensity. The characterization of the electrical properties also showed the best conductivity of ZnO:Al is thin films with annealing duration of 50 minutes.

Keyword : ZnO:Al, dc magnetron sputtering, annealing, XRD, and photoluminescence

Topic : Others relevant Fields

[GS.AB-283]

Context, Input, Process, and Product (CIPP) Model for Evaluating Curriculum Implementation on Vocasional Institutions

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Universitas Negeri Semarang

Abstract

The purpose of this study is to figure out a description of the effectiveness of several components, like context, input, process, and product to support the implementation of Revised Edition 2013 Curriculum on The Accounting and Financial Institutions Expertise Competency SMK in Wonosobo Regency. The research methodology was using descriptive quantitative. The subject of this research is the teacher at The Accounting and Financial Institutions Expertise Competency SMK in Wonosobo Regency. The data collection methods were using questionnaire and documentation. Instrument tests were using correlation product moment validity test and alpha Cronbach reliability test. The data analysis methods were using statistic descriptive and t-score analysis. The result shows (1) the implementation of Revised Edition 2013 Curriculum is effective (52,12%) observed from the context variable, (2) the implementation of Revised Edition 2013 Curriculum is ineffective (44,68%) observed from the input variable, (3) the implementation of Revised Edition 2013 Curriculum is ineffective (45,74%) observed from the process variable, and (4) the implementation of Revised Edition 2013 Curriculum is effective (52,12%) observed from the product variable. It can conclude that the implementation of Revised Edition 2013 Curriculum is effective observed from CIPP on The Accounting and Financial Institutions Expertise Competency SMK in Wonosobo

Keyword : CIPP, implementation curriculum

Topic : Others relevant Fields

[GS.AB-284]

Double Moving Average Method for Predicting the Number of Patients with Dengue Fever in Gorontalo City

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Gorontalo State University

Abstract

Dengue Fever (DF) is an infectious disease caused by the dengue virus which is transmitted by the aedes aegypti mosquito. This disease is one of the health problems in Indonesia, especially in Gorontalo City. According to data from the Departement of Health of Gorontalo City, the number of dengue fever patients reached 752 people within 2011 – 2017. Therefore, the related departement keeps predicting the number of patients for future incidence to find away to pevent increase. The research aimed to create a system that can predict the number of

dengue fever patients using the Double Moving Average method. Prediction runs by processing the number of cases of dengue fever patients in 2011-2017 from all sub-districts. Then, The result of prediction found that there would be 116 patients of Dengue Fever in 2018, in which it increased from 2017

Keyword : Double moving average, dengue fever, prediction

Topic : Informatics and ICT at Higher Education (IHE)

[GS.AB-285]

Basic Concept of Civic Education Learning Based on Peace Education to Elevate Students' Civic Competence in Being Peace Loving and Anti-Violence

Candra Cuga, Dasim Budimansyah dan Bunyamin Maftuh
Gorontalo State of University

Abstract

This research derived from the researchers' concern on the phenomenon of students' destructive conflict and violence which is still happening frequently in the university, triggered by the least to the most significant issues. One of the efforts to prevent the problem is developing a learning model of basic concept of civic education based on peace education. The purpose of this research was to describe the effectiveness of the learning model of basic concept of civic education learning based on peace education to elevate students' civic competence in being peace loving and anti-violence in Gorontalo State of University. This research applied quantitative approach which used quasi-experiment method. The findings described that there was an elevation of students' civic knowledge such as: 1) nation's historical battle concept, diversity, and the communication among social-culture; 2) conflict causes; 3) peace alternative; 4) holistic concept of peace and 5) humane solidarity. Those findings displayed that the students' knowledge and comprehension are needed to prevent the destructive conflict and violence.

Keyword : Civic Education, Peace Education, Civic Competence

Topic : Others relevant Fields

[GS.AB-286]

Radiological Assessment of Disposal of NORM Waste from Oil and Gas Industries in Class II Hazardous Waste Landfill

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University of Indonesia, Nuclear Energy Regulatory Agency

Abstract

Naturally occurring radioactive materials (NORM) are present at varying concentrations in the Earth's crust and can be concentrated and enhanced by processes associated with the recovery of oil and gas. NORM disposal must provide adequate protection to both human health and the environment. Ministry of Environment and Forestry has issued Regulation Number 63 of 2016 which regulates the procedure for disposal of hazardous waste in landfills. In this regulation it is permissible to dispose of NORM contaminated hazardous waste into class 1 or class 2 landfills. The minimum landfill design requirements listed in this regulation need to be assessed whether it is truly capable of providing protection for the public and the environment from radiation risks of NORM waste. This work will conduct radiological assessment of minimum landfill design requirements for class 2 with dose constraint 1 mSv/year using RESRAD-OFFSITE Software. The assessment also will estimate the maximum activity concentration of NORM waste that can be disposed without considerable radiological impact. The result can be used as a consideration for determining the direction of policies related to the management of NORM wastes, especially from the oil and gas industries.

Keyword : NORM, Disposal, Landfill, Dose

Topic : Others relevant Fields

[GS.AB-287]

Improve of Student Learning Outcomes through Implementation The Collaborative Think Pair Share Project-Based Learning Model on Vocational High School in Padang

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Universitas Negeri Padang

Abstract

This paper discusses about the effects of the collaborative think pair share project based learning model on student learning outcomes on the subjects of the auxiliary machine. The population research was the twelve grade students of the Teknik Kapal Niaga department, SMKN 10 Padang. The methods of research were a quasi-experimental method and the sample consisted of two classes. One class was assigned to an experimental group (EG, n = 21) and directed as a collaborative think pair share group project-based learning model. The other classes were assigned to the control group (CG, n = 20) and directed as a conventional learning model group. The results of the study found that the use of collaborative think pair share project-based learning models could improving student's learning outcomes significantly compared with conventional learning models. The conclusion of this research was that the collaborative think pair share project-based learning model, more effective than conventional learning model for improving students' learning outcomes, especially on the vocational high school in Padang.

Keyword : Student Learning Outcomes, Collaborative Think Pair Share Project-Based Learning Model, Conventional Learning Model, Auxiliary Machine Subjects

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-290]

The English Teachers' Management for the preparation in Teaching and Learning Process of Genre-Based Writing Instruction in 2013 Curriculum at Senior High School in Pesisir Selatan Regency

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Univeritas Negeri Padang

Abstract

This research is based on some problems faced most of senior high school students in Pesisir Selatan Regency in English writing, especially in writing kinds of genre based on the 2013 curriculum; the students get poor performance in English writing. For example, it is difficult for them to express their ideas in written form as they often wrote it ungrammatically. In other word, the students often encounter difficulties in keeping up with their work, particularly in producing written work. It caused by lack of practical, compatible, useful of the English teachers' preparation even, the lesson plan, the teaching aids or media and the English writing material in helping the students learn English writing skill as suggested by genre - based writing instruction in the 2013 curriculum. By seeing the fact the researchers are interested to evaluate qualitatively about the English teachers' management for the preparation in teaching and learning process of genre - based writing instruction in 2013 curriculum at senior high school in Pesisir Selatan Regency. So that, the research aims to know how the English teachers prepare the the lesson plan, the teaching aids or media and the English writing material in helping the students learn

Keyword : Keywords - Genre-Based Writing Instruction, the lesson plan, the teaching aids and learning material

Topic : Others relevant Fields

[GS.AB-291]

Development of E-Learning for Millennial Students

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Universitas Negeri Surabaya

Abstract

This study aims to produce a design for developing e- learning in Learning Theory courses as an alternative to innovative learning based on the characteristics of millennial students. Development of e-learning using the ADDIE model. The stages of development are as follows: Analysis, Design, Development, Implementation Evaluation. At each stage an evaluation and revision is carried out. Evaluation is used to determine the achievement of each stage then revised. The results of the development are in the form of feasibility of e-

learning design that has gone through validation tests of material experts and media experts in a good category. The results of student evaluations in the good category (92.86%).

Keyword : development, e-learning, millennial student

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-292]

The Effectiveness of Physics Learning with Science Environment Technology and Social Approach to Improve the Students Competence

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Abstract

Physics is one of the subjects in Vocational High School. Preliminary surveys show that many students do not mastery learning, making it difficult to mastery and apply the concept of physics in technology and the surrounding environment. The aim of research is to know the effectiveness of physics learning with Science Environment Technology and Social (SETS) approach to improve students' competence. This research used quasi experiment method with pretest-post test group control design. The research subjects were the students of tenth grade in vocational high School in Padang, Indonesia. Data were collected using observation sheets, achievement test, and questionnaire of student responses to the implementation of physics learning. The results showed that physics learning with SETS approach effective to improving the students' competence, in terms of (1) mastery learning have been achieved by majority of students, (2) improving students competence were including high category, (3) effect size of the SETS approach on students competence were including large category, (4) average students competence of the experimental class is higher than the control class, (5) majority of the students stated that physics learning with SETS approach can be implemented.

Keyword : Physics learning, SETS, competence.

Topic : Physics Education

[GS.AB-293]

Control System Based Photocell, Timer and Temperature Sensor

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Abstract

The development of automation has penetrated in various fields including electro. Photocell; Timers; and Temperature Sensors-based control systems (FTS) is systems with performance that can save work time and simplify work through the process of automation. This study aims was to make innovations in practical equipment that can facilitate the learning process of controlling techniques, namely designing FTS-based controller systems. The research method used developing method of the ADDIE model. The research was conducted at the Unima Electrical Engineering Education Laboratory of the Faculty of Engineering. The results of the study show that the design of the FTS control system can be used and applied in daily life, such as the needs in the field of agriculture and fisheries, it can also be used as an integrated laboratory module in electrical engineering education. This FTS-based controller system design can also improve the understanding of electrical engineering students about controlling techniques.

Keyword : Automation; Control System; Photocell, Timer and Temperature Sensor.

Topic : Science Education

[GS.AB-294]

Contribution and Active Role of Non-Permanent Teachers in Achieving National Education Objectives

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Abstract

Non-permanent teachers are those who are not hired by the government as a government employee, but hired under working contract with the schools' principal. In Indonesia, they are known as Guru Tidak Tetap. The number of non-permanent teachers is gradually increased due to the large number of retired teachers and the moratorium policy of government employee recruitment. The role and contribution of non-permanent teachers

are shown by their abilities and competencies in teaching. From the t-test of Uji Kompetensi Guru or Teacher Competency Testing results between permanent teachers and the non-permanent teachers in Semarang City, it shows no significant difference in the t-test results. Moreover, the non-permanent teachers has filled in the gap of the absence of permanent teachers in some areas. This allows the possibility of having balanced ratio of teachers and students in schools. On the contrary, the existence of non-permanent teachers is a complicated problem in employment system in Indonesia. Keywords: Contributions and Roles; Non-Permanent Teachers; National Education Objectives

Keyword : Contributions and Roles; Non-Permanent Teachers; National Education Objectives

Topic : Others relevant Fields

[GS.AB-297]

Identification of Mobile Learning Development in Information and Computer Technology Education Programs IKIP PGRI Pontianak

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IKIP PGRI Pontianak

Abstract

The study aims to identify the needs of the mobile learning component of students in the IKIP PGRI Pontianak Education Study Program. The research method uses survey research. The subjects in this study were students and lecturers in the ICT Education Program IKIP PGRI Pontianak. The technique of collecting data using direct communication through interview guides and indirect communication through questionnaires given to students and lecturers to measure the need to learn the components of electronic learning in mobile learning. The conclusion of the findings of the research shows that the need for learning mobile-learning components, in Multimedia Components get the highest value, while at the lowest level on Computers and Storage Devices.

Keyword : identification, mobile learning, and e-learning

Topic : Informatics and ICT at Higher Education (IHE)

[GS.AB-299]

Implementation of Inquiry-Based Learning (IBL) to Improve Students' Understanding of Nature of Science (NOS)

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Abstract

Science in junior high school was developed as an integrative science subject, applicative oriented, development of thinking ability, and learning ability. In school science learning is still mostly done with verbal explanations. The purpose of this study was to describe the effect of inquiry-based learning (IBL) on understanding the nature of science of SMP Lab UM students. The sample was 60 students of VII-grade. Science learning was carried out for 4 topics on science. Students' understanding of the NOS was measured using the NOS understanding test for junior high school students referring to NGSS. The instrument has been validated and the reliability test with Cronbach alpha value is 0.749. The results of the analysis with the T-test on the value of NOS comprehension showed that there were no significant differences between the two groups, value of level $(0,073) > \alpha (0,050)$, but it was found that there was a trend toward a higher value of students learning with IBL (69.7%) than students learning to use the module accompanied by teacher explanations (66.3%). Thus it can be concluded that science learning with the IBL approach is carried out continuously can improve the understanding of the nature of science of students.

Keyword : Inquiry, Science learning, Nature of Science

Topic : Science Education

[GS.AB-300]

Four Aspects Triggering Students' Character Matters in Vocational Schools

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Abstract

Abstract. Suyanto, Slamet. 2019. This research was one of eleven character education steps proposed by Thomas Lickona. This research article dialed with factors that triggered character matters in vocational high school students. There were issues that vocational school students had many character matters. This was a mixed-method research, survey and Focus Group Discussion. The quantitative data were collected by questioners and the qualitative data were collected by Focus Group Discussion (FGD). The FGD were followed by 22 vocational school teachers. The questioners were given to 660 students, but only 585 students fill the questioners . The FGD was followed by 20 teachers out of 22 schools. The data were analyzed quantitatively and qualitatively. The results indicated that (1) according to the teachers there were 26 character matters done by students, (2) however, only 18 characters were agreed by the students, (3) there were four major factors compelling students to do bad characters, those were social, emotional, biological, and economic factor.

Keyword : Keyword: character education, character matters, vocational school

Topic : Others relevant Fields

[GS.AB-301]

Natural Dyes from Secang (*Biancaea Sappan*) Wood in Sutera

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Abstract

Colour variations are needed to support the textile industry development to increase product attractiveness. Textile dyes can come from natural and synthetic materials. Natural dyes can be the best solution to replace synthetic which is harmful to the environment. One of the natural dyes is a secang plant. This study aims to determine the absorption of silk fabrics on the secang wood colour using fixator. The research procedure consisted of a literature review, observation, data verification, experimentation and processing using descriptive statistical analysis. The results showed that the ability to absorb silk fabric against the secang wood colour using fixators produced a very sharp and bright colour and very flat on the fabric surface. The alum fixator produces a Dark Red colour, quicklime fixator is Maroon which is included in hot colours on colour circle, while tunjung fixator is Black from other colour clumps.

Keyword : Natural Dyes, Secang Wood, Sutera

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-303]

Improvement of Student Learning Outcomes through the Implementation of Collaborative Think Pair Share Project-Based Learning Model on Vocational High School

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Universitas Negeri Padang

Abstract

This paper discusses about the effects of the collaborative think pair share project based learning model on student learning outcomes on the subjects of the auxiliary machine. In this study the twelve grade students of the Commerce Ship Engineering department, SMKN 10 Padang has been considered as research population. The research method is a quasi-experimental. The sample consist of two classes: the first one is an experimental group (EG, n = 21) with collaborative think pair share group project-based learning model. The other one is the control group (CG, n = 20) with conventional learning model. The results of the study show that the use of collaborative think pair share project-based learning models can improve student's learning outcomes significantly compared to the conventional one. The collaborative think pair share project-based learning model is more effective than conventional one in improving students' learning outcomes, especially on the vocational high school in Padang.

Keyword : Student Learning Outcomes, Collaborative Think Pair Share Project-Based Learning Model, Conventional Learning Model, Auxiliary Machine Subjects

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-304]

How to Manage Dynamic Archive Record Based on E-Agenda at School?

Nina Oktarina, Joko Widodo, Kardoyo
Universitas Negeri Semarang

Abstract

The aim of this research was to develop dynamic archive record at school based on E-Agenda. The use of manual recording systems at school is not effective because the archive search cannot be done quickly and accurately. The dynamic archive record was developed based on Ms. Access program. It was a Research and Development (R&D) study. The data were collected by interview, observation, questionnaire, and documentation. The data were analysed quantitatively; it was t-test on the paired data to test the difference of the actual and the new model. It was also analysed qualitatively through the data triangulation. The results showed that e-agenda system can support better archive management. The archive search can be done quickly and accurately. Therefore; it is suggested for school management to implement e-agenda system, because e-agenda does not require expensive fees to design it and easy to implement.

Keyword : E-Agenda, Dynamic archive, Management, Archive Record, School

Topic : Others relevant Fields

[GS.AB-305]

Development of Project-Based Learning Model with Technopreneurship Approach to Improve the Entrepreneurial Attitudes, Interests, Behavior and Academic Students Achievement

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Universitas Negeri Padang

Abstract

The aims of this study were: (1) develop project-based learning models for entrepreneurship education; and (2) knowing the effectiveness of the learning model in an effort to improve non-academic abilities (attitudes, interests, entrepreneurial behavior), and academic abilities of students in Higher Education. Model development using the Four-D model includes the define, design, develop, and disseminate stages. Research Subjects were students of the S1 study program at the Department of Electrical Engineering, Faculty of Engineering, Universitas Negeri Padang. Data collection was carried out through questionnaires, documentation, and observation, while analyzing data using descriptive techniques and Multivariate Analysis of Covariance (Mancova). The results of this study indicate: (1) the availability of a hypothetical model of project-based learning with a valid, practical and effective tecnopreneurship approach to improve entrepreneurial attitudes, interest in entrepreneurship, and student learning achievement in universities.

Keyword : learning model, project-based learning, technopreneurship

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-309]

Development of Authentic Computer Competency Assessment Instruments for Students of Vocational High School 5 in Padang City.

Elsa Firdianis, Ambiyar, Wakhinuddin, Fahmi Rizal
Universitas Negeri Padang

Abstract

This study aims to develop authentic assessment instruments in Digital simulation learning to measure student skills that are valid, practical and effective. This research uses Research and Development / R & D with the ADDIE development model. Through the stages of analysis (analysis), design (design), development (development), implementation (implementation), evaluation (evaluation). The research subjects were Class X students of SMK N 05 Kota Padang, digital simulation subjects. The data of this study were obtained through instrument validation sheets, practical questionnaires, and observations. The results of the validity test show that the developed RPP and authentic assessment are valid. The practicality test results show that the authentic assessment developed is very practical with the percentage of the practicality of the teacher towards the lesson plan is 94% and the evaluation is at 92%. The effectiveness test results state that authentic evaluations that are developed effectively, are used with 38% time series analysis, the effect of treatment on the value of

completeness of students increases and the test gain score is 0.37 with the medium category. Thus, this study produces authentic evaluations in digital simulation learning that are valid, practical and effective.

Keyword : Authentic Assessment, Validity, Practicality, Effectiveness.

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-311]

Two Different Perspectives toward the World-Class University: A Case Study

Amin Pujiati, Inaya Sari Melati, Hana Netti Purasani, Ita Nuryana
Universitas Negeri Semarang

Abstract

The purpose of this paper is to visualize the internationalization program in Universitas Negeri Semarang (UNNES) reviewed from two different groups: international class managers and international class students. The 13-Dimension Model developed by Elkin, Devjee and Farnsworth in 2005 was used as a guideline for measuring the perspective of two-grouped respondents toward internationalization program in UNNES. The research sample was 13 managers of 13 international classes in UNNES and 153 international class students from each study program. This sample was determined based on stratified random sampling including cluster sampling and proportional random sampling. The results of this study indicated that there was a different point of view from two groups of how the ideal internationalization program has to be. The international class managers tended to have an activity approach in organizing internationalization programs, hence their main focus was the student exchange program. Meanwhile, international class students tended to interpret a world-class university using a process approach, therefore their focus was the quality of the study program itself. It is necessary both groups adjust the approach used to create a synergy in terms of accelerating internationalization program of UNNES.

Keyword : internationalization program, international class, university, UNNES

Topic : Others relevant Fields

[GS.AB-312]

The Design of Online Modules for Blended Learning in Higher Education

Adi Nur Cahyono, Zaenuri, Mona Subagja
Universitas Negeri Semarang, Indonesia

Abstract

Blending the traditional values of face-to-face teaching and the best practices of online learning becomes a way to face challenges in the fourth Industrial Revolution era. This study aimed to find out how the design of online modules can be used for blended learning in higher education. An explorative design research was conducted engaging lecturers in 69 study program at Universitas Negeri Semarang. Data was collected through focussed group discussion, observation, a series of pilots and a debriefing session. The results concern standards for elements, regulations and quality assurance. Descriptions of the work processes and results are also explained in this paper. Designing online modules must pay attention to the course material characteristics, learning management system features, supporting facilities, the lecturer roles in preparing and facilitating the courses, students' activities and their perception. This paper offers an alternative of design of online modules for blended learning in higher education.

Keyword : Blended Learning, Higher Education, Education 4.0, ICT, Online Module.

Topic : Informatics and ICT at Higher Education (IHE)

[GS.AB-316]

The effect of Project Based Learning towards Student Achievement on Electrical Machines and Energy Conversion Subject

Ambiyar, Nurzamilah Hafifah
Universitas Negeri Padang

Abstract

The purpose of this study was to reveal the effect of project-based learning model with conventional learning model of student learning outcomes. This type of research was quasi experimental research design. Quasi

experiments used the design of randomized two group designs and post-test only. Measurement of the dependent variable was performed at the end of the study, both in the experimental class and the control class. The sample in this research was 64 students. The results of this study showed that project-based learning can affect learning outcomes of Electrical Machine and Conversion Energy subject with the average value of experimental class is 82 higher than the average control class is 73. Based on the above two learning activities, it can be concluded that using the project based learning model further improves students learning outcomes compared with learning conventional methods.

Keyword : Project Based Learning, Learning Outcomes, Electrical Machine and Energy Conversion

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-317]

Development of Blended Learning Model Based on Project in Computer Network Design and Management

R Saputra, N Jalinus and Krismadinata
Universitas Negeri Padang

Abstract

Learning activities must innovate in meeting the demands of the workplace. One of them is by utilizing technological advances in learning activities in the form of learning applications based on project tasks. With this project-based blended learning model, students are trained to complete a project designed according to the needs of the industry / company and can take advantage of learning applications as learning media. Lecturers can monitor the development of projects carried out by students through learning applications, besides that this application can be used by lecturers and students to discuss when problems are encountered during learning activities. The assessment activities are not only from mastering the material but also from student project assignments. By giving projects to students, it can train students' ability to solve problems and do simple designs on computer networks. This learning model was implemented at STMIK Indonesia Padang in the Computer Network Design and Management course. The development of this project-based Blended Learning model was carried out using the Borg and Gall development model. From the results of the development produced a learning syntax of project-based blended learning models.

Keyword : Blended Learning, Project Based Learning, Computer Network

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-318]

Effectiveness of Reading Fictions on Improving Empathy Students of SMA X Makassar

Muammar Zulham Miftah, Asniar Khumas, Ahmad Ridfah
Universitas Negeri Makassar

Abstract

The ability of students teenagers empathize shows an apprehensive condition. The purpose of this research is to know the effectiveness of reading fiction to increase students empathy on SMAN X Makassar. Subject of this research are 14 students of SMAN X Makassar consist of 10 students male and 4 students female that's who have low empathy and have high and moderate reading interests. The sampling technique of this research is purposive sampling. The method of this research is experiment method with Double Pretest-Posttest Design. The analysis technique of this research is Kruskal Wallis. Based on the Kruskal Wallis test, on the subject showed that reading fiction is effective in increasing empathy for the students of SMAN X Makassar. This can be seen from the p-value that is <0.05 and the mean value of pretest 1 with a value of 36.07, pretest 2 with a value of 38.57 and posttest with a value of 45.42. This research can be a reference material for increasing student empathy through fiction reading in schools.

Keyword : Empathy, Reading Fiction, SMAN X Makassar

Topic : Others relevant Fields

[GS.AB-319]

The Description of Water Shed Management Based on Community Knowledge and Community Attitude

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Universitas Negeri Makassar

Abstract

This paper investigation descriptively the community knowledge and community behavior in the water shed of Mandar River in Polewali Mandar Regency. The type of research is quantitative research, and data is collected through survey investigation based on community knowledge and community attitude in the Mandar river basin. The number of population is about 1,320 people where the number of sample was taken by using accidental random sampling which is 180 people. The result shows that community knowledge has significant influence the attitude of the community although it was still consider in the low level particularly in managing the waste.

Keyword : community knowledge, community attitude

Topic : Others relevant Fields

[GS.AB-320]

The Effect of Tapak Dara Extract (*Catharantus Roseus*) on Mice Fertility; An Experimental Study

Muharram and Adnan
Universitas Negeri Makassar

Abstract

This study aims to investigate the effect of *Catharanthus roseus* (or popularly known by the locals as the tapak dara) on the fertility of female mice (*Mus musculus*). The research design was an experiment with complete randomized design (CRD). The authors randomly assigned 50 the female mice into five different groups (10 female mice in each group). The control (A0) received no treatment while the treatment groups (A1, A2, A3 and A4) received the tapak dara leaf extract at doses of 5, 10, 15, and 20 mg/ kg body weight respectively. The treatment of the tapak dara extract was performed at the age of 1st to 5th day of pregnancy. The fertility parameters observed based on the number of corpus luteum, the percentage of implantation, the percentage of loss gestation, the percentage of a live fetus, the dead fetus, and the number of reabsorbed embryos. Data collection was performed on the 18th day of pregnancy by performing surgery to all group members (i.e., both the control and the treatment female mice) and recording anti-fertility parameters. Data were analyzed with F test to detect significant differences among groups. The results showed that the tapak dara extract fulfilled the criteria as an

Keyword : tapak dara extract, anti-fertility, anti-implantation, *Catharanthus roseus*

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-321]

Analysis of Industrial Needs for Job Seeker

Muhammad Yahya, Yasdin, Andi Muadz, Andi Zulfikar Yusuf, Bakhrani Rauf
Makassar State University

Abstract

The problem in this article focuses on the demands of an increasingly complex industry in the era of increasingly rapid technology. Job seekers have not been able to adjust quickly to keep up with technological developments. This article aims to find out: (1) the level of labor absorption in the employment sector and (2) the needs of the industry for job seekers. Using the facto exposure research method with a descriptive approach. The research sample involved the workforce and industry in Makassar. The research instrument used documentation, interview guidelines and questionnaires. The collected data was analyzed using descriptive statistics. The results of the study show that the information of the job seekers are very decisive in mapping the needs of employment and industry requiring employ ability skills from job seekers.

Keyword : Analysis, Needs, Industry, Labor

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-322]

The Effect of Pollinator Insect Visitation on Flower Development and Productivity of Chili Plant

Tien Aminatun, Budiwati, Lili Sugiyarto, Suryo Arif S., Akhidah Desiliani
Universitas Negeri Yogyakarta

Abstract

This research aimed to find out; (1) the pollinator insect diversity of chili plant; and (2) the effect of pollinator insect visitation on flower development and productivity of chili plant. This experimental study was designed with a factorial completely randomized design. The independent variable was visitation of pollinator insect on plant, while the dependent variables were pollinator insect diversity, flower development, and productivity of chili plant. Each treatment consisted of 5 replicating plots, and each plot contained 4 potted plants. Flower development observation was carried out as long as the chili plant flowering. As supporting data were the frequency and longevity of pollinator visiting. The results showed pollinator insects on chili plants were Trigona, Apis, Lasioglossum, and Camponotus. The highest frequency of visitation were Trigona and Camponotus, while the highest longevity was Camponotus. The inhibitory treatment of pollinator insect visitation caused the plant began to flower more slowly and the flower blooms last longer. The plants were also harvested 2 months slower, and the average number and weight of fruit per plant tended to be lower than without inhibitory treatment..

Keyword : visitation, pollinator, flower development, chili productivity

Topic : Others relevant Fields

[GS.AB-323]

Delta, Diamond, and Fighter Kites Project in Geometry Class

Suprih Widodo, Turmudi, Rizky Rosjanuardi
Universitas Pendidikan Indonesia

Abstract

This research aims to develop teaching materials with didactical phenomenology in math education with the project of making Delta, Diamond and Fighter kites. This research carried out experiments conducted on various types of shapes to make Delta, Diamond, and the most ideal fighter kites based on theoretical of science. In addition, this study tested various materials to make kites. The results of the experiment show that the most ideal shape of the kite in order are, rhombus, isosceles triangle, rhombus, trapezoid, rectangle, circle and square. While plastic is the most ideal material for making kites that depend on the mass of the material. with the phenomenon of the kites project can be used as teaching material in geometry class

Keyword : didactical phenomenology, science-math, kites

Topic : Mathematics Education

[GS.AB-328]

Trainer Development of the Electrical and Electronics Course as a Learning Media in Electrical Department SMKN 1 Tilatang Kamang

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Universitas Negeri Padang

Abstract

The background of this research is the use of trainers as teaching aids that are not optimal in the Electrical Department of SMKN 1 Tilatang Kamang, especially on electrical and electronic circuit courses. Existing teaching aids are ineffective, because they only consist of circuit boards that require a long time and make it difficult for students to operate. Low ability and limited experience of students at SMKN 1 Tilatang in using laboratory equipment are also the causes of ineffective learning, especially in the learning of electrical and electronic circuits. This type of research is Research and Development which uses the Borg and Gall research procedure. The research subject is the electric circuit media trainer and the respondent was a teacher of Basic Electricity and Electronics and an electrical student at SMKN 1 Tilatang Kamang. The research instrument is the trainer questionnaire validity, practicality, and effectiveness of the trainer. Data analysis includes trainer validity, practicality, and trainer effectiveness. The results showed that the trainer's validity was 90% with a

valid category. The practicality of the trainer is viewed from the teacher's side by 96% with very practical criteria, while the average practice in terms of students is 90% with very practical

Keyword : Trainer, Validity, Practicality, Effectiveness

Topic : Science Education

[GS.AB-329]

Raising Student Achievement through Quality Based on Teachers' Job Fit and Compensation at Heritage School

Hotmaulina Sihotang and Natalia
Universitas Kristen Indonesia

Abstract

This study aims to reveal teachers' quality development based on suitability in work and compensation to improve teachers' welfare so as to avoid turnover in order to improve students' achievement in the Heritage School. This study uses descriptive analysis based on the data obtained through 1) in-depth interviews with principals and teachers, 2) academic qualification documents, 3) subjects taught and 4) students' achievement. Research findings: (1) 33% of the teachers teach the subjects which are relevant to their educational background but 67% of the teachers having no relevant educational background, (2) generally the teachers were graduated from non-teaching background, so they are given the opportunity to take training and teacher professional education, (3) the compensation received, in general, is good in accordance with their duties and responsibilities, (4) students' achievement is good, but it decreases in the last three years due to the teachers' high turnover.

Keyword : students' achievement, teachers' quality development, job fit, and compensation

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-330]

Key Competencies in the Industrial Age 4.0

Husain Syam, Faisal Najamuddin
Universitas Negeri Makassar

Abstract

The background of the problem in this article is the changing times and the phase of industrialization which provides consideration in several fields of life. That change also has an impact on the way of life, thinking, acting, and human needs. In the industrial sector several key competencies are needed to meet those needs. This article is a literature review aimed at describing several key competencies needed in the industrial era 4.0. This article focuses on grouping key competencies in four major aspects, namely, 1) personality competencies, 2) activities and actions competencies, 3) social communication competencies, and 4) technical and methodological competencies.

Keyword : Competencies, Industry 4.0

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-331]

Developing Student Creativity and Imagination through Kreatives Schreiben

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Universitas Negeri Yogyakarta

Abstract

The purpose of this paper is to describe the lectures at the German Language Education Department, specifically the Kreatives Schreiben lecture. The Kreatives Schreiben course given in the fourth semester aims to provide students with knowledge about the creative process of writing in German and train students to be able to produce creative and imaginative fictional writing. Language material is based on the standard gemeinsamer europäischer Referenzrahmen in B2. The material discussed and trained includes: Gedichte (Farben-, Fragedgedichte, Akrostichon, Elfchen), Gedichte und Grammatik, konkrete Poesie, Cluster, Cluster: sechs Sinne gebrauchen, Erzählfiguren schaffen, Biografie einer (un)bekannte Person, Änderungen der Erzählperspektive, Meme (Komik) schaffen, Magazine herstellen. In the learning process, students are divided into several groups. One group consists of five to six people. The material is used includes objects around, such as fruits, vegetables

and spices. With this material, each group member activates all five senses, namely sight, taste, touch, smell, hearing. After that they are asked to make poetry or short writing. From poetry or short writings they made, they can develop ways to teach a material, for example grammar. All of the students works are collected into a portfolio. The work include the process, revision, and the final result.

Keyword : Creativity, Imagination and Kreatives Schreiben

Topic : Others relevant Fields

[GS.AB-333]

Mathematics Blended Learning Assessment Using Digital Project

Masrukan, Kartono, Endang Retno Winarti
Universitas Negeri Semarang

Abstract

Assessment is an integral part of learning. One of the mathematics learning process in the era of disruption is blended learning which is expected to solve various problems in face-to-face meetings by utilizing information technology. The implementation of blended learning is constrained in its assessment, if only students are asked to collect the results of their assignments through application or email. One solution is with digital project assessment. The use of digital projects in question can be integrated into a blended and separate learning application system. It should be noted that project assessment, including digital projects assessment, is one of the authentic assessments that must be qualified in its mathematics authentic task and scoring rubric.

Keyword : blended learning, project, digital assessmen

Topic : Mathematics Education

[GS.AB-336]

Lab Work Discipline and the Implementation of the Field Experience Industry as Predictor Factor in Entering the World of Work Readiness of the Mechanical Engineering's Students Faculty of Engineering Universitas Negeri Padang

Rusdi Sahara, Nizwardi Jalinus, Giatman, Mulianti
Universitas Negeri Padang

Abstract

This research starts from experience and observation of the researcher from lab work discipline and the student experience in the implementation of Industrial Field Experience (PLI), and also less preparation of the students of Department of Mechanical Engineering in entering the workforce. This research is descriptive correlational. The population in the study consisted of 109 Mechanical Engineering's students which do Industrial Field Experience (PLI). Samples numbered 86 students were taken by proportional random sampling technique. Research data retrieval is done by distributing a questionnaire, Likert scale model. Data analysis technique used is descriptive statistics with percentage calculation and regression aided by a SPSS computer program. The results of this research are: 1) Lab work discipline can be used as a predictor factor of readiness to enter the workforce. 2) the implementation of PLI can be used as a predictor factor of readiness to enter the workforce. 3) Lab work discipline and implementation of PLI can be used as a predictor factor for entering the workforce readiness toward Mechanical Engineering FT-UNP's students. Lab work discipline can predict a better readiness to enter the workforce. And the experience obtained during the PLI can also predict a better readiness to enter the workforce.

Keyword : Work Discipline, Field Experience Industry, Work Readiness

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-337]

Unesa's Role in Managing and Improving the Quality of Vocational Education Graduates in East Java in the Disrupted Era

Edy Sulistiyo, Djoko Kustono, Purnomo, Eddy Sutadji
Universitas Negeri Surabaya

Abstract

Abstract - At present East Java has 1,996 SMKs with 220,958 graduates. However, of the total graduates only 64.11 percent can be accepted in the industry. This shows that of the total Vocational Schools in East Java, 40% of the quality of graduates is not standardized. For this reason the East Java Provincial Government is targeting 2019 the composition of vocational education 70% of SMKs and 30% of high schools are completed. Meanwhile, job vacancies available in East Java reach 390 thousand to 400 thousand and only 234 thousand can be fulfilled, resulting in a shortage of more than 100 thousand skilled workers. The analysis shows the importance of an in-depth study so that interest in choosing studies in vocational education in East Java increases, improving the quality of facilities and facilities with five Vocational programs in one laboratory. innovation, provision of employability skills according to the skills needed in the era of industrial revolution 4.0, the introduction of the apprenticeship system is more relevant to the needs of the business world / industry, vocational education teacher qualifications, and internationalization of vocational education and training aimed at providing students with knowledge, skills and competencies needed in the international labor market.

Keyword : Vocational education, quality of graduates, facilities and infrastructure, internships, and employability skills.

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-338]

Analysis of Impelementation of Integrated Digital Literation Curriculum for Middle School Students in Padang

Alwen Bentri, Abna Hidayati, Mutiara Felicita Amsal
Universitas Negeri Padang

Abstract

The issue of digital literacy for high school students is a serious concern. The phenomenon shows that dominant students cannot take good references in learning, easily receive news containing (hoax) and others. This study aims to determine the implementation of an integrated digital literacy curriculum for secondary school students in the city of Padang. This type of research is quantitative. The population is junior high school students in the city of Padang. Samples were taken randomly as many as 49 people. Data was collected by questionnaire. Data were analyzed using correlation techniques. The results showed that the data collection process on the internet reached 73.88% with good categories. The internet data collection facility is 72.73% (good). Student behavior in integrating curriculum as much as 72.24% (good) and skills in integrating information as much as 70, 61% (Good). Based on the results of this study it concluded that the analysis of the implementation of integrated digital literacy curriculum for middle school students in Padang in a good category.

Keyword : Digital Literation, Curriculum

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-339]

Primary School Teachers and Learning Media in the Era of Education 4.0

Zulaeha Laisa
Universitas Negeri Gorontalo

Abstract

Education era 4.0 demands teachers to be more competent since the nation's progress is determined by education quality, particularly in the primary education level. However, education in Indonesia, especially in Eastern Indonesia, is very apprehensive due to limited facilities and infrastructure as one of the factors that trigger the low quality of education and human resources. The information technology utilization, specifically computer applications for primary school teachers, has not yet run well and equal. Other educational levels that still implement conventional learning that is no longer able to fulfill educational needs for complex societies

require innovations and media to address this issue. A preliminary survey in several primary schools in Gorontalo revealed that teachers wanted to use computer applications as the learning media. The training of utilizing computer applications for primary school teachers is not the only solution to improve students' comprehension about learning topics. A good cooperation between related institutions or agencies is required to produce teachers who understand technology in education era 4.0. Higher education institutions that will produce quality teachers should arrange a course curriculum that highly influences students as the teacher candidate. School members should also provide supporting facilities for an effective learning process.

Keyword : Teachers, Learning Media, Era of Education 4.0

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-342]

Effect of Application of Model Cooperative Integrated Reading and Composition Charged Science Literacy which begins with a concept map of the Competence Study of Biology at SMAN 1 Suliki

Oktavia Andriana, Violita
Universitas Negeri Padang

Abstract

Based on observation, the problem is: students are less interested in learning biology because the material is too much, so students are required to learn optimally. Biology learning is still dominated by conventional learning, so learning is only in the form of lectures and assignments. The aim is to determine the effect of applying the CIRC model with scientific literacy which begins with a concept map of the competencies of students of SMAN 1 Suliki. This type of research is quasi-experimental research with the design of the Posttest Only Design Control Group. The research subjects were class X students of SMAN 1 Suliki who were enrolled in the first semester of the 2018/2019 academic year. Variables are independent variables. Data type is primary data. The data collection instrument is in the form of multiple choice questions. Data collection techniques are giving tests and non-tests. Based on this study it was concluded that the application of the model of integrated cooperative reading and compression with scientific literacy begins with homework in the form of a concept map that has an effect on increasing the competency of SMAN 1 Suliki students.

Keyword : Influence, Cooperative Integrated Reading and Composition Models, Science Literacy, Concept Maps, Learning Competencies, Biology.

Topic : Biology Education

[GS.AB-343]

Analysis of Wood Modulus of Rupture and Elasticity

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Yogyakarta State University

Abstract

ABSTRACT The purpose of this research is to determine the value of modulus of rupture (MOR) and modulus of elasticity (MOE) which is one of the highest mechanical characteristics of wood. Pared with other mechanical characteristics. The methods used in this research using Third Point Bending test, while the specific weight of water content testing using drill method. This research testing uses Bangkirai, Teak, Camphor, Breadfruit, and coconut wood. The ratio used is the result of specific weight testing and water in various types of wood. The research result obtained is the value of water content and the specific weight of Bangkirai (7,62% and 0,758), Teak (7,22% and 0,449), Camphor (6,67% and 0,437), Breadfruit (5,81% and 0,292), and Coconut wood (5,02% and 0,693). While the value of MOR and MOE wood Bangkirai (115.22 and 12925.95), Teak (91.31 and 9316.47), Camphor (76.65 and 5865.52), Breadfruit (65.9 and 3039.94), and Coconut wood (32.89 and 8839.75). From the data, it indicates that water content is proportional to the value of MOR and MOE, except the MOE of coconut wood. For the specific weight with MOR and MOE, the value is proportional, except the MOR of Coconut and Teak wood.

Keyword : modulus of rupture (MOR), modulus of elasticity (MOE), and wood.

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-345]

Development of Competency Based Learning Model in Learning Computer Networks

Raimon Efendi, Jalius Jama, Asmar Yulastri
Universitas Negeri Padang

Abstract

Based on preliminary research that has been done, research problems are the purpose of computer network learning has not been clearly defined based on student needs, the learning process of computer networks is not optimal. The development of computer network learning uses a model of competency based learning aimed at helping educators facilitate students to be active, innovative, and creative in constructing their knowledge, through real experiences students get in the learning process. This research is research and development (R & D) that uses competency based learning learning models. Development of competency based learning learning models using the ADDIE model. Based on data analysis, the findings of this study are Competency Based Learning learning model has been successfully developed, The syntax of developed competency based learning models consists of five learning steps, Computer network teaching manuals consisting of syllabus and semester learning plan, and WEB-based learning media that are valid, practical, and effective. The results of this study can be used by lecturers, and learning designers in developing or realizing the learning process that can facilitate students to be active, innovative, and creative in developing students' knowledge of computer networks better.

Keyword : competency based learning, development, computer network

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-349]

The Principal's Skill in Designing Improved Learning Excellence

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Universitas Negeri Surabaya

Abstract

This study aims to describe: (a) learning excellence; (b) the principal's skill in designing improved learning excellence. This research used a qualitative approach along with multi-case study design. Techniques of the data collecting include deep interview, observation on participation, along with documentation study. Results of the research show that first, learning excellence characteristics include implementation of discipline in teaching and learning process and serious in developing curriculum and learning, while the learning excellence process that are developed at the excellent senior high schools include moving class learning pattern, using English, ICT-based learning, and live-in activities outside the classroom. Second, the principal's skills in designing improved learning excellence are determined by prominent skills of the principal, which include skill in managing organizational change, monitoring each change, good skill in designing, and allocating human resources precisely.

Keyword : managerial skill, the principal's skill in designing, excellence of learning

Topic : Others relevant Fields

[GS.AB-350]

Pre-vocational Information Media for Junior High School

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Gorontalo State University

Abstract

The purpose of this study was to produced pre-vocational information media product for junior high school students, to found out pre-vocational information media in giving understanding and knowledge for junior high school students, and also to find out in applying pre-vocational information media in giving understanding and knowledge for junior high school to continue their study at vocational school. Research and development method was used in this study. The result of this study explained the kinds of WEB based information media. Which could be accessed easily by junior high school students. The percentage of material and media validity from the expert was 77% and the percentage of media validity was 82%. It could be summarized that pre-vocational media information was very valid. Practically of this product was 34,5 and had good criteria. The result of this pre-vocational information media study which could be developed was valid and suitable based on expert opinion. Pre-vocational information media for junior high school students had practically and effectively

higher value, because that media could help the student in understanding the study program at vocational school by them selves.

Keyword : Information Media, Pre-vocational, Vocational Courses.

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-353]

The Implementation of Project-Based Learning Mastercam Module Development of Vocational High School 1 in Padang City.

M Iksan Ardiyansyah, Waskito, Ambiyar
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Abstract

This study aims to examine the practicality of Project-Based Learning Mastercam Module developed so that it can be used in basic CNC Mastercam learning processes. This type of research is development research using a 4-D development model (defining, designing, developing, and disseminating). This study looks at the practicality of the Project-Based Learning Mastercam Module developed then a trial is carried out to users, namely teachers and students. Data analysis techniques used descriptive analysis techniques to describe the practicality of Project-Based Learning Mastercam Module. The results obtained from this development research are Project-Based Learning mastercam module that is very practical based on teacher responses and student responses of 88.82%. Based on the findings of this study, it can be concluded that Project-Based Learning mastercam module is declared practical to be used as a learning resource in basic CNC mastercam subjects and can be developed and used in other vocational high school.

Keyword : Practicality, Mastercam Learning Module, Project-Based Learning.

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-355]

Development of Computer Based Teaching Materials to Increase Phonetic Awareness of Deaf Students in Special Schools for Deaf

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Universitas Negeri Surabaya

Abstract

This paper aims to describe the development of computer-based teaching materials to increase phonemic awareness of deaf students in special deaf schools. The development of teaching materials is based on the background of the lack of teaching materials in the learning of Communication Development and Sound and Cadence Performance (PKPBI). This situation resulted in learning becoming less flexible, and not giving many opportunities for students to carry out adequate exploration and learning experiences especially in language development. The main problem of children with hearing impairments is a communication problem rooted in the limitations of language acquisition. The development of language skills in special deaf schools is carried out through language learning, speech training and the development of communication and sound perception and rhythm. The low level of language skills in deaf students in both oral and written schools is one indication that the learning that has been carried out is not optimal. This condition reflects the need for efforts to deepen learning, implying the need for learning as a system is a complex process involving the teacher component, teaching material, strategy and environment. Keyword: Phonemic Awareness, Deaf Students

Keyword : Keywords: Phonemic Awareness, Deaf Students

Topic : Others relevant Fields

[GS.AB-356]

Development of Books on Basic Electrical and Electronics Subjects Based on Problems at SMK 1 Padang

Firdaus, Usmeldi, Riki Mukhaiyar.
Universitas Negeri Padang

Abstract

Preliminary observations on the learning process of Basic Electricity and Electronics in class X of the Department of Installation of Electricity Utilization in SMK 1 Padang showed that the learning process was still

not optimal. The problem in this study was the unavailability of student printed books that were tailored to the abilities of students in SMK N 1 Padang . The available printed books have not accommodated the problem needs of each school with different characteristics. The study aimed to develop problem-based student books (Problem Based Learning) so that students can understand Basic Electric and Electronics subject matter and to determine the validity, practice and effectiveness of problem-based student books developed. This study used the Research and Development (R and D) research method, with the Four-D design. This method and design was applied to develop and test the validity, practice and effectiveness of Problem-based Student Books in Basic Electric and Electronics learning. The research phase included the defining phase, the design phase, the development stage and the deployment stage. The instrument used in this study was a questionnaire to measure validity and practice. Whereas to measure the effectiveness of using test instruments in the form.

Keyword : Student Books, Problem Based Learning, Four-D, Basic Electricity and Electronics

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-357]

Developing Mathematical Communication Skill for Junior High School Students with Various Level of Mathematics Ability through Generative Learning Model

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Abstract

Mathematical communication skill was the missing piece of mathematics education failure puzzle for centuries despite its central role in learning activities. Built on top of other process skills, it was the tool to build more comprehensive conceptual understanding by learning math from different perspectives, sharpens other cognitive skills, and provides important feedback about students' understanding. This study observed how generative learning model improves junior high school students' mathematical communication skill and how this effect influenced by various level of students' overall mathematics achievement. Using fractional 2x2 factorial design, careful non-probability sampling combined with simple random sampling to pick 160 students in various level of mathematical ability, and an expert-validated scoring system to measure communication skill, this study proved that generative learning strategy may improve communication skill, notably for students with lower level of mathematical ability. The use of factorial design revealed that this improvement was more determined by the application of generative learning model, not by the level of previous mathematics achievement. Teachers should be more optimistic about the use of generative learning models in improving mathematical communication skill even in classes with lower level of mathematics achievement

Keyword : mathematical communication skill, generative learning model, junior high school

Topic : Mathematics Education

[GS.AB-358]

Reengineering of Performance Improvement Basic School Education Power

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Abstract

School Based Management (MBS) is the impact of the quality of performance of stakeholders, educators, education staff, students and the school community. MBS has been well designed, but the implementation is not appropriate between planning and implementation, the management function is not implemented effectively. To improve school performance on the quality of education, school stakeholders reengineered the implementation of MBS, including reengineering methods of improving the performance of teaching staff. Reengineering is done because of several problems, namely, educators receive incentives in the form of certification, group benefits, etc., with the aim of improving the performance of teaching staff. In fact the higher the incentives received have not been able to improve the quality of its performance significantly, educators are more focused on the routine task of providing reports on Teacher's Workload as an obligation, so that the quality of SBM is implemented as an effort to compile a series of school activities to achieve goals, vision and mission and improve the work performance of educators. This gap occurs because the teaching burden of educators is too focused on administrative problems and half-hearted educators in developing their potential. This study uses the Discrepancy Evaluation Model (DEM) method which gives a full picture of the results of the phenomenon

under study and to strengthen the analysis of the research. This method explores, collects, analyzes quantitative data.

Keyword : Reengineering, Improving Performance, Educators

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-359]

Implementation Analysis of e-Planning on Padang Panjang City Government

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Abstract

This research focuses on the application of the e-planning in Padang Panjang City as the purpose to describe, analyze and see more the factors of the less successful implementation of e-planning. So it becomes the constrain in planning process in the government of Padang Panjang City, as well as to know the respond of user of the application of e-planning. This research was conducted in government agencies of Padang Panjang city related to the planning process area. This research was conducted with depth interview with party or officials that competent in the field of planning and also by collecting the data in Bappeda of Padang Panjang City. As result, there are several factors that make the application of e-planning, they are human resources, infrastructure, regulation and the application it self.

Keyword : Planning, e-planning, government

Topic : Others relevant Fields

[GS.AB-360]

Comparison of ICT Using in Learning between Indonesia and Malaysia

Fahmi Rizal, Nizwardi Jalinus, Syahril, Sukardi, Mahesi Agni Zaus, Rizky Ema Wulansari, Rahmat Aziz Nabawi
Universitas Negeri Padang

Abstract

Transformation of technology in the 21st century required teachers to be able to integrate ICT in the classroom. Due to technological changes, curriculum changes have taken place in Indonesia and Malaysia. Changes in the curriculum were expected to be able to increase the competence and expertise of teachers in integrating ICT in the classroom so that an effective learning environment was created for students. This study aimed to explore Vocational Education learning strategies used by teachers in Indonesia and Malaysia. The best practices of Vocational education learning strategies were explored including various types of learning media that were integrated ICT. The research method used in this study was quantitative using a questionnaire as a tool to collect data consisting of indicators of remembering & understanding, application, analyze, evaluate and create utilized by the subject of the research, which was vocational school teachers in Malaysia and Indonesia. All data will be analyzed descriptively equipped with tabulations and distribution of empirical data. The results of the study showed that teachers in Indonesia and Malaysia have begun to integrate ICT in the classroom. Teachers have begun to be able to innovate and develop using the right information technology in existing learning situations.

Keyword : Information and Communication Technology (ICT), Vocational teachers, Teaching and Learning Strategy

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-361]

The Effect Of Audio Visual Media On Dance Competence Of Children Age 5-6 Years Old In TKA Plus AN-NIZAM Kindergarten Academic year 2017/2018 a thesis. Education Faculty State University of Medan 2018

Kamtini, Enggan Ratna Saputri
Universitas Negeri Medan

Abstract

Problem in this research was the lack of dance competency of children. The purpose of this research was to know the effect of using audio visual media on competency of children age 5-6 in TKA Plus ANNIZAM Kindergarten. The type of this research was quantitative (experiment) with the Pre-experimental design and one

group pretest posttest design . Sample in this research of class B TKA Plus ANNIZAM. The sample were taken by using simple random sampling, with 20 children for experimental class. Independent variable was audio visual media and dependent variable was the dance competency. Collecting data by using structural observation data were analysed by using t-test with $\alpha = 0,05$ The result showed that children who had got ten the treatment by learning dancing by using audio visual media had score 4 the lowest and 12 the highest score with average score 8,3. In the place of developed category according to expectation. Before the children got treatment by learning dancing using audio visual media, then lowest score had been 2 and the lowest score had been 11 and average score had been 5,35 in the developing category. Form the hypothesis $t=21,07$ with $dk=n-1=19=0.05$ t-table 2.093.

Keyword : Audio visual media, Children's dance skill

Topic : Others relevant Fields

[GS.AB-362]

Reducing Greenhouse Gasses Emission by Application of Commercial Wastes as Sources of Renewable Energy

Emirza Rachmansyah, Gabriel Andari Kristanto
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Abstract

One of the problems faced by many cities in Indonesia is in managing their increasing solid waste generation. As one of the biggest waste generators, commercial sectors such as malls, restaurants, office buildings, motels and others need to manage their wastes in more sustainable ways. One of the biggest wholesaler malls in Jakarta is mall X, it generates 27 tons of waste daily consisting 51.71% organics and 48.29% inorganics. The objective of this research is to characterize wastes generated from mall X, discover possibility in developing waste into refuse derived fuel and calculate greenhouse gasses reduction. The result showed that the waste management system applied in the mall X will reduce the amount of waste to be disposed in landfill by 26% from waste produced daily in 2018.

Keyword : commercial waste, renewable energy, Jakarta, greenhouse gasses

Topic : Others relevant Fields

[GS.AB-363]

The Utilization of Computer Based Testing To Improve the Validity of Test Results

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Universitas Negeri Padang

Abstract

Education at this time is very closely related to technological developments. The uses of technology in education is using computers in conducting tests, or Computer Based Testing (CBT). The aims to analyze the use of CBT in order to produce valid tests. On its utilization, tests are presented no longer with sheets of paper, but are packaged in a computer application. This makes the learning outcomes test process more practical to be packaged and implemented. Based on the literature review, CBT results are effective for carrying out tests validly, CBT can minimize fraud that occurs during the test, CBT is better than paper based tests, and CBT can minimize the cost of conducting the test.

Keyword : Computer Based Testing, validity

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-364]

The Effect of Self-Efication, Learning Organizations, and Trust on Lecturer Organizational Citizenship Behavior

Ahmad Kurnia, Rhini Fatmasari, Matin dan Ma'ruf Akbar
Universitas Terbuka

Abstract

This study aims to identify and explain how much influence the effect of self-efficacy, Learning organizational, and trust to Organizational Citizenship Behavior of lecturer in the Institute of economic science in Bekasi. This

research is an ex-post facto nature of causality. The population in this study is the lecturer in the District of Bekasi. The study population 600 lecturers and 80 lecturer sample taken using proportional random sampling. The instrument used consisted of a self-efficacy questionnaire, questionnaire learning organizational, questionnaires trust, and Organizational Citizenship Behavior. Data were analyzed with descriptive statistics and inferential statistical analysis (path analysis). The results showed that 1) there was a direct effect of self-efficacy on Organizational Citizenship Behavior lecturer. 2) there was a direct effect of Learning organization on Organizational Citizenship Behavior lecturer 3) there was a direct effect of Trust on OCB lecturer. 4). there was a direct effect of Variable of self-efficacy on trust. 5) there was a direct effect of Variable of learning organization direct positive on trust and 6) there was a direct effect of Variable self-efficacy on learning organization. The finding shows that self-efficacy, learning organization, and trust are the variances of organizational citizenship behavior. They also indicate that organizational citizenship behavior can be improved by developing self-efficacy, learning organization, and trust.

Keyword : Self-Efficacy, Learning organizational, trust, and OCB

Topic : Others relevant Fields

[GS.AB-365]

Analysis of Computational Thinking Skill Predictors on Information Technology Education Students

Yeni Anistyasari, Ekohariadi, Munoto, Luthfiah Nurlaela, Meini Sondang Sumbawati
Universitas Negeri Surabaya

Abstract

Computational thinking is a skill that must be possessed by everyone, especially students. Factors that influence computational thinking skills must be properly identified to support the development of computational thinking. This study aims to analyze the effective factors, namely gender, mathematical ability, ICT literature, and language skills as predictors of computational thinking. The research subjects were 34 Unesa information technology education students. Analysis of predictor factors using linear regression and concluded that that the level of computational thinking sequentially is influenced by mathematical ability, language skills, gender, and ICT literacy.

Keyword : computational thinking predictors, gender, ICT Literature, language skills, and mathematical ability

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-368]

Fieldstudy Activities in the Establishment of Professional Competition of Candidate Teachers Geography

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Universitas Putra Indonesia, Universitas Negeri Jakarta

Abstract

The purpose of this study is to measure the formation of professional competence in field study activities. This research was conducted on students who conducted field studies with the names PKL at UNJ and KKL at UPI. There were 120 samples from 580 participants with sample quota with each of 20 students from 6 groups. Measurement of professional competence using multiple choice questions, 30 questions. Questions are built from the courses taken by participants in semesters 2, 4 and 6. The test results show an average score of 56.84 with the lowest score of 44 and the highest of 77. The test results show more in the medium category, there are no lowest and more a little with a high category. The researcher concluded that professional competence in mastering material has a low relationship. Professional competencies in the form of knowledge are formed from other activities such as teaching in class.

Keyword : Fieldstudy, competence, professionals

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-369]

Development of Culture-Based Budi Pekerti Learning Strategies and Learning Styles in Skills Lessons

Dina Ampera, Rosnelli, Samsidar Tanjung, Winda Permata Sari, Farihah
Univeristas Negeri Medan

Abstract

The purpose of this study: (1) Developing character learning strategies (2) Knowing the learning outcomes of skills taught with a hobby culture batak learning strategy and Jawa culture based learning strategies. (3) Knowing the learning outcomes of Skills that have visual learning styles and kinesthetic learning styles. (4) Knowing the interaction between learning strategies and learning styles that influence learning outcomes. This research is a research development with a quasi-experimental treatment. The sample of students of SMP Negeri 1 Medan totaling 185 students. Instruments are used: (1) learning outcome tests (2) Learning style questionnaire sheets. The results of the study are: (a) Learning outcomes that get batak culture based learning are as big as F-table = 2.76 for dk (3.58) with a significant level of $\alpha = 0.05$. It turns out that the value of F-count = 6.48 > F-table = 4.00, (b) Skill learning outcomes with kinesthetic learning styles rather than Skills learning outcomes with visual learning style F-count = 4.33 while F-table values = 2.76 for dk (3.58) with a real level of $\alpha = 0.05$ and (c) There is an interaction between learning factors and learning style factors in influencing learning outcomes,

Keyword : Culture-Based Learning Strategies, Student Learning Style and Craft Skills Subjects

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-370]

Increasing the Innovation Competency of Students in the Response of Industrial Revolution 4.0

Rosnelli, Dina Ampera, Harun Sitompul, Farihah
Universitas Negeri Medan

Abstract

The aim of the study was to find out the efforts that could be made to improve student competency in responding to the Industrial Revolution 4.0. Specifically the purpose of the study was to determine the effect of student empowerment, self efficacy on increasing student innovation competencies in response to the 4.0 industrial revolution. In particular, the research was directed to see an increase in innovative competencies of students in creating innovative products that are engineered by ideas in Product Design courses at the Fakultas Teknik Unimed. The population and research sample are Engineering Faculty students who take Product Design courses. The study design was ex post facto and data analysis used path analysis. Data was collected through a questionnaire with a Likert scale. The results showed that student empowerment in the learning process can have a positive effect on self efficacy and innovative competence of students in creating innovative products of 72.38%, the remaining 27.62% influenced by other factors not examined. The conclusions of the study were to improve students' innovative competencies can be done by increasing student empowerment in the learning process and increasing student self-efficacy

Keyword : Innovation Competence, Student Empowerment, and Self Efficacy

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-373]

Fingerprint Feature Protection System by Implementing a Non Square-Arbitrary Matrix using Kronecker Product Operation

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Abstract

Camouflaging the fingerprint feature is a way to protect the trait information of the fingerprint from the imposter. This treatment hides a readable feature to become an abstract appearance. It means that the original information of the feature is transformed into another value to create a different content of the feature. In this paper, the approach to be introduced is by operating a method called as Kronecker product (KP) to transform the original information contained in a fingerprint feature into a different value. KP operation (KPO) operates in a matrix domain of the fingerprint. KPO modifies each elements of the fingerprint matrix, known as pixel, into a different form of the matrix element. For example, a 2x2 original matrix could be altered into 6x12, or 10x8,

and or 4x6 format of a matrix. It is depend of the format of the KP matrix. This modification could delude the imposter from embezzling the fingerprint feature.

Keyword : fingerprint, feature fingerprint, Kronecker product

Topic : Others relevant Fields

[GS.AB-374]

Software Autodesk as a Teaching Media in the Subject of Advertising

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Universities Negeri Makassar

Abstract

Abstract: The purpose of this study was to improve the learning outcomes of advertising courses by applying the three-dimensional softwares program to the FSD-UNM Visual Communication Design Study Program ". The application of the learning model by integrating several graphical Autodesk softwares on designing a product advertisement in advertising courses at the Visual Communication Design Program of the Faculty of Art and Design Makassar State University. The method used is a description of the stages of learning in a complete advertising course through the semester learning plan (RPS) of the responsible lecturer, external integration in the learning process of advertising courses using the Autodek 3ds software. Max as the material of the integrator / action, Continuing the material of the integration / action to make the product of advertising by utilizing the geometry and Shapes category drawing techniques as the goals to be achieved in the learning activities. The conclusion is that there is a clear advertising learning structure, there are exploration activities in determining the advertisement task model and students integrate three-dimensional softwares in planning the making of the final advertising product. Keywords: Learning model, Product and Software graphic

Keyword : Learning model, Product and Software graphic

Topic : Science Education

[GS.AB-375]

Development of Macromedia Flash 8 Learning Media on Woven Craft Lessons

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Universitas Negeri Medan

Abstract

This study aims to: develop Macromedia Flash 8 learning media in any kind of Engineering Workshop. Research and Development type.includes: 1) needs analysis, 2) developing products, 3) validation and revision, 4) small group trials, 5) medium group tests, 6) large group tests, 7) final products. The research subjects were Tanjung Morawa 3 Public Middle School students as many as 52 VII grade students. The instrument was validated by media experts and material experts. Data collection instrument uses a questionnaire of needs and questionnaire validator with data analysis techniques using a Likert scale. The results showed that the development of Macromedia Flash 8 learning media on the woven material technique was successfully developed through several stages, namely: 1) 87% of media expert research results, and 91% of the percentage results of the assessment, 2) small group trial results with percentage assessment 76%, medium group trials with an evaluation percentage of 79%, and large group trials with a percentage of 87%. Thus the development of Macromedia Flash 8 learning media on craft subjects in class VII plaiting techniques at Tanjung Morawa 3 Public Middle School is considered feasible to be used as learning media

Keyword : Macromedia flash 8, Woven Craft lesson

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-376]

Expert Validity of Problem and Project Based Learning Model on Databased System Course

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Universitas Negeri Padang

Abstract

This study aims to measure the level of validity of the learning model Problem and Project Based Learning was developed as an effort to overcome learning difficulties in the Database Systems course so that the resulting

outcome can be qualified according to the work competency of Database. This research and development (R & D) follows the 4D development procedure which consists of 4 (four) stages namely define, design, develop and disseminate. While product testing through experimental control group design research to assess product effectiveness. Description data analysis is used V Aiken to results describe of validity, practicality, and product effectiveness test. Hypothesis testing is using the Independent sample t test statistical. This study resulted in the validity level of the Problem and Project Based Learning model (PPjBL). This model had supporting products are form of Model Books, Teaching Modules, and Lecturer Work Guidelines which were declared valid, effective, and practical in all aspects of assessment. The results of expert validity testing show that the average V Aiken is interpreted as a valid coefficient. The practicality test of the PPjBL product model in the lecturers and learners perceptions has an show practical categories. The effectiveness PPjBL products shows that the experimental

Keyword : R & D Research, Learning Models Validity , 4D Method, Problem and Project Based Learning Model, Database Systems

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-377]

Validity of Student Worksheets Based on Guided Inquiry on Human Digestive System Material and Human Excretion System for Students Class VIII Middle School

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Abstract

Natural Sciences (IPA) as one branch of science that has an important role in the development of science and technology. Learning science emphasizes on process skills, this can be achieved by applying a learning model guided inquiry. The learning process cannot be separated from learning media, one of the media is the student worksheet. The purpose of the study is to develop guided inquiry-based student worksheets and know the validity criteria. The type of research is Research and Development with the development model of Plomp, which consist of three stages, namely preliminary research phase, development of phase and assessment phase. Guided inquiry-based student worksheets validity was obtained from the results of validation using an expert validation sheet by three experts. The result of this research showed in didactic aspect got 75% with the criteria was valid, construct aspect got 96,67% with very valid criteria, technical aspect got 86,39% with the criteria was very valid, and the average of these three aspects got 86,39% with the criteria was very valid. The development of guided inquiry-based student worksheets was successfully developed with very valid validity criteria. It is expected to be a quality and innovative learning material to help improve student competencies.

Keyword : Validity, Student Worksheets, Guided Inquiry

Topic : Biology Education

[GS.AB-378]

Analysis of Skill to Make a Robot for Electrical Engineering Student Based on Contextual Teaching & Learning with Structural Equation Modeling

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Universitas Negeri Surabaya

Abstract

The focus of this research is the robotic creation expertise for electrical engineering students based on contextual teaching and learning which will be analyzed by structural equation modeling through IBM SPSS and IBM SPSS Amos software. In the first phase of the study focused on the determination of constructs related to the ability of making robots and their definitions, the making of teaching modules and robot kits, determining the validation of teaching modules and robot kits, making assessment instruments, testing teaching modules and robot kits with assessment instruments to respondents electrical engineering), and the results of the assessment (research data) processed with IBM SPSS software and IBM SPSS Amos for later analysis with structural equation modeling. In general, this research produces two main points, the first is the analysis of the ability to make a robot, the second form of teaching modules and trainers that have been adapted to the needs.

Keyword : robotic creation expertise, contextual teaching and learning, electrical engineering students, structural equation modeling, teaching module and robot kit.

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-379]

The Development of Learning Motivation Video as Guidance and Counseling Media for Senior High School (Equivalent) Students

Wenny Hulukati, Maryam Rahim, Moh. Rizki Djibran
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Abstract

An innovation of the media in counselling and guidance is essential in providing counselling services at senior high level; among the aims of this attempt is to motivate the students. That being said, this study is aimed at developing a video of learning motivation to mediate counselling and guidance programs in senior high school level. This research was carried out by applying the research and development (R&D) method; this encompassed several steps, such as (1) analysis of potential and problems, (2) data collection, (3) designing the product, (4) product validation, and (5) revision of the product. Three experts were involved in the conduct of reliability test; they were one expert in Indonesia language, one expert in educational technology, and one expert in guidance and counselling. The result shows that the product of video of learning motivation is helpful to enhance senior high students' motivation

Keyword : Development of learning motivation video, counselling and guidance medium

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-380]

Development of Blended Learning-Based Media on History of Fashion Subject Bachelor of Fashion Study Program

Marniati, Lutfiyah Hidayati, Setya Chandra Wibawa
Universitas Negeri Surabaya

Abstract

: This study aimed to: (1) produce learning media (module and video) based on blended learning, and (2) create student self-learning. This research use 4D model approach, including Define, Design, Develop, and Disseminate. Define is determine the format and substance of the product. Design is opaque writing of product documents and expert reviews. Develop is empirical testing. Data were collected by questionnaires and tests from 95 students and analyzed by descriptive methods. The result stated: (1) 86% Blended Learning-based learning media can be followed by students (in very good categories), modules and video tutorials in terms of effectiveness and usefulness are in good categories. (2) The student self-learning (in terms of accuracy applying ideas and creating the design) reached 79% (in good categories).

Keyword : development of learning media, blended learning

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-381]

Face Recognition using Back Propagation Method of Artificial Neural Network

Riki Mukhaiyar, Reza Safitri
Universitas Negeri Padang

Abstract

Face recognition is commonly applied to recognize an authorized personal in accessing secured personal information. Each personal owns a specific trait/feature on their face. Many researchers in this field make a pattern of the feature to analyze the characteristic of it. In this paper, author introduce a method called as an artificial neural network (ANN) to analyze and memorize the feature of the face likes how a brain work in remembering anything. Author will use a back propagation (BP-ANN) approach of ANN to build a network mapping of the system. BP-ANN would equalize the ability to recognize the input pattern of task with the pattern used along the training process of the ANN. So, the percentage of the recognition process is reliable

Keyword : Artificial Neural Network, Back Propagation, Face Recognition

Topic : Others relevant Fields

[GS.AB-382]

Validity of Interactive Learning Media Android-Based on Computer and Basic Networks

Radinal Fadli, Sukardi, Dedy Irfan, Asrul Huda
Universitas Negeri Padang

Abstract

Based on observations implementation of learning computer and basic network indicated only limited by using print module media, with lecture methods and guided practice and have not used learning media with android technology. This research purpose to obtain validity of learning media android-based on computer and basic network subjects. Interactive learning media based on android is designed to improve students' understanding so as to improve learning outcomes. This research is a Research and Development (R and D) with 4-D method development procedures (Define, Design, Develop, Disseminate). Data analysis techniques used descriptive analysis techniques to describe the validity of interactive learning media android-based. The results obtained from this development research the validity of Android-based interactive learning media is declared valid on the media aspects and material aspects. Based on the result of this research concluded that the interactive learning media android-based was declared valid to be used as teaching materials in computer and basic network.

Keyword : Learning Media, Android, Riset and Development

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-384]

Development of Reading Materials for Multicultural Education with the Topic of Kasada Tradition in Tengger Community (Study of Ethnography at the Bromo-Tengger-Semeru National Park, Jawa Timur)

Nur Hadi
Universitas Negeri Malang

Abstract

A very prominent feature of the Tengger community in carrying out their social activities and customs is the attitude of togetherness which is based on harmony and peace. In carrying out their various sacred ceremonies, the spirit of togetherness is crucial to them. Especially in the Kasada ceremony, they enunciate sincerity, joy, mutual cooperation, sacrifice, and other significant attitudes and behaviors indicating their level of dignity as social beings. The ceremony was held by involving all members of the community, men and women. The approach used in this study is the qualitative-ethnographic model of Spradley (2010). The results show: (1) The Kasada ceremonial tradition is a form of ecological adaptation. Over the years, this community has held the ritual, with the intention of fulfilling many interests, particularly maintaining their existence as mountain farmers. (2) This ceremony is a form of local wisdom in answering limited natural challenges, by cultivating the ability and intelligence in preserving nature and integrated social life. (3) Decided sanctions for Kasada ceremony offenders: there are no legal sanctions, but an anomaly is attached to those who avoid the ritual, that actually strengthens their social integration. This happened to some Tengger people who had embraced State religions.

Keyword : multicultural education, Tengger community, Kasada ceremony.

Topic : Science Education

[GS.AB-385]

Prototyping Phase in the Development of Character Building in Integrated Thematic of Teaching Materials Based on Discovery Learning in 4th Grade of Elementary School

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Universitas Negeri Padang

Abstract

Character building value in current teaching materials is still at the notification stage. It means that this materials still not provide the opportunities for students to feel and to apply those characters value in teaching learning process. Therefore, it is necessary to develop the teaching materials that are arranged based on learning model supporting student activeness that is discovery learning. Developed teaching materials should have the good criteria such as valid, practical and effective. The purpose of this study is to determine level of validity and practicality of teaching materials developed. This research method uses Mc Kenney's development model, which is devoted to stage 2, namely: prototyping phase: expert test and practicality test by students and teachers.

Based on the results of validity test obtained data that teaching materials based on character building with discovery learning model is in the category of valid with an average score of 3.7 and it is in a category very valid. Furthermore, the stage of practicality is done by giving questionnaire to teachers and students. The score of the the teacher's response 77.3% (practical) and the score of the students' response is 85.83% (very practical).

Keyword : Teaching Materials, Discovery Learning, Valid, Practical, Character Building
Topic : Others relevant Fields

[GS.AB-388]

Heart Detection System Using Hybrid Internet of Things Based on Pulse Sensor

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Abstract

The advance of modern internet technology era, humans have many activities so they are constrained by cost problem and time to check the real time condition of their heartbeat. Therefore, it is necessary to have an alternative system that can monitor condition of the heartbeat so that the body's health can be monitored by personal or family side. This article proposes a heart rate detection system (HERDES) with an internet of things based on pulse sensor to monitor the heart rate health condition in real time. The design method applies several ways such as via bluetooth smartphone, short message service and internet which can be accessed whenever and wherever. This article also presents a comprehensive result, via bluetooth smartphone, short message service as well as internet for 6 samples testing various activities. The validity of HERDES is proven by closely matching the stethoscope measurements with error rate smaller than 2%.

Keyword : Heart Rate Detection, Pulse Sensor, Bluetooth, Short Message Service, Internet
Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-390]

Fundamental Factor of Educations' Student in Determining Entrepreneurship Intention

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Universitas Negeri Surabaya

Abstract

Entrepreneurship is one of the instruments driving the economy either developed or developing countries. Entrepreneurship is a dynamic process to optimize all the resources to achieve a goal by implementing new ideas and creative solutions. The purpose of this study is to find out the entrepreneurial intentions of students who have an educational background. The target of this study is to determine the factors that influence entrepreneurial intentions. This study will examine the effect of variable needs for achievement, self-efficacy, instrument readiness, perceived behavioral control, subjective norms, and entrepreneurship education on entrepreneurial intentions. This paper analysis uses multiple linear regressions. The result shows that the factors influence entrepreneurship of education student is self-efficacy, instrument readiness, perceived behavioral control, subjective norms, and entrepreneurship education. The result finds contrary to the drawing theory that instrument readiness has a negative impact on entrepreneurship education.

Keyword : entrepreneurship intention, education's student
Topic : Others relevant Fields

[GS.AB-392]

Effectiveness of Physical Fitness Model with Game Approach in Improving Physical Fitness of Students at Gajah Mada Elementary School in Medan.

Nurkadri, Budi Valianto and Novita
Universitas Negeri Medan

Abstract

This study to explore the effectiveness of a game-based physical fitness activity model in improving the physical fitness of students in Gajah Mada elementary school at Medan. The game-based physical fitness activity model as the alternative model for sport teacher to increasing desire of students to perform various

forms of physical activity as stimulus to increase in cardiorespiratory strength, strength, endurance and flexibility. This study uses a pre-experimental approach methodology in the form of one group pre-test and post-test design, this fact has supported antusiasem of elementary school students during folow the model movemed. To analyse the results of the pre-test and post-test using statistical methods (t-test) to find out the significance effect. Furthermore, the results of this study show that the results of the average value of the post-test are greater than the average value of the pre-test. Thus, it was stated that the physical fitness activity model of students in elementary school at Gajah Mada Medan is effective for use in improving learning outcomes and increasing forms of physical activity as well as cardiorespiratory endurance, strength, endurance and determination of elementary school students.

Keyword : Physical Fitness Model, Elementary School

Topic : Science Education

[GS.AB-396]

Contribution to Model Critical Thinking the Knowledge of Digital Circuit the Competence Vocational Students

Nur Kholis, Lutfiyah Nurlaela, Meini Sondang Sumbawati
Universitas Negeri Surabaya

Abstract

This research has the objective to measure the skills of students of electrical engineering on the knowledge of digital electronics to the influence of the model of critical thinking. this research is quantitative research with a number of subjects 45 people on the students of Electrical Engineering Universitas Negeri Surabaya. the results obtained that the skills of Electrical Engineering students on the subjects of Digital Electronics has significantly increased due to the equipped devices in the form of trainers and jobsheet.

Keyword : skills, knowledge of digital electronics, critical thinking, quantitative research, significant

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-397]

The Effect of Shooting Knowledge and Anxiety on Self-Confidence of Marine Soldiers Students

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Universitas Negeri Jakarta

Abstract

This study was aimed to find out the relationship between shooting knowledge and anxiety on marine soldiers self-confidence. In the last 20 years, the researchers have not found a research report related to the effect of shooting knowledge and anxiety on students' self-confidence especially research conducted in Indonesia. Knowledge of shooting is the subject matter that is presented to students while attending basic military education. One of the factors that influence the success of a student soldier in completing military education is the level of anxiety of students themselves. This study employed a questionnaire and a written test to obtain the data. Furthermore, knowledge of shooting and anxiety were set as independent variables while self-confidence was set as a dependent variable. Furthermore, the results of the study showed that: shooting knowledge has a significant positive direct influence on the self-confidence of marines students; anxiety has a significant negative direct effect on the self-confidence of marines students.

Keyword : Shooting knowledge, anxiety, self-confidence, and marine soldiers students

Topic : Others relevant Fields

[GS.AB-398]

Physical Self Concept and Physical Activity among University Students

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Abstract

Physical self-concept exerts a central role in adolescence. In this phase, individuals experience significant physical, mental, and emotional changes that are connected to their physical activity. This study aims to examine the differences between all components of physical self-concept based on their physical activity level.

The study involved 322 college students (92 male students, 230 female students) of a University in Indonesia. Physical self-concept was assessed using the Physical Self-Description Questionnaire (PSDQ). To measure physical activity, the International Physical Activity Questionnaire-Short Version was used. The data were analyzed using one way ANOVA. The results show that there are significant differences in physically active, sports competence and endurance. Students with higher physical activity level got a higher score in that component. While there are no significant differences in health, coordination, body fat, appearance, global; physical, strategic, flexibility and global self-esteem.

Keyword : Physical Activity, Physical Self-Concept, University Students

Topic : Others relevant Fields

[GS.AB-400]

Model of Training for Prospective Automotive Expertise Test Assesor

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Universitas Negeri Semarang

Abstract

Mechanical Engineering Department, Semarang State University ABSTRACT The main factor related to the quality of the competency test results is the quality of the assessor. Assessors must have superior technical and pedagogical abilities so that they are able to make objective and fair decisions on the assessed objects. Based on the reality that in the field automotive technology is developing so rapidly that internal assessors' competencies need to be upgraded to equal external assessors. The preparation of assessors is carried out in collaboration with Vocational Schools with the Business World and the Industrial World (BWIW). The purpose of this study is to find a training model for prospective assessors as competent assessors like they who assess in BWIW. The target to be achieved is to give input to vocational schools in implementing training for automotive assessors. This study is a descriptive study based on the facts that the lack of assessors in testing student competencies. Students are tested by assessors from the working world and assisted by school assessors whose competence is lower than the BWIW assessor. The number of vocational school

Keyword : training, assessors, automotive.

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-401]

The Development of gluten-free and eggs- free Cookies Enriched with Canna edulis flour rich in Resistant Starch Type 3 as a Functional Food

Mutiara Nugraheni, Sutopo, Sutriyati Purwanti, Titin Hera Widi Handayani
Yogyakarta State Univesity

Abstract

This research aims to determine the gluten-free and egg-free cookies enriched with Canna edulis flour rich in resistant starch type 3 based on sensory characteristics, chemical composition, and physical properties. The research method was done with cookies formulation based on the amount of Canna edulis flour rich in resistant starch type 3 and a control (wheat cookies). The selected cookies based on hedonic test with 80 semi-trained panelists was Formula I. The value of sensory characteristics were: aroma 7.56 ± 0.65 ; color 7.56 ± 0.65 ; Taste 7.56 ± 0.73 ; texture 7.75 ± 0.49 ; overall acceptance 7.63 ± 0.60 . The chemical composition were: moisture content $3.69 \pm 0.17\%$; ash $4.20 \pm 0.53\%$; fat $32.67 \pm 0.15\%$; protein $11.15 \pm 0.13\%$; carbohydrate $28.36 \pm 0.60\%$; soluble fiber $0.80 \pm 0.01\%$; insoluble fiber $24.81 \pm 0.10\%$; resistant starch $3.36 \pm 0.08\%$; amylose $13.80 \pm 0.03\%$; amylopectin $12.88 \pm 0.34\%$; energy 452.07 ± 0.87 cal. The physical characteristics were: weight 1.11 ± 0.02 g; diameter 31.47 ± 0.20 mm; height 3.77 ± 0.09 mm; spread ratio 8.34 ± 0.22 , hardness 8.41 ± 0.56 N/kg. The selected cookies can be used as a functional food for people who are sensitive to gluten and eggs.

Keyword : gluten-free, egg-free, cookies, Canna edulis, functional food

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-403]

Analysis of Validity, Reliability, Discrimination, Difficulty, and Distraction Effectiveness in Learning Assessment

Ayunda Friatma, Azwir Anhar
Universitas Negeri Padang

Abstract

Assessment is not only to measure learning progress, but also allows educators use information of student condition to improve learning. Result of students final exam grade eight in science subjects at SMPN 2 Lembah Gumanti are low. Item that are not qualified can be a factor that makes the results of the assessment low. The quality of item is not yet known because the teacher has not carried out the analysis. Therefore, need to analyze the quality of item in several aspects. This type of research is descriptive research. Sample are items on biology topics. Data are item sheet, answer key and answer sheets which is taken through documentation. Analysis is carried out with a program was name Anates version 4.0.9. The results of data analysis were obtained: 1) validity, 65.38 % invalid, 2) reliability of 0.46 classified as sufficient, 3) level of difficulty, 11.53 % very easy, 7.69 % easy, 50% medium, 19.23% difficult, and 11.53 % very difficult, 4) discrimination, 15% very bad, 15 % bad, 30% enough, and 40% good, 5) distraction effectiveness, 24.36 % does not work. It can be concluded that the item does not match the criteria either.

Keyword : Analysis, Assessment

Topic : Biology Education

[GS.AB-404]

Implementation of Troubleshooting Teaching Method to Develop Student's Competency in Conducting Motorcycle Tune Up

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Universitas Negeri Surabaya

Abstract

Lack of media used in teaching and the conventional method used are also become the factor which influences the less student's competency achieved in practical learning of motorcycle tune up. This study aims to develop the student's competency in motorcycle tune up by applying the Troubleshooting teaching method towards undergraduate students in Education of Mechanical Engineering department. This study used Classroom Action Research which used 26 students as subject. They are Undergraduate Student in department of Education of Automotive Mechanical Engineering, Unesa Indonesia. This study used test method to evaluate the student's competency in motorcycle tune up. Based on the achieved data, it is then analyzed descriptively. This troubleshooting teaching method was able to develop student's study result (student's competency), started from 81,6 in cycle 1, then 83,3 in cycle 2, and 87,1 in cycle III. The completeness of classical study started from 53,8% in cycle 1, grew to 57,5% in cycle II, then reached 88,5% in the last cycle.

Keyword : Troubleshooting teaching method, motorcycle competency, classroom action research

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-405]

The Role of Sustainable Urban Building in Industry 4.0

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Universitas Negeri Jakarta

Abstract

The construction industry has significant environmental, social and economic impacts on the community. As one of the main results of the construction industry, buildings largely reflect this during the transition cycle. Both positive and negative negatives. The negative impacts of buildings and construction activities also disrupt human activities themselves, such as discussing, dust, traffic congestion, air pollution, and waste disposal during construction. After completion, the building continues with the surrounding environment. It needs appropriate technological innovation assistance to overcome the difficulties of building these buildings and buildings. The Method of this study a qualitative approach by reviewing and synthesizing journals related to Sustainable Urban Development. The role of Sustainable Urban Buildings using renewable technology is necessary to overcome these development problems so that they no longer have negative impacts on humans and their environment.

Therefore, Sustainable City Buildings if developed using environmentally friendly technology will make city buildings efficient and effective for reducing carbon emissions that exist every day.

Keyword : Sustainable Urban Development, Construction Industry, Sustainable City Building

Topic : Others relevant Fields

[GS.AB-406]

Modification of Learning Models Based on Lesson Study to Develop Students' High Order Thinking Skills in the Complex Analysis Classroom

Arnellis, Media Rosha, Defri Ahmad
Universitas Negeri Padang

Abstract

The purpose of this study how to know achievement students' by modifying learning model through lesson study in developing students' high order thinking skills and to know the description of response students' in analysis complex course by applying the model of the jigsaw through the lesson study. This research was conducted in into three stages: plan, do and see. The subjects were complex analysis students majoring mathematics department in semester of January June 2018 which is consisted of 27 students. The data were obtained by test used to measure high order thinking skills of the students, while the questionnaire was used to measure the response of the students. The data was analyzed by using quantitative descriptive method. Result showed; The average percentage of the students high order thinking skills in the first cycle was 57.26%; enough category, then the second cycle increased to 81.43%; good category. The average percentage of students' response toward learning process is 78.5%; good category. Based on the analysis of data it can be concluded that the modification of the model through the lesson study can improve high order thinking skills as well as getting a good response of students.

Keyword : learning model, lesson study, high order thinking skills

Topic : Mathematics Education

[GS.AB-407]

Student Value Orientation on Physical Education Course at University Level

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Abstract

The purpose of this study was to investigated Student Value Orientation on Physical Education Course at University Level. The participants were 180 Sophomore students (41 male, 139 female) originating non-sport study program who took physical education course credit. Value orientation inventory (VOI) instrument was adapted from Ennis (1991), the VOI were including eight components (ecological integration, fitness, games, learning process, movement, self-actualization, sport, and self-regulation). The results show that the fitness component was found to be domain representative of student value orientation (30%) as well as male and female students. The learning process item was the lowest orientation chosen by students (2%), and 39,4% have no learning orientation. This study would be implication for physical education curriculum design at the university level must be directed at fitness values.

Keyword : Student Value Orientation, Physical Education Course, Value orientation inventory, Fitness

Topic : Others relevant Fields

[GS.AB-409]

Project Based Learning as Settlement of Subnetting Materials in the Study of Network Design

Bambang Sujatmiko, Salamun Rohman Nudin, Fachrur Rozaq, Setya Chendra Wibawa
Universitas Negeri Surabaya

Abstract

This research intended to improve students' learning result in solving problems on Subnetting materials by using learning modules.. The research method used experiments with True Experimental Design in the form of Post-test Only Control Design. This method uses two randomly selected groups to be a control group and an experimental group. The control group was not given treatment, while the experimental group was given

treatment. After giving treatment both groups will be given posttest to know the learning result from each group. Based on the findings of the research obtained from the hypothesis test, the average value of learning results control class is 69.88 and the experimental class is 84.90. So it can be concluded that the result of Subnetting material problem solving by using Project Based Learning module gets higher learning result compared to those not using Project Based Learning module.

Keyword : Project Based Learning, Sub-netting, Learning Result

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-411]

Scratching Our Own Itch: Software to Teach Software Programming

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Universitas Negeri Gorontalo

Abstract

Extensive research about the use of software to improve teaching and learning has been done. But this doesn't seem to significantly improve the learning process of the most basic skill in software that is programming skill. This is unfortunate because the nature of programming learning material is full of logic based material and can be automated (and then optimize). Programming is still perceived as a hard subject to learn. Of many approaches that have been taken, this research analyses an adoptable principle, practices, and tools that have been proven to improve programming learning. This research analyses the current state, obstacles, and potential further exploration of technology/software in teaching and learning programming skill.

Keyword : Teaching Programming Skill; Programming Education

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-414]

The Adobe Flash Multimedia Learning System on Basic Analog and Digital Electronics Subjects

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Abstract

This study aims to develop learning multimedia in basic analog and digital electronics. This type of research is a type of research and development. Before being tested, learning media developed were validated by media experts and material experts. The results showed: 1) the results of media expert validation obtained a total score of 86 (90.52%), 2) the results of material expert validation with a total score of 110 (91.66%), and 3) the results of user trials: (a) aspects the media, obtained a score of 666 (88.80%), (b) the material aspect obtained a score of 517 (86.17%), and (c) the learning aspect scored 546 (91%). Overall, students' assessment of multimedia learning scored 1729 (88.67%). Based on the results of a series of due diligence processes, analog and digital electronics learning multimedia are suitable to be used in learning to support student learning outcomes, especially in electronic component recognition material.

Keyword : learning media, learning results, electronic components.

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-415]

Examination of Higher Education Management Systems in the Digital Era

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Abstract

The guarantee system over quality in higher education implemented by referring to customer satisfaction, National Standards on Education and demands for the development of the digital era. The solution offered is developing thesis and dissertation exam information system. Research method: Research and Development approach by applying Borg and Gall model (2006). The system manages the document from the time the document is created or received until it is set up to be saved. This system done as an effort to improve services to college students, appropriate decision making by the manager and also improved performance on procedures and better methods. Effectiveness and efficiency become the principle of performance measurement of the most

important archiving and access systems. The results of the development show the product performance can be utilized for the management of thesis and dissertation exams throughout higher education.

Keyword : Exam Information System, Quality Assurance, Higher Education

Topic : Others relevant Fields

[GS.AB-416]

Development of "Engine Cooling" Competence Instruments for Gasoline Motor Techniques

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University state of Surabaya

Abstract

The research objective is to develop a competency test instrument on "Engine Coolers" which includes: a) Assessment criteria; b) Assessment procedure; c) Test criteria; and d) Instrument manual. This is intended to overcome the problem of automotive engine cooling in the field. The instruments developed were 6 items, involving respondents of 220 students in the mechanical engineering department of the diploma study program. The results of the factor analysis showed that the size of the accuracy of the KMO was 0.500, which means that the measurement accuracy within the limits could be used. Keywords: Competency Test

Keyword : Competency Test

Topic : Science Education

[GS.AB-417]

Implementation of E DeaL Models on Concrete Finishing Work

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Universitas Negeri Medan

Abstract

Concrete stone finishing work is the final work of a building construction. The finishing work consisted of plastering and finishing coat work, ceramic installation and molding techniques. To do finishing work, skills are needed to get optimal results. E DeAL Models (Experiential, Demonstration and Action Learning) are a work-based learning model that has an impact on improving the learning skills of participants. This research was carried out on construction workers who had never received the study of concrete stone finishing work. Participants receive learning in two places, firstly in workshop and secondly in building construction work. The results of the implementation of the E DeaL Models showed that there was an increase in skills, an increase in knowledge and an impact on the participants' social systems.

Keyword : E DeAL Models, Concrete stone, Finishing Work

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-418]

Design of Android Based Learning Devices (Mobile Learning) for Multimedia Students

I Kadek Dwi Nuryana, I Gusti Lanang Putra Eka Prisma, Ilham Abi Manyu, Setya Chendra Wibawa

Universitas Negeri Surabaya

Abstract

The purpose of this study to create learning media M-Learning to support the learning process in the Multimedia Vocational High School and know the level of prevalence and M-Learning as a medium of learning. With research and development research model, this media was developed using Android Studio. The result of this research is a dynamic Android-based application that runs online as a supporter of learning. From the results of validator assessment and student response can be obtained from the media expert value obtained 65% in the sense of valid, get a low score due to after making many revisions of the application. From the material experts get the value of 85% which means valid. The students' responses, a validity score of 94.7% is obtained which is included in a very valid category used. The conclusion shows that by validator assessment the learning media can be used as supporting in self-study.

Keyword : M-Learning, Android Studio

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-420]

Developing of Blended Learning Method in Teaching and Learning of Renewable Energy

Eko Suprpto, Dhidik Prasetyanto, Sugianto

Lembaga Pengembangan Pendidikan dan Profesi Universitas Negeri Semarang

Abstract

The purpose of this research is to developing of learning e-learning-based as a solution in improving attitudes, interests and competence of student learning in the subject matter of Renewable Energy. The research method used 4 (four) stages of research, namely 1) preliminary, 2) development, 3) validation and 4) implementation phase. The essence of this study is to look for differences between attitudes, interests and learning competencies before and after the application of-based e-learning. The results of the study show that blended learning can increase interest, attitudes and competencies in subject matter of Renewable Energy. Thus it can be concluded that the results of the development of learning in blended method flipped classroom can improve the attitudes, interests and learning competencies of the student. This finding is the development of the blended learning for method of flipped classroom, a learning method that can be applied at the college level that has employee classes learning in Blended the method flipped classroom can be used as a reference in new learning in college.

Keyword : blended learning, flipped classroom, renewable energy, attitude learning, interest in learning, learning competence

Topic : Informatics and ICT at Higher Education (IHE)

[GS.AB-421]

The effect of Motivations and Drawing Ability towards Working Readiness of Vocational Students (SMK DPIB) in Construction Industries

Nanik Estidarsani, Nurmi Frida D.B.P., Ninik Wahyu Hidayati

Universitas Negeri Surabaya

Abstract

This study aims to determine and analyze the contribution of motivation and ability to identify the work readiness of students in vocational school (SMK 3 Jombang) both partially and simultaneously. Total of 66 students, who have practiced field work with a proportional random sampling technique, are investigated. Data retrieval construction drawing ability with software in the form of process assessment, while motivation and work readiness in the form of questionnaires. Data were analyzed by partial and multiple correlations, and multiple regressions. The three variables indicate that, there is a significant contribution to a) motivation and work readiness of students, b) the ability to draw and work readiness of students, and c) together the contribution of motivation, the ability to draw on student work readiness is 20,7% (significant <0.05).

Keyword : motivation, drawing ability, working readiness

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-422]

Instructional Model Smash Volley Ball with the Patterns Approach Playing for Physical Education

Imran Akhmad, Mesnan

Universitas Negeri Medan

Abstract

The aim of this research is to produce instructional learning model smash volley ball with the pattern approach playing for physical education.. The design of this research was using Borg and Gall's Research and Developmental model. While the subjects in this research were 30 students State University of Medan. To improve the effectiveness of the model was using a assessment smash volley ball psicomotor motion. To view the results of statistical test was using t-test repeated observations formula with significance level $\alpha = 0,05$. The result of t-test calculation shown 10 in addition t-table 1,86, it is mention that H_a is received so that the instructional learning model smash volley ball with the pattern approach playing for physical education is better than conventional learning models. Based on the results of this research can be concluded that: (1) with instructional model smash volley ball with the pattern approach playing for physical education, students can learn effectively and efficiently (2) with the instructional model that has been develop, students more motivated as well as active in following the process of learning.

Keyword : Instructional Learning Model Smash Volley Ball, Need Assessment, Games.
Topic : Science Education

[GS.AB-423]

Teaching Simulator Development Based on Finite State Machine and Big Five Personality

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Joy M. Suba, Edwin D. Torres, Maynard Jay S. Galang*
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Abstract

Teaching Simulator is an application for teachers in the form of teaching simulation games. The teacher will be in a virtual class and interact with virtual students. The teacher can do several teaching treatments starting from opening to evaluation. Normally the game is limited to a maximum of 5 minutes. Students have different characteristics based on the Big five Personality method and are created with the AI approach in the form of Finite State Machine. The teacher has one character based on a teaching approach. The end of the game is the achievement of a teaching that shows the level of understanding and skills of players in carrying out a teaching. The study use Research and Development Methods, the validity of the application use the learning object review Instrument (LORI), and the acceptance level of the application using the rating scale. The results showed that the application qualification was 94%, very good category. The results of the game show an increase in teaching attainment of 78% to 93% with a frequency of games 5 times.

Keyword : Teaching Simulator, Finite State Machine, Big Five Personality.

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-426]

Mechanical Engineering and Civil Engineering Collaboration Approach for Protecting Cyclotron Building Integrity from Earthquake in High Seismic Region in Indonesia.

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Universitas Indonesia

Abstract

Studies of building integrity protection due to earthquake strike were conducted intensively in Civil Engineering as well as in Mechanical Engineering areas. Civil Engineering context focused on building structure and foundation design, whereas Mechanical Engineering context focused on building dynamic response, rigidity and damping. Construction of cyclotron facility in some areas in Indonesia will be built immediately with the increasing trend of cancer detection using nuclear technology. Cyclotron bunkers building must be able to withstand earthquake loads without any damage because the concrete part of the building also acted as radiation shield during cyclotron operations. Based on the spectrum response analysis method in civil engineering science, the cyclotron building dynamic response was evaluated from mechanical engineering point of view that resulted of a building foundation systems of the so called base isolator. Base isolator isolate the cyclotron building from its foundation which were excited by the earthquake waves strikes. It was found that the base isolator could increase the vibration period of the cyclotron bunkers above the earthquake period that caused the cyclotron building could withstand the earthquake loads. Using the simulation software, the response to an earthquake were shown in the virtual reality as transversal movements of the cyclotron

Keyword : cyclotron, base isolator, spectrum respond, lead rubber bearing, earthquake

Topic : Others relevant Fields

[GS.AB-428]

Public Entrepreneurship: What, Why and How

Husain Syam, Hamsu Abdul Gani, Haedar Akib
Universitas Negeri Makassar

Abstract

The concept or perspective of public entrepreneurship based on creativity and innovation is valuable to be the essence and orientation of capacity building and institutional building programs within the organization. The application of this concept or perspective in organizational governance is embodied by the idea of David

Osborne with Ted Gaebler regarding Reinventing Government and David Osborne with Plastrik regarding Banishing Bureaucracy which also marks a new era of reforming or transforming public organizations in various countries in the world including Indonesia. "Entrepreneurship in the locus of public organizations" or public entrepreneurship in Indonesia is now considered a new perspective in the context of organizational change and development. Therefore, this paper explains the answers to rhetorical questions about what, why and how public entrepreneurship is.

Keyword : Public entrepreneurship, creativity and innovation, value for the public

Topic : Others relevant Fields

[GS.AB-430]

Designing an Acquisition and Classification System of Fingerprint using MATLAB

Riki Mukhaiyar, Puri Andika Putra
Universitas Negeri Padang

Abstract

Fingerprint verification and classification are needed to help the system reduce the number of fingerprints that need to be confirmed. This research offers a template matching method for verification and the Support Vector Machine (SVM) method for classification. The fingerprint verification using the template matching method is to extract the minutia feature awhile the classification using the SVM method is to extract the features of the Gabor wavelet. By extracting features, it will simplify the process of verification and classification of fingerprint images. This study aims to apply minutiae feature extraction using the template matching and feature extraction method of Gabor Wavelet for verification and classification of fingerprints. The results of the testing of Fingerprint Data Collection and Classification System Design Using Matlab runs with 91.6% matching accuracy and 100% classification accuracy. Testing the matching process on fingerprint images using the template matching method can run with a low level of margin error, while testing the classification process runs with accurate success rates. In terms of the average processing time, the verification process with classifications is faster than the verification process of Percitra. Based on these conditions testing the overall software work, the software can be said to work accurately.

Keyword : Fingerprint, Acquisition, Classification, MATLAB

Topic : Others relevant Fields

[GS.AB-431]

The Utilization of Smartphone Communication Technology as Digital Literacy Learning Instruments School in 4.0 Era

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Universitas Negeri Semarang

Abstract

Numbers of institutes report that students' competency literacy on numeracy, readings and science is low. The presence of digital technology such as computers and smartphones has become part of the students' daily life. However, digital technology has not provided benefits for students to improve their competence. The challenges of education in the industrial era 4.0 are changes in learning ways, thinking patterns, actions on creative innovation that students have competitiveness in global market. The aim of the study is to explore: the educators' capability in era 4.0, teaching materials preparation, and digital literacy technical constraints. Explorative methods with descriptive analysis and test. Data is collected by open interviews, in-depth interviews and data reviews. Random samples are limited to 20 teachers and 40 students in Semarang. The acceleration of digital literacy is a necessity, namely data literacy, technology literacy; human literacy has not shown optimal utilization. Through Android-based learning automation and the like is necessary to be applied both media and learning resources. The media use can increase digital literacy by 78%, critical thinking to solve problems more than 60%. Optimization can be achieved by-design by teachers as facilitators.

Keyword : era 4.0, digital literacy, school learning, smartphones

Topic : Science Education

[GS.AB-434]

Designing an Information System Model of Academic Service Based on Customer Relationship Management at University

Wahyu Prima, Ganefri, Krismadinata, Riyadi Saputra
Universitas Negeri Padang

Abstract

This research aims at developing an information system model of academic service based on customer relationship management at university. This research is a research and development (R&D) through Borg and Gall design. This research only focuses and discusses on design stage. The result of this research shows that there are 4 primary supports (portfolio analysis, customer intimacy, determining services strategy, and evaluation) and 4 secondary supports (facilities and infrastructure, lecturers and professional staffs, academic information system website, and book for supporting model). Based on result of this research, it can be said that a information system of academic service model that has been designed effectively can be applied to improve academic service because it is based on practical theories that have been developed.

Keyword : Information System, Academic Service, Customer Relationship Management

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-437]

Live Webcast System Design for Smart Classroom Learning in Electronic Engineering Department

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Universitas Negeri Padang

Abstract

This research supports the achievement of government programs and the Research Plan of the State University of Padang, especially on the topic of IT-Based Learning Development in the fields of excellence in Education and Educational Sciences. The long-term goal of this research is to develop innovative and flexible learning models based on Smart Classroom that are focused on developing a Smart Classroom learning system based on Live Webcast in the FT UNP Electronics Engineering Department. Smart Classroom learning system tools are developed to bridge the gap between virtual classes and physical (traditional) classes in terms of learning experience by combining the two separate teaching practices smoothly. The research method uses a quantitative approach and the type of research is R & D adopting the Thiagarajan 4D development model. This research produces a SmartClassroom system based on Live Webcast through several stages, namely: (1) System Design, (2) System Creation, (3) System Testing. This developed system allows interaction of physical classroom learning and also virtual classroom teaching at different locations.

Keyword : Live Webcast, Smart Classroom, Electronics Engineering Department

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-438]

The Running-based Anaerobic Sprint Test of different type of sports

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Universitas Negeri Semarang

Abstract

Abstract: The sports have characteristic movement and motoric skills, related with the using of energy. The aim of study was to compare the anaerobic capacity between different type sport athletes. The running-based anaerobic capacity test (RAST) were exam to 42 athletes of football (10), sprint (6), takraw (8), volleyball (10) and pencak silat (8). The anova analysis resulted the difference of minimum power (MinP) ($p=0.001$), maximum power (MaxP) ($p=0.000$), average power (AvP) ($p=0.000$) and fatigue index (FI) ($p=0.008$). The post hoc analysis showed no difference anaerobic capacity between athletes of Football vs Sprinter, Football vs Pencak Silat, Football vs Takraw and Takraw vs Pencak Silat. The different finding appeared between player of Takraw vs Sprint. The Volleyball players were different from the other athletes. We concluded that the anaerobic capacity of athletes was specific with the type of sports

Keyword : anaerobic capacity; fatigue index; RAST

Topic : Others relevant Fields

[GS.AB-439]

The Development of SMK Accreditation Instruments towards Effective Schools entered the Era of Industrial Revolution 4.0

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Universitas Negeri Jakarta, Universitas Padjadjaran Bandung, Institut Pertanian Bogor

Abstract

In the context of education in the global era, Presidential Instruction No. 9 of 2016 concerning Revitalization of Vocational High Schools (SMK) became a regulation as well as full government support for vocational education in entering the Industrial Revolution 4.0 era. Another support is the issuance of Minister of Industry Regulation No. 3 of 2017 concerning Guidelines for the Fostering and Development of Competency-based Vocational Schools that link and match the Industry. The Vocational Revitalization Program aims to make Vocational Schools an effective school, namely schools that are developed to achieve excellence in their outputs and outcomes. The Vocational School needs to be assessed using a valid accreditation assessment instrument and carried out by professional assessors. Development of accreditation instruments is indispensable, especially for school accreditation paradigm from just administrative assessment to the performance assessment. The development of vocational accreditation instruments can be carried out on several components of the National Education Standards, including 1) Curricula that ideally synergize between school curricula and the needs of the business and industry and Indonesian National Work Competency Standards (SKKNI) or even International Standards; 2) Graduates Competence that is able to assess the absorption/employment of vocational graduates in the business and industry; and 3) The learning process that is able to describe the work (innovation) of teachers in utilizing the curriculum, facilities and patterns of assessment of learning.

Keyword : accreditation instruments, vocational schools, effective schools, industrial revolution 4.0

Topic : Others relevant Fields

[GS.AB-440]

Designing Information Systems for Web-Based Management of TASS Car Repair Services

Asrul Huda, Zulhendra, Yeka Hendriyani, Almasri, Harni Nugraheni Rosmena

Universitas Negeri Padang

Abstract

The web-based information management system for Tanjung Alam Car Service Station (TASS) is designed to provide convenience in managing useful data for TASS workshop. With a good management information system so that data processing can produce information that is fast, precise and accurate can be used for decision making in the TASS workshop. Starting from processing customer data, car data, service data and the presence of customer medical records is important information for the workshop. The TASS Workshop information system design uses the java programming language with the Eclipse IDE and the MySQL database. Each user has the level of access rights according to the username and password. To secure data and information on this system, the encryption method used is PasswordMessage Digest 5 (MD-5) and session.

Keyword : Information system, web, Java, IDEEclipse, MySQL, MD-5 and session.

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-442]

Optimisation of the Education Role of the Family and Community on the Modern Information and Communication Technologies Age

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Universitas Negeri Yogyakarta

Abstract

This article analyses the paradigmatic change in the field of urgency Education in the era of advances in information and communication technologies. The new paradigm demanded the optimisation of the role of families and communities in education. There are 2 main factors that encourage the emergence of a new paradigm of education in recent decades, some of these are, firstly, the development of penetration of ICT and its application in almost all areas of public life, including its penetration in the field of education. The second is the development of a global economy that demands increased vision and mastery of instructional material to win the competition, establish collaborations with business partners or simply to survive alone. These two things

have dominated urgent reasoning a new paradigm in the field of education assignment. This paper presents a review of the development of the application of modern ICTs in the context of adult education and framework for understanding the ICT-based education system. The special mission of this paradigm – consciously or unconscious – is achieving the goal of greater efficiency and efficiency in the use of ICTs for collaborative learning in education.

Keyword : paradigmatic change, ICTs, education, the global vision

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-443]

Minimizing Misconceptions on Temperature and Heat Topic by Jigsaw Cooperative Learning

Mursalin

Gorontalo State University

Abstract

This experiment research pretest-posttest control group design was aimed to improve the student's understanding of the concept and minimize misconception on the Temperature and Heat topic. The subject of research were selected using random sampling from junior high school students in Gorontalo. The instruments used to collected the data included pretest, posttest and questionnaires. The data were analyzed using t-test and the students' conception profiles were carried out using CRI, Certainty of Response Index technique. The Research results show the significant difference in the posttest average and normalized gain average between the experimental class (15.476 and 0.7) and control class (13.725 and 0.5) and t count = 3.754 greater than t table = 1.671 on the confidence level 0.05. This result are supported by the fact that misconceptions in the experimental class are smaller then those in the control class. The implementation of Jigsaw Cooperative Learning is effective to Improve the understanding of the concepts and minimize the misconceptions of the Temperature and Heat.

Keyword : Jigsaw Learning, Concept Understanding, Misconception, Temperature and Heat.

Topic : Physics Education

[GS.AB-444]

Effectiveness of Development of Student Work Sheets Based on Realistics Mathematics Educations to Improve Students' Mathematical Communication Ability of Class VIII SMP

Rafki Nasuha Ismail, Made Arnawa, Yerizon, Hendra Syarifuddin

Universitas Negeri Padang

Abstract

This study aims to examine the effectiveness of student worksheets (LKPD) based on realistic mathematics educations (RME) for class VIII SMP, especially the material systems of two-variable linear equations. This research used to development reseach by Ploomp and design used quasi-experiments with Only-Posttest Control Group Design. The research was conducted at SMP P 7th Padang . The sample is determined by purposive sampling. The treatment in the experimental group was learning using RME-based LKPD while the control group used student books according to the 2013 curriculum. The instruments used were test items, learning observation sheets, and learning devices that had been tested for validity and practicality at the stage of development research. Data analysis was carried out by the t-test for the mean difference test and the Scheffe test for the effectiveness of the LKPD test. The results showed that the mathematical communication skills of SMP VIII students using RME-based LKPDs were better than junior high school students using student books, and RME-based LKPDs were effective for improving students' mathematical abilities.

Keyword : Learning Device, Worksheet (LKPD), Realistic Mathematics Educations Approach

Topic : Mathematics Education

[GS.AB-445]

Developing A Problem-Based Learning/ PBL Model for Improve Students' English Speaking Problem Solving Ability and Self Confidence at Economic Department of University

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Universitas Negeri Padang

Abstract

This research was based on the preliminary studies in Economic Department of University in studying English. From this preliminary studies, the researcher want to find out the analysis, the effectivity, and the practicality of her products in designing and implementing PBL Model at Economic of Islamic University of Riau. The design of this research is R & D approach by using ADDIE Model. The sample was selected from one institutions in Pekanbaru namely Islamic University of Riau. The quantitative data were collected through a questionnaire and statistically analyzed by using SPSS program. Based on the research findings that there was the high association between Problem Solving Ability, Self Confidence, and student performed positive opinion in English speaking toward PBL Model. This conclusion is in line with educational policy to continually improve the quality especially for Economic students. For further researchers, this research suggests to conduct similar studies to develop PBL model in other program of education.

Keyword : An English Speaking problem solving, speaking self confidence, PBL Model

Topic : Science Education

[GS.AB-448]

Effectiveness of Use Web-Based Learning Media for Information and Communication Technology in Senior High School

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Abstract

The purposes of this study to develop an effective web-based learning media. Methodology of this research is a Research and Development (R & D). Development model used is Instructional Development Institute (IDI). The principle approach applied IDI system consists of determination, development, and evaluation. Research design used is descriptive quantitative. The instruments used is a questionnaire to measure validity, practicalities and posttest to measure effectiveness. Then data was analyzed using statistical methods for descriptive analysis, which describe validity, practicality and effectiveness of web-based learning media. The results showed that web-based learning media declared valid and practice for use by teachers and learners. The results obtained that average value of experimental group was higher than control group. It means that web-based learning media "effective" to use. As expected, web-based learning media effectively to improve student learning outcomes. The analysis showed a significant difference between the learning outcomes of students who are taught by media web-based learning with student learning outcomes without use of web-based learning media.

Keyword : Effectiveness; Media Education; Information and Communication Technology; Web Based Learning; Validity; Practicality.

Topic : Informatics and ICT at Higher Education (IHE)

[GS.AB-449]

The Effects of Pedagogic and Professional Competence SMK Teacher's to Teacher's Performance

Ahyanuardi
Universitas Negeri Padang

Abstract

This research conducted : (1) to know if there is effect of pedagogic and professional competence teacher's to teacher's performance in learning process; and (2) to know how much effects of pedagogic and professional competence teacher's to teacher's performance. This research is using quantitative descriptive method. Data was collected using questionnaire and analyzed using multiple regression technique. The results showed that; (1) pedagogic and professional competence teacher's have significant effect to teacher's performance in learning process; (2) more than 50% teachers have high performance, pedagogic competence and professional competence.

Keyword : performance, pedagogic competence and professional competence

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-452]

Design of Server Performance Monitoring Application Integrated Administration Service System in Electronic Engineering Department

Elfi Tasrif, Asrul Huda, Hadi Kurnia Saputra, Akrimullah Mubai
Universitas Negeri Padang

Abstract

The objective of this study is to make an application design to monitor server performance that can be used to monitor and inform server performance to administrators. The implementation of this server performance monitoring application is carried out on the Integrated Administrative Service System server of the Electronics Engineering Department, Faculty of Engineering, Universitas Negeri Padang. Server performance monitoring application built using the waterfall method. Making the application is also supported by the Script Shell programming language in retrieving information from the server, server information generated by the SNMP and SNORT applications and then reported to the administrator by the Sendemail and Gammu applications. The server performance monitoring application website is built using the Laravel framework, the LTE Admin template and the Canvas JS chart. This server performance monitoring application is able to monitor, recap and report server performance. Application reporting is done using e-mail and sms media, if a problem occurs on the server. So that the application of server performance monitoring applications on the server will be able to help the work of administrators to maintain the availability of a reliable Integrated Administrative Service System in the Electronics Engineering Department.

Keyword : Server Performance Monitoring Application, Laravel, SNMP, Snort

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-453]

Student Skills Asking in Learning Classical Formats

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Universitas Negeri Padang

Abstract

Learning is characterized by the use of good questioning skills , especially in learning for large groups of children. Skills in question play an important role in student learning activities. The low skill of students asking in the learning process can lead to disruption of an effective learning process and must be handled by the BK teacher appropriately. Questions are one of the stimuli of thinking that is good for teaching students. The research method used is R & D (Research and Development) by following the steps in developing the ADDIE pattern (Analyze, Design, Development, Implementation, Evaluation). The subject of the research trial consisted of experts to test the feasibility of the model, the BK teacher to assess the suitability of the model, and students to test the effectiveness. The study was conducted by collecting initial data as a material for consideration in preparing the initial model which was then tested for its suitability and effectiveness through Focus Group Discussion (FGD) and expert testing. The results of this study show that the students' skills in question are in the high category.

Keyword : Student skills to ask, classical format

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-454]

Ratio of Educational Infrastructure Availability and Distribution of School-Age Populations

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Universitas Pendidikan Indonesia

Abstract

School is the main infrastructure in fulfillment the society needs for education. On the placement, schools must be easily to accessible by school-age populations. The main purpose of this research is to analyze school distribution ratio of state junior high school and total of school-age populations in Bandung regency in order to zoning system current can applied and optimal work. The research was conducted at Bandung regency, West Java province. Research population is school of state junior high school in the Bandung Regency. Research method is descriptive analysis and used secondary data derived from relevant agencies. The results indicate that

there some regions with poor facilities, but there are a lot of school-age populations, and then additional facilities are needed in the area to support the zoning policy that is being implemented.

Keyword : Educational infrastructure, distribution of school-age population

Topic : Others relevant Fields

[GS.AB-456]

Information System Monitoring Hatching Modern Chicken Broiler Hatchery Padang

Rahmadini Darwas, Tri Aprianto Sundara, Eka Tovia

STMIK Indonesia Padang

Abstract

Broiler chickens is one of the main components in meeting the needs of animal protein community, thus encouraging the company hatching broiler chickens to improve productivity. One important factor in determining the productivity of broiler farms is the quality of monitoring the development of hatchery results. Hatchery company of padang has difficulty in processing broiler chicken data and monitor the condition of broiler hatching result which in monitoring the development of hatchery result, supervisor perform conventional recording to make company report. This broiler chicken hatch monitoring information system can be used to process the data of each supervisor's activity. Using the System Development Life Cycle (SDLC) method and supported by visual studio programming 2010 can simplify the process of monitoring the result of broiler hatching, search process and data storage result of hatching faster and safer so that it can present the required information

Keyword : Information System, Monitoring, Broiler Chickens, SDLC, Visual Studio 2010

Topic : Informatics and ICT at Higher Education (IHE)

[GS.AB-457]

Physical Educator Value Orientation in Urban Area

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Universitas Galuh Ciamis, Universitas Pendidikan Indonesia

Abstract

The purpose of this research was to describe rural physical educators value orientation in teaching setting. The participant were 47 physical educators from 18 junior and senior high school. Value Orientation Inventory (VOI) by Ennis & Chen (1993) was adapted and used to collect data. Data were analyzed descriptively using a crosstabs model. Results indicated that physical education teachers in Indonesia rural areas placed a higher priority on movement than other value orientation. The teacher value orientation in teaching setting must be consideration on curriculum preparation.

Keyword : Physical educator, Value orientation, movement education, urban

Topic : Others relevant Fields

[GS.AB-460]

It-Based Monitoring and Evaluation System for Vocational High School Students in Mechanical Engineering Industrial Work Practice

Widiyanti; Djoko Kustono; Eddy Sutadji; Ahmad Dardiri

University State of Malang

Abstract

Fieldwork learning is an integral part of the vocational education program. Therefore, the material and competency taught are in line with the graduation standard. Good monitoring and evaluation (monev) system are required to improve the students learning quality, competency, and performance. This research aimed to develop the IT-based monev system application (Si-Monev) for industrial work practice that falls into the criteria of validity, practicality, and effectivity to assess the students' competency and to validate the usage in the program. This research used the waterfall model in its software development based on the requirements needed. The development process used the Developmental Model of Plomp, The General Model of Education Problem Solving. Si-Monev validation showed that it had fulfilled the validity, practicality, and effectivity criteria. Hence, the application would benefit industrial work practice. Researchers/developers needed support

from the school to socialize the Si-Monev application as an easy-to-use software with high mobility to get the objective and accountable results from industrial work practice program.

Keyword : monitoring and evaluation system, Information Technology (IT), vocational industrial work practice

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-462]

The Implementation of Eco Office Based on Energy Usage, Water, and Trash Management

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Universitas Pendidikan Indonesia

Abstract

Nowadays, environmental issues such as global climate change has becomes a trending topic for all almost parts around the world. Certainly, the climate change is caused by rising greenhouse gases due to the rapidly human activity within the field of industry and technology, the development public means, residential developments, even the possibility of office activities. This research will be focused on eco office evaluation in Faculty of Social Sciences Education which is counted heavily on energy usage, water usage and trash management that are becoming the important indicators at Faculty of Social Science Education of UPI. Eco office is seen as an answer to solve climate-change problems. The research aims to identify applying of eco office at Faculty of Social Science Education. The method of this research was descriptive qualitative. The results show that the faculty of Social Science Education has held the eco office concept as a solution to decrease the effect of micro climate change.

Keyword : Eco Office, Climate-Changes, Environment, UPI

Topic : Others relevant Fields

[GS.AB-465]

Black Soybean (*Glycine soja* L.) Natto Extract decreases Cytokine Proinflammatory on aorta Hyperlipidemia Mice-model

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Universitas Negeri Malang

Abstract

High cholesterol levels in the blood cause hypercholesterolemia and it's triggerred inflammatory respons. The purpose of the research was to analyze black soybean natto extract on the expression cytokine proinflammatory in aorta hyperlipidemia mice-model The object of the research used 25 male Swiss mice's, were divided into five groups with five replications. Treatment group includes normal diet (K-), hiperlepidemia diet (K+), hiperlepidemia diet + natto 200 mg/ml (P1), hiperlepidemia diet + natto 400mg/ml (P2), and hiperlepidemia diet + natto 800 mg/ml (P3). Black soybean natto extract administered orally every day until 4 weeks. At the end of the treatment mice were dissected, aorta was taken and made microanatomy slides. Expression of proinflammatory cytokine observed based expression TNF- α and IL-6 in aorta with fluorescence immunohistochemistry. The intensity of TNF- α and IL-6 expression was analysis using FSX-BSW software. The result showed that the black soybean natto extract decrease the expression of TNF- α and IL-6

Keyword : black soybean, natto, proinflammatory

Topic : Others relevant Fields

[GS.AB-466]

Design Interactive Learning Media In Organizational and Architecture of Computer Courses.

Dedy Irfan, Ambiyar, Putra Jaya, Almasri
Universitas Negeri Padang

Abstract

This research discuss about design of interactive learning media for Organizational and Architecture of Computer courses in the Program Study Informatics Engineering Education, Department Electronics, Faculty Engineering, Universitas Negeri Padang. The purpose of this study is to develop valid and interactive learning media using Adobe Director software. This type of research uses the IDI model (Instructional Development

Institute). The subjects of this study were the first semester college students of January June 2019 which numbered 30 people. The step of research and development consists of three stages, consist : (1) define, (2) develop, and (3) evaluate. The research instrument was conducted to collect data on validity and practicality. Data analysis techniques were carried out using the Aiken formula with the index Aiken's V. Based on the results of the research carried out, the following can be concluded: First, the design carried out produces interactive learning multimedia products using Adobe Director software in the form of a single executable file that can be stored and transferred to other computers in Organizational and Architecture of computer courses. Secondly, the development of multimedia learning is declared valid with the Aiken's V coefficient value of 0.78 and practical with an average value of 83.72%.

Keyword : Interactive Learning Media, Adobe Director, Instructional Development Institute.

Topic : Informatics and ICT at Higher Education (IHE)

[GS.AB-467]

Student Centered Learning Applied Using Digital Literation

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Universitas Negeri Surabaya

Abstract

The industrial revolution 4.0 was characterized by the use of online and digital technology in various aspects of life. Digital literacy is one of the capabilities that must be possessed by everyone, so they can understand and use information from various digital sources. Digital literacy is used to read, write, and search for information with digital technology that students need to gain knowledge and develop independent learning skills through a project based learning (PJBL) model. The project given to students is to make learning media especially for information presentation, innovative and interesting. The media can contain text, video, audio, animation, using various applications and multimedia. The project encourages student creativity and teamwork to learn new things, and communicate to others. PJBL is student-centered learning, while lecturers are only as facilitators. Student centered learning can foster learning and innovation skills in students, have life skills, and information skills to construct their own knowledge through real experience. The results showed that student digital literacy grew well through various projects, students were very creative and innovative in developing learning media, with satisfying results.

Keyword : Digital literacy, student centered learning, project based learning

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-468]

Increasing Entrepreneurial Readiness of Vocational Students in the Era Industrial Revolution 4.0 through 21st Century Skill Improvement

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Universitas Negeri Surabaya

Abstract

In August 2017, there were educated unemployment of 7.4 million including vocational graduates. Why is there so much educated unemployment? No vocational school graduates can become entrepreneurs? How high are 21st century skills (Critical thinking, Creative & innovation, Communication, and Collaboration = 4C) from vocational students? This study aims to find out how far 4C skills can improve the entrepreneurial readiness of vocational students. The research was conducted through a literature review of references and the results of relevant research and continued through focus group discussions. The data analysis technique used is descriptive-qualitative analysis techniques. The study found that 4C skills can significantly improve the entrepreneurial readiness of vocational students, which means that increasing the entrepreneurial readiness of vocational students can be done through increasing 21st-century skills.

Keyword : Unemployment, Vocational School, Entrepreneurship, Skills, 21st Century

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-469]

Embedding Scholarly Literacy in Unnes's Curriculum: Preparing Students for Success in Disruption Era

Ahmad Syaifudin, Fathur Rokhman, Ida Zulaeha, Rustono
Universitas Negeri Semarang

Abstract

Scholarly literacy in higher education is the main capital for students to achieve success, both during and after the completion of study. However, this strategic role of literacy is less optimized by the students. As a result, many lecturers and stakeholders often complain about the competencies of students and graduates. Through case studies, UNNES made a breakthrough by preparing an adaptive curriculum for the success of UNNES's students and graduates in the disruption era. One of them is manifested in the form of several courses that have relevance to the issue of industrial revolution 4.0. The learning pattern is carried out through blended learning.

Keyword : scholarly literacy, unnes's curriculum, disruption era, blended learning

Topic : Others relevant Fields

[GS.AB-470]

Survival Analysis with Cox Proportional Hazard Regression for Modeling Dengue Hemorrhagic Fever

Suwardi Annas, Nurfadhila Fahmi Utami, Muh. Nusrang
Universitas Negeri Makassar

Abstract

Survival analysis is a statistical procedure used to analyze the distribution of time to event data. Dengue hemorrhagic fever data has characteristics that suitable for survival analysis. This study presents a survival analysis to identify the correlation between the times of event of dengue hemorrhagic fever with the measured independent variables by using Cox proportional hazard model. The hazard ratio for platelets obtained that the recovery rate of the patients of dengue hemorrhagic fever with below normal platelet is 2.625 times to the normal platelet count. The result indicated that patients with below normal platelet counts would need a long time to recovery compared than patients with normal platelet counts.

Keyword : Survival analysis, Cox proportional hazard, Dengue hemorrhagic fever

Topic : Science Education

[GS.AB-471]

Spatial Distribution of Areas Vulnerable to Land Movements by Using Storie Method in Watershed Area of Limboto, Gorontalo Province.

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Universitas Negeri Gorontalo

Abstract

Damage to land resources is mainly happening in the Watershed due to loss of the surface layer of the ground by the force of the blow grain haulage power rain and surface flow of rain water that would cause the formation of land is critical. Watershed area of Limboto is among 15 areas of the nation's priority due to its roles in sediment supply and its vulnerability to natural disasters. In addition, the area is also classified as critical land. Information regarding the spatial distribution and areas vulnerable to land movement is crucial to preserve the watershed area surrounding the lake and to mitigate the risks of natural disasters. With that being said, this study is aimed at identifying the level of the vulnerability of land movement in the watershed area of Limboto Lake by using Storie method. Limboto Watershed has 4 level of vulnerability from low to very high. Moderate area of vulnerability level is dominant, 45,27% from watershed area. Spatial distribution from very high level of vulnerability is distributed in 3 subdistrict, there are Limboto Barat, Limboto and Tibawa Subdistrict.

Keyword : Land Movement, Spatial Distribution, Story Method

Topic : Others relevant Fields

[GS.AB-474]

Analysis of the Junior High School Mathematics Textbook in Indonesia Based on the Content of Higher Order Thinking Skills

Ali Mahmudi

Universitas Negeri Yogyakarta

Abstract

High-order Thinking Skills (HOTS) are strategic skills that individuals must have in order to succeed in life. Textbooks are important tools to facilitate the development of these skills in the teaching and learning activities. This literature study is intended to analyze the content of HOTS which includes analytical, evaluation and creation skills in junior high school mathematics textbooks in Indonesia. The analysis focused on the HOTS content in some parts of this book, namely the explanation of concepts, exercise problem and solution and assignment or projects. The results of qualitative data analysis indicate that the HOTS content category in this book for analytical skills is categorized as good, while evaluation skills and creative skills still need to be enriched. Based on the results of the analysis, this article also presents enrichment alternatives to the HOTS content in this book so that it can be used adequately to develop HOTS.

Keyword : Mathematics Textbook, High-order Thinking Skills, Junior High School

Topic : Mathematics Education

[GS.AB-475]

The Effects of Collaborative Learning Models on Engineering Mechanics Learning Outcomes

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Abstract

The poor learning outcomes in Engineering Mechanics are influenced by the learning model used by the teachers in teaching. The ability of teachers to determine the right learning model will have an impact on the success of student learning and the achievement of learning goals. This paper aims to reveal the influence of Collaborative Learning models on learning outcomes of Engineering Mechanics. This research method is a quasi-experimental method with Non-equivalent Control Group Design. The study sample was 46 people divided into two groups, namely the experimental group and the control group. The sampling technique was carried out using random sampling, 23 people for the experimental group and 23 people for the control group. Data collection using the learning result test (pretest and post-test) in the form of objective questions for about 25 questions. The research data were analyzed quantitatively using a parametric statistical analysis test with the t-test. Based on the data analysis, the results of the study show that there was a significant effect using the Collaborative Learning model on the learning outcomes of Engineering Mechanics. The experimental group using the Collaborative Learning model had higher learning outcomes than the control group using conventional learning model.

Keyword : Collaborative Learning, Outcomes, Engineering Mechanics

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-476]

Dominance In Where the Sidewalk Ends by Shel Silverstein: A Study of Anthropocentrism

Diana Budi Darma, Mamik Tri Wedawati, Nur Fauziah

Universitas Negeri Surabaya

Abstract

A picture book is a media that consists of illustrations and expressions, which also contains intention. This combination creates dominance in building the plot and messages. Apparently, this fact has been identified by approaching children's books through Anthropocentrism. For example, *Where the Sidewalk Ends* by Shel Silverstein was a contemporary work. After deep reading, the book contained obscene diction. These expressions had been introduced and accepted by young readers. Moreover, these expressions were labeled as daring by critics. Therefore, this shows that enforcement by human being takes an important role in children books.

Keyword : picture books, dominance, Anthropocentrism

Topic : Others relevant Fields

[GS.AB-477]

The Assessment Model of Multimedia Learning Feasibility

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Universitas Negeri Medan

Abstract

Media is one of the components determining learning outcomes. In fact, a lot of learning media used in the field are not feasible. This study aims to develop the instrument of feasibility and effectiveness of multimedia learning in four aspects, namely (1) media material, (2) media construction, (3) linguistic aspects, and (4) media acceptability. The effectiveness of learning is tested through quasi-experiments. Validity test for four instruments conducted using item analysis and reliability test using Cronbach Alpha technique. The results of the study show that all instruments are valid. The reliability test also shows high results and the acceptance level of the media is classified as very high. The study concluded that the instruments developed had fulfilled the eligibility requirements with a very high acceptance rate

Keyword : assessment, feasibility, multimedia learning

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-478]

The Comparison between 3D Studio Max and Blender Based on Software Qualities

Yeka Hendriyani, Vania Amanda Amrizal
Universitas Negeri Padang

Abstract

The purpose of this article is to determine the quality comparison of 3D Studio Max and Blender animation software in terms of software quality in accordance with ISO 9126. The quality matrix compared in this study is usability and efficiency. This type of research is descriptive comparative. The research subjects were taken by purposive sampling. Consists of 3D Studio Max 3-dimensional users and Blender animation software, as well as experienced animation lecturers. Data collection techniques used were questionnaires, interviews, and documentation. Data analysis uses the ISO 9126 matrix based on the research stages, and ends with a checking technique for processed questionnaire data. This study found that: 3D Studio Max animation software, although widely used by animators, the quality is still below Blender, which is still rarely used by animators. This is because the use of Blender animation software itself is very easy to facilitate its users and Blender's tools and facilities are more complete than 3D Studio Max. But in the rendering process, Blender still takes a long time, while 3D Studio Max does not require a long time in the rendering process. This is what makes 3D Studio Max still popular for use among animators

Keyword : Software Quality, ISO 9126, 3D Studio Max, Blender

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-479]

Learning Outcome and Student Retention on Structure and Functions Plant Tissue Using PQ4R Learning Strategy

Melva Silitonga Ria Lanti Sinaga, Hilda Yurnani
Universitas Negeri Medan

Abstract

Abstract This study aims to determine student retention in learning the structure and function of plant tissue using the PQ4R learning strategy. This research was conducted in class XI MIA SMA Negeri 10 Medan. The research instrument was the 25 objective test. To obtain student retention the test is done twice, first after learning is completed and second to three weeks after the first test. The data obtained were analyzed to calculate the average value of students on the first and second tests, then calculated student retention. To compare the retention of students in the class using and did not use PQ4R, the t-test was conducted. The results showed that student retention in material structure and function of plant tissue using the PQ4R strategy was 74.57% Significantly higher than the retention of students without using PQ4R which was 67.40%

Keyword : PQ4R, Student retention

Topic : Biology Education

[GS.AB-480]

Junior High School Teachers' Problems in Digitally Infected Clime: The ICT Utilization Sensibility

Fenny Ayu Monia, Imam Hanafi, Sufyarma Marsidin, Darmansyah,
Universitas Negeri Padang

Abstract

Nowadays, the digital era which is known as 4.0 era began to endemic the world of education. Teachers as an actors of education get a challenge to adapt with this development. The purpose of this study is to describe the obstacles experienced by teachers in using ICT in junior high schools in Bangkinang City. The type of research is quantitative descriptive. The subjects of this study were all 132 junior high school teachers in Bangkinang City. Based on the results of questionnaires and interviews, it can be explained that the problems faced by teachers in the use of are (1) the availability of ICT support devices in Junior High School of Bangkinang city is not sufficient yet (2) ICT literacy of students and teachers is still in the less category (3) ICT use barriers in learning process, the portion of ICT usage in learning is still low and the portion of teacher professional activities facilitated by ICT is still lack. Based on the results of this study, it can be concluded the ability of teachers in the ICT field has not been maximized as well as their awareness of the importance of integrating ICT into learning.

Keyword : Teachers' Problems, Digitally Infected Clime, ICT Utilization

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-481]

Civic Education through E-Learning in Higher Education

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Universitas Negeri Jakarta

Abstract

This article describes the learning process of Civic Education in Higher Education through e-learning. College students today are Millennial's Generation (Y Generation) who are very familiar with internet and technology using. The development of technology provides a challenge for the education system. This qualitative research is carried out using the literature study method, observation and interviews in the subject of learning media in the classroom. This qualitative research is carried out using the literature study method, observation and interviews in the subject of learning media in the classroom. In this study lecturers used Google Classroom media. Based on the results from this study showing that Civic Education through e-learning using Google Classroom has increases students to be able to critical thinking, active, creative and innovative. The use of Google Classroom also gives freedom to college students in learning activities so that they can create learning media and implement it when practicing teaching at school.

Keyword : Civic Education, E-Learning, Higher Education

Topic : Informatics and ICT at Higher Education (IHE)

[GS.AB-482]

Identification of Biology Student's Misconception in Makassar State University on Cell Biology by Applying Two-Tier MCQs Method

Yusminah Hala, Arifah Novia Arifin, Suriyah Satar, Sitti Saenab
Universitas Negeri Makassar

Abstract

This study aims to know the level of understanding of UNM student's experiencing misconceptions, understand the concept and do not understand the concept about cell biology using Two-Tier MCQs method. This research includes descriptive research. In this study, the Two-Tier MCQs method to identify student's misconceptions. Population in this research is all student of study program of biology of UNM class 2015. Samples in this research as many as 20 people who tried randomly. Instruments used to test Two-Tier MCQs and interview methods to determine the causes of misconceptions. The result of data analysis shows that the highest misconception is in the material structure and function of mitochondria and the lowest is in the cell cycle material

Keyword : Misconceptions, Two-Tier MCQ, Cell Biology

Topic : Biology Education

[GS.AB-483]

Development of E-learning Content with H5P and iSpring Features

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Universitas Negeri Gorontalo

Abstract

E-learning is currently a fast-developing learning method. Interactive multimedia technology, which combines computer technology, video, and audio, is needed to support this e-learning system. The objective of this study is to develop an e-learning content based on interactive multimedia to support the effectiveness of a learning system. SDLC (System Development Life Cycle) method with the waterfall model was used in this study. The output of this study is a developed e-learning with additional content that utilizes interactive multimedia features, H5P and iSpring. Through this system, the teacher can create content as improvement in learning model. The system provides various learning sources and activities to support a more interactive teaching and learning process. This e-learning can ease students in understanding the materials and motivates them in learning through this multimedia learning media

Keyword : e-learning; Interactive Multimedia; H5P; iSpring

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-484]

The Influence of Problem Based Learning Learning Model on Critical Thinking Ability and Motivation of Student Biology Learning of Class X SMA Negeri 2 Kerinci

Afifi Reni Humaira, Dwi Hilda Putri, Ratna Wulan
Universitas Negeri Padang

Abstract

The learning process is still emphasis on the knowledge and understanding of the material, the active role of learners is still very poor and critical thinking skills and motivation of learners is still low. One effort that can be done to overcome these problems is to conduct research by applying the learning model Problem Based Learning. The purpose of this study was to determine the effect of the learning model Problem Based Learning on critical thinking skills and motivation of learners. This study is a quasi-experimental study, the population of this research is the students of class X SMA Negeri 2 Kerinci in the academic year 2018/2019. Sampling was conducted using random sampling techniques and obtained class as a class experiment X3 and X4 class as the control class. Instruments used in the form of critical thinking ability tests and questionnaires. Analysis of the data in this study using t-test for the ability of critical thinking, and Mann Whitney U's motivation to learn. The results showed that the critical thinking skills and the motivation of learners studying biology experimental class is better than the control class learners.

Keyword : Influence, Problem Based Learning, Critical Thinking, Motivation

Topic : Biology Education

[GS.AB-485]

Exploring Flipped Learning in Elementary Linear Algebra Class

Awil Dassa, Said Fachry Assagaf, Muhammad Husnul Khuluq
Universitas Negeri Makassar

Abstract

This preliminary study is conducted to observe how flipped learning could be used in teaching the subject of elementary linear algebra in campus. The study is descriptive and explorative using video and direct observations as the main data collection techniques. Forty students and a lecturer attending a blended-based elementary linear algebra class were involved as the subjects. The data were analyzed to gain insights on how it would be best to conduct the flipped learning, and to see how it helps the students and the lecturer during the class sessions. The results showed that the online sessions have helped in students' learning accelerations in procedural contents and on providing more opportunity for lecturer to stimulate students' higher order thinking during the offline sessions.

Keyword : Flipped learning, blended learning, linear algebra

Topic : Mathematics Education

[GS.AB-486]

Students' Experiences with the Interactive Project-Based Blended Learning Model in Information and Communication Technology Subject

Hansi Effendi
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Abstract

One of the trends in learning 4.0 is the existence of project-based learning. This study aims to examine project-based learning best practice that is applied to a blended learning environment at the Information and Communication Technology subject at Universitas Negeri Padang. Questionnaires and interviews were used to collect data about student opinions about project-based learning that they had experienced in lectures. The results of the questionnaire from 50 students found that they considered the methods used to improve their critical, collaborative, communication, and creative thinking skills which are essential skills that must be mastered in the 21st century. The results of the interviews indicate that the implementation of learning is well received by students and the new learning model causes their motivation to learn to increase. Indeed there are some students who find it difficult at the beginning of the implementation of this model, namely when looking for essential problems. This is because they are not familiar with learning models like this. But through continuous guidance using e-learning, all problems can be addressed properly.

Keyword : Learning 4.0, project-based learning, blended learning, 21st Century Skills

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-488]

Designing a Generating System Multiple choice questions

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Abstract

The purpose of this research is to build a system of generating questions to make as many questions as possible. The Generating System of this Problem can be used starting from elementary/middle/high school/PT with the type of choice questions that have 3 components, namely the problem, choice and completion. In order for the system to function properly, a template is needed for the three components above that can identify the needs of variables that might appear on a problem. Identification results obtained several variables, namely: Numerical Variables, String Variables, Image Variables. Templates needed on the system are 3 templates, namely the template, template selection and completion template. All three contain text, variables and identification tags. Variables that are permitted in this template are Numerical Variables, String Variables and Image Variables. While the identification tags that are permitted are numerical [var] numeric [/var]; variable tag string [str]collectname[/str]; the variable tag image [img]filename[/img], the tag for calculate [eval]equation[/eval] to be executed and generating the value and tag equation [equ]equation[/equ] that will be displayed as an equation. The results of the implementation it was found that one template able to build hundreds/thousands of questions, combination of choices and the completion of each question.

Keyword : Software, Generator, Question, Exam-Generator, Template

Topic : Others relevant Fields

[GS.AB-489]

Development of Technical Vocational Trainer Kit Bilingual to Eliminate Misconception and Foreign Language Literation

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Indonesia University of Education

Abstract

The problems faced by vocational education in Indonesia are the low academic and vocational competencies, the causes of which are thought to be due to: (1) facilities and practice tools in schools that are not able to keep up with technological developments/out of date facilities; (2) low literacy of foreign languages; (3) misconception of technological vocational knowledge. The aim of the study was to develop a trainer kit bilingual. The method of problem solving uses the research and development (R & D) approach with 5 stages: a) preliminary study, b) defining, c) designing, d) demonstration and e) development. Trainer kit are made in

accordance with the conditions in the world of work so that there is no misconception and mall practices of technical vocation. Analysis uses the content validity index (CVI). The results of this research are trainers kit of vocational having validity, simulator benefits, and ease of use

Keyword : trainer kit bilingual, misconception, literacy

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-490]

Students' Respond on Learning Mathematics in Tertiary Education

Melva Zainil, Yullys Helsa, Wita Tri Yanti
Universitas Negeri Padang

Abstract

This research is motivated from the fact that primary teacher education students of UNP are not able to develop a good lesson plan to be used in elementary school. This fact is discovered based on a result of online questionnaires that have been distributed to the 158 students. It is found that there were 73.4% of the students do not understand how to draw the lesson plans. This study aims to provide a guidance for lecturers and students on designing a good lesson plan to be used in elementary schools. This research is the development research; preliminary, prototyping, and assessment phase. The sample is primary teacher education students of UNP. The results of the study show that the validity of teaching materials is 80 which classified as a very valid category. Furthermore, the results of teaching materials practicality were stated to be very practical. The results of the lecturers' and students' response results. Furthermore, the results of the effectiveness using the t-test with t_{count} was 12.03 and $t_{\text{table}}(0,05)(16)$ was 2,12 at the real level $\alpha = 0.05$. In conclusion, $t_{\text{count}} > t_{\text{table}}$ then the teaching material was declared to be effective.

Keyword : Lesson Plan, lecturers, and studens

Topic : Mathematics Education

[GS.AB-491]

Improving Vocational Competencies for Students with Light Mental Retardation in Light Service Motorcycle

Sriyono, Sumarto, Wahid Munawar, Budi Susetyo
Indonesia University of Education

Abstract

The purpose of this study was to describe the process of light service the motorcycle and the change of behavior dimension by using the demonstration method learning. Mental retardation means subaverage intellectual ability equivalent to or less than an IQ of 70 that is accompanied by significant deficits in abilities (as in communication or self-care) necessary for independent daily functioning, is usually present from birth or infancy, and is manifested especially by delayed or abnormal development, by learning difficulties, and by problems in social. Participants of this study were students with light mental retardation in special schools. This research method is a single subject research method. The research design used reversal design of type A-B-A, where baseline phase (A1) measurement was done three times, then intervention phase (B) was done four times. Then done baseline phase (A2) done three times. The results of research on the implementation of demonstration methods learning, showed an increase in behavioral dimensions, especially for aspects of frequency, duration and latency in skill of light service motorcycle.

Keyword : Mental Retardation, Behavior Dimension, Single Subject Research

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-492]

Creating Conducive Environment on Learning Math in Tetriary Education

Yullys Helsa, Hadiyanto
Universitas Negeri Padang

Abstract

This study aims to create Basics Mathematics teaching materials for students who are assisted by online learning media called photomath android. Thus, it also aims to observe class environment created using this media. This

research uses mixed method in which classes are given optimal treatment from aspects of personalization, involvement, intimacy, satisfaction, assignments, competition, innovation, individualization, source adequacy, and physical comfort. There is a significant difference between actual and preferred climate in the class. The treatments are carried out to improve the class environment in accordance with their respective indicators. The lecturer earnestly intervenes in improving the actual class environment like what students want (preferred). It shows that there are significant changes from the pre-test of actual class environment to its post-test which is better to bring the preferred class environment is much closer. The intervancy of the class environment resulted in the post-test was increased to be 83%.

Keyword : photomath, intervancy, environment, actual and preferred

Topic : Mathematics Education

[GS.AB-493]

Evaluation Motor Cycle Curriculum Using Delphi Technique and CIPP In VHSs Padang

Wakhinuddin S, Refdinal, Fahmi Rizal, Sukardi, Mawardi.
Universitas Negeri Padang

Abstract

An evaluation of the teaching factory (TEFA) implementation vocational high schools (VHSs) in Padang aims to find out the teaching factory implementation process. The implementation of the program curriculum Honda SMK Muhammadiyah 1, SMK N 5 Padang and special class of Yamaha SMK Kosgoro 1 Padang have not been in accordance with the expectation as qualifications and teacher competencies which are not based on and are still not enough a room that is available to be inadequate, the learning methods the dominant noted that and evaluation of the program curriculum Honda has never done SMK Muhammadiyah 1 and SMK N 5 Padang, and SMK Kosgoro 1 Padang Yamaha class. This research use the CIPP model which aims described the implementation of the Honda and Yamaha curriculum. The methodology used is mixed methods. Data collection techniques through observation, documentation, and interview. Result, the program is Honda curriculum is so necessary improvements to the input, the process, and product; and Yamaha curriculum not good to conduct.

Keyword : Evaluation, CIPP Model, Delphi Technique, Honda and Yamaha Curriculum, Vocational High Education.

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-494]

The Development of A Video-Based Lab Worksheet for Microcontroller Course

Arif Widodo, Jati Widyo Leksono, Pradini Puspitaningayu, Yulia Fransisca
Universitas Negeri Surabaya

Abstract

The use of online-based learning system or e-learning is being encouraged to improve the higher education participation rate. However, several courses involving lab activities such as the microcontroller course have their own challenges when delivered online. Commonly, lab activities are guided by paper-based worksheet and accompanied by lab assistants for direct mentoring. This direct mentoring cannot be applied in the e-learning, primarily if the lab activity is only guided by paper-based worksheets. This study aims to develop a video-based lab worksheet to address the need of direct mentoring in the microcontroller lab activity. The video will be designed as a tutorial video or a do-it-yourself (DIY) video so that it is interesting to follow but still has essential elements in the learning process.

Keyword : microcontroller, video-based, lab activities, worksheet.

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-495]

Android-Based Educational Games for Elementary Students

Yalvema Miaz, Syafda Wachyunaldi Monfajri
Universitas Negeri Padang

Abstract

This article is a validation stage report of research and development of android-based educational games for social studies learning in elementary schools. The aim is to measure the validation of the product that has been developed. This development is carried out with the consideration that learning media, especially Android-based educational games, help teachers in creating independent, active, and creative learning in accordance with the demands of 21st century competence in the 2013 Curriculum. Their use in learning makes learning more effective. The validators are media experts, material experts, and learning experts. The instrument used is a validation questionnaire for each expert. The data are analyzed descriptive-quantitative. The results show that the media is valid in terms of media, material, and learning. This shows that the learning media for android-based educational games for social studies learning in elementary schools are feasible to use and it can be continued to assess its practicality and effectivity.

Keyword : android, educational game, and media

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-496]

Student Process Skills in Biology through the Scientific Approach

Hasruddin, Dirga Purnama, Aryeni
Universitas Negeri Medan

Abstract

The purpose of this study was to analyze the process skills of students in the field of biological studies by applying a scientific approach. Descriptive method in this study used as many as 400 students of class X SMAN 1 Tebingtinggi which were determined by random sampling technique. Data is obtained through observation sheets on the steps of process skills, namely observation, asking, associating, concluding, and communicating. Biological material taught by biology teachers at the time of the research was: Biodiversity and Monera Kingdom. Data were analyzed by percentage techniques. The results showed that the observation ability obtained a score of 91.28 (very good), the ability to ask obtained a score of 88.74 (good), the ability to associate 78.64 (good enough), the ability to conclude 90.48 (very good), and communication skills 82.25 (good). The implementation of the scientific approach to Biodiversity is better than in the Monera Kingdom.

Keyword : Process Skills, Scientific Approach, Biodiversity, Monera Kingdom.

Topic : Biology Education

[GS.AB-497]

The Use of Mobile Application as the Solution in Teaching and Learning Listening for Senior High School Students

Elsa Elfiona, M. Zaim
Universitas Negeri Padang

Abstract

Abstract - Learning listening skill is more challenging for English as a foreign language (EFL) students. Based on an investigation at several high schools in Padang, the existence of listening skill in English subject is almost neglected in teaching and learning process because of many reasons such as the limited media and less opportunity to practice listening. Teachers are difficult to prepare appropriate media to teach listening while students are difficult to find out the appropriate listening materials. Innovation in using media is needed in this era because people use technology such as the computer, smartphone, internet in life. This paper aims to describe such as solution by utilizing mobile phone in teaching and learning listening skill considering almost all students already had their own Smartphone. Based on the study, there are several benefits in using technology especially mobile-based learning in teaching and learning process; increases students' motivation in learning, mobility, accessibility, and excellent potential for providing students with rich, real-time, collaborative and conversational experiences both in and outside the classroom. In summary, using mobile-based learning can be a solution to solve several problems in teaching and learning listening.

Keyword : Keywords: Mobile Based Learning, Listening Materials, Listening Skill

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-503]

Blended Learning Approach in Learning Materials Design of English for Civil Engineering

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Universitas Negeri Padang

Abstract

Special English communication is a necessity of raising skills for today civil engineering graduates. It is raising by reflecting up the borderless development of technology and economy. As an encountering program, Civil Engineering Department (CED) of Universitas Negeri Padang provides English for Civil Engineering (ECE) subject. In fact, its implementation, there are found some challenges such as learning materials design which are not proper to the students' needs and imperceptibly allocated time. As an alternative solution, CED can apply the Blended learning approach. Accordingly, this research was aimed to find the best learning materials design which can overwhelm the problems. This research was conducted by using descriptive analysis research procedure. Then, research instruments were designed in the form of questionnaire and interview to collect the data by concentrating on teaching methodology, the source of learning, students characteristics, and times allocation concerns. The obtained data were employed to analyze and designed learning materials of ECE with the blended learning approach by using Hutchinson and Waters design model.

Keyword : Blended learning approach, English for specific purposes, English for Civil Engineering, learning materials design

Topic : Others relevant Fields

[GS.AB-504]

Development of Learning Media Based Augmented Reality on the Subject of Radio and Television System

Tresna Widiyaman, Iwan Kustiawan, and Wawan Purnama
Universitas Pendidikan Indonesia

Abstract

Many types of instructional media can be used to attract students' interest in learning such as graphics, audio, video and visual media. This research aims at developing and applying innovative learning media based on augmented reality, which is the combination of graphics, audio, and visual media in an android application. We measure the students' comfort level when using augmented reality on the subject of Radio and Television System through usability testing. The usability criteria are learnability, efficiency, memorability, error, and satisfaction. The experiments were conducted at public Vocational High School 4 Bandung, Indonesia with the students from the program of Audio Video Technique as the research subjects. The results showed that our design may improve learning outcomes and meet usability aspects with highly valuable rating category.

Keyword : Innovative learning media, augmented reality, usability test, vocational high school

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-505]

Using Moodle as a Learning Management System on Blended Learning Environment Development

Muhammad Adri; Ganefri, Jalius Jama
Universitas Negeri Padang

Abstract

The presence of online technology has provided opportunities for education on developing online learning models. But the fully online learning model has a weakness, because education cannot be simplified as a student activity just to download the learning materials passively in front of a computer monitor and digital devices, but more than that, it must follow with educational process. The best approach is integrated the model of online learning with classroom or face-to-face learning known as blended learning. The purpose of this research is to develop an integrated learning environment between information technology-based learning and classroom learning which is suitable with teaching and learning in higher education. R&D approach is used to develop blended learning environment (BLE). In this study, development process of BLE is using Moodle, an open source software as Learning Management System (LMS) technology. Implementation of BLE is constructed on

supplemental model, integrated classroom activity with online activity. Online learning session as supporting system for classroom learning process.

Keyword : information technology, online learning, blended learning, learning management system, supplemental model

Topic : Informatics and ICT at Higher Education (IHE)

[GS.AB-506]

The Development of Philosophical and Educational Policy Teaching Book on Blended Learning Setting that Oriented in Problem Based Learning

Siti Masitoh, Prof. Dr. M.Pd, Bachtiar Syaiful Bachri, Dr., Andi Mariono, Dr.
State University of Surabaya

Abstract

Educational technology department was opened in state university of Surabaya Postgraduate Magister Program from September 2010 up to now, there has not been teaching book for higher education students as a reference in subject of philosophical and educational policy. Referring to goal analysis and subject characteristic, there has necessary been developed teaching book in blended learning setting that oriented in problem based learning. This teaching book has own specifications, for instance; (a) material course consists of regular meeting and e-learning in blended learning setting, (b) using case studies in problem solving based on the chapter. The substance of teaching book, as follows: (a) philosophical concepts of science, concepts of educational philosophy, education concepts, (b) policies on innovative education in the millennium III century for early childhood, elementary and secondary education and higher education. Data collection uses a method: Questionnaires are given to prospective users of teaching book and expert testing teams and limited group tests. Formative evaluation shows an average yield of 87.24% and the practicality evaluation shows an acquisition of 85.93%. therefore, the Philosophical and Educational Policy teaching book is feasible and easy to be used by higher education students.

Keyword : Policy, Blended-Problem Based Learning

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-507]

Teacher Professional Education in the Era of Industrial Revolution 4.0

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Universities Negeri Gorontalo

Abstract

Abstract In the digital era teachers are expected to be able to design, develop and evaluate authentic learning through learning experience to develop students' knowledge, skills and behavior. The teacher is also expected to be able to demonstrate the knowledge, skills and work processes that are representative of an innovative professional. This has not been too visible in the field due to various obstacles. The purpose of the study: 1) outlines teacher professional education in the era of industrial revolution 4.0; 2) outlines the obstacles and solutions for implementing teacher professional education in the era of industrial revolution 4.0; The method used is descriptive. The results of the study show that teacher professional education in online positions is very well implemented, because instructors chat with students everywhere. On the other hand, for teachers whose teaching places in remote areas are very difficult because there are still tech teachers, locations to teach far from the internet network, chats can be done by other people.

Keyword : education, profession, teacher, industrial revolution

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-509]

The Analysis Service Implementation by the Apotheker in Private Apotek in Padang City Online Based in 2019

Sri Siswati
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Abstract

Pharmacists are one of the health providers who provide health services. Preliminary studies conducted on 33 private pharmacies in the city of Padang, pharmacists who came once a week as many as 14 out of 33 pharmacies, 2 times a week 10 out of 33 pharmacies, once a month as many as 6 of 33 pharmacies, pharmacists who come every day 3 out of 33 pharmacy. Type of qualitative research with descriptive approach. Initial research was carried out in 33 private pharmacies in Padang City. The technique of determining informants used purposive sampling technique and data collection using in-depth interviews and observations. The results showed that pharmacy services had not been implemented properly. The percentage of the attendance of pharmacists is mostly 18,2 % who only attend once a month, and only 42 % attend 4 times a month. Only 9% attend every day to provide pharmacy counseling services perfectly. The results of this study indicate that the pharmacist's task has not been carried out in accordance with its function as a counselor. It is expected that by using online media even though the pharmacist is not fully available at the pharmacy can still serve patients in providing counseling.

Keyword : Pharmacy counseling services, Pharmacists

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-513]

The Accreditation is the External Quality Assurance of Education

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Abstract

To improve the quality of education, we need quality assurance of education. Quality assurance of education consists of external and internal. Internal quality assurance is done by the school supervision and the principle. External quality assurance is done by school accreditation. This institution is independent and professional. The instrumentation of quality assurance internal and external based on 8 standards national of education. The 8 standards national of education consist of: (1) content standard, (2) process standard, (3) evaluation of standard, (4) output of standard, (5) standard of educator and teacher, (6) standard of management, (7) standard of infrastructure, and (8) standard of financial.

Keyword : Accreditation, quality assurance, 8 standards national of education

Topic : Science Education

[GS.AB-514]

Multinomial Expansion with Modified Pascal Triangle

Media Rosha, Arnellis
Universitas Negeri Padang

Abstract

The Binomial theorem applies to two terms, with the formula: $(a_1 + a_2)^n = \sum_{r=0}^n \binom{n}{r} a_1^{n-r} a_2^r$. In this case, there is an interesting, exploring the questions about the form of multinomial expansion with the modified Pascal triangle. In the study, it is always expanded using Pascal's triangle. Analysis of polynomial tribe leads to multinomial theorems with formulas: $(a_1 + a_2 + \dots + a_k)^n = \sum_{n_1, n_2, \dots, n_k \geq 0} \frac{n!}{n_1! n_2! \dots n_k!} a_1^{n_1} a_2^{n_2} \dots a_k^{n_k}$

Keyword : Multinomial, Modified, Pascal Triangle

Topic : Mathematics Education

[GS.AB-518]

The Implementation of Project Based Learning (PBL) Model into Digital Basic Electronic Subjects

Nasaruddin, Syahril, Yuliana
Universitas Negeri Padang

Abstract

Problems in teach Applying Basic Digital Analogue Electronics Techniques most students have difficulty in understanding learning materials so that learning outcomes obtained by students were low. This research was a classroom action research using a qualitative approach. This research was conducted in three cycles and each cycle consisted of three meetings. The results of research from each cycle that had been carried out in learning using a project-based learning model showed an increase in student learning activities and outcomes. It could be seen of student learning achievements, where in the first cycle the average of student learning activity was 36.8 with a bad category, in the second cycle was 69.3 with a fairly good category, and increasing in the third cycle was 95.7 with very good category. The average of student learning outcomes in cycle I was 64.2 with almost good categories, increased in the second cycle was 73.6 with good categories and increased in cycle III was 84, 2 with very good categories. Thus it could be concluded that the use of project-based learning model could improve the activities and student learning outcomes in Applying Basic Electronic Digital Analogue Engineering learning in grade Xth of RPL.

Keyword : Project Based Learning, Classroom Action Research, Learning Activities, Learning Outcomes

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-519]

Decision Support System for Educational Staff Promotion in Universitas Negeri Gorontalo

Manda Rohandi
Universitas Negeri Gorontalo

Abstract

This study aims to develop a decision support system for promotion of education staff based on work performance and work behavior using the Fuzzy AHP method to avoid subjective judgments. AHP method is chosen to overcome doubts and uncertainties in the assessment of educational staff performance. There are 2 criteria (work performance and work behavior) and 10 sub-criteria (quantity, quality, time, cost, service orientation, integrity, commitment, discipline, teamwork, and leadership) for assessing the performance of educational staff. The system developed was able to provide the best alternative in selecting educational staff to be promoted in certain positions. Nevertheless there are shortcomings, namely the absence of standard rules in determining the weight and level of interest in each criterion.

Keyword : decision support system, Fuzzy AHP, Educational staff promotion

Topic : Informatics and ICT at Higher Education (IHE)

[GS.AB-520]

Perception of Vocational High School Students in Makassar towards Working Environment and Preparedness in Facing Industrial World

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Abstract

Vocational schools graduates are expected to survive in working environment. They are provided with variety of experiences both academically and technically to succeed in facing demands and needs in the industrial world. This study aims to explore the students' perception towards working environment and preparedness in facing industrial world. This quantitative study involves 350 vocational high school students majoring Mechanical Engineering in Makassar. The data is collected using questionnaire and documentation, then the data is analyzed with descriptive statistics and correlational using SPSS 22 version. The result shows that 1) the students' perception towards working environment is categorized as fair (72%), 2) the students' perception towards their preparedness in facing industrial world is categorized as fair (63%), and 3) there is a significant correlation among students' perception, working environment and their preparedness in facing industrial world (52.9%).

Keyword : working environment; preparedness

Topic : Others relevant Fields

[GS.AB-521]

Planting Employability Skills for Students through Learning Based on Focus Group Discussion

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Abstract

This study aims to determine the level of student employability skills after focus group discussion based learning is seen from the aspects of communication skills, working together, problem solving skills, the use of information technology, and the application of occupational safety and health programs. The sample of this study was the Department of Automotive Engineering Education, Faculty of Engineering, Makassar State University, school year 2013/2014, which consisted of 30 class A and B students. The design of this study was divided into two groups, namely the first group (Class A) was an experimental group taught by the method of focus group discussion and the second group (Class B) taught by conventional methods. Data analysis using descriptive analysis techniques and inferential analysis techniques. The results of the study using descriptive analysis techniques show the average score of students taught by the focus group discussion method is higher than the average score of students taught by conventional methods. The results of inferential statistical analysis using the t test obtained t count value of 2.084 with $p = 0.042 < 0.05$. This result means that there is an effect of planting employability skills of students taught by the method of focus group discussion with

Keyword : employability skills, focus group discussion

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-522]

The Application of Cooperative Learning Methods in the Developing and Analyzing the Quality of an Educational Game

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Abstract

The purposes of this study were: (1) to develop an educational game application on the basic programming material, and (2) to reveal the quality of the developed educational game application. This research was research and development. The results of this research were as follows. (1) The educational game application was developed using the Codeigniter framework and consisted of the main feature to evaluate students' learning cooperatively by dividing students into teams, playing games, following tournaments among teams, and recognition of teams. (2) The test results showed that the developed educational game application met the ISO/IEC 25010 standards on (a) functional suitability aspect, which worked 100% and had $X = 1$; (b) performance efficiency, which could load web pages within 2.76 seconds, PageSpeed's performance of 91% (grade A) and YSlow of 93% (grade A); (c) usability, with the percentage of SMKN 1 Limboto being 89.12% and SMKN 1 Gorontalo 88.18%; (d) security, with the vulnerability to attack level being at level 1 (low); (e) reliability, with the result of successful session criteria, hits and pages by 100%; (f) maintainability, which had the maintainability index value of 92.26; (g) portability, which successfully ran on four different desktop and mobile browsers.

Keyword : educational game, basic programming, ISO / IEC

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-523]

Artificial Intelligence (AI) as a Media Ffor Motor Re-Learning After Knee Injury in Young Sport Players: Future Opportunities and Challenges

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Abstract

Following a knee injury, an alteration in motor movement occurs due to impaired sensorimotor control which demands motor re-learning process. Motor relearning is a repeated process of mastering motor skills in carrying out certain movements and purposes. This process includes gross and fine motor learning and adaptation stages. Different sources of learning media including visual, acoustic, tactile, kinesthetic, or vestibular pathways take part in and demand persistent repetitive practice for fulfilling of these stages. The young sports players must

practice repeating basic and very specific movements to gain the best way to do it effectively. Recently, a technology that is re-known as artificial intelligence (AI), has transformed in such a way that can be used to monitor the movements. This way is more advanced than conventional ways for determining the precision of practiced skills and movements through various types of motor executors to help sports players improving their performances that match the movement. Despite the fact that this technology facilitates motor relearning process in a positive way, yet it has not been optimally implemented. This article will address the opportunities and challenges of AI as a media for motor relearning after injury

Keyword : artificial intelligence; motor relearning; knee injury
Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-525]

Ethnomathematics Learning with Sundanese Culture for Elementary School Students

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Abstract

Ethnomathematics learning is learning that connects cultural and mathematical concepts by looking at mathematics as a cultural product. Material reduction of natural numbers can be learned using Indonesian children's games, namely Sundanese culture. Mathematical learning activities that can be done is to understand the basic facts of addition to a collection and reduction that is presented with the technique of discarding. The subject of this study uses 82 teachers, 1 teacher guides 1 until 9 elementary school students with a total of elementary school students used 273. Students learn mathematics with ethnomathematics learning endog-endogan game. After the data are collected, the researcher processes the data using a qualitative descriptive method, which describes the documentation of the data with the students' responses. Benefits in this learning students will play together with other students so that fun, 163 happy, 49 student enthusiastic in learning mathematics, 49 students says learning mathematics is easy and 12 students eliminate misconceptions in reduction operations. Mathematical abstracts can be reduced and promote Indonesian cultural products in the development of mathematical learning innovations

Keyword : Ethnomathematics Learning, Sundanese Culture, Reduction Operation
Topic : Mathematics Education

[GS.AB-526]

The Effect of Training Motivation and Emotional Intelligence on the Performance of Badminton players

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 Indonesia University of Education

Abstract

Abstract The study aims to examine the effect of exercise motivation and emotional intelligence on the performance of beginner badminton athletes at SGS Bandung Badminton Association. The study was done to beginner man athletes who are the members of SGS Bandung Badminton Association in Bandung City of West Java. This study used post facto method with correlational techniques and employed simple random sampling. The results of the test and data analysis can be concluded as follows; 1) Training motivation has a positive effect on the performance of beginner badminton players in PB SGS PLN Bandung. 2) Emotional intelligence has a positive effect on the performance of beginner badminton players in PB SGS PLN Bandung. 3) There is a significant difference between training motivation and emotional intelligence on the performance of badminton players, where emotional intelligence has a greater impact compared to the training motivation towards the performance of beginner badminton players in PB SGS PLN Bandung.

Keyword : Performance of badminton players, Training motivation, Emotional intelligence
Topic : Physics Education

[GS.AB-527]

Digital Literacy for Preservice Teacher (DLPT) on Mathematical Learning

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Abstract

Geometry is one of the topics in mathematical learning that is important to be mastered by pre-service teachers. The learning process needs to adjust to the development of the times where technology is integrated in the learning system using the heutagogical approach. one of which is developed is Digital Literacy for Pre-service Teacher. This study aims to describe the use of the Digital Literacy for Pre-service Teacher model on geometry courses. The subjects in the study were students of the third semester pre-service teacher in one of the cities in Indonesia. The research method uses descriptive analysis. The technique of collecting data uses documentation studies, interviews, and questionnaires. The results showed that the Digital Literacy for Pre-service Teacher model consisted of five stages, namely: making videos, sharing on social media, documenting feedback, analyzing feedback, and making reports. In addition, the use of the Digital Literacy for Pre-service Teacher model can be applied well by showing the principle of heutagogy.

Keyword : digital literacy, heutagogy, geometry, mathematics

Topic : Mathematics Education

[GS.AB-528]

Realistic Mathematic Education (RME) Approach to Enhance Mathematical Cognition of Elementary School Students

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Universitas Negeri Padang

Abstract

Mathematical Cognition is a fundamental skill in studying Mathematics at the elementary school level. Teaching mathematics at school must aim to enhance mathematics cognition and can be used to solve real-life problems. This study observed the increase in students' mathematics cognition after applying RME approach in the classroom. This study used a quasi-experimental design. The subject is 58 elementary school students at Kota Agam and Bukittinggi. Data were analyzed using SPSS statistic program. The study showed that there is a significant difference in students' mathematics cognition after study with the Realistic Mathematics approach. It can be concluded that the use of Realistic Mathematics Education approach enhanced students' mathematics cognition and encourage students to participate actively in the teaching and learning of mathematics. Thus, Realistic Mathematics Education approach is an appropriate method to improve the quality of teaching and learning process.

Keyword : RME; Mathematical Cognition; Elementary School Students

Topic : Mathematics Education

[GS.AB-529]

Security System Design of Feature Information of Biometric Fingerprint using Elementary Row Operation (ERO)

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Abstract

Protecting feature information of the fingerprint has been done in many approaches by many researchers. In this research, the protection system is provided by twirling the row element of the fingerprint pixel by implementing a matrix operation called as elementary row operation (ERO). This procedure works in pixel procedure with some requirements i.e. exchanging rows, multiplying, and zeroing a selected pixel row. These requirements are implemented to distinguish the original feature information of the fingerprint so that any imposter could steal it. The result of this system is a robust fingerprint protection system that guarantees any fingerprint database users to have a secure fingerprint feature.

Keyword : fingerprint feature, biometric, elementary row operation, fingerprint protection system

Topic : Others relevant Fields

[GS.AB-530]

Are Vocational High School Student Ready to Enter Work Field in the Era of Industrial Revolution 4.0 of Disruption Technology Digitalization?

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Abstract

This research identifies the factors that make up the readiness of vocational senior high school students to work so that it can be clearly identified the factors that influence them, then it will be able to design teaching and learning programs for strengthening students' competencies. The study uses a survey method by selecting two vocational senior high schools in West Sumatra, they are SMKN 2 Padang and SMKN 1 Payakumbuh with proportional sampling techniques, so there are 171 students as a sample of data. Research data analysis was carried out with descriptive statistical analysis, factor analysis and multiple regression analysis. The results of the study are that there are a number of factors that make up the students' readiness which are grouped into 2 categories, namely the main factors and supporting factors. The main factors consist of apprenticeship, values, work characteristics, psycho-social work environment, career opportunities, career guidance, independence, and attitude. The supporting factors consist of personality, control, environment, and information about the working world. It is recommended to schools to pay attention to the main and supporting factors, especially those directly related to the school

Keyword : factor analysis, multiple regression analysis, the readiness of vocational senior high school students to work so, SMK students, revolution in disruption of digital technology 4.0

Topic : Science Education

[GS.AB-531]

Discovery Learning Models and Mathematics Understanding

Yosi Juwita erman, Mai Sri Lena, Syafri Ahmad

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Abstract

This study aimed to determine the effect of discovery learning model toward the ability of mathematics concepts understanding of the characteristic of geometry in primary school. This research was quasi experiments with quantitative approach. The design was the non-equivalent pretest-posttest control design group. . The sampling technique used was cluster random sampling technique in wich class VA as control class and VB as experiment class. Data of this research were collected through test. The result of this research showed that the Discovery Learning model had an effect on the students' ability of mathematics concepts understanding, it was proved by the t-test calculation obtained tscore = 3.21920 and ttable = 2,00172. Thus tscore > ttable, it could be concluded that H1 accepted and H0 rejected.

Keyword : discovery learning, models mathematics concepts understanding, geometry, primary school

Topic : Mathematics Education

[GS.AB-532]

Understanding the Fundamental Principles of SCADA Systems for Advanced Boiling Reactors

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Abstract

Lecturers often experience difficulties when explaining the principle of a nuclear reactor control systems. Stand alone simulator base on human machine interface (HMI) are developed to make it easier for students to understand the energy cycle in nuclear power plants. This simulator uses technical data from an advanced boiling water reactor (ABWR) from GE-Hitachi company, designed using Wonderware Intouch software by utilizing animation link features, real-time trends, historical trends, real-time alarms, and security systems. The energy cycle in NPP has been successfully visualized through this device. During the learning process students often ask critically about the principle of energy conversion. Learning becomes more interesting because students get new knowledge about the fundamental principles of how to control a nuclear power plant remotely in real-time. SCADA simulator can be used as a learning support physics, especially related to the subject of nuclear reactors or energy conversion.

Keyword : Boiling water reactors, human machine interface, nuclear reactors, SCADA systems,

Topic : Physics Education

[GS.AB-534]
Halal Food in Junior Secondary School Curriculum System

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Abstract

Indonesia as a populous muslim country has decided Religion Education as a compulsory subject to be taught in curriculum in all level of education from primary school, secondary school, until higher education institution. Halal food is one topic to discuss in Islamic religion education school curriculum. This paper discusses halal food in school curriculum in Indonesia. In school setting, halal foods are also introduced and taught in schools' curriculum development. They are discussed and learnt on serial topics in school curriculum. The result of study, among others, are most of students agree that they habitually eat and drink healthy and nutritious food. Most students feel strongly disagree, even occasionally, to eat expensive meal even though it is haram and not good for health of our body. At the same things, most of them refuse that eating haram food actually can make our bodies become healthy and strong. In terms of label halal on market products, sampled students have paid little attention on label "halal" before deciding to buy a product. Most of them also often buy food or drinks without observing label halal on it.

Keyword : halal food, curriculum development.

Topic : Others relevant Fields

[GS.AB-535]
Utilization of Application Builder "Appy Pie" on College Subject of Media Learning as Learning Media in the Form of Mobile Learning

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Universitas Pendidikan Indonesia

Abstract

The purpose of research was to know how to create and find out the feasibility of learning media in the form of mobile learning using the application builder "Appy Pie" which contains a tutorial on making media on the subject of Media Learning. Preliminary research was conducted on the 2016 Agro-Industry Technology Education students who were contracting subject of Media Learning, with the results of 70.3% of respondents getting constraints during the learning process, then 78.4% of respondents stated that there is a needs of learning resources in the form of "media-making tutorials" when practicing on college subject. This research uses research and development methods (Research and Development). The stages of R & D include identification of potential and problems, data collection, product design, design validation, design revisions, small-scale product trials, product revisions, large-scale product trials, revisions of product and final product. Data analysis techniques were carried out using qualitative descriptive analysis. Based on the results of the validation to determine the level of feasibility as a learning medium stated "Very Worthy" by media and language experts, and "Eligible" by material experts. Most respondents strongly agree on the quality and appearance of mobile learning as a learning media.

Keyword : mobile learning, learning media, Appy Pie

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-537]
Tutorial Model with Student's Pictorial Riddle Based Worksheet for Practice Representation Capabilities Prospective Teacher Candidate

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Abstract

This study aims to produce Pictorial Riddle-based Student Activity Sheets (SAS) that can improve student representation skills and be feasible to use with the fulfillment of valid, practical and effective criteria. Development of Student Activity Sheets uses four D models (Define, Design, Develop and Disseminate) from Thiagarajan. The trial was limited to Open University students in the Bojonegoro study group using one shot case study. The research data was collected using validation, observation, tests and questionnaires with validation sheet instruments, observation sheets, learning outcomes tests and questionnaires. Data were analyzed

using quantitative and qualitative descriptive analysis, N-gain and t-test. The results of the study show: 1) SAS that are developed are included in valid criteria in terms of content validity and construct validity; 2) SAS that are developed are included in practical criteria in terms of student implementation and activities; 3) SAS that are developed are included in the effective criteria in terms of improving student representation skills and positive responses. Based on the above, it can be concluded that SAS that are tested are valid, practical, and effective criteria to improve the representation ability of prospective teacher students.

Keyword : pictorial riddle SAS, representation ability, prospective teacher students

Topic : Others relevant Fields

[GS.AB-538]

Chatbot: Integrating Artificial Intelligence (AI) Technology as Language Learning Media

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Abstract

In facing industry revolution 4.0, utilizing advanced information and computer technology in educational environment is crucial. One of the most advanced computation technologies that can be used for learning, especially language learning, is chatbot. Chatbot is a computer program based on artificial intelligence that can carry out conversations through audio or text. This study intends to find out and analyze the types of artificial intelligence in the form of chatbots and the possibility of their use as language learning media. The data in this study obtained from literature review on chatbot researches, and from observation results on chatbot-based language learning medium developed by author. The results indicate that chatbots have a high potential to be used as a language learning medium, both as tutor in language practice and as independent learning medium. Moreover, research results revealed that language learners are interested in using chatbots because they can be used anytime and anywhere, and that they are more confident in learning languages using chatbots than when dealing directly with human tutors.

Keyword : Artificial intelligence, chatbot, computation, language, language learning, media

Topic : Informatics and ICT at Higher Education (IHE)

[GS.AB-539]

Development of Pencak Silat Learning Media Based on Macromedia Flash 8

Nurul Ihsan, Riko Valentino

Universitas Negeri Padang

Abstract

The purpose of this study is to develop interactive multimedia on the subject of PJOK pencak silat material using the application macromedia flash 8 for class VIII and to find out the feasibility, practicality and effectiveness of learning media using Macromedia Flash 8. The development model used in this study is the development model of Borg and Gall. Applications Based on the results of the validity test from the material experts obtained a value of 4.33 in the "Valid" category so that the material was declared good for use. From the results of the validity testing of media experts, it was obtained a value of 4.09 with the category "Valid". So that it can be concluded that this learning media is feasible and can be tested. Furthermore, based on the practicality test obtained an average of 4.05 with the category "Practical". The results of the effectiveness test, the results of tcount> ttable are 2.12> 1.73. So that it can be concluded that the interactive multimedia learning PJOK pencak silat material class VIII using the application of Macromedia Flash 8 is practical and effectively used as a learning media for Pencak Silat

Keyword : Pencak Silat, Learning Media, Macromedia Flash 8

Topic : Others relevant Fields

[GS.AB-540]

Teacher's Vocational Perception of the Industrial 4.0 and Society 5.0

Yadi Mulyadi

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Abstract

In today's digital era two paradigms running in parallel were first developed in Germany and Japan, namely the industrial 4.0 and the community paradigm 5.0. The main problem that will occur is a shift in values, models and technological procedures that occur in extreme and fundamental ways. The industrial revolution 4.0 developed a model of an internet-based system (IoT) with various infrastructure approaches, both hardware and software while the phenomenon of society 5.0 gave up most of the management of operations in artificial intelligence autonomously in executing various life problems widely. Technology and vocational education will come into direct contact with these two paradigms related to substance, application, and cultural concepts. In this context, especially technology education teachers who play an essential role in forming and producing competent graduates need to understand and master the concepts of industrial 4.0 and the phenomenon of society 5.0. Therefore the purpose of writing this article will be to map comprehensively the perceptions of vocational teachers towards the implementation of the industrial era 4.0 and society 5.0 and its output will produce a qualitative model of teacher perceptions.

Keyword : Vocational Technology Education, Vocational Teacher Perception, Industrial Revolution Era 4.0, community model 5.0

Topic : Others relevant Fields

[GS.AB-542]

Is There a Correlation between Physical Fitness and Role of BDNF Responses in Adolescents? (Research on Frequency of Futsal Exercise)

Jajat Darajat KN, M.Kes., AIFO; Prof.Dr.dr. Sri Widia A Jusman, MS; Dr.dr. Ermita I Ilyas, MS; Prof.Dr.dr. Rini Sekartini, Sp.A(K)

Indonesia University of Education and Indonesia University

Abstract

Nowadays, Futsal is a very popular sport for several groups, including children, teenagers to old age. This sport can be exercised anywhere, anytime and by anyone. The characteristics of Futsal are high mobility and tend to anaerobic metabolism. Futsal can affect fitness and brain neuroplasticity. The method of this study is an experiment that applies Futsal activities to the range of age 13-15 years as many as 36 students divided into 3 groups of different exercise frequencies, namely 1 time per week, 3 times per week and 5 times per week during 8 weeks. In the F1 group, there was no significant correlation. The F3 group shows a significant correlation. The last group, there was no significant correlation. There is an interesting of data in this study that exercise 3 times a week actually experienced a significant correlation ($p=0.003$). In a study conducted by Iykrus et al, the results of research on anaerobic exercise with 3 times a week showed a better growth in plasma BDNF compared to 1 time and 7 times on anaerobic exercise a week. The recommended exercise for children is aerobic exercise and which is preferred to induce growth and development, improve children's cognitive function.

Keyword : Futsal, Exercise Frequently, BDNF, Adolescent.

Topic : Science Education

[GS.AB-543]

The Perception of Teaching Philosophy among Academic Members in the Faculty of Technology and Vocational Education Universitas Pendidikan Indonesia

Yulia Rahmawati

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Abstract

This paper focuses on the perception educational philosophies and generic as well as specific competencies among academic members in the Faculty of Technology and Vocational Universitas Pendidikan Indonesia (FPTK UPI). The teaching philosophy is based on teacher-centered, however in term of the implementation of teaching philosophies and and generic as well as specific competencies are varied among academic members. Based on findings, the philosophy of education leads to the understanding of the philosophical issues in the

educational institutions. It is applied in the teaching-learning situations, in the conduct of research, and in developing educational policies. Teaching philosophy of individual lecturer is based on the university and faculty's concept, beliefs, and attitudes on teaching, and how they put these into the teaching-learning process. This has implications to classroom management, pedagogy, facilitating and evaluating learning, and curriculum development. This study presents some empirical base data among academic members in the Faculty of Technology and Vocational Universitas Pendidikan Indonesia (FPTK UPI). concerning with teaching philosophy that are implemented and maintained in university level, faculty level, and department level. This study utilized the descriptive method of research. Descriptive research is one in which information is collected without changing the environment/setting of study. Instruments

Keyword : teaching philosophy, vocational education

Topic : Others relevant Fields

[GS.AB-545]

Analysis of Link and Match Policies in Improving Work Readiness of Vocational Students in West Java

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Abstract

This study aims to analyze the link and match policy issued by the Minister of Industry of the Republic of Indonesia number 03 / M-IND / PER / 1/2017 concerning Guidelines for Guidance and Development of Competency-based Vocational High Schools that link and match industry in order to improve graduate work readiness Vocational High School in West Java. The method in this study is qualitative with a case study approach which aims to intensely analyze the implementation of the link and match policy in West Java as well as the extent to which the work readiness of vocational high school students in West Java increases. The results in this study describe that the link and match policy has been implemented including the preparation of projections for the development of types, competencies and industrial locations, especially those related to graduates of Vocational High Schools; increasing cooperation with the business community to provide wider access for Vocational High School students to carry out field work practices for educators and education, encourage industry to provide support in the development of teaching factories and infrastructure, and accelerate the completion of industrial sector SKKNI.

Keyword : Link and Match, Vocational High School, Work Readiness

Topic : Science Education

[GS.AB-546]

Successful of UPI Bandung Student Entrepreneurs' Model through Utilization of Website Technology in the Industry 4.0

Lili Adi Wibowo, S.Sulastri, Lisnawati
Universitas Pendidikan Indonesia

Abstract

The purpose of this study is to identify the implementation of activities using website technology that is based on economics or entrepreneurship, as well as identifying planning, manufacturing, Web 2.0 development. The implementation of these activities has a target, namely the University of Indonesia students who are entrepreneurs. This activity consists of several stages starting from coordination to activity reports. In its implementation, it faces the factors that can support and the factors that become obstacles for the activities so that further action is needed to respond to these support and obstacles.

Keyword : Student Entrepreneur, Website, Technology, Industry 4.0

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-547]

RME Approach and Mind Map Methode to Enhance Mathematical Cognition of Elementary School Students

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Universitas Negeri Padang

Abstract

Early mathematics achievement has been found to be important for later mathematical development. Intelligence and other cognitive factors typically explain no more than half of the variability in mathematical variation. This study aimed to investigate the effect of applying a Realistic Mathematics Education approach and mind map method to enhance mathematic cognitive at elementary school students. The participants were recruited from elementary schools in Bukittinggi, West Sumatra, Indonesia. The constant comparative and grounded theory techniques were used for data analysis. The theoretical contribution of this study is a very detailed diagnosis of increasing at mathematical cognition resulting in a profile rather than in a single score. Practically, this profile enabled efficient intervention that resulted in students' high mathematical cognition and achievement in students' learning achievement. The result showed that after RME-Mind Mapping, influence students mathematical cognition and improve the way students thinking pattern, from concrete to abstract way.

Keyword : Elementary School; Mathematical Cognition; Mind Mapping; RME

Topic : Mathematics Education

[GS.AB-548]

Employability Skills Development of Vocational High School Students in Implementing Work Based Learning

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Universitas Pendidikan Indonesia

Abstract

Employability skills are non-technical competencies that must be owned by a person to compete to enter the labor market. In Asia Economic Community (AEC) era, improving competences are required in competitive society, employability skills important to have because of the characteristics of a job that requires a variety of skills. In the implementation of industry practices Skills Program Agribusiness Agricultural Products Processing Technology (APHP) competence bakery, employability skills is a very important skill and technical. This study uses a quantitative approach using descriptive analysis and factor analysis techniques of data collection is questionnaire. Data were analyzed with descriptive analysis, confirmatory factor analysis (CFA), regression analysis. The study involved a sample of 60 students of SMK in expertise of Agribusiness of Agricultural Product (APHP)-bakery competence. The results showed that implementation of work-based learning contributes to the development of employability skills of vocational students in expertise of Agribusiness of Agricultural Product (APHP)-bakery competence, which includes communication skills, teamwork skills, initiative and enterprise, self-management skills, problem solving skills and learning skills. The implications of this research, aspects of employability skills need to be developed and optimally invested in vocational students by implementing work based learning as a learning system

Keyword : employability skills, competence bakery, work-based learning

Topic : Others relevant Fields

[GS.AB-549]

The Effectiveness Learning Implementation in the Machineries Maintenance Training Programme of the Adult Workers in the Textile Industry

Asep Setiadi, Kamin Sumardi, Dinn Wahyudin, Gustiarman
Universitas Pendidikan Indonesia

Abstract

A wide range of Problem Will naturally emerge in the implementation of textile industrial sector activities. All issues related to the operational component of the industry in the labour force, whether non-employed, staff, skilled labour, skilled labour, professional persons, lower-level, medium or The highest level in the environment for industry. These problems will naturally arise in the implementation of industrial sector activities The solution requires special attention for each individual by providing the necessities on each department that are

aspects of cognitive, psychomotor or emotional aspects. Based on background, researchers then conduct research in order to measure the effectiveness of the implementation of the learning machine industry against the results of the study mechanics staff. Search using Predesign-Experience One set before test - posttest. Eight research participants Industrial Workers democratically elected Meaningful. The tests and questionnaires were selected as a research tool. The data were analyzed through statistical analysis of the inference. Research results suggest effective learning implementation all training machine maintenance industrial machinery against the results of the study.

Keyword : Mechanics, industrial maintenance learning, textile machinery

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-551]

Building and Promoting Autonomous Learning and 21st Century Skills of Students through Empowering Their Pedagogical Skills

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Universitas Pendidikan Ganesha

Abstract

Autonomous learning and literacy skills are demanded for survive in the 21st century global era. Students are demanded on how they self-direct themselves and how their skills and literacy can promote their 21st learning skills such as being able to collaborate, communicate, having critical thinking and being creative and having problem solving strategy. However, the results of observations reveals that teachers face challenges and problems on how students' 21st century learning skills can be empowered. This research aimed at empowering the pedagogical skills of teacher candidates through continuous clinical supervision model of teaching practices at Microteaching Class at Universitas Pendidikan Ganesha Bali. The study was designed in the form of concurrent mixed method design, and implemented towards two classes of English Education Students in 2018. The data were collected using observations, questionnaire and also through tests involving self-assessment, peer assessment and performance test. The data were analysed quantitatively and qualitatively. The results of the study showed that there is obvious difference between the performances before and after the treatment. Their pedagogical and learning skills and self-directed learning improved satisfactorily. With the improved pedagogical skills, it is expected the student teachers can become future teachers of 21st century generation

Keyword : 21st century learning skills, pedagogical skills, autonomous learning

Topic : Others relevant Fields

[GS.AB-552]

The Paradigm Shift Impact of Cultural Perspectives, Religion to Elderly Abuse

Upik Rahmi, Mustika Fitri
Universitas Pendidikan Indonesia

Abstract

Background: Elder Abuse is a substantial public health problem and global human rights. Elder abuse includes neglect, physical abuse, sexual harassment, emotional abuse, and financial harassment and existing data shows that 2 million elderly Americans experience abuse every year, and many of them experience it in various forms. elder abuse forms of treatment that can cause major health problems in the elderly such as physical disability, psychological problems, mental disorders, and can even cause death in the elderly. Methods: The qualitative study employed a phenomenological approach, using semi-structured interviews with a quota sample of 12 elderly in Bandung Indonesia. Result: The experience of the elderly who experienced abuse in Bandung. It has 3 themes, Financial abuse, Psychological abuse, Neglect. Discussion; Financial abuse can be in the form of taking elderly money for personal gain or benefit without the consent of the elderly, using the power to urge the elderly, using financial resources for personal gain and Psychological abuse is the use of words with aggressive, compelling tones that cause heartache or distress due to actions verbal or nonverbal. Conclusion: Cases of elderly abuse occur a lot, this is because of economic problems so that the elderly must work. Culture in Asia should be cared for by elderly children or their families so that their needs are met and demands from religion that children must serve parents, but with a cultural shift today many children ignore parents and abandon and even entrust parents to nursing homes. This phenomenon is the responsibility of health and social workers to provide education to families about elderly violence and appeal to the government to provide security and health to the elderly.

Keyword : Elder abuse, Neglect, Financial abuse, Psychological abuse

Topic : Others relevant Fields

[GS.AB-553]

Implication of Industrial Revolution 4.0 for Management of Teacher Education

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Universitas Negeri Surabaya

Abstract

As the development of the industrial revolution 4.0 led to the disruption of technology which resulted in the emergence of a new culture that was different from before, if new things were discovered which were revealed; human machine communication, connection global village, smart robots, internet of things, 3D printers, driver tutoring, big data and on line / virtual education. the development of the industrial revolution 4.0 needs to be anticipated regarding the implementation of teacher education. Actually, Kemenristekdikti has made a policy to anticipate the industrial revolution 4.0, which is harmonizing the paradigm of higher education with the industrial era 4.0. namely literacy on three things, namely digital, technology and human, lifelong education and internationalization and connectivity. On the other hand, the existing teacher education has been suspected of not fully preparing the teacher figure who is ready to support the 4.0 industrial revolution. Based on a brief look at the curriculum of several teacher study programs, it shows that the existing curriculum does not support the existence of the 4.0 industrial revolution. Some things that need to be done by teacher education providers, including; reviewing the teacher education curriculum and incorporating elements of the development of industrial revolution 4.0 in the curriculum, as well as the implementation of academic and non-academic activities based on industrial revolution 4.0.

Keyword : industrial revolution 4.0, implications, education, teacher

Topic : Science Education

[GS.AB-554]

Development of Participatory Design Processes for Designing Sustainable Urban Park: Applying Planning Methods in Eco-Model Cities of Japan to Indonesia (Part I: A Method)

Usep Surahman, Mokhammad Syaom Barliana and Johar Maknun
Universitas Pendidikan Indonesia

Abstract

Participatory design projects in major cities of Indonesia became more popular since the mid- 1990s, when the Indonesian public administrations changed its systems from the previously strong centralization to the new local self-governance. In most of the public projects that mandated the public participation including in designing urban parks, however, the kinds of participation tended to be at the minimum level, such as holding the required public announcements and public hearings. Therefore, major cities of Indonesia have phenomenon of low use, and abandoned urban parks such as in Bandung City As the substances of the participatory designs are increasingly in demand these days, it becomes more necessary to provide proper design tools and processes for better communications among the residents and experts. Based on the lesson learned from urban parks in Japan, this paper proposes a practical alternatives of design tool, applied to the three steps in the general participatory design processes. The three steps are 1) public information; 2) design workshop; and 3) feedback. The paper argues, among others, that utilization of appropriate design tools in each step contributes to better communications among residents and experts, which would eventually enhance the mobilization of community spirits among all participants.

Keyword : urban park, participatory design, communication, design tools, Indonesia

Topic : Science Education

[GS.AB-555]

Combination of Ego State and Systematic Desensitization Counseling Strategies to Reduce School Refusal at High School Students

Mochamad Nursalim , Nur Hidayah, Adi Atmoko, and Carolina L. Radjah
Universitas Negeri Surabaya and Universitas Negeri Malang

Abstract

The objective of this research is to study the decrease of behavioral score of school refusal after giving counseling strategy combination between ego state with systematic desensitization and to study the efficacy of combination between ego state with systematic desensitization to decrease school refusal of high school

students. The design of this research is single case experimental design (SCED) with model A - B - A. Data collection instrument in the form of school refusal Scale (SRS). Technique of this research data is analysis of visual data and analyst Wilcoxon Matched Pairs Signed Ranks Test. Based on the analysis and discussion of research findings, it can be concluded as follows. 1) the combination of the Ego state strategy and the Systematic Desensitization counseling strategy can significantly decrease the school refusal score of high school students. 2) the combination of the Ego state strategy and the systematic Desensitization counseling strategy proved to have convincing efficacy, proved to have changed the known level of scores under baseline conditions, decreased in treatments scores, and also decreased under withdrawal conditions, on measurement using SRS (school scale refusal). Likewise, there is a slope change, recognizable from the trend of scores that variably reverses the declining

Keyword : Ego state, desensitization, systematic, school refusal

Topic : Science Education

[GS.AB-556]

The Challenges of Implementing ICT in the Indonesia National Education System of the Industrial Revolution Era 4.0

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Abstract

Abstract The Industrial Revolution, since the era of 1.0 to 4.0, has forced almost all life orders to change along with the novelty it presents, including the management of education. The management trend of the national education system has made various efforts of capacity change, which among others are intended to respond to the challenges to the industrial revolution. But, the problem is the effectiveness of the intended information and communication technology (ICT) change programs. This working paper intends to explore the basic problems of the application of ICT in the trend of national education development associated with the challenges to the era of industrial revolution 4.0. The method used is a comparison between the target program in the strategic plan according to results. In general, the acquisition of ICT-based change efforts is constrained by the still weak socialization and the low level of Information Technology literacy among the main actors in education management, especially at the district and school level.

Keyword : Information and Communication Technology, Industrial Revolution, Global Leadership

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-557]

Composition Children Dance basen on Traditional game

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Abstract

Composition is interpreted simply, namely arranging traditional dance, especially on the floor pattern, direction, and level arrangement in the form of group dance. This dance composition is applied to prospective dance teachers to improve their understanding and dance composition skills, applied in creating children's dance compositions. The purpose of the article is to discuss the techniques of child dance composition in prospective dance teachers to create children's dance works. This article is the result of research using the experimental method. The qualitative paradigm is the discourse analysis method to synthesize the theory and concept of dance composition from seven figures, namely: Brenda McCutchen, Anne Gilbert, Alma Hawkins, Jacqueline Smith, Larry Lavender, Sardono W. Kusumo, and Eko Suprianto. Learning game-based children's dance compositions has succeeded effectively in enhancing the ability of prospective teachers to create children's dance compositions.

Keyword : composition, children dance, traditional game

Topic : Others relevant Fields

[GS.AB-558]

Gender Roles in Farmer Families in Kampung Naga, Neglasari Village, Salawu District, Tasikmalaya Regency, West Java

M.Zid, O.S Hardi, W.Khairunisa
Universitas Negeri Jakarta

Abstract

This study aims to analyze the role of men and women in carrying out their roles in families. This research has been conducted in Kampung Naga, Neglasari Village, Tasikmalaya regency. The research method that is being used is observation and interviews and the data analysis is using descriptive- analysis methods. The conclusion of this research that can be drawn from this study is 1) there is a distribution of work based on gender between men and women which is categorized as domestic, economic and social activities; 2) there are stereotypes about male masculinity related to the distribution of work; 3) generally, the perception of the roles of men and women are complementing each other in other words the men are not dominating and the women also not being subordinate.

Keyword : Gender, Kampung Naga, Family, Role

Topic : Others relevant Fields

[GS.AB-560]

The Use of Cooperative Learning Models Think Pair Share in Mathematics Learning.

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Universitas Negeri Padang

Abstract

This study aims to determine whether the mathematics learning outcomes of students who use cooperative learning models of the Think Pair Share type are better than the mathematics learning outcomes of students who follow conventional learning models. Hypothesis testing is done by using data analysis techniques with the t-test formula. Previously the data was determined by the average and standard deviation of each class, then a normality test was performed using the Lilliefors test, the results for the experimental class $L_o = 0,0920$ with $L_{table} = 0.1498$ and the control class $L_o = 0.1008$ with $L_{table} = 0.1477$ so the samples come from populations with normal distribution. The analysis was continued by testing the similarity of variance. It turns out that both samples have a homogeneous variance. After the t-test is tested, the price of t count = 2.95, while the price of t table = 1.67. Because t count > t table at the real level = 0.05, it can be concluded that the mathematics learning outcomes of students using the cooperative learning model think pair share are better than the mathematics learning outcomes of students who use conventional learning in the XI science class MAN 2 Padang.

Keyword : Mathematics Learning and Cooperative Learning.

Topic : Mathematics Education

[GS.AB-561]

Analysis of the Availability of Industrial Relation Information System on Vocational High Schools' Website in West Java, Indonesia

Cep Ubad Abdullah, Ade Gafar Abdullah, Danil Efsya Putra
Universitas Pendidikan Indonesia

Abstract

Internet plays an important role in the development of education particularly as information media and learning media for both teachers and students. The use of internet is in need of optimization including in giving information related to school selection and job vacancies. Therefore, an information system in a form of website is necessary. This study was conducted to analyze the availability of vocational high schools' website in West Java province, Indonesia. The method used in this study comprised content analysis and survey. Content analysis consisted of an in-depth study of school website's contents based on general category. In the meantime, survey contained direct observation of the website and collecting data needed for the relationship between the availability of schools' website and industrial needs. The objects studied in this paper were vocational high schools located in West Java, Indonesia. The results of the study showed that most of the schools still neglected the availability of their website, particularly on its function as information system of job vacancies.

Keyword : school website, information system, industrial relationship, vocational high school

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-562]

Development of Non-Qwerty Balinese Script Keyboard through Tamiang Keyboard Optimization with Letter Frequency Concept

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Universitas Pendidikan Ganesha

Abstract

Aksara Bali (Balinese Script) is a traditional Indonesian script that developed in Bali, and also known as Hanacaraka. Tamiang Keyboard is a non-qwerty keyboard for typing Balinese script. This keyboard was developed using character extraction methods from the Balinese language dataset by rewriting Balinese script into Latin or Roman characters. The advantage of using the Tamiang keyboard is that users can type Balinese script like writing or “nyurat” Balinese script without various rules such as when using script fonts. Tamiang Keyboard development focuses more on the typing mechanism and placement of Balinese letters on a keyboard button. However, the placement of letters on the keyboard is only based on the separation of letters that often appear on the datasets. This process has an impact on the effectiveness and convenience of users in typing Balinese language using Tamiang Keyboard. In this study, a new Balinese script keyboard was developed by applying the letter frequency concept to optimize Tamiang Keyboard. Letter frequency calculations are used to analyze aspects of home row usage, hand load analysis, and analysis of finger loads when typing Balinese language with Tamiang Keyboard. The analysis of these three aspects is used for re-mapping the letters on the keyboard.

Keyword : Balinese Script, Keyboard, Tamiang, Letter Frequency

Topic : Others relevant Fields

[GS.AB-563]

Preliminary Research of Model Meta-Inquiry Learning in Numbers Theory

Ahmad Fauzan, Elizar, I Made Arnawa
Universitas Negeri Padang

Abstract

Studying in higher education is very upholding independence, students are required to actively read, search, and analyze a problem independently. The purpose of this study was to analyze the preliminary needs of the research on the development of the meta-inquiry learning model in numerical theory, the research method used was descriptive, the results of the study were in the form of an analysis of student characteristics and objectives of the lecture material, a description of the literature needed, and a draft conceptual framework which underlies a study that is considered a supporter in the lecture process.

Keyword : Preliminary Research, Meta-Inquiry Learning Model, Number Theory

Topic : Mathematics Education

[GS.AB-564]

Effectiveness Analysis of Development Planning College

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Universitas Negeri Manado

Abstract

Abstract This research is focused on the effectiveness of college planning, by examining the determinant aspects that influence the effectiveness of planning. The study was conducted at Manado State University with a descriptive analytical method, using questionnaires, documents, and interviews in data collection. Data is processed statistically qualitatively to explain the factors that influence college planning activities. The findings of this study indicate that the effectiveness of planning in higher education is related to the availability of human resources, stakeholder cooperation and support, and the support of facilities and infrastructure. Important implications of this study indicate that aspects of university development planning signal the availability of human resources, stakeholder cooperation and support, and the availability of facilities and infrastructure. It is recommended that a comprehensive and integrated approach be taken in planning higher education development.

Keyword : Keywords. Effectiveness, planning, determinan factors

Topic : Others relevant Fields

[GS.AB-565]

Effect of Competency, Work Motivation, Industrial Work Experience and Facilities on the Readiness of Work for Senior High School Graduates in Electro Expertise Programs

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Universitas Putra Indonesia

Abstract

ABSTRACT This study aims to determine (1) the effect of competency on vocational readiness of electro expertise programs in the face of the globalization era in West Java province, (2) the effect of work motivation on vocational graduates' work readiness in electrical expertise programs in the face of globalization in West Java province, (3) the influence of the internship experience on the readiness of vocational graduates to work on electro expertise programs in the face of the globalization era in West Java province, (4) the influence of learning facilities on vocational graduates' work readiness in electro expertise programs in facing the globalization era in West Java province, (5) the influence of competencies, work motivation, internship experience and learning tools together towards the work readiness of graduates of the Electrical Skills Program in facing the era of globalization in the province of West Java. The population of this study was all students of the Electrical Engineering Vocational Program in West Java province with a total sample of 604 students. Data collection uses the questionnaire method or questionnaire. The trial of the research instrument was carried out on students of SMK 1 Katapang as many as 60 students of class XII Industrial Electronics Expertise Program. Prerequisite testing for analysis includes linearity tests and multicollinearity tests. The data analysis technique used is a simple regression analysis technique for the first and second hypotheses and multiple regression analysis for the third hypothesis. The results of this study are (1) competence has a positive and significant effect on the work readiness of vocational graduates in the Electrical Expertise Program including high criteria, this variable influences work readiness, (2) work motivation has a positive and significant effect on work readiness of vocational graduates, this variable influences work readiness, (3) the internship experience has a positive and significant effect on the work readiness of vocational graduates in the Electrical Expertise Program including the high category, this variable influences work readiness, (4) work practice experience Industry v positive and significant influence on vocational graduates' job readiness The Electrical Expertise Program is in the medium category, this variable influences work readiness, (5) competency, work motivation, experience of internship and learning facilities together have a positive and significant effect on work readiness of vocational graduates Electro Skills Program is very high High, these four variables together affect work readiness.

Keyword : effect of competency, Work Motivation, Internship experience, and Facilities on vocational readiness

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-566]

Production of Charcoal and Chemicals from Cocoa Waste by Pyrolysis Process with Analysis Transmission Electron Microscopy (TEM)

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Universitas Negeri Makassar

Abstract

Cocoa and derivative products (Cocoa powder, cocoa liquor and chocolates) consist of polyphenols and different potential levels of antioxidants. Polyphenols in cocoa beans contribute 12-18% dry weight. Naturally, the greater content of polyphenols provides benefits to human health. The potential of cocoa peel waste is abundant and not yet widely utilized, even though it has considerable potential as compost charcoal and alternative animal feed ingredients. The results of processing cocoa produce cocoa waste. with the use of pyrolysis technology is able to overcome the accumulation of plantation waste. The results of this combustion produce liquid smoke of cacao waste into distillates, charcoal. In this study the pyrolysis temperature was 112-512 ° C. The decomposition process of the analysis of raw materials for cacao fruit skin in Soppeng district revealed that lignin content was 46.82%, α cellulose was 26.73%, and the hemicellulose content was 4.86%. Analysis GC MS cacao fruit skin in Soppeng district 3.02 Butane (CAS) n-Butane, 10.72 Acetic acid (CAS) Ethylic acid, 2.42 2-Propanone, 1-hydroxy- (CAS) Acetol, 3.80 Acetic acid (CAS) Ethylic acid 1.25 Acetic acid, pentyl ester (CAS) n-Amyl acetate, 2.21 Acetamide (CAS) Ethanamide, 9.42 2(3H)-Furanone, dihydro- (CAS) Butyrolactone, 2.20 Butanoic acid, 2-propenyl ester (CAS) ALLYL N-BUTANOATE, 6.46 Phenol (CAS) Izal, 3.50 2-Cyclopenten-1-one, 2-hydroxy-3-methyl- (CAS) Corylon, 8.26 Phenol, 4-methoxy- (CAS) Hqmme, 4.47 Pentanal (CAS) n-Pentanal, 1.11 4H-Pyran-4-one, 3-hydroxy-2-methyl- (CAS) Maltol, 0.74

Butanoyl chloride (CAS) Butyryl chloride, SEM analysis for the morphological structure of Soppeng Regency cocoa pod charcoal with a magnification of 500x, 1000x, 3000x and 5000 x., Showed a small porous structure. EDX analysis of cocoa pod charcoal produced element C of 92.47%, MgO: 0 , 36%, K₂O: 0.38%, CaO: 1.14%, and ZrO₂: 1.58%. Analysis of TEM of 500 nm Cocoa Wood charcoal with an intensity of 44.55%, while 200 nm has an intensity of 42.50% and 50 nm of 41.87%. The monitoring of cacao fruit skin charcoal with pyrolysis technology can reduce the potential for environmental pollution and increase the economic value marketed with cocoa charcoal products.

Keyword : Cocoa waste, Pyrolysis, Liquid smoke, Charcoal and TEM

Topic : Others relevant Fields

[GS.AB-567]

Influence of Inquiry Learning Model and Learning Motivation on Learning Achievements in Sports Nutrition Science

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Universitas Pendidikan Ganesha

Abstract

The purpose of this study was to find out: 1) Is there an influence of the Guided Inquiry learning model on learning achievement in Sports Nutrition Science. 2) Is there an effect of motivation on learning achievement in Sports Nutrition Science. 3) Is there an interaction between the Guided Inquiry learning model and motivation towards learning achievement in Sports Nutrition Science. The research method used is the experimental method. The data collection technique uses a motivational questionnaire and a learning achievement test. The data analysis technique uses Two Path Variant Analysis. The results of data analysis at the significance level $\alpha = 0.05$ as follows: (1) Student learning achievement taught with the Guided Inquiry Learning model (mean = 64.81) is better than students taught with conventional models (mean = 60.21) obtained a statistical value of 7.234 with a significance of 0.002. (2) The learning achievement of students with high motivation (mean = 71.05) is better than students who study with low motivation (mean = 50.00) obtained a statistical value of 146.905 with a significance of 0,000. (3) There is an interaction of influence between the learning model and motivation in improving the learning achievement in the Sports Nutrition Science course with a statistical value of 12,342 with a significance of 0,001. The conclusions from the results of this study are that the hypotheses that have been stated are proven to be true, that the Guided Inquiry learning model is better than the conventional model, and high learning motivation is better than low learning motivation. Thus high motivation is very influential on learning achievement, and learning with the Guided Inquiry model is more appropriate to be implemented.

Keyword : Guided Inquiry Learning, learning motivation, learning achievement

Topic : Others relevant Fields

[GS.AB-569]

The Effect of Split Ring Resonator (SRR) Metamaterials on the Bandwidth of Circular Microstrip Patch Antennas

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Universitas Pendidikan Indonesia

Abstract

Microstrip patch antenna is one type of antenna that is currently widely used in wireless communication systems. This antenna is an option because it has several advantages, such as its lightweight, small size and easy to fabricate. However, one of the disadvantages of this antenna is the narrow bandwidth. In this study, bandwidth will be increased in a single circle microstrip patch antenna. This increase in bandwidth aims to make the antenna designed to work for LTE band 3 applications with a frequency range of 1710-1880 MHz. Increasing bandwidth can be done using the Split Ring Resonator (SRR) Metamaterial. Antenna simulation and optimization were carried out using 3D electromagnetic simulator using FR-4 substrate with a thickness of 1.6 mm and a dielectric constant of 4.3. Based on the simulation results, obtained antenna bandwidth of 310 MHz with a frequency range of 1620 - 1930 MHz for return loss of less than -10 dB. The antenna gain is around 2.1-2.5 dBi with directional radiation patterns. It can be concluded that this antenna can be used for LTE band 3 applications.

Keyword : microstrip antenna, split ring resonator, metamaterial, circular patch, LTE band 3

Topic : Others relevant Fields

[GS.AB-570]
The Web-Based Flipped Classroom Model of Instruction

Hastria Effendi, Nurhizrah Gistituati, Azwar Ananda
Universitas Negeri Padang

Abstract

One of the main problems faced by higher education in Indonesia is the low gross enrolment ratio (GER). Several attempts have been made to increase the GER, but the GER is still low and increases very slowly. The web-based model of instruction, like the Web-Base Flipped Classroom Model of Instruction (WBFCMI) which, was developed by using Borg and Gall procedures, is predicted to become one of the important instructional models to increase the GER at Indonesian universities in the future. The WBFCMI is the result of Pascasarjana Research Grand conducted in 2018 and is still hypothetical in nature since it is not yet tested in a real instructional setting. But the elements of the model have been validated by experts of a variety of expertise and declared valid.

Keyword : gross enrolment ratio, web-based instruction, flipped classroom

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-571]
The Effect Organizational Culture, Transformational Leadership on Principal and Ability of Management to Teacher Performance of Teacher Guidance and Counseling at Senior High School in Medan, Indonesia

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Universitas Negeri Medan

Abstract

This research aim to determine the effect of organizational culture, transformational leadership of the principal and principal's management ability to the Teacher Performance of teacher guidance and counseling at senior high school in Medan, Indonesia. In addition, also to find out which greater the effect of transformational leadership of the principal and the ability of management of Teacher Performance teachers guidance and counseling in at senior high school in Medan. The Samples in this research were 148 teachers guidance and counseling. This research was descriptive percentage. The result of this research show that the effect of organizational culture to the Teacher Performance of teacher guidance and counseling in senior high school in Medan with significant level is robserved> rtable (0.168>0.161), transformational leadership of the principal to the Teacher Performance of teacher guidance and counseling in senior high school in Medan with significant level is robserved> rtable (0.371>0.161) and the effect of management ability to Teacher Performance of teacher guidance and conceling at senior high school of Medan with significant level is robserved> rtable (0.787>0.161).

Keyword : Organizational Culture, Transformational leadership, management ability, Teacher Performance

Topic : Others relevant Fields

[GS.AB-572]
A 1x12 Vivaldi Antenna Array with Fed Series for S-Band Radar Applications

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Universitas Pendidikan Indonesia

Abstract

An S-band surveillance radar needs an antenna that is compact in shape, has high gain, and a directional radiation pattern in the frequency range of about 2.7-3.1 GHz. The type of antenna used for S-band radars today mostly uses patch antennas with a narrow bandwidth of only about 2-4% of the center frequency. In this study we propose another type of antenna that has wider bandwidth with directional radiation patterns. To increase gain and customize antenna radiation pattern, an antenna array needs to be made. To reduce the antenna array dimension, we use a series-fed power divider. This research consists of three stages, (1) simulation, (2) fabrication, and (3) measurement. In this study, the design of a 1x12 vivaldi antenna array was produced using a series-fed power divider. Simulation is done using 3D electromagnetic simulator software. Simulation and measurement results show that the antenna array has a frequency range of 2.7-3.1 GHz for VSWR of less than 2,

directional radiation patterns, and gain of about 9 dBi. It can be concluded that the arrangement of the vivaldi antenna from the results of this study can be used for S-band surveillance radar applications.

Keyword : radar s-band, series fed, microstrip antenna array, vivaldi antenna.

Topic : Others relevant Fields

[GS.AB-575]

Development of Bricks Based on Limboto Lake Sediment as an Eco Friendly Building Material

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Universitas Negeri Gorontalo

Abstract

The use of clay in bricks making process can become a new problem for environment. Meanwhile, the problem of shallowness of Limboto lake due to the massive sedimentation that needs an immediately handling. This research is aimed to solve those two problems. This research used the sediment the river mouth of Alo-Pohu as red bricks which consist of three various experiment media; bricks of sediment Limboto lake; bricks made with the volume comparison of one sediment of Limboto lake and one part of clay; bricks made by comparison one part of the sediment and two parts of soil. Clay taken from the area of the bricks manufacturing in Jalan Bengawan Solo in Gorontalo city. The bricks arranged based on the certainty in ASTM C1314-02a of each 5 (five) specimen which then conducted compression test. The experiment result is gained with the value of 3,59 MPa (35,9 kg/cm²) for red bricks from sediment. The average compression strength of bricks that use material with the comparison 1 : 1 is 4,18 MPa (41,8 kg/cm²) with both damage type are conical. The average compression strength of the bricks use material with the comparison 1 : 2 is 7,38 MPa (73,8 kg/cm²).

Keyword : Limboto lake, sediments, bricks

Topic : Others relevant Fields

[GS.AB-576]

Validity of Information System Model of Academic Service Based on Customer Relationship Management at University

Wahyu Prima, Ganefri, Krismadinata, Rahmatul Hayati
Universitas Negeri Padang

Abstract

This research is a part of developing research model on information system of academic service based on customer relationship management at university. This research is a research and development through Borg and Gall design that has 10 phases. Nonetheless, on this research only focuses on product validity that is third phase on Borg and Gall design. The result of this research has 3 types of products. First is a book model that contains primary support model and secondary support model. Second is information system of academic service website that can be used as a supported tool to apply a model at university. Third is a guiding book that can be used to guide the process in using information system of academic service website. This result of this research also shows that product has been got is categorized very valid. It can be said that product got, can be applied for the next phase of this research.

Keyword : Information System, Academic Service, Customer Relationship Management

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-578]

Virtual Laboratory for Elementary Students

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Universitas Negeri Semarang

Abstract

Adaptation of the STEM education system (science, technology, engineering and math) for elementary school children in Indonesia is constrained by infrastructure. Only a few elementary schools have integrated laboratories, which led to science-based thematic learning mostly limited to conceptual or theoretical. The solution offered by this article is the use of a virtual laboratory (VLab-“little scientist”) designed specifically for elementary school students. The little scientist simulates several types of physical and biological experiments

using attractive, colorful, and simple visual displays that are easily understood by young learner. The VLab-little scientist was developed using the RnD method and operated using an Android-based gadget (mobile phone). The VLab-little scientist was tested on 4th and 5th graders of Elementary School. The test results showed that 95% of the total respondents were able to experiment with real equipment, after using the VLab-little scientist. Subsequent development needs to consider elementary school science curriculum and further test to explore effectiveness of using vlab.

Keyword : virtual, laboratorium, science

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-579]

The Implementation of Character Education Values in Economics and Accounting Learning

Kusmuriyanto, Nurdian Susilowati, Windar Purwani
Universitas Negeri Semarang

Abstract

This study aimed to examine the implementation of 18 character education values established by the Ministry of National Education by teachers in Accounting and Economics subjects in Vocational High Schools and Senior High Schools in Wonosobo Regency. This type of research was quantitative descriptive research. Population and research sample were 109 accounting and economics teachers. The technique of collecting data used a questionnaire. The data analysis technique used descriptive analysis. Of the 109 questionnaires distributed, could be returned and processed only 97 samples. The results showed that character values implemented by teachers in accounting and economics learning included very good categories with religious indicators (71.6%), honest (84.2%), tolerance (83.2%), discipline (71.6%), independent (59.7%), democratic (62.3%), national spirit (73%), respect for achievement (55.7%), friendly (70.9%), peace-loving (79.5%), and responsibility (57.6). Meanwhile, those included in the category were good for hard work indicators (32.5%), creative (67.6%), curiosity (61.5%), love for the country (54%), fond of reading (56.6%), care for the environment (46.4), and care for the social (48.8%). The advice proposed in this study was that teachers can apply creative and innovative learning methods. Besides that, in the delivery of learning material the teacher can associate relevant character values.

Keyword : character education values, economics and accounting learning, teachers

Topic : Others relevant Fields

[GS.AB-580]

Does Work Motivation Mediating the Effect of Individual's Values to Organizational Commitment?

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Universitas Negeri Semarang

Abstract

This study aims to justify the human values model in order to determine individual's values, work motivation, and organizational commitment of lecturers in Universitas Negeri Semarang. The independent variable of this study was individual's values while the intervening variable was work motivation. The dependent variable was organizational commitment. This study used a proportionate random sampling technique to obtain the samples of 324 lecturers. The data were collected using questionnaires, then were analyzed using path analysis. The results of the study were first, work motivation could directly influence organizational commitment. Second, work motivation successfully mediated the influence of individual's values on organizational commitment. Last, the individual's values did not influence organizational commitment. Good individual's values are basically indicated by each employee. However, in reality, individual's values cannot be changed instantly because even though individual's values show good things, they are not accompanied by good organizational commitment.

Keyword : individual's values, work motivation, organizational commitment, lecturers

Topic : Others relevant Fields

[GS.AB-583]

Scientific Literacy of Secondary School Students Related Materials of Global Warming

Ani Rusilowati, Supriyadi, Pratiwi Dwijananti, Elva Arista N.K
Universitas Negeri Semarang

Abstract

The purposes of this research to describe of scientific literacy of secondary school students related materials of global warming. This research used quantitative descriptive method. The sample research was seventh grade students in one of the SMP/MTs at Brebes at the 2017/2018 school year. The research instrument used a scientific literacy test in the form of a description that includes four scientific literacy categories that are science as the body of knowledge, science as a way of investigating, science as a way of thinking, and interaction between science, environment, technology, and society. The results showed that the average scientific literacy of students in all categories was 39.96%. Science literacy ability of students in each category obtained a percentage of $\leq 50\%$ with very less criteria for the science category as a body of knowledge, a way to investigate and a way of thinking and 57.25% with less criteria for the category of interactions between science, environment, technology, and society. This shows that the scientific literacy skills of SMP/MTs students are still low.

Keyword : scientific literacy, global warming

Topic : Science Education

[GS.AB-584]

Innovation Learning in Fashion Technology

Fashion Technology in Vocational School
Universitas Siliwangi

Abstract

Developing entrepreneurs characteristic in the kreatif fashion industry for Dress Making Student Program through the implementation of the Model Teaching Factory Six Steps (Model TF-6M) Cucu Sutianah The purpose of education in SMK is growing, not only to full the needs of job titel of industry, or continous to higher education, but more focus in developing enterupreneurs characters for stand alone. Provection in community, learning proces in SMK, hopefully directly give the provision to student, with with many land of knowledge that already given, planning and values of attitudes, also the skills though field practice, low of students competensi and student entrepreneurship. That could, SMK graduates are not ready to create job field, wether for him selfour become entrepreneurs, exam though, entrepreneurs role in developing country, cant be ignored especially implement depelopment purpose of this research, to know how big this contribution of implementation Teaching Factory Six Steps Model (TF-6M) in developing students entrepreneurs characters in the field of kreatif fashion in SMK. Theory and concept that use in this research is the concept that related with the enchanhment learning result increasing hard skills and soft skills, developing enterupreneurs character of six step teaching factory model and kreatif fashion

Keyword : Caracter entrepreneurship in area creative industry, result hard skills and soft skills, teaching factory

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-585]

Relationship of Reproductive Health Knowledge and Student Attitude of Biology Teacher Candidate in Human Anatomy and Physiology Course at Biology Department Universitas Negeri Padang

Elsa Yuniarti, Rahmawati Darussyamsu, Muhyiatul Fadilah, Suci Rahmi Yanti
Universitas Negeri Padang

Abstract

The incidence of various reproductive health problems is caused by a lack of knowledge possessed by adolescents regarding reproductive health. This problem needs attention from various parties, including teachers. However, some teachers still do not understand the delivery of reproductive health material properly. Therefore biology teacher candidates are required to have good knowledge and attitudes towards adolescent reproductive health. The purpose of this study was to determine the relationship between knowledge and attitudes of prospective biology teacher students regarding adolescent reproductive health. This research is a descriptive research with subjects 40 biology education students at Universitas Negeri Padang who studied

human anatomy and physiology courses in 2018. Data were collected using written tests and questionnaires. Results showed that the knowledge and attitudes of prospective biology teacher on adolescent reproductive health had a very strong correlation. The knowledge of prospective biology teacher on adolescent reproductive health has an average score of 77.71 with a good category, and the attitude has an average score of 86.55 in the very good category. Based on the results of the study, concluded that the knowledge and attitudes of prospective biology teacher had a very strong correlation.

Keyword : Knowledge, Attitude, Adolescent Reproductive Health Biology Teachers Candidate

Topic : Biology Education

[GS.AB-586]

Implementation of TOKIJO as Indigenous Chemistry Knowledge Based Learning Media on Chemistry of the Element Teaching for Senior High School Students

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Abstract

This article was aimed to describe the results of the implementation of learning media in the form of characters who combine prominent characteristics of wayang (javaness puppet) characters with chemical and physics properties, use, and abundance of chemical elements. This figure (character) is called TOKIJO (tokoh kimia jowo = javanes chemical figure). TOKIJO which has been developed then socialized to the chemistry teacher association (MGMP) in Temanggung district. This socialization consists of two steps, namely the application of the learning process and explanation to the teacher regarding the use of TOKIJO media in learning. This article emphasizes the implementation of TOKIJO in teaching process by looking at students' responses to the use of TOKIJO in learning. To collect student opinions, a five scale questionnaire was used. The results showed that students considered TOKIJO could improve their understanding on chemistry of the elements. Other results are discussed in this article

Keyword : Character education, wayang, javaness character, chemistry of the elements, design based research

Topic : Chemistry Education

[GS.AB-587]

Influence of Discursive and Gender Approach to Mathematic Critical Thinking Ability and Self-Concept Students

Ernita Sukarno Dewi, Wardani Rahayu, Anton Noornia
Universitas Negeri Jakarta

Abstract

The purpose of this study is to determine the effect of discursive and gender approaches to student's critical thinking skills towards mathematics and self-concept. This research is a quasi-experiment research with 2x2 factorial design. The sample of this research is 126 junior class students from two different junior high school. The results of this study are the critical mathematical thinking skills which was being treated with discursive approaches are better than those which are being treated with conventional approaches. Male students are better suited with conventional approach learning whereas female students are better suited with discursive approach to improve student's critical thinking ability of mathematics and self-concept. This can be resulted that the discursive approach emphasizes mathematical activity, reflection on mathematical activity, and debate/discussion on mathematical activity. It is in accordance with the characteristics of women who are able to muffle their emotions through discussion and have better verbal skills than male students.

Keyword : discursive approach, critical mathematical thinking ability, self-concept, gender

Topic : Mathematics Education

[GS.AB-588]

Utilization of Internet Media by Deaf Persons for Language Learning

Shara Syah Putri, Asep Supena, Durotul Yatimah
Universitas Negeri Jakarta

Abstract

Abstract The purpose of this study was to describe the use of the internet in deaf children for visual language learning at SLB B Tunas Kasih 2, Bogor City. The usefulness of this study is to teach language learning through symbols was describe with the visual internet media to make it easier for deaf students to understand the learning material that will be delivered and can use it positively. This research was conducted using qualitative research methods with a case study approach. The results of this study indicate that learning with visual pictorial internet media turned out to be effective for deaf students to understand the learning material.

Keyword : Keywords: Internet Usage, Deaf, Language Learning.

Topic : Science Education

[GS.AB-589]

The Effectivness of Microteaching with OMTA Model

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Universitas Pendidikan Ganesha

Abstract

The Microteaching course is a scaled down teaching subject that provides basic teaching skills and experience of teaching and learning student teacher. The general objective of the study was to determine the effectiveness of microteaching with the OMTA Model (Orientation, Modeling, Training, and Assessment) in the Biology Education Study Program at Universitas Pendidikan Ganesha. Specifically the research objectives were: 1) to find out and describe the learning outcomes of the Biology Education Department of Universitas Pendidikan Ganesha students who take Microteaching Classes with OMTA Model, 2) to determine and effectively implement the OMTA model in microteaching, 4) to determine student responses to Microteaching Classes using OMTA Model. The research subjects were 18 Biology Education Department students who attended Microteaching lectures in the sixth semester of academic year 2017/2018. The data were collected by observation, tests and questionnaires. They were analyzed descriptively and statistically by one sample t-test. The results showed that the application of OMTA model was effectively used in microteaching lectures. In addition, the knowledge and teaching skills of students including categories are very good, the use of OMTA Model in microteaching lectures was very effective, and the students' response was very positive.

Keyword : effectiveness, microteaching, OMTA model

Topic : Biology Education

[GS.AB-590]

Presentation of Disaster Location Information Using Geographical Information System Based on Web Service

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Universitas Negeri Gorontalo

Abstract

The way of handling disaster applied by the Regional Agency for Disaster Countermeasure is through placing traffic sign as the information for people. However, the information is incompletely and not widely delivered to people in outside of Gorontalo District. This research aims to improve information display or natural disaster location in Gorontalo District by applying Geographic Information System. The study uses system development method of Prototype. Research finding shows that Geographic Information System of natural Disaster Location can improve the display of natural disaster location information in Gorontalo District. The system can assist the Regional Agency for Disaster Countermeasure of Gorontalo District in delivering complete information of disaster in the from of its location, type of disaster, number of population, number of victims and victim detail to people and it applies SMS Gateway technology as gate to receive message of people report when the disaster takes place and web service technology as data exchange with information system of logistic support distribution.

Keyword : disaster location information, Geographic Information System, Web Service, SMS Gateway

Topic : Others relevant Fields

[GS.AB-591]

Analysis of Hybrid Learning as a New Approach in Era Industrial Revolution 4.0 on Teaching Profession Education Program in Indonesia

Dr. Siti Nurjanah, SE, M.Si, Dr. I Ketut RS, M.Si, Dr. Tuty Sariwulan, M.Si, Dicky Iranto, SE, ME Herlita, SE, Ati Sumiati, S.Pd, M.Si
State University of Jakarta

Abstract

The era of industrial revolution 4.0 changed various aspects, everything related to technology, as well as education. The existence of these changes, spurred a new approach in education, called hybrid learning or blended learning. Hybrid learning is a learning concept that combines the process of face-to-face learning and online learning. The success of hybrid learning is in accordance with the good performance of the teacher. Therefore, this descriptive research was conducted on Teacher Professional Education (TPE) at State University of Jakarta, especially in the TPE Economic Education. This review aims to see how the application of hybrid learning to prospective teachers, this is important because the readiness of teachers will affect the success or failure of hybrid learning in the future. As an analysis material, researchers conducted interviews with TPE Economics lecturers and TPE participants, regarding the efficiency and effectiveness of hybrid learning at UNJ. The results of the study concluded that the application of hybrid learning at TPE Economics at UNJ had gone well, provided fresh experiences, and strongly supported 21st century learning, including: critical thinking or problem solving, creativity and innovation, communication, and collaboration. With this readiness, it is hoped that prospective teachers can better guide.

Keyword : Hybrid Learning, blended learning, industrial revolution 4.0, 21st century learning, PPG UNJ

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-592]

The Arrangement of Model Instrument (Tentative) for Campus Evaluation with Earthquake and Tsunami Disaster Mitigation Insight

Jeki Aridianto, Dede Rohmat and Iwan Setiawan
Universitas Pendidikan Indonesia

Abstract

Padang is one of the big cities on the West Coast of Sumatra which is at risk of earthquakes and tsunamis. Meanwhile, campus should be a model that is able to play an important role in disaster mitigation. The study aims to identify and develop tentative model instrument for the evaluation of campuses with the earthquake and tsunami disaster mitigation insight. The method used in this research is literature study such as decisions or policies, results of studies, technical guidelines, books, and publications, both covering earthquakes and tsunamis. The structured instrument model is expected to be a tentative model that will continue to be tested and developed through expert validation and testing both limited and extensive trials. In this study, only tentative model instruments will be presented. This instrument is useful for assessing and recommending earthquake and tsunami disaster mitigation actions for campuses, especially in the city of Padang.

Keyword : campus, mitigation, model instrument, tentative

Topic : Others relevant Fields

[GS.AB-593]

Environmental Performance and Carbon Emission Disclosures: A case of Indonesian Manufacturing Companies

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Universitas Negeri Semarang

Abstract

Having population more than 250 million, Indonesia is among countries with high carbon emissions. As industry sector of this country contributes significantly to carbon emissions, the Ministry of Environment and Forestry of Indonesia requires companies to implement PROPER—a program to control negative impacts of companies' operations on environment. The objective of study is to identify the impacts of PROPER on carbon emission disclosure. Environmental performance measured by PROPER has five levels i.e. black, red, blue, green, and gold. Black is considered the lowest rating with score 1 and gold is the best performance with score

of 5. The study employs 18 indicators suggested by Carbon Disclosure Project (CDP) to measure carbon emission disclosure. These indicators are classified into five categories i.e. climate change, green house gas, energy consumption, reduction and cost, and accountability of emission carbon. By using purposive sampling, this study collects data from 100 manufacturing companies listed on IDX. On average manufacturing companies earn blue rating with carbon emission disclosure reach the percentage of 21%. PROPER rating positively and significantly affects each category of carbon emission disclosure. The government and related parties need to facilitate these companies to improve their environmental performance and carbon emission disclosure.

Keyword : Environmental Performance, PROPER, Carbon Emission Disclosure

Topic : Others relevant Fields

[GS.AB-594]

Integrated Problem-Based Learning Innovation in Minangkabau Culture to Empower Prospective Teacher's Critical Thinking Skills

Fitri Arsih, Siti Zubaidah, Hadi Suwono, Abdul Gofur
Universitas Negeri Malang, Universitas Negeri Padang

Abstract

The purpose of this study is to design and develop innovative problem-based learning integrated Minangkabau culture to improve critical thinking skills of Biology teacher candidates. The research and development was employed in this study. The procedure were as following: (1) analyzing the principles and theories about problem-based learning integrated Minangkabau culture, (2) analyzing the support of conceptual theory and empirical problem-based learning models integrated Minangkabau culture, (3) evaluating the initial profile of thinking skills critical biology teacher candidates, (4) designing and developing problem-based learning innovations integrated with Minangkabau culture, (5) analyzing the validity level of the model through expert validation. The results of the research study revealed that: Integrated problem learning innovations in Minangkabau culture produced the RANDAI learning model, consisting of 6 syntaxes as follows: Reciting, Analyzing the problem, Narrating the solution, Doing the solution, Assessing the solution, and Implementing. The RANDAI learning model has characteristics: learning is built by the collaboration of Kaba (stories) and the drama which is played in a circular manner adopts the format of the performance of Minangkabau Randai art, learning to use problems as a first step in integrating new knowledge packaged in the form of Kaba performances. The validation results provide information that the Design and Development of Integrated Problem-Based Learning Innovation in Minangkabau Culture (RANDAI Learning Model) is theoretically declared valid so that it is feasible to be applied in class.

Keyword : innovation learning, integrated problem learning culture, critical thinking skills

Topic : Biology Education

[GS.AB-595]

The Influence of Positive Feedback Social Media towards Self Esteem Inuser Students Instagram in Universitas Negeri Makassar

Hasri Isrami, Lukman Nadjamuddin, Muhammad Nur Hidayat Nurdin
Universitas Negeri Makassar

Abstract

The frequency of positive feedback (the number of likes) would affect the individual's self esteem. One of the popular social media to share pictures or videos is Instagram. This study aimed to measure the influence of positive feedback of social media on self-esteem among the students at Universitas Negeri Makassar who use the Instagram. The positive feedback in this study referred to the number of likes that respondents obtained after posting their picture or videos. The number of participants involved in this study were 295 of female students, ranged from 18-21 years old in several faculties in Universitas Negeri Makassar. The method in gathering data used self-report scale through incidental sampling.

The statistical technique used in this study was ordinal logistic model of regression. Based on data analysis, obtained the correlation coefficient ($r=0.000$) and significance ($p>0.05$), which resulted in no positive influence of positive feedback on individual self esteem among the Instagram user in Universitas Negeri Makassar. This study revealed that the less positive feedback individual get, the less self esteem showed. This study offered the description of social media positive feedback on individual's self esteem.

Keyword : self esteem, positive social media feedback, students of users Instagram at Universitas Negeri Makassar.

Topic : Others relevant Fields

[GS.AB-596]

Waste Management in Bali Island: Challenges and Opportunities

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Universitas Indonesia

Abstract

Waste management on tourist destinations island is challenging problem. Consequently, solid waste management in those area should be prioritized to efficient and sustainable systems as these island are dealing with the challenges usually related to limited space, the high cost of transportation if waste will be treated outside the islands, and the impact to the local environment. As one of the tourist destination in Indonesia, Bali faces waste management issues. There are 12 landfill in Bali with a total area of 0.01% of the total area of Bali Island of 5,636 km² are inadequate to accommodate 3039.8 tons of waste generation every day. As tourist destination, the growth of tourist number in Bali is proportional to the rise of waste generation. It is reported in 2008 that 4.9 million domestic and foreign tourists visiting Bali and in 2017 multiplied by 290% to 14.4 million, of which 40% were foreign tourists. This number is greater than the population of Bali itself with a ratio of tourists in 2017 to 3 tourists for 1 inhabitant. This research presents the challenges and opportunities of solid waste management in Bali and further to emphasize importance of climate change mitigation effort through good waste management.

Keyword : Waste Management, MSW, GHG Emission, Tourism, Bali

Topic : Others relevant Fields

[GS.AB-597]

The Application of Principal School Neuroscience Faces the Industrial Revolution 4.0 in All Branches High School of Padangsidimpuan Departement of Education

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Abstract

Industrial revolution produces changes in mindset, work methods, and patterns of building harmonious relationships between community groups and organizations. The principal as the leader of organization must be able to overcome the industrial revolution. Facing the industrial revolution can be done by applying neuroscience in the practice of leadership management education. The neuroscience application creates synergy and engagement with high added value. This study aims to determine the principal's leadership in facing the industrial revolution by applying neuroscience. The research method uses a two-stage approach: qualitative and quantitative. The quantitative design uses the posttest pretest. The findings of the study were principals applying neuroscience before knowing the theory that management of education carried out in the face of the industrial revolution in the less category was 16 people (5.92%), after knowing the good category neuroscience theory as many as 21 people (7.77%).

Keyword : application, principal school, neuroscience, industrial revolution 4.0

Topic : Others relevant Fields

[GS.AB-598]

The application of Model Research Based Learning in electric power system protection course

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Universitas Negeri Padang

Abstract

The learning model should be adapted to the learning needs of today and the future. The achievement of student learning in each competency courses one of which depends the learning model used. Among the models of learning that develop current that brings the students can develop their ability in mastering the learning material is Research Based Learning model. This model focuses on the students as learning resources that integrate research in learning. This research aims to assess the effectiveness of student learning on courses of electric power system protection after used this model. This study applies the nine-step Research Based Learning model in courses of electric power system protection consisting of identifying research topic, objectives and research question, research tools both data collection tools and intervention tools, applying theory, research methodology and design, data analysis, results and discussion, recommendation, and strengthen of the research. After using

the model in learning then an increase in measurable student learning outcomes in the assessment of the effectiveness of formative and summative evaluation.

Keyword : Research Based Learning model, competency, effectiveness, courses of electric power system protection, assessment

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-600]

Reproductive Health Module Based on Problems Can Improve Students Knowledge and Skills

Desak Made Citrawathi, Putu Manik Widiyanti, Putu Budi Adnyana
Universitas Pendidikan Ganesha

Abstract

The main objective of this study was to find out that the Problem Based Adolescent Reproductive Health Module could improve knowledge and life skills in the field of adolescent reproductive health in junior high school students. To achieve these objectives, experimental research was conducted in Class IX of the Labschool involving two classes (62 students). One class (31 students) studied the human reproductive system using a problem-based reproductive health module and one class (31 students) learned about the human reproductive system without using a problem-based reproductive health module. The research design was randomized pretest-posttest control group design. The data obtained were analyzed using Multivariate Analysis of Variance. The research result showed the problem-based reproductive health module can increase student knowledge by 94.4%, and life skills in the field of adolescent reproductive health by 80.9%.

Keyword : Life skills, problem based module, reproductive health

Topic : Biology Education

[GS.AB-601]

Determine the Contribution of School Management Implementation Based on Local Wisdom Tri Hita Karana and Job Satisfaction on the Performance of Teachers in the Lower Secondary School, Sukasada District, Buleleng Regency

Anak Agung Gede Agung & Ni Putu Aryantini
Universitas Pendidikan Ganesha & SMK Negeri 2 Singaraja Bali

Abstract

This study aims to determine the contribution of school management based on Tri Hita Karana local wisdom and job satisfaction on the performance of teachers in the Public Middle School in Sukasada District. This ex-post facto study used a population study of 110 PNS teachers. Research data was collected by questionnaire. Data were analyzed by descriptive statistics and inferential statistics. The results of descriptive statistical analysis show that: teacher performance is in the very good category (82.73%), local wisdom-based school management Tri Hita Karana is in good category (82.73%) and job satisfaction in the excellent category (75.45%). The results of data analysis found: (1) there was a significant contribution of school management based on Tri Hita Karana's local wisdom on teacher performance with a contribution of 24.96%; (2) there is a significant contribution to job satisfaction on teacher performance with a contribution of 39.28%; (3) there is a simultaneous contribution of school management based on Tri Hita Karana local wisdom and job satisfaction on teacher performance with an effective contribution of 64.24%.

Keyword : local wisdom tri hita karana, job satisfaction, and teacher performance

Topic : Science Education

[GS.AB-602]

Feasibility Study on Type-B Terminal Location of Gorontalo City Using Analytical Hierarchy Process

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Abstract

A well-functioning urban and regional transportation system is one of determining factors in creating an efficient urban area. Terminal is one of important components in a regional and urban transportation system where people and goods are in and out in a system. Given the importance of a terminal, it should be located in a

strategic place. This study is to evaluate the best location for a type-B terminal in Gorontalo City. Method of analysis used was Analytical Hierarchy Process (AHP) in which eight criteria of feasibility, based on related regulations, literature on the field, and FGD are tested in terms of their consistency and analyzed their values. Based on the gradation of the selection process of type-B terminal location in Gorontalo City, the second alternative (located in Limba U1 Kota Selatan subdistrict) appeared to be dominant with value of 7.05.

Keyword : Terminal, AHP

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-605]

The Smartphone Use in Indonesian Schools, Should it be banned? : The Students' and Teachers' Perspectives

Karmila Machmud

Universitas Negeri Gorontalo

Abstract

The goal of this research is to investigate schools' policy of banning smartphone use at schools from the perspective of secondary school students and teachers in Indonesia, especially in Gorontalo province. By using an online survey, we received 250 responses from high school students; we also interviewed 10 EFL teachers and three school administrators. The result shows that all participants of this research believe the use of a smartphone helps to facilitate the instructional process; however, the policy of using a smartphone at school should be designed not only to meet the students' needs but also to address the teachers' concern regarding the issue of possible violations, which might occur as the consequences of allowing the use of smartphones in classroom. We have outlined the needed-policy based on the data analysis in this research, and during our presentation, we expect to discuss and to exchange information with other conference participants regarding this policy compared to what they have experienced in their country/province.

Keyword : Smartphone, EFL, MALL, School Policy

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-606]

Measuring the Capability Level of IT Governance: Study of COBIT 5 at Universitas Negeri Gorontalo

Verygina Pateda, Muhammad Rifai Katili, Lanto Ningrayati Amali, Mirnah Gusti Djafri

Universitas Negeri Gorontalo

Abstract

Nowadays, Information Technology Governance (ITG) has massively performed in various organizations. ITG itself reflects the existence of management and utilization of the IT activities to the achievement of the goals of the organization. Nevertheless, the evaluation of ITG at the Universitas Negeri Gorontalo (UNG) has still not been carried out systematically. To resolve the issue of evaluation efforts required to use the COBIT 5. The purpose of this research is to find out IT governance at UNG and to measure the extent of the capability of ITG at UNG. The approach of this research is descriptive by using quantitative and qualitative data. The results of this study indicate that the level of IT management capabilities at UNG is level 3 (Established Process), which means that the IT management process has been carried out following a defined standard process and enabling the achievement of process results. Based on the results obtained, recommended corrective steps can be taken by the organization management so that the level of capability of the DSS and MEA processes can be increased so that IT utilization in UNG becomes more optimal to avoid the risk of failure from IT implementation

Keyword : Capability Level, COBIT 5; IT Governance; Organization strategy

Topic : Informatics and ICT at Higher Education (IHE)

[GS.AB-607]

Development of Listening Comprehension Model by Using You tube for English Students

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Universitas Islam Riau, Universitas Negeri Padang

Abstract

Learning a foreign language by using social media is getting important because it has great potential to support student-centered learning, as it is flexible, interactive, and content-rich in nature. This research was aimed to develop an English listening comprehension model by using Social Media You tube. A Research and

Development methodology ADDIE was used: analyzing students' and teachers' needs, designing a new learning materials, Developing material, Implementing it in a group, and evaluating the existing learning materials, validating the learning materials by experts, revising learning materials, trying out the learning materials, and revising learning materials. It was found that the existing learning materials were not appropriate for the students' characteristics and were not organized in a systematic way. Students and lecturers indicated that they appreciated enjoyable English language learning materials such as songs, stories and games using You Tube. Based on these findings a new model for developing materials was developed for English Listening Comprehension Program at the Islamic University of Riau.

Keyword : learning material, ADDIE model, youtube

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-608]

Implementation of International Sport Student Exchange (SSE) Universitas Negeri Semarang in Educational Technology Era

Setya Rahayu, Lulu April Farida, M. Arif Ali
Universitas Negeri Semarang

Abstract

Sport Student Exchange (SSE) is one of the popular programs to engage international students studying in Sports Science Faculty Universitas Negeri Semarang (UNNES) and a prestige compliment for UNNES' students who can take a part in SSE. UNNES is a host institution for the former program called SSE-Inbound and the latest well known as SSE-Outbound which is held in overseas universities. The aim of this study was to know how the implementation of SSE-Inbound and SSE-Outbound Universitas Negeri Semarang in Educational Technology Era. The use of ethnography methods was considered relevant to understanding the culture of both international and host-university students studying in the educational technology era. Participants of this study were students who join SSE both inbound and outbound in the academic years 2017/2018. Data collection was done by interview and observing students' during the program runs. The study concluded that the implementation of SSE was facing culture shock and language barrier. However, students could participate in learning process well which are improving their positive self-esteem. The presence of digital learning process motivated them to gain their academic performance. SSE should be continued and implemented for the following credits program to enhance international reputation.

Keyword : international students, sport student exchange, educational technology era

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-609]

The Proportional Reasoning of Students with Auditory Learning Style in Solving Proportion Problems

Aan Putra, Yetiona Tensa, Selvia Erita
IAIN Kerinci

Abstract

Comparison, ratio, and proportion were any problems encountered in everyday life. To understand it, high-level proportional reasoning is needed. The analysis for this ability was important, especially on any students with auditory learning style that rely on hearing to understand the lesson. This study attempts to describe the proportional reasoning level of students with auditory learning style in solving proportion problems. Research informants were selected using purposive sampling technique. Based on the results of the learning style questionnaire, the researcher obtains 5 students with auditory learning style. The research informants were given some question about the proportion, then they were interviewed about the strategies used in solving the problems. The results of the analysis of student answers and interview indicate that 4 in 5 students have proportional reasoning at the qualitative level. Only 1 in 5 students reach the multiplicative level. It's mean that proportional reasoning level of students with auditory learning style is low in solving proportion problems.

Keyword : proportional reasoning, auditory learning style, proportion problems

Topic : Mathematics Education

[GS.AB-610]

Android-based E-Learning Class Application by using the I-onic Framework

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Sekolah Tinggi Ilmu Komputer Pelita Indonesia

Abstract

Technology needs in learning today are not new anymore. The rapid development of technology to improve student learning activities is needed in this all-digital era. Learning is no longer in the classroom but has been combined with manual instruction with digital media or often called blended learning. Blended Learning is innovated because there are many students who are less innovative in learning. E-learning is a part of electronic learning that can help the teaching and learning process quickly, efficiently and affectively. In addition to functioning to facilitate the delivery of data and information can also meet the shortcomings of lessons given in the classroom. Mobile learning is an application related to learning whenever and wherever this will increase attention to learning material. The mobile learning application is built to run on the Android operating system. One technology that is suitable to realize an effective and efficient learning system is to build mobile learning based learning using HTML5-based mobile application technology. This application implements framework I-onic in building android applications.

Keyword : Blended Learning, E-Learning, Android, I-onic Framework

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-611]

Development of Natural Disaster Mitigation Teaching Materials to Improve Understanding of Disasters

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Universitas Pendidikan Indonesia

Abstract

This study has three objectives (1) Knowing students' responses to teaching materials that have been used so far; (2) Develop natural disaster mitigation teaching materials in class XI; (3) Knowing the response of students and teachers to teaching materials that have been developed. Research and Development (R & D) research using the 4STMD model by Anwar (2014). The research was conducted in 1 high school, which was written by Tapakis to retrieve needs data, test products, and experiment teaching materials. The class sampling technique uses cluster random sampling technique. The technique of collecting data is through questionnaires and tests. The results of this study are to produce products in the form of natural disaster mitigation teaching materials according to the needs of students and teachers and have been validated by experts and tested. The experimental results of natural disaster mitigation teaching materials show that teaching materials are effectively used in learning. The results showed that student learning outcomes using natural disaster mitigation teaching materials increased 25% from before using teaching materials, while student learning outcomes without using natural disaster mitigation teaching materials only increased 10% from the previous value.

Keyword : Keywords: Teaching materials, effectiveness, development.

Topic : Others relevant Fields

[GS.AB-612]

The Prediction of Time Series Count Data with High Zeros Frequency by Analysing the Probability Distribution of Zero Inflated Poisson Autoregression

Utriweni Mukhaiyar; Meischke, Maudy Gabrielle; Deane Aulia Ahsanah
Institut Teknologi Bandung

Abstract

A time series data which built by high zeros frequency could not be modelled with stationary ARIMA model. Since the random variables are discrete then normal assumption is less appropriate. Poisson distribution is possible but it cannot accommodate the over-dispersed case which shows local degenerate distribution phenomenon in zero point. Then the Zero Inflated Poisson (ZIP) Autoregression be a better approach to model such data series. This model offer prediction of upcoming count data through its probability distribution. Here, this prediction method is equipped with the analysis of cumulative distribution function behaviours which assumed to follow beta distribution. Through this approach, the at most upcoming count data can be better predicted.

Keyword : Over-dispersed, ZIP, count data, autoregression, cummulative distribution function

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-613]

Cognitive Ability and Financial Literacy as a Supporting Competence of Entrepreneurship: an Additional Evidence

Arief Yulianto, Achmad Slamet
Universitas Negeri Semarang

Abstract

Teacher education institutions has a multiplier effect in producing entrepreneurs from the graduates. One of the skills that must be possessed by entrepreneurs is financial literacy to face technological era. The purpose of this study is to investigate and identify, the mastery of financial literacy material in UNNES as one of the teacher education institutions and the contribution of financial literacy material to financial knowledge in supporting information and ICT at Higher Education. This study was quantitative with descriptive research to answer the former objectives and explanatory to answer the objectives of the latest. This study involved 100 students and data were analyzed using logit with financial literacy material data were interval data and the cognitive data was nominal. The results showed the probability of students with mastery of competencies about income and spending is 1.25 times higher in forming cognitive aspect assuming other variables are constant, the probability for students who have knowledge about insurance was 1,1876 times better at forming cognitive aspect, than those who don't, overall financial literacy material shapes students' cognitive abilities. The practical implication is that financial management material not only teaches the subject of the company but also the application for personal decision making.

Keyword : cognitive ability, financial literacy

Topic : Informatics and ICT at Higher Education (IHE)

[GS.AB-614]

Influence of Knowledge Investment and Investment Motivation against the Interest of Investing in the Stock Market on Economic Education Status of Students of State University of Medan

Putri Kemala Dewi Lubis
Universitas Negeri Medan

Abstract

This study aims to determine: (1) Effect of investment motivation towards investment in capital market interest on student Prodi Economic Education State University of Medan. (2) Effect of investment knowledge towards investment in capital market interest on student Prodi Economic Education State University of Medan. (3) Effect of investment motivation and knowledge of the investment investment investment in capital market interest on student Prodi Economic Education State University of Medan. The study design was quantitative. Population and sample in this research is the sixth semester students Prodi Economic Education as many as 42 students. Collecting data using questionnaires. Instruments were analyzed using validity and reliability test. The data analysis technique used is the classical assumption, and multiple linear regression analysis. The results showed that: (1) Motivation investment affect the interest of capital market investment in students Prodi Economic Education University of Medan (2) Knowledge of investment affect the interest to invest in the capital market on students Prodi Economic Education State University of Medan. Keywords: investment knowledge, investment motivation, interest in investing in the stock market

Keyword : Investment knowledge, Investment motivation, Investment interest in capital market

Topic : Science Education

[GS.AB-615]

Generic and specific skills analysis of ITP vocational fresh graduated students based on electricity industry requirement

Sepannur Bandri, Kasman Rukun, Sukardi
Padang Institute of Technology

Abstract

Vocational education is one of the national education aimed to prepare someone to have the ready to use skills and knowledge. However, in the industrial era 4.0, the skills possessed by workers are more specialized in generic skills and specific skills. This study aim to: 1) reveal the generic skills and specific skills needed in the

electricity service industry, 2) describe preliminary data about generic skills and specific skills possessed by ITP vocational students. This is a descriptive study. Data was collected through questionnaire. Samples consisted of five practitioners in the electricity and 25 fresh graduated student of ITP.

Keyword : generic and specific skills, electricity industry requirement

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-616]

**Increasing Students' Understanding in the Concept of Projectile Motion with Modeling Instruction
Accompanied by Embedded Formative E-Assessment**

Sentot Kusairi, Siti Imtinan, Purbo Suwasono
Universitas Negeri Malang

Abstract

This study aims to analyze the understanding of the concept of projectile motion of students in class X who studied with modeling instruction accompanied by embedded formative e-assessment. An embedded experimental design was used in this mixed method study. This study involved 30 students of Malang public high school consisting of 12 male and 18 female students. The main instrument of this research was 9 conceptual items test with multiple choice questions. N-gain and effect size analysis were carried out on the test results, while the student's answers and reasons were analyzed qualitatively. The results showed that the average of pre-test value was 18.87 which increased to 49.93 in the post-test, the N-gain value was 0.50 (upper medium) and effect size was 2.09 with a category greater than the standard. This means that with modeling instruction accompanied by formative e-assessment could improve students' understanding of the concept of projectile motion. It was also found that there are some difficulties in describing the direction of acceleration each time in moving an object with a parabolic path.

Keyword : students' understanding, projectile motion, modelling instruction, formative e-assessment

Topic : Physics Education

[GS.AB-617]

The Effectiveness of MMPK Strategy to Change the Science Conception of Elementary School Teachers

Muslimin Ibrahim
Universitas Negeri Surabaya

Abstract

This study aims to examine the effectiveness of learning strategies Modification of the Conceptualization Model (MMPK). The MMPK strategy consists of 5 (five) steps (a) probing, (b) proposes previous conception, (c) observation, (d) confirmation and negotiation, and (e) consolidation. Through these steps the lecturer facilitates students to confirm the conception they have with the facts, then is persuasively guided to change their wrong conception. Or shift conception towards understanding the concept. The effectiveness of the MMPK strategy was tested through the implementation of this strategy to remediate 60 science concepts which in previous studies experienced misconceptions in teachers, students, and books. The research subjects were 24 teachers who at the time of the study were students of the Postgraduate (S-2) Elementary Education study program who programmed the science concept development course. The final test launched after the treatment shows the results of 31 concepts understood by all students, 2 people do not understand 1 concept, 6 concepts still experience misconceptions in half of the number of students. The third test launched a week after the second test showed no significant change from the test profile II. It is assumed that the strategy implemented is able to change the student's science

Keyword : Misconception, Profile, Science Conception

Topic : Science Education

[GS.AB-618]

Reorganizing the Curriculum of the Study Programs of the Electrical Engineering Fields in Universitas Negeri Padang as Its Eminent Policy

Riki Mukhaiyar, Mukhaiyar, Dwiprima Elvanny Myori, Hambali
Universitas Negeri Padang

Abstract

Based on the experimental data, it is found the unbalanced basic competence for three vocational electrical engineering study programs of the faculty of engineering at UNP, i.e. S1, D3, and D4 study programs. The initial phenomenon is that the basic knowledge of the students from any programs for about the same course was very different. This phenomenon occurs because no-convention among the programs about which courses is for a basic skill and the other as an expert skill. Therefore, the material been given is unbalanced. Moreover, another phenomenon assumed is that the lecturer teams of each study program were too deco-defective towards the category of applied electrical engineering graduation that had to work in the industry, and electrical engineering education which had to become a teacher. For instance, electrical circuit subjects, this course is a basic knowledge in electrical engineering, so it must be shared and delivered to students is the same scientific material. Therefore, the result of the research is important to unite the perceptions and perspectives of the electrical engineering department - UNP along with the lecturer council for the ideal curriculum for a department of educational institutions with the origin of formation.

Keyword : curriculum, EEVE, TVET

Topic : Others relevant Fields

[GS.AB-619]

Curriculum Evaluation based on AUN-QA Criterion for the Case Study of the Electrical Engineering Vocational and Educational (EEVE) Study Program

Riki Mukhaiyar, Mukhlidi Muskhir, Hambali, Vice Pramutia Dolly
Universitas Negeri Padang

Abstract

Educational Quality, of producing graduates along with the expectations of the community such as, personal quality, morality, knowledge, and work competency is an absolute requirement for the global community adjustment in sustainably. In ensuring it happened, it is required to apply a qualified program which is focus in an effort to satisfy all components of the educational activities. Improving the quality requires a standard, carried out in one clear work procedure, strategy, and collaboration among the stakeholders continuously. This paper introduces the program conducted by the EEVE study program in achieving the goal to certificate by AUN-QA throwing an evaluation approach of the curriculum. The curriculum is mapped based on the competency level required by the stake holders. There are three criterion of the competency mapping i.e. basic, vocation, and elective courses. Therefore, this research results a curriculum development of EEVE, as answer of a basic needs for the graduate and appropriate with the standard of AUN-QA as well.

Keyword : Curriculum, AUN-QA, Vocational and Education Technology

Topic : Others relevant Fields

[GS.AB-620]

Analysiscomparativefeeding Variation to Quality Surface Processes Blocking Equipment of EMS Steel 45on CNC Latheing Machine

Yufrizal A, Eko Indrawan, Nofri Helmi
Universitas Negeri Padang

Abstract

Quality products are obtained from good cutting conditions. One of the most important variable cutting conditions to obtain surface roughness quality is feeding. The purpose of this study was to see the comparison of feeding variations of G94 and G95. The multilevel cutting process is carried out with a cutting depth of 0.5 mm and a length of 40 mm with a carbide cutter with feeding variations (G94 / G95) of 0.3048 mm / min and 0.3281 mm / min respectively and at the price of the round / cutting speed speed (G97 / G96) is controlled. Surface

roughness testing using Surface Tester Mitutoyo SJ-201P. The result of this research can be concluded that the higher the surface roughness obtained is lower compared to the average price of roughness of the lathe result that uses low feed.

Keyword : Feeding Variation, Steel EMS45, Surface Roughness

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-621]

Adaptation of Waste Collecting Point System in Village Administrative Units to School Environments in Overcoming Waste Problems (Formulation of Tentative Models for Schools)

Musfadli Ridha, Dede Rohmat dan Iwan Setiawan
Universitas Pendidikan Indonesia

Abstract

This study aims to develop a waste collecting point system policy as waste management in the community environment to be adapted into the school environment in an effort to overcome the problem of waste in schools. The method used in the adaptation and development of the waste collecting point system is a literature review, both in the form of policies, study results, technical guidelines, books, and well-publicized journals that include the development of models and models of waste management. Adaptation of structured models is expected to be a tentative model that will continue to be tested and developed through expert validation and testing both limited and a trial is tentative. This waste collecting point adaptation model is useful for providing recommendations to schools in their efforts to manage waste.

Keyword : waste collecting point, tentative adaptation model, waste management

Topic : Others relevant Fields

[GS.AB-622]

Student Perceptions on Education as Investment

Burhanuddin & Asep Sunandar
Universitas Negeri Malang

Abstract

Abstract The purpose of this study is to examine how education is viewed as investment by higher education students. It employed a quantitative approach involving 222 students as sample in the State University of Malang Indonesia. Correlational research design was used to examine the relationship among the research variables: student perceptions on education as an investment, work competencies, individual and environment supports, student, and family background. Data were gathered employing survey questionnaire developed based on theories and previous studies. Results indicate that individual, social, economic, and environmental factors have relationships with the way how students perceived education as an investment. Implication of this study is that higher education systems have to improve their capacity in preparing students to be qualified future work forces, and vital human capital. Future research may focus on other social economic factors with wider targets in order to generate more comprehensive conclusions.

Keyword : education, investment, work competencies, workforce, human capital

Topic : Others relevant Fields

[GS.AB-623]

Maritime History Learning Based on Digital Map Media in Disruption Era

Ida Liana Tanjung, Nurmala Berutu
Universitas Negeri Medan

Abstract

Maritime History Learning in higher education experiences obstacles when students are required to determine coastal areas, patterns of networks shipping and trade in Indonesia. This is because the media used is inadequate and less attractive. This study aims to produce a product of Maritime History digital map application and to determine the effectiveness of its use in improving student competency in learning Maritime History. This research method uses research and development methods. The results of the material expert validation and media expert validation got a percentage value of 85.4 % and 88.5%. Based on these results indicating that this application-based digital map media was declared very valid and feasible to be used in learning Maritime

History . From the small group trials and large group trials conducted on students of History Education Department. The small group trials got the results 84 % and for the trials of the large groups got scores percentage of 86.1% which indicates that the media is very valid. The result can be concluded that the application-based digital map media is suitable to be used as a learning media for Maritime History.

Keyword : Maritime History, Learning Media, Digital Map

Topic : Science Education

[GS.AB-624]

Development of Study Program Accreditation Information Systems Integrated With Rank Documents

Satria Gunawan Z
Makassar State University

Abstract

The solution to archiving problems and data documentation related to management of study programs is the focus of the study that will be discussed in this paper. The proposal for study program accreditation requires standard form documents collected from the first year to the fourth year of the study program. Constraints that generally occur are the difficulty of collecting data and documents needed for the preparation of accreditation forms. The purpose of this paper is how to produce a digitalized and integrated document management system for accreditation forms with rank documents and can be used as a reference for improving accreditation of study programs. The method used in developing the information system design for the management of accreditation forms documents uses the Development Live Circle (SDLC) software model. The system built was tested based on ISO 9126 standard. The system was built using the PHP, JQuery, Bootstrap, and Ajax programming languages with access levels, lecturers, students. The results of the study program accreditation information system testing using ISO 9126 standards aspects of functionality, efficiency, reliability, portability, maintainability, usability has been fulfilled so that the study program accreditation information system can be applied.

Keyword : Accreditation Form, Study Program, ISO 9126, Information System

Topic : Others relevant Fields

[GS.AB-625]

Curriculum Enrichment in the Electrical Engineering Vocational and Education (EEVE) Study Program by Augmenting the Image Processing Study Course

Riki Mukhaiyar, Dedy Irfan, Hambali, Arinda Frismelly, Nadia Utari
Universitas Negeri Padang

Abstract

An improvement of each curriculum usually is linear with the demand required by the stake holders and it is happened in EEVE study program as well. One of the improvement asked is the augmenting of the Image Processing course study to support the need of the industrial sector such as mining, forecast weather, IT, graphic analysis, petroleum, and so on, for the skills of image processing. By implementing a study called adjusted curriculum-characteristic, this paper shows a method how to inject a new course with different characteristic in a vocational and education study field. This approach is expected to be a pattern for the other university to implement an augmenting method for its curriculum

Keyword : curriculum, image processing, TVET

Topic : Others relevant Fields

[GS.AB-626]

Development of Interactive Learning Media Based on Android Education Geography

Rika Arliza, Ahmad Yani, Iwan Setiawan
Universitas Pendidikan Indonesia

Abstract

This research is a type of product development that aims to determine the feasibility of developing interactive learning media products based on Android. The research method used is the design of the development model used in this study is the adaptation of the Luther model. The results of this study are: (1) Android-based

interactive learning media applications on national cultural material and global interactions are arranged by getting input from validators (2) the results of the feasibility of percentage of android-based interactive learning media by media experts that get percentages: Text aspect 80 %, 80% image aspect, 80% animation aspect, 80% video aspect, 80% packaging aspect, 80% usage aspect.

Keyword : Keywords: development, interactive learning media, based on android

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-627]

Validity of Teaching Materials Introduction to Basic Mathematics Based on Problem Based Learning in Students Mathematical Tadris Department of IAIN Kerinci

Putri Yulia, Selvia Erita, Nur Rusliah
Institut Agama Islam Negeri (IAIN) Kerinci

Abstract

The lecture process that took place so far in Kerinci IAIN was only in the form of providing source book titles as a reference for students, especially in the Introduction to Basic Mathematics subjects. The purpose of this study was to produce teaching material Introduction to Basic Mathematics based on valid Problem Based Learning. This type of research is development research using the IDI development model which consists of three stages, namely: back face analysis, prototype stage and assessment stage. The introductory teaching material for Basic Mathematics developed is a Basic Introduction to Mathematics module based on Problem Based Learning. Validation of teaching materials was carried out by 3 validators, namely by mathematical education experts, educational technology experts and linguists. Validation of Basic Mathematics Introduction teaching materials was analyzed using a Likert scale and then continued by adding up the average values of the three validators. The results showed that the learning tools based on Problem Based Learning (PBL) produced were valid in terms of constructs and contents for students majoring in mathematics IAIN Kerinci.

Keyword : development, teaching materials, problems, based, learning

Topic : Mathematics Education

[GS.AB-629]

Development of Simple Building Electric Installation Learning with Interactive Media at SMK School in Medan

Salman Bintang, Siti Wahidah
Universitas Negeri Medan

Abstract

This research is motivated by the problem of the low learning outcomes of class XI TITL students of SMK Negeri 2 Medan in the subject of Simple Building Electric Lighting Installation. Students find it difficult to understand the subject matter because educators lack the use of media that can create the imagination of the material being studied. Therefore this study seeks to develop interactive media-based learning media that can display animation and can provide feedback to students. The research method uses the Research and Development (R & D) method and is combined with the ADDIE learning model (Analysis, Design, Development, Implementation, Evaluation). The feasibility test for interactive multimedia-based learning media developed by the researcher and validated by media experts shows an average rating of 2.62 and is declared "very good / very feasible" and the validation of interactive multimedia by material experts shows an average rating of 2.95 and declared "very good / very decent". Testing to students is done in two stages where the test results I have an average of 2.92 and are categorized as "Very Good" and testing II has an average of 2.95 and is categorized as "Very Good". Based on the results of the feasibility

Keyword : Learning Development, interactive multimedia

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-630]

Stakeholder's Concern in the Innovation of Vocational Education and Its Implementation

Legiman Slamet, Almasri
Universitas Negeri Padang

Abstract

Abstract In this study aims to find a model of good cooperation between stakeholders and vocational high school (SMK) with stakeholders for the field of vocational education and the implementation of vocational schools, with the development of technology in the era of vocational education now experiencing many innovations, innovations that will affect the quality or quality of education itself, and all efforts to participate from stakeholders are needed in the innovation of vocational education because in general Stakeholder is usually defined as a person who will take an active role in the execution of the education quality system or people who will feel a significant influence from the users themselves . This effort will result in (1) the collaboration and continuity between SMKs and stakeholders in the development of vocational education (2) cooperation between Vocational Schools and stakeholders is very necessary. From the background above, it can be concluded that stakeholder participation in innovation in vocational education is very important for the continuity of the success and success of a vocational high school so that it can become a quality school. Keywords: Innovation in vocational education and stakeholder awareness

Keyword : Keywords: Innovation in vocational education and stakeholder awareness

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-631]

UV Vis Spectroscopy Study of Humic Acid Photodegradation Using Thin Plate Copper Oxide Catalysts on Rotating Reactors

Rahadian Zainul and Yuni Aulia Putri Djasli
Universitas Negeri Padang

Abstract

This study aims to determine the degradation process of humic acid using a thin plate copper oxide catalyst. In this study copper oxide was prepared in the form of a thin plate with a thickness of 300 microns meters. The manufacturing process is carried out by thermal oxidation for 1 hour under oxygen conditions on a copper plate. Characterization was carried out with XRD and Scanning Electron Microscope. The evaluation process was carried out using a UV Vis spectrophotometer to determine the percentage of degradation of 20 ppm humic acid used. From the results of the study, UV-Vis spectroscopic data on plate rotation of 1000 rpm, each 1 hour, 2 hours, 3 hours, 4 hours and 5 hours were 11.4%, 5.64%, 1.96%, 5.95% and 6.17%, and at the 1500 rpm rotation is 13%, 6.41%, 6.85%, 6.56% and 7.46% respectively, and at 2000 rpm rotations are 14.45%, 6.55%, 7.15%, 7.55% and 8.42% respectively. The effect of rotation increases degradation by 12-13.45%.

Keyword : Humic Acid, UV Vis Spectroscopy, Copper Oxide, Thin Plate, Reactor

Topic : Others relevant Fields

[GS.AB-633]

A Contextual Analysis of UPI Serang Establishment and Development

Herli Salim
Universitas Putra Indonesia

Abstract

This article reported to a study survey for establishing a new study program at UPI Serang. The new study program was called Marine and Fisheries Education Departement to support industrial revolution of 4.0 in maritime sector about autonomous underwater vessel, offshore aquaculture, using drones, smart small island concept, and smart fishing. There are two reasons to be considered: firstly to support President Joko Widodo program in the use of sea in Indonesia; Secondly, Banten Province has 550 coastal lines. I investigated two focuses: Firstly, to what certain extends the new study program of marine and fisheries be founded? Secondly, what are the challenges to establish that study program?. The survey on literature of marine and fisheries indicate that the Indonesian archipelago potentials require to be explored. The reserach design was qualitative descriptive, the data was gained through questionnaires and documents analysis. Data discussion indicated that almost all respondents agreed to the plan of establishing the program; one of the biggest problem was that to

build learning and teaching infrastructures. Finally, the reserach result emphasized the importance of establishing the study program for the Indonesian people welfare at Banten Province and moreover for the whole Indonesia region.

Keyword : UPI Serang Campus, Banten, maritime, marine and fisheries education, marine information system, industrial revolution 4.0

Topic : Others relevant Fields

[GS.AB-635]

The Utilization of YouTube Media in learning Anthropology in Higher Education.

Ika Purnamasari, Hafnita Sari Dewi Lubis
Universitas Negeri Medan

Abstract

Ethnic and cultural diversity in Indonesia has become a teaching material in learning Anthropology in universities. But the changes that took place in the Disruption Era resulted in the waning of cultural elements in certain ethnic groups. YouTube media is able to document and display various cultural videos that still survive. Utilization of YouTube as an Anthropology Learning Media makes it easy for students to access and study cultural elements in one ethnic group. The method used in this study is descriptive quantitative using a questionnaire as a research instrument. A sample of 60 students with a population of 100 students in Faculty of Social Science. Techniques Data collection using a linkert scale. Based on the collection of data obtained from respondents, it shows that the level of student satisfaction in using YouTube as a Learning Media is very high at 50 % are very interesting, 25 % are interesting, 16.67 % quite interesting, 8,33% less interesting

Keyword : Media YouTube, Anthropology Learning, Disruption Era

Topic : Science Education

[GS.AB-636]

Field Experience Program through a Lesson Study-Based Team Teaching in Biology Education Master's Program Universitas Negeri Makassar

Andi Asmawati Azis, Arsad Bahri, Andi Citra Pratiwi, Nurul Athirah Arbi, St. Hajar Hasbi, Nur Rahmah Gani, and Moh. Nor Adnan HSS
Universitas Negeri Makassar

Abstract

Field Experience Program is a course in Biology Education Study Program at the Graduate School of Universitas Negeri Makassar. The program offers a one semester opportunity for graduate students to practice their pedagogical skills through the Team Teaching Method with a lesson study pattern. The program aims (1) to enhance pedagogical skills and (2) to provide provisions through factual experiences to develop themselves as professional educators. The three main stages of lesson study had been implemented, namely (1) Planning stage (Plan), in which the lesson plans, worksheets, evaluation instruments, and the teaching media were prepared, (2) Implementation stage (Do), in which the teaching teams taught in General Biology course, and (3) Reflection stage (See), in which the teaching team discuss the positive and negative aspects of the implemented teaching and learning process. The result of observations during the learning process, including the observation notes and reflection notes were subjected to a descriptive analysis. The result of the study advocated that the implementation of Field Experience Program through a lesson study-based team teaching method can enhance scientific process skills, as well as enhancing collaborative teaching practice of graduate students on Biology Education Master's Program, Universitas Negeri Makassar.

Keyword : Field Experience Program, Lesson Study, Biology Education Master's Program.

Topic : Biology Education

[GS.AB-637]

Self Directed Learning Ability Students through Workshops

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Universitas Pendidikan Indonesia

Abstract

The purpose of this study is to determine the student learning independence, self-directed learning ability, the relationship of student self-reliance with student ability in self-directed learning, and how much the contribution of student independence to self-directed learning ability through self-employed activities. Subjects in this study were students class of XI Agricultural Product Processing Technology (APPT) program. In measuring the independence of learning, the instrument used to modify the self rating of self-directed learning (SRSDL) is adjusted to the self-employed assessment indicator in SMK Pertanian Pembangunan Negeri Lembang. Instrument used to measure self-directed learning ability of students was adopted from questionnaire self rating scale of self directed learning (SRSSDL). The results showed the independence of learning is in low and medium category. The ability of self directed learning is in the category of medium, high, and low. The relationship between learning independence and self-directed learning ability, in the medium relationship category. The contribution of self-learning independence to self directed learning is in the moderate category

Keyword : self-employed activity, learning independence, self directed learning ability

Topic : Science Education

[GS.AB-638]

Urban Heat Island Assessment Using Remote Sensing Data in West Java, Indonesia

Nandi, Moh Dede
Universitas Pendidikan Indonesia

Abstract

Urban heat island (UHI) is a significantly increasing temperature that occurs in urban region due urbanization and anthropogenic activities. The UHI represents environmental quality decrease and able to change a microclimate in the long term. It phenomenon can estimated using multi-temporal remote sensing imagery data. This study aims to analyze the spatial dynamics of UHI in urban region of West Java from 1998 to 2018. Information of land-surface temperature is extracted from Landsat-5 TM and Landsat-8 OLI images using radiative transfer equation which validated using MODIS data in the same period. This study shows that UHI intensity in urban region of West Java reach $\pm 6.21^{\circ}\text{C}$ in 2018. For 20 years, the land-surface temperature increases to $\pm 1.94^{\circ}\text{C}$ and the UHI reach $\pm 1.12^{\circ}\text{C}$. The UHI distribution is concentrated in the central business district, industrial area, harbor, terminal, airport and traffic jam zone. The UHI significantly increased in Depok and Cimahi which known as satellite city for the surrounding megapolitan (Jakarta and Bandung Raya). This model has high validity result with correlation value 0.74. The UHI management is important to strengthen urban resilience in the environment field through green open space, green belts, roof gardens, and use

Keyword : Land-surface temperature, remote sensing, UHI, urbanization

Topic : Others relevant Fields

[GS.AB-639]

The Effect of the Web-based Learning Media on Learning Outcomes

Monika Danni Juwita, Muhammad Hakiki, Olgi Gerieska, Siti Fauziah Lubis, Fahmi Rizal, M. Giatman
Universitas Negeri Padang

Abstract

This study is motivated by the low student learning outcomes on computer and basic networks subjects. The purpose of the research was to see the effect of using web-based learning media on student learning outcomes in understanding learning material. The research method using One-group pretest-posttest. The results showed that there was an effect of learning outcomes between pretest and posttest with a significance of 0.368. It is concluded that web-based learning media can improve student learning outcomes so that it can be used as a learning resource on computer and basic networks subjects.

Keyword : Learning Outcomes, Web-based Learning

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-640]

Composition Children Dance Base on Traditional Game

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Universitas Pendidikan Indonesia

Abstract

Composition is interpreted simply, namely arranging traditional dance, especially on the floor pattern, direction, and level arrangement in the form of group dance. This dance composition is applied to prospective dance teachers to improve their understanding and dance composition skills, applied in creating children's dance compositions. The purpose of the article is to discuss the techniques of child dance composition in prospective dance teachers to create children's dance works. This article is the result of research using the experimental method. The qualitative paradigm is the discourse analysis method to synthesize the theory and concept of dance composition from seven figures, namely: Brenda McCutchen, Anne Gilbert, Alma Hawkins, Jacqueline Smith, Larry Lavender, Sardono W. Kusumo, and Eko Suprianto. Learning game-based children's dance compositions has succeeded effectively in enhancing the ability of prospective teachers to create children's dance compositions.

Keyword : composition, Children's Dance, traditional, game

Topic : Others relevant Fields

[GS.AB-641]

The Interconnectedness of Vocational Students' Self-Efficacy, Communication Skills, and Public Speaking Anxiety

Susan Febriantina, Mery Kristin, Nuryetty Zain, Suparno
Universitas Negeri Jakarta

Abstract

Self-efficacy and communication skill plays a major role in solving public speaking anxiety, especially among vocational high students. Understanding the factors that can impact students' public speaking anxiety is a primary and critical step in predicting and developing teaching and learning activities in this digital era. Due to the advancement of education technologies which creates the challenges, having self-efficacy and communication skill is very important to be developed among students recently. The objective of this study is to investigate the correlation of self-efficacy and communication skills towards public speaking anxiety on vocational high students. This survey involved 58 participants from several vocational high schools in Jakarta, Indonesia. Data were analyzed using correlation coefficient and regression analysis. This research found that self-efficacy and communication skill had a negative and significant correlation on vocational students' public speaking anxiety. Recommendations for further studies were discussed.

Keyword : Public Speaking Anxiety, Self-Efficacy, Communication Skill

Topic : Others relevant Fields

[GS.AB-642]

Scientific Approach to Enhance Students' Science Process Skills

Ramlawati, Muh Tawil, Rismayani, and Rifda Nur Hikmahwati Arif
Universitas Negeri Makassar

Abstract

The purpose of this research is to improve the students' science process skills (SPS) by application of scientific approach in natural science teaching. The research method is quasi experiment by using non-equivalent control group design. The population consists of 9 classes with the number of students 321 people grade VII at SMP Negeri 1 Bajeng Gowa District in 2015/2016 academic year. The sample of research was conducted by purposive random sampling. The instrument is a SPS test. The four SPS indicators that were assessed are observing, grouping or classifying, inference, and communicating. Based on descriptive data analysis results show that the N-gain score of experiment class is 0.52 is higher than control class is N-gain 0.41. Both N-gain in medium category. The result of inferential analysis show that there is an influence of scientific approach to students' SPS in grade VII at SMP Negeri 1 Bajeng Gowa District.

Keyword : Science Process Skills, Scientific Approach

Topic : Science Education

[GS.AB-644]

Profile of Elementary School Literatization Skill in Writing Indonesian Poem by Using Experiential Learning Model

Isah Cahyani, Andoyo Sastromiharjo, Mamur Saadie, Suci Sundusiah
Universitas Pendidikan Indonesia

Abstract

The purpose of this study, namely to determine the profile of the ability of grade V SD students in writing Indonesian poetry. Writing is a productive action. Therefore, writing skills in Elementary School must continue to be nurtured and developed so that the expected graduate competence is achieved. Nevertheless, Alwasilah (2007) states that writing skills are the most neglected language skills in language education. This happens due to improper practice in writing lessons from elementary to university level. According to International Study of Achievement in Written Composition (in Rahman, 2011), Indonesia is a country whose culture of writing and reading is still below average. The research method that the writer use is quasi experiment research method with quantitative approach. To obtain research data, researchers used test instruments, observation sheets, and questionnaires. Quantitative approach is used to get a picture of the ability of students writing multimedia based with Experiential Learning model. The result of the research, that is, the capability profile of elementary students of experimental class and control class has increased after the treatment. Differences in the ability of grade V elementary students in writing poetry after the application of Experiential Learning model, which lies in the cohesiveness, the creative level of students in choosing the title of poetry, diction selection, the use of language style, the use of rhyme and rhythm, and the mandate contained in the poem he wrote. Thus, it can be concluded that the model of multimedia-based writing learning with Experiential Learning model. Can improve the ability to write Indonesian poetry in elementary school.

Keyword : Profile of poetry writing ability, experiential learning, Literacy

Topic : Others relevant Fields

[GS.AB-645]

Development of Interactive Media based on Mobile Learning in the Data Communication and Computer Network Course

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Universitas Negeri Padang

Abstract

This paper describes the process of developing interactive learning media in the subject of data communication and computer networks course in the Informatics Engineering Education Study Program Faculty of Engineering Universitas Negeri Padang using a smartphone device based on Android. This course gives students knowledge about Data Communication Systems, Networking, OSI Protocols and Layers (OSI Layer), Data Transmission, Data Encoding, Multiplexing, Topology, Media and Computer Network infrastructure, TCP / IP Implementation and Routing Mechanisms, Designing Networks " LAN, MAN, WAN ". This application was developed through a Prototyping approach with language Android-based Java programming uses the Integrated Development Environment (IDE) Android Studio. This research produces applications in the form of interactive media as Additional learning facilities for the subject of Data Communication and Computer Networks which have syllabus, RPP, material, video and evaluation features. This Interactive Media was tested in a certain way to some media experts and experts on matter as much as 89% saying this media is feasible to use.

Keyword : Interactive Media, Mobile Learning, Android-based Java programming, Data Communication course

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-646]

Development of Work-Based Learning SpSG Open Mining Operations

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Universitas Negeri Padang

Abstract

The purpose of this study was to look at a development of the SpSG Work-Based Learning (WBL) model that can activate students. The model designed can be applied by lecturers and according to industry needs. Reveal

the impact of the development of a model designed to increase student competence in the Open Mining Operations (OTT) course in Mining Engineering. The chosen industrial location is the Limestone Mine. PT. Semen Padang and Coal Mine PT. AICJ Sawahlunto. The development of the model designed is WBL SpSG (Shift per Shift Group). This is done by considering the time of activities and procedures that apply in the location of the mining industry. Besides integrating all existing competencies in the workplace as a whole by first being given the subject matter of the operational theory of open mining on campus with a program of practical experience directly at the mine site which is guided by qualified industrial teaching staff. The model designed can be applied by lecturers and according to industry needs and to improve student learning outcomes in the Mining Engineering Study Program.

Keyword : Development Model, Work-Based Learning, Open Mining Operations

Topic : Science Education

[GS.AB-647]

Impact of Information Communication Technology Literation and Motivation on Teacher Performance

Ari Saptono, Nabilah, Suparno
Universitas Negeri Jakarta

Abstract

This study aims to determine whether there is influence ICT (Information and Communication Technology) Literacy and Work Motivation on Economic Teacher Performance in Public Senior high School at Jakarta. This research was conducted for three months from the month of October to December 2018. The Research method used was survey. The population on this study were all economic teachers of public senior high school in Jakarta. Affordable population of this study are economic teachers of public senior high school in East Jakarta amounted to 157 people, the samples amounted 113 respondent. Based on the results of ICT literacy research and work motivation have a significant effect on teacher performance.

Keyword : ICT Literacy, Work Motivation, Teacher Performance

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-648]

Professional Teacher Education Competency Analysis of PPG SM-3T

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Universitas negeri Jakarta

Abstract

This study aims to determine the competencies owned by Teach Undergraduated Teacher Professional Education students in the Outermost, Frontier, and Disadvantaged Areas (PPG SM-3T) of State University of Jakarta (UNJ) on the implementation of PPG SM-3T. The research method used is survey method. The population in this study are PPG SM-3T students at UNJ, with the affordable population were PPG SM-3T students majoring in Culinary Art, History Education, Mathematics, Special Education (PLB), SENDRATASIK (drama, dance and music), Counseling Guidance (BK), Early Childhood Education Programs (PAUD), Geography, PENJASKESREK (Physical Education, Health and Recreation), Primary Teacher Education (PGSD), Economic, Biology, English, and Indonesian Language Education of State University of Jakarta 2017 / 2018 with 269 students. By using quantitative descriptive analysis techniques in the form of percentages to process available variable data. Based on these results it can be concluded that the competencies possessed by UNJ PPG SM-3T students are very good.

Keyword : Competency Analysis, Professional teacher education, PPG SM-3T Student

Topic : Others relevant Fields

[GS.AB-649]

Does Practice of Learning Skills and Attitudes Impact to Intention to be a Teacher

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Universitas Negeri Jakarta

Abstract

This study aims to determine whether there is an influence between Attitudes to Teacher Professions and Students Perception of Teaching Skill Practice (PKM) on interest to be teacher learning in students of Economic

Education Program Faculty of Economics Unniversitas Negeri Jakarta Class of 2013. This research method uses survey method. The population in this study were all students majoring in economic education in 2013 totaling 76 students. The sampling technique using total sampling technique or better known as census. Data analysis techniques using SPSS 22.0. Results obtained the equation $Y = 0.44 X_1 + 0.39 X_2 + 28,73$ $\epsilon 1$. The Rsquare value is 0,656 which means that economic learning outcomes can be explained by Attitudes to Teacher Proffessions and Students Perception of Teaching Skill Practice (PKM) are able to expalin as much as 65,6% variation in interest to be teachers, while the remaining 34,4% is influenced by other variables not examined.

Keyword : Attitudes Teacher Profession, Students' Perceptions of Teaching Skills Practices (PKM), Teaching Skills Practices (PKM), Interest to Become a Teachers.

Topic : Others relevant Fields

[GS.AB-650]

Effect of Financial Literacy and Social Environment on Students Saving Behavior

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Universitas Negeri Jakarta

Abstract

This study aims to determine the effect of financial literacy and social environment on savings behavior in students of economics faculty in State University of Jakarta, partially or simultaneously. This research uses survey method with quantitative approach. The population of this research is the college students faculty of economics at State University of Jakarta who runs 3.300 with a sample of 98 students. Data collection using questionnaire containing question with true-false scale (1-0) and statement with likert scale. Data analysis technique used descriptive analysis and multiple regression analysis which then processed with SPSS program version 22. The results showed that there is a partial influence between financial literacy on saving behavior and social environment on saving behavior. Simultaneously there is the effect of financial literacy and social environment on savings behavior. The effect of financial literacy and social environment on savings behavior in students faculty of economics at State University of Jakarta is 50,6% and the rest of 49,4% is influenced by other factors not examined

Keyword : Financial Literacy, Social Environment, Saving Behavior

Topic : Others relevant Fields

[GS.AB-651]

The Effort to Increase Students' Mathematical Activity through Contextual Teaching Learning Approach.

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Universitas Negeri Padang, Universitas Negeri Medan.

Abstract

The objectives of this research is to find out whether the contextual teaching Learning can (1) improve the study result of the students, (2) improve students' mathematical activity, (3) complete the students' learning. The result of data analysis in cycle 1 shows that: (1) the average result of observation of the teacher's activity 58,0 or 91% with "very good" category. (2) the average result of observation of students' activity 31,8 or 72,2% with "good enough" category. (3) the average result of the mathematical activity test 67,62 or there are 60% with "enuough good" category and 16% with "good" category. In the second cycle it was found out: (1) the average result of observation of the teacher's activity 42,0 or 95,5% with "very good" category. (3) the average result of the mathematical activity test 82,8 or 64% with: enough "good" category, 8% with "good" category, and 8% with "very good" category. Based on the result of the first and second cycle, it can be concluded that aplication of contextual teaching learning can improve the student' mathematical activity and can increase study result of the students.

Keyword : Mathematical Activity, Contextual Teaching Learning.

Topic : Mathematics Education

[GS.AB-654]

Promoting Balanced Nutrition Guidelines among Adolescent: Evaluation of the Nutrition Posters and Stickers as a Nutrition Education Media

Esi Emilia, Rachmat Mulyana, Risti Rosmiati
State University of Medan

Abstract

Nutrition education media is one of the solutions to improve adolescent nutritional behavior. The objectives of this research were to develop the nutrition poster and sticker regarding Balanced Nutrition Guidelines for adolescents and do the pilot test to analyze the nutritional behavior of junior high school (SMP) students. The study design was descriptive quantitative-qualitative study and conducted from March 2015-November 2016. The pilot test conducted at three SMP in Medan city. Fourteen dietary guideline messages have been designed into the nutrition posters and stickers as a nutrition education media for adolescents. The nutrition posters and stickers design have been revised based on the suggestions from experts (education, nutrition, and media experts) and FGD results. Pilot test showed that nutrition posters and stickers could increase the nutritional behavior of subjects. The results indicate that nutrition posters and stickers can be used as a nutrition education media to promote Balanced Nutrition Guidelines.

Keyword : Attitude, Knowledge, Poster, Practice, Sticker

Topic : Others relevant Fields

[GS.AB-657]

Revolution (Industry, Mental, Education) to Realize Just and Prosperous Society

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Abstract

The 4.0 industrial revolution is a challenge and also an opportunity for the progress of the nation. Indonesia must anticipate it to survive. This challenge could be overcome by doing a mental revolution and revolution in the field of education. Education should conduct critical thinking and build a national character. The mentality that has been suspected of not supporting the progress of the nation, such as hypocrisy, and instant minded, also should be prevented by education. Education must be directed at humanizing humans and upholding human values so that they can create a just and prosperous society as the ideals of the Indonesian people. Institute of Teachers' Education, Indonesia (LPTK) as an educational institution has a very strategic role in building human resources that are ready to face these challenges.

Keyword : education, revolution, mentally, society

Topic : Science Education

[GS.AB-658]

Development of Learning Plan Textbook Based on the Research

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Universitas Negeri Medan

Abstract

This study aims to develop the teaching materials of the learning plan textbook that effective and innovative especially in french learning in the education university. The questionnaire was given to the students of the french of the state university of medan (unimed) who had finished carrying out of teaching practices in practical schools. Development of the plan text book uses the Borg and Gall model with the following stages of research: 1) research and information collecting, 2) planning of development, 3) developing preliminary form of product, 4) preliminary field testing, 5) product revision. The findings in the field show that students really need an effective and interesting design of learning plan textbook that will be used as a guidebook before doing practices in the field. To facilitate the access, this book was developed into an e-book equipment with interactive methods in using it.

Keyword : Development, Learning, Plan Textbook

Topic : Others relevant Fields

[GS.AB-659]

Analysis of Competence on “TPACK”: 21st Century Teacher Professional Development

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Universitas Pendidikan Ganesha

Abstract

Integrating Technology in the learning process is very important in today's digital era so that educators do not only have a component of content and pedagogical knowledge but also have to be supported by the ability to integrate both components with technology. The purpose of this study was to analyze the competence of Technology, Pedagogy, and Content Knowledge (TPACK) of S2-TeP alumni in supporting their profession to become professional teachers. The method applied in this study was a descriptive quantitative method, using data from alumni who graduated in 2016-2017 through questionnaires and in-depth interviews. The results showed that the variables in TPACK, content knowledge variable and pedagogy content knowledge variable had a high average compared to other variables, namely 73.50 and 73.10. This indicated that from the pedagogic and content side, S2 TeP alumni had a good mastery of content and pedagogical knowledge. However, being viewed from the average score in applying technology, their competence was still low. The Technology Pedagogy Knowledge variable achieved 48.30, while the TPACK variable reached 52.40. These results imply that S2 TeP alumni still need to improve their TPACK competence in order to become a professional teacher in the era of industrial revolution 4.0

Keyword : competence, content knowledge, pedagogy, professional development, technology integration

Topic : Current Issues in Educational Technology (CIE)

[GS.AB-660]

The Implementation of the Environmental Education in Junior High School in Manado

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Abstract

Environmental issues are increasingly of concern, because of the lack of understanding of the people especially citizens of the importance of school health and sustainability of environmental functions. Environmental pollution is getting worse due to the attitudes and behaviours of the community no matter the environment. Environmental education in school less well performed well due to a lack of understanding of the teachers, the impact is less concerned about the health of the citizens of the school environment. The purpose of this research was to evaluate and explain how the impact of the implementation of the environmental education in junior high school against the attitude and behaviour of citizens in the management of the school environment. The methods used to answer the purpose of this study is to model the evaluation context, input, process, product. Research results, on middle school Adiwiyata school program participants with the implementation of good environmental education found a change in attitude and behaviour of the citizens of the school of the environment. Caring teachers and students will be environmental health and the preservation of environmental functions are also good. While at the school who is not a participant of the program adiwiyata found the attitude and behaviour that is different from the setup and management of the environmental aspects that are less well. It was concluded that the implementation of good environmental education in junior high school became one of the solutions to address environmental problems in Manado. School programs Adiwiyata is one of the models of the development of education, environmental and insightful will be the solution to address the environmental concerns.

Keyword : environmental education, environmental crisis, adiwiyata school

Topic : Biology Education

[GS.AB-664]

Validity and Reliability of Critical Thinking Disposition Inventory

I Wayan Redhana, Ida Bagus Nyoman Sudria, I Nyoman Suardana, Siti Maryam, I Wayan Suja, and Ni Putu Wahyuni

Ganesha University of Education

Abstract

Critical thinking includes the thinking critical dispositions and skills. The critical thinking dispositions is an attitude or soul to develop critical thinking skills. This study aimed to describe the validity and reliability of the inventory of critical thinking dispositions. Testing of inventory used survey research. The testing was conducted at the public senior high schools in Buleleng, Bali, Indonesia. The population of the study was 4579 people from natural science classes. The samples were determined using the proportionate stratified random sampling technique. By the margin of error of 5%, the number of samples drawn was 356 people. By considering a return rate of 80%, the number of samples needed was 443 people. The data obtained were analyzed using the moment product correlation statistics and Cronbach's Alpha to determine the validity and reliability of inventory, respectively. The results showed that there are two invalid items from 62 items in the inventory. The reliability of inventory is 0.727.

Keyword : critical thinking, dispositions, inventory, reliability, validity

Topic : Science Education

[GS.AB-665]

The Relationship between Mathematical Literacy and Gender with Financial Literacy

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Universitas Pendidikan Ganesha

Abstract

Literacy is the core of education for all. Therefore, Mathematical Literacy and Financial Literacy must be an important part of the Undiksha Mathematics Education Study Program (UMESP) Students. This study aims to describe Mathematical Literacy and Financial Literacy, and determine the relationship between Mathematical Literacy and Gender with Financial Literacy of UMESP students. This type of research uses ex post facto design, with the population being UMESP students who have taken Financial Mathematics and Linear Programs Courses in 2018 and the samples are determined by random sampling technique. The instruments and data collection techniques used were questionnaires and tests. Then the data were analyzed using Regresion and Chi Square. The results of the study are: (1) Mathematical Literacy and Financial Literacy of UMESP students are medium classification. and (2) Mathematical Literacy and Gender, both simultaneously and partially have no effect on Financial Literacy. Age, education level of parents, type of parents work, and living costs have a significant influence on gender.

Keyword : Mathematical Literacy, Financial Literacy, Gender

Topic : Mathematics Education

[GS.AB-666]

Effectiveness of High School Physical Teaching Based on Bali Culture Assisted to Authentic Assessment to Improve the Understanding of Concept Concepts and Applications

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Universitas Pendidikan Ganesha

Abstract

This study aims to analyze: 1) validity; 2) practicality; 3) effectiveness of teaching materials developed. The type of research is (R & D). The research data was taken at SMAN 1 Sukawati class XI IPA 6 with 35 students. The results obtained: 1) test results validity of teaching materials developed into the category is very valid where the average score of teacher handbook is 4.53 and the handle of students is 4.47 from score 5.00. 2) practicality value of instructional materials in terms of time efficiency and response of teachers and students obtained teaching materials pertained practical. The average score of teacher response 4.30 and student response

was 4.09 which entered in the practical category. 3) the value of teaching material effectiveness included in effective category. The average score of posttest results entered in both categories of 82.8 and the normalized N-gain of 0.70 is included in the high category. Based on these results, it is concluded that the developed teaching material meets material feasibility standards (in valid, practical, and effective aspects).

Keyword : Balinese culture, concept understanding and concept application, physics teaching material, authentic assessment

Topic : Physics Education

[GS.AB-667]

Improving Fundamental Skills of Elementary School Students through Fundamental Skills Card-Based Cooperative Learning Model

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Universitas Pendidikan Ganesha, Universitas Pendidikan Indonesia

Abstract

The general objective of this study is to determine the effect of fundamental skills (FS) card-based cooperative learning model on elementary school students. The specific objectives are to describe the effectiveness of FS card, and opinions about FS card media. This type of research is a quasi-experiment, one group pretest-posttest design. The population of this study was Buleleng-Bali Elementary School. The sampling technique used was purposive random sampling. Data collection used FS test instruments, formative class evaluation questionnaires and students' opinions about FS card media. Data were analyzed by using quantitative qualitative descriptive and t-test at a significance level of 0.05. The results of this study showed that: 1) the learning effectiveness reached a score of 2.80 from a maximum score of 3.00. 2) 92.39% of the students gave positive opinions, and 3) the result of t-count was 24, 17; p-value $< \alpha = 0.05$. The conclusions of this study are 1) the effectiveness of FS card-based cooperative learning model is very good, 2) students think positively about FS card media, and 3) FS card-based cooperative learning models can improve the FS of the elementary school students. It is recommended that elementary school PE teachers can implement FS card-based cooperative learning

Keyword : cooperative learning, PE, fundamental skills

Topic : Others relevant Fields

[GS.AB-668]

Analysis of Agreement and Disagreement Expressions in Japanese (On Kaiwa Text Books I- IV at Japanese Language Department State University of Jakarta)

Yuniarsih, Iin Yulianti
Universitas Negeri Jakarta

Abstract

Analysis of Agreement and Disagreement Expressions in Japanese (On Kaiwa Text Books I- IV at Japanese Language Department State University of Jakarta) In Japanese there are various forms of disclosure agree (Sansei) and disagree (Hantai) against an opinion, ideas and concepts. It is intended in order to keep the feelings for each other, not occurred misunderstanding and communication can run smoothly. This research is a qualitative descriptive study. This study was conducted to describe the various expressions agree (Sansei) and disagree (Hantai) contained in textbooks Kaiwa I-IV for data collection used the study of literature. Analysis with a pragmatic approach, namely the theory of politeness: Theory of SPEAKING, Politeness Maxim and Politeness Scale of Leech. Later in expressing agreement (Sansei) in Japanese there is a tendency disclosed directly, and apply that politeness maxim of Leech (Agreement Maxim). While the disagreement is expressed indirectly and apply the politeness scale Leech namely indirectness Scale. It is evident from the use of the phrase prefix (maeoki hyougen) at the beginning of substitutions. This is done to create a polite condition in substitutions and keep the feeling hearer and the speaker himself.

Keyword : Keywords: Agreement Expression, Disagreement Expression, Kaiwa Text Books, Maeoki Hyougen

Topic : Others relevant Fields

[GS.AB-670]

The Influence of Remuneration and Motivation of Achievement to Organizational Commitment in Lecturer's Faculty of Economics State University of Jakarta

Nuryetty Zain, Marsofiyati
Universitas Negeri Jakarta

Abstract

The objective of this research is to determine the effect of remuneration and achievement motivation on organizational commitment. This study uses survey method with path analysis techniques. The sample of this study are 71 lecturer's who are randomly choose at Faculty of Economics State University of Jakarta. The results of the research shows: (1) organizational commitment is effected directly by remuneration and achievement motivation, (2) achievement motivation is affected by remuneration. This research concludes that any change or variation occurred on organizational commitment are effected by remuneration and achievement motivation.

Keyword : Organizational commitment, remuneration, and achievement motivation.

Topic : Others relevant Fields

[GS.AB-671]

The Comparison of Problem-Based Learning and Explicit Instruction Model for Maintaining Environmental Sustainability in Primary Schools of Manado City

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Universitas Negeri Manado

Abstract

Improving learning at the elementary school level can be done by implementing innovative learning models. Explicit problem based models that can be used by teachers in teaching and for students through active and enjoyable learning processes. The teacher's ability is measured using two Teacher Performance Assessment Instruments while student success is measured by achieving learning outcomes. This study compares problem-based learning and the application of explicit learning learning models with the theme of preserving the environment in Manado's elementary schools aimed at improving student learning outcomes for science subjects for elementary schools by comparing problem-based learning and explicit teaching models and creating a learning environment in learning environment for elementary school students class I to VI by comparing the use of problem-based learning and explicit teaching models. The results of the study show that environmental studies in elementary schools can be implemented using a learning model that fits the abilities of elementary school students at each level. Problem-based learning models can improve student learning outcomes. The explicit learning learning model can improve student learning outcomes. Problem-based learning and explicit teaching models can create a pleasant atmosphere for student learning. Problem-based learning and explicit teaching models can shape and develop better

Keyword : Primary School, problem-based learning, explicit instruction

Topic : Science Education

[GS.AB-672]

Selection of Most Proper Blasting Geometry using TOPSIS Method in PT Pamapersada Nusantara Jobsite TOPB

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Universitas Negeri Padang

Abstract

Blasting is an important operations in mining. The improper selection of blasting geometry will create a problem with blasting results, such as rock fragmentation with a lot of boulders, flyrock, high ground vibrations, high air blasts, long digging time, and high powder factor values. Based on the problems that arise, choosing the right blasting geometry will certainly be needed. Selecting the right blasting geometry can be done using the Multi Criteria Decision Making (MCDM). TOPSIS is one method that can be used in decision making. In determining the right geometry using this TOPSIS, safety and technical parameters are taken into consideration.

Finally, blasting geometry with burden of 6.5 m, spacing of 7.5 m, drill hole diameter of 20 cm, subdrilling of 0.5 m, hole depth of 7.25 m and stemming of 4.3 m has been presented as the most suitable blasting geometry for PT Pamapersada Nusantara Jobsite TOPB.

Keyword : Blasting, Blasting Geometry, MCDM, TOPSIS

Topic : Others relevant Fields

[GS.AB-673]

**Interactive Mathematics Learning Media on Multiple Number Topic for Hearing-impaired Students:
Design and Validation**

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Universitas Pendidikan Ganesha

Abstract

This research is development research carried out to answer the problem of scarcity of special mathematics learning resources for hearing-impaired students. Through this research has been developed interactive mathematics learning media which (i) contains material about multiple number in Class VII, (ii) displays abstract mathematical objects in visual form, (iii) displays interesting visualizations according to the characteristics of hearing-impaired students, (iv) equipped with sign language, (v) hierarchically arranged which is ordered where students will be able to move to the next page if they have been able to give the right response/answer, (vi) equipped with evaluation with direct feedback. The research was conducted through four stages, adopting a 4-D development research design (define, design, develop, and disseminate). The quality of the media produced is determined based on expert validation. The results of expert validation indicate that the devices developed have met very valid criteria. In order for the device to meet eligibility criteria, the research needs to be continued so that an effective criteria is met through field trials

Keyword : Interactive Mathematics Learning Media, Hearing-impaired Students, Multiple Number

Topic : Mathematics Education

[GS.AB-674]

Usability Measurement "Best Helper" Using System Usability Scale (SUS)

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Universitas Pendidikan Ganesha

Abstract

The increasing need for household labor services causes labor seekers or employer to be selective in choosing prospective workers for the best results. Best Helper is a decision support system that helps in recommending the best choices in the selection of household labor services. Usability measurement is one measurement that aims to determine the level of ease of the system that has been developed. This study aims to measure usability aspects based on the user's perspective, where the results can be used as evaluation material in order to improve the system going forward. This study used a System Usability Scale (SUS) questionnaire consisting of 10 questions and was assessed using a likert scale. The survey involved 30 respondents representing each category of best helper users, namely household labor, employer, distributors, and admin. The results of the measurements show an average value of 71.09%. This number means that the level of usability Best Helper is categorized as acceptable or can be easily used by the users.

Keyword : measurement, usability, system usability scale, best helper, decision support system

Topic : Others relevant Fields

[GS.AB-675]

**Development and Application of Atmega 2560 Based Trainer in Supporting the Learning Process in the
Faculty of Engineering State University of Makassar**

Jamaluddin, Husain Syam, and Khaidir Rahman
State University of Makassar

Abstract

This study aimed to determine the student's response and the application effectiveness of ATmega 2560-based microcontroller trainers in supporting the agricultural robotics learning in the Faculty of Engineering, State

University of Makassar. This study was a research and development study using ADDIE (Analysis, Design, Develop, Implement, and Evaluate) approach. The student's response to the application of ATMega 2560-based microcontroller trainers was collected using questionnaires. The samples size of students in this study were 30 students from the Faculty of Engineering, Makassar State University. Information on the application effectiveness of ATMega 2560-based microcontroller trainers was collected from the observations results of learning outcomes, which were conducted through pre-test and post-test. The analysis results on the student's response showed an average result of 3.65, which means that they were in a good category. The average results of the pre-test and post-test obtained for the analysis of effectiveness were 60.55 and 83.50, respectively. This showed an increase in student learning outcomes which were above the minimum standard and were in a good category. The application of ATMega 2560-based microcontroller trainers received a good response from students and was effective in supporting the agricultural robotics learning in Faculty of Engineering, State University of Makassar.

Keyword : learning, effective, microcontroller, response, trainer

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-678]

Developing of Mathematical Learning Devices Based on the Local Wisdom of the Bolaang Mongondow for Elementary School

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Universitas Negeri Manado

Abstract

This study aims to develop valid, practical and effective mathematics learning tools based on local wisdom of Bolaang Mongondow using PMRI approach. The method used is the development research method which includes the stages of analysis, design and evaluation. Data collection techniques in the form of documentation, walk through, tests, observations, and interviews. Data analysis techniques used qualitative descriptive data analysis. The results obtained are in the form of a valid and practical learning device prototype. Validity is fulfilled qualitatively. Whereas, the practicality shown by experts stated that the developed prototype could be applied to elementary students. Apart from that according to the one to one and small group stages, students can use learning tools well. From observations of student learning activities, the results of student answers, it can be seen that the prototype developed has a potential effect to improve students' mathematical abilities.

Keyword : development, learning tools , mathematics, local wisdom, bolmong

Topic : Mathematics Education

[GS.AB-679]

A Profile of Improvement in Vocational High School Productive Teachers' Competencies

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Universitas Negeri Yogyakarta

Abstract

This study aims to reveal the increasing competency profile of productive teachers in Vocational High Schools in Yogyakarta after participating in self-development in terms of psychological maturity and socio-cultural aspects. This research was carried out in Public Vocational Schools and Private Vocational Schools in Sleman district by using a qualitative approach. Data was collected using interview techniques and documentation. The research subjects, namely all the productive teachers of the Building Technical Drawing (BTD). There are 15 teachers Vocational Schools were selected purposively. The validity of the data is done by triangulation techniques, as well as evidence of findings in the form of recording interviews, photos and documentation. Data analysis techniques use a type of systematic design with the stages of open coding, axial coding and selective coding. The results of the study can be seen that the competency profile of productive teacher in Public Vocational Schools can provide an increase in pedagogical and professional competencies. They have got addition knowledge and skills in the fields of curriculum development, technological development, learning strategies and methods, and vocational itself. In the other hand, the competency profile of productive teachers in Private Vocational Schools has not got a significant increase in self-development activities and has an impact on the difficulties of teachers to improve their competencies.

Keyword : Pedagogic and professional competencies, self-development, vocational high school

Topic : IT-Professional and Vocational Education in Information Technology (IVET)

[GS.AB-680]

Career Development, Work Environment, and Work Load on Job Satisfaction

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Universitas Negeri Jakarta

Abstract

This research aims to analyse the job satisfaction of employees of PT Kabelindo Murni, Tbk. The purpose of this research are: 1) To know how the descriptions of job satisfaction, career development, work environment and workload of employees, 2) To know whether career development influence on job satisfaction of employees, 3) To know whether work environment influence on job satisfaction of employees, 4) To know whether work load influence on job satisfaction of employees, 5) To know whether career development, work environment and workload jointly influence on job satisfaction of employees. A questionnaire was used as a method of data collection. The number of samples in this study are 181 respondent employees of PT Kabelindo Murni Tbk. Data analysed using linear regression. The result show: 1) career development has a positive and significant influence on job satisfaction of employees, 2) work environment has a positive and significant influence on job satisfaction of employees, 3) workload has a negative and significant influence on job satisfaction of employees, 4) career development, work environment and workload jointly has a significant influence on job satisfaction of employees.

Keyword : Career Development, Work Environment, Work Load, Job Satisfaction

Topic : Others relevant Fields

[GS.AB-681]

Development of Tourism Destination in Improving Visitors in Southeast Sulawesi Province

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Abstract

This study aims to analyze and explain the portrait of tourist destination development and tourist visit in Southeast Sulawesi Province, Indonesia. The type of research is descriptive-qualitative. Data collection techniques used were observation, interview, questionnaire, Focus Group Discussion (FGD) and documentation. Data analysis techniques used follow the "interactive model" stages: data collection, data condensation, data presentation and verification/drawing conclusions. The result of the research shows that the momentary portrait of tourism destinations in Southeast Sulawesi province shows the potential of natural, unique, and attractive development, so it is highly feasible to develop, however in its development the area has not yet had a specific policy regulating tourism management in Southeast Sulawesi Province. While the results of tourist visits shows an increasing trend every year. One of the key factors to its success is that tourist destinations in Southeast Sulawesi province provide a variety of tourist attractions (nature, beaches, mountains, farms and parts) that have high artificial power and are highly admired by domestic and foreign tourists who have visited in the area.

Keyword : Tourist destination, Tourist Visitor.

Topic : Others relevant Fields

[GS.AB-682]

Educating and Mentoring of Broiler Intensification Programs through KKN-PPM Activities for the Community of Talise Village, Likupang Barat Subdistrict, North Minahasa Regency

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Universitas Negeri Manado

Abstract

A community service activity, Kuliah Kerja Nyata – Pembelajaran Pemberdayaan Masyarakat (KKN-PPM) in Talise Village, Likupang Barat District, North Minahasa Regency, has been well implemented. The activities aim to provide education and assistance to the community through the application of intensified chicken livestock technology. The target community groups are groups of school-age children (junior high school students and school dropouts) and adult groups. The method used for groups of adults is a combination of methods of applying science and appropriate technology with the adult learning approach (Andragogics), while for groups of school age children using the Scientific Learning approach by utilizing the school yard as a laboratory and learning resource for students. The results achieved are, the community and students get

knowledge and skills about: 1) technology for processing alternative animal feed ingredients; and 2) livestock health control technology. Through this activity it has also been facilitated efforts to meet the needs of animal food consumption and increase family economic income.

Keyword : Broiler intensification; KKN-PPM, Talise Village.

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-683]

Effectiveness of Realia Media: A Case Study in SMP Negeri 1 Likupang Barat as a Partner in KKN-PPM Program

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Abstract

Communities in Talise Island face various problems, indeed children which has an impact on the high level of school dropouts. Children after school must help the work of parents who generally work as traditional farmers, breeder, or fishermen. Other factors that influence the dropout rate are the learning process and infrastructure which can be said is below national standards. To help alleviate the problems, an activity called Kuliah Kerja Nyata – Pembelajaran Pemberdayaan Masyarakat (KKN-PPM) has been carried out to reduce the number of school dropouts. The real steps taken are to optimize the utilization of existing infrastructure of SMP Negeri 1 Likupang Barat which has a land area of about 2 hectares for livestock farming and revitalize the learning process in schools by applying learning media suitable for the situation and conditions. Through this KKN-PPM activity, college students from the educational study program have implemented media realia in the learning process. Realia media are assistive devices or real objects that are used as teaching materials that can be presented in classrooms or observed directly according to their location outside the classroom. This article will describe the effectiveness of using realia media in SMP Negeri 1 Likupang Barat.

Keyword : Realia Media; KKN-PPM; Talise Island

Topic : Biology Education

[GS.AB-684]

Development of Vocational School Teachers in Daerah Istimewa Yogyakarta

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Abstract

The Presidential Instruction Number 9 of 2016 concerning Vocational Revitalization instructs the Minister of Education and Culture and the Minister of Research on Technology and Higher Education to: (1) create a roadmap for developing SMKs; (2) perfecting and harmonizing the SMK curriculum with competencies according to the needs of graduate users; (3) increasing the number and competence of educators and vocational education staff; (4) improve access to vocational school certification and vocational accreditation; (5) accelerating the provision of vocational teachers through education, equalization and recognition; and (6) developing study programs in universities to produce vocational teachers needed by SMKs. This study examines teacher resource development planning for SMKs and the obstacles experienced in implementing teacher resource development programs in Referral SMKs in DIY. The survey was conducted at 15 Reference SMKs. Data collection uses a closed and open questionnaire, analyzed using quantitative and qualitative techniques. Results of the study show that the development of vocational teacher resources is done through professional development, career development, competency development. The competence of vocational teachers in research and publication is still low, and teacher career guidance is still low. Internal constraints of teacher competency are still lacking and external constraints demands industrial support.

Keyword : Teachers, Referral SMKs, Teacher Competencies

Topic : Science Education

[GS.AB-685]

Typography Learning Through Creation of Typeface Inspired from Sandeq's Vernacular Typography

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Abstract

Typography learning demonstrates the creation of typeface inspired by vernacular typography. Vernacular typography is the art of presenting letters that is done manually by a society and then develops and becomes a characteristic of the community. Vernacular typography is found in many regions in Indonesia, one of which is the writing of the name of the Sandeq boat, a fisherman's traditional boat typical of the Mandar people in the province of West Sulawesi. Awareness about vernacular typography built through describing the process of creating typeface inspired by the name writing character of randomly selected Sandeq Mandar fisherman boats. Typeface that is created then made in full derivative in alphabetical form both uppercase and lowercase, and identified anatomically according to the scientific principles of typography. Learning vernacular typography through the creation of typeface inspired by the character of vernacular typography is an attempt to recognize typography that develops vernacularly in the society or community. This experience can add to the scientific treasures of visual communication especially typography and become one of the ways to preserve the visual culture and typographic heritage of the archipelago.

Keyword : tipografi vernakular; sandeq; Mandar; typeface.

Topic : Others relevant Fields

[GS.AB-686]

Improvement of Brown Coal Calorie Value Using Lubricants Oil Catalyst in Low Calorie Coal Tanjung Belit Area Jambi Province

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Abstract

The purpose of this study is to reveal the optimum comparison between coal and used lubricating oil to obtain optimum calorific value. The Brown Coal Upgrade methodology that is carried out is to take coal samples systematically and be represented in several points. The sample was analyzed for caloric value and total moisture, then mixing with lubricating oil in several comparisons. From the analysis of the initial coal samples prior to the upgrade the brown coal calorific value was 4857.61 Kcal/kg. After an upgrade method of brown coal at a ratio of 100 grams of coal to 25 ml of used lubricating oil, the calorific value of coal was 5793.19 Kcal/kg. In a comparison of 100 grams of coal with 50 ml of used lubricating oil the calorific value of coal is equal to 6595.79 Kcal/kg. At a ratio of 100 grams of coal with 75 ml of lubricating oil used coal calorific value of 7161.55 Kcal/kg. At a ratio of 100 grams of coal with 100 ml of used lubricating oil the calorific value of coal is 7331.19 Kcal/kg. At a ratio of 100 grams of coal with 125 ml of lubricating oil used coal calorific value of 8049.05 Kcal/kg. From this study it was found that the optimum comparison was 100 g of coal with 75 ml of used lubricating oil.

Keyword : upgrade browncoal , low calorie, total moisture

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-687]

Analysis of Work Culture and Employee Work Motivation to Increase Community Satisfaction through the Quality Based of e-Information Public Services in Sintuk Toboh Gadang District, Padang Pariaman Regency

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Abstract

These problems can be seen from the decline in fluctuations from Community Satisfaction with services, because the work culture is rigid and limited to permanent procedures. This condition is supported by the failure of innovation that has been carried out, namely forwarding information with E-Information by the Whatsapp application. This study aims to reveal the Effect of Work Culture, Employee Motivation on community satisfaction through the Quality of Public Services in SintukToboh Gadang District, Padang Pariaman Regency.

This study uses quantitative methods, with exogenous variables: Work Culture, Work Motivation, Quality of Public Services based on e-Information; endogenous variable: Community Satisfaction. For data collection used Random Sampling Technique. The population of this study were all communities in SintukToboh Gadang District. Respondents in this study amounted to 75 samples using the Proportionate Stratified Random Sampling technique. Data was collected using a questionnaire. The results of the Respondents' Achievement Levels were the variable Work Culture, Employee Work Motivation, quality of e-Information based public services and community satisfaction on sufficient criteria. The findings in this study indicate that there is an influence of Work Culture, Employee Motivation on increasing community satisfaction through e-Information-based Public Service Quality in Sintuktoboh Gadang Subdistrict, Padang Pariaman.

Keyword : Work Culture, Work Motivation, Quality of Public Service, E-Information, Community Satisfaction

Topic : Others relevant Fields

[GS.AB-688]

The Students Satisfaction of Blended E Learning Programs in University

Kadek Suranata

Universitas Pendidikan Ganesha

Abstract

Integrating the face-to-face method and e learning method is new policy at the university. Several studies have shown that there are many variables that predict the level of student satisfaction with the e-learning program. This study aims to describe the level of student satisfaction with the application of blended e-learning programs at university. The respondents of this study are 200 university students in Bachelor and Postgraduates programs who involved in the program for at least one semester. The 14 items scales were used to measure the student's satisfaction with blended e learning. The data were analysis by using Rasch Measurement and inferential statistic. The results showed that: (1) there was no difference in the level of satisfaction between male and female students; and (2) postgraduate students are more satisfied to the programs. The research findings have implications for the policy of developing the e learning programs at universities

Keyword : blanded learning, e-learning, online learning, technology in education.

Topic : Informatics and ICT at Higher Education (IHE)

[GS.AB-689]

Remote Sensing Application to Monitoring Mine Landuse Changing in Limestone / Dolomite

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Universitas Negeri Padang

Abstract

This research was conducted to monitoring mine landuse Changing in Limestone / Dolomite at PT. Bakapindo in Jorong Durian, Kenagarian Kamang, Kamang Magek District, Agam Regency, West Sumatra Province. This research was carried out through visual interpretation of remote sensing data. The remote sensing data used is the Landsat 8 Oli Image in 2018 which will be classified by the Supervised Classification method. Based on the results of the Landsat 8 Oli image processing with the observation years of 2013, 2016 and 2018 it was found that the mine area in 2013 was 12.53 hectares, in 2016 the area was 13.1678 hectares and in 2018 14,7586 hectares. Based on the results of the Landsat image processing in the observation years of 2013, 2016 and 2018, that for the mine area each year the observation changes. In the period of 2013 to 2016, the mining area increased by 0.6378 hectares and in 2016 to 2018 it increased by 1.0806 hectare

Keyword : Dolomite, Monitoring, Remote Sensing,

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-690]

Landslide Mitigation of Banjir Kanal Semarang, with Grouting Method

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Abstract

Indonesia is a country prone to the occurrence of mass movements. These disasters often occur in various regions, especially during the winter. Banjir Kanal is one of the locations of landslides from the observation in the field, the type of ground motion that occurs in the study site such as slump, it caused by the intense weathering of rocks and triggered by a condition of ground water level, Vibration, and human activities. Soil material at the study area such as claystone as the original soil and sandy clay stone as fill soil. The soil conditions and slope angle that very steep about 60 degree is a factors causing mass movement. The purpose of this study to determine the type of ground motion, causes and triggers of Mass Movement at the study site, and to know the success level of grouting methods to overcome them. The research method that used is descriptive method and experimental methods. Slope stability analysis used by the Fellenius method that calculated to determine the value of safety factor (Fs) at the study site. Based on the results of such simulations could be seen that after the implementation of grouting, soil cohesion increased.

Keyword : Mass Movements, grouting, slope stability analysis, the safety factor

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-691]

Optimization of Load Digits and Transport Equipment for Overburden Production with Production Capacity Method and Queue Method in Eastern Pit PT X

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Abstract

The coal mining business is currently faced with various challenges such as the policy of limiting exports, increasing value added products. In order to be able to compete, mining companies are required to increase productivity and efficiency and make continuous improvements in the production process. In the mining process, the availability of dump truck equipment and loading equipment will determine the sustainability of production which has an impact on productivity and efficiency. The purpose of this study is to optimize production on stripping the overburden using the queuing method, match factor. The location of the study was conducted at PT. Artamulia Tata Pratama, Tanjung Belit site, Bungo. The loading equipment used is the PC 1250 Komatsu Excavator and the Komatsu HD 465-7 dump truck. The simulation results of the number of dump trucks needed based on production capacity is 17 units while based on queuing theory there are 17 units. Where the actual dump trucks used were 19 units

Keyword : Production, queue, match factor, optimization of production, coal mining

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-692]

Analysis Of Collapse Load and Open Hole Evaluation Based on Rock Mass Rating (RMR) and Q-System Methods In Underground Mining

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Abstract

The excavation of a underground rock mass resulting a change in the balance of rock conditions such as the occurrence of rock collapse and changes in the dimensions of tunnel as a result of the displacement of the voltage distribution. It is desirable to have a good geotechnical analysis to provide an appropriate treatment of rocks excavated. This research was conducted to determine rock mass class, rock strength, and stability of open aperture based on potential of wedge collapse by estimating value of Safety Factor (FK) of openings and recommendation of ground support at BMK 34 CV Bara Mitra Kencana. Classification of rocks mass with RMR system And Q-System FK potential of wedge using unwedge software. From the measurement of several parameters of RMR method, RMR value of 48 (Coal) and 60 (Sillstone) is obtained where as rock mass class III (fair rock), based on the Q-System obtained a value of 14 in class II for coal and 4 Class III for Sillstone

Based on Undwedge and Dips Software Processing Potential for wedge collapse in the study location is in the three-way general joint set with strike / dip value of N1510E / 720, N1400E / 350, N1760E /

Keyword : Underground, Rock Mass Rating, Q-System, Safety Factor, and Ground Support.

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-695]

Analysis of the Season Effect on the Shallow Ground Water Parameters using Multivariate Statistics

Adree Octova, Afrinaldi, Mulya Gusman, Yoszi Mingsi Anaperta, Fachrul Rozi Ramadhan
Universitas Negeri Padang

Abstract

Problems related to water resources are still a major concern in some regions in the tropical climate. The effect of seasonal changes on the physical parameters of water quality is quite clearly visible. This certainly can pose a serious risk if it takes place in the long term towards human health and the environment without conducting intensive studies. The approach of this study is to draw the relationship between seasonal changes and physical parameters of water quality in 185 points spread across 11 sub-districts. Water parameter data was analyzed using multivariate statistics. Based on multivariate analysis in the dry season, the regression equation $Y = 343.482 X_1 + 0.039 X_2 - 0.016 X_3 + 12.961 X_4 + 124.773 X_5 - 815.208$ and rainy season $Y = 273.119 X_1 + 0.025 X_2 + 0.336 X_3 + 15.731 X_4 + 39.731 X_5 - 745.119$ (X_1 salinity, X_2 resistivity, X_3 depth, X_4 TDS, and X_5 temperature, with bound parameters or Y is conductivity). Based on the health standards of the Indonesia Health Ministry concluded that regions showed the zone of extreme changes is close to the coast.

Keyword : Season, Water Quality Parameters, Multivariate

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education

[GS.AB-696]

Biosynthesis of Silver Nanoparticles Using Bintaro (Cerbera Odollam) Leaves Extract

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Universitas Negeri Makassar

Abstract

Biosynthesis of silver nanoparticles has been done using bintaro leaves (*Cerbera odollam*) extract as a reductor agent. The aims of this research was to find out the effect of contact time and adding PVA on the characteristic and size of silver nanoparticles. The process of forming silver nanoparticles was monitored by observing UV-Vis absorption. The results of the research showed that absorption rate was increasing along with the increasing of contact time. The sample without PVA shows that the maximum absorption was in wave length 428.00 nm with the absorbance of 1.151 at 270 minute, while the additional PVA polymer shows that that the maximum absorption was in wave length 430.50 nm with the absorbance of 1.342 in 3 days. Silver nanoparticles size was determined by X-Ray diffraction. The mean distribution of synthesis of silver nanoparticles without additional PVA was 98.93 – 106.09 nm while for the additional PVA was 89.84 – 97.71 nm.

Keyword : biosynthesis, silver nanoparticles, bintaro leaves, PVA

Topic : Science, Technology, Engineering, and Mathematics (STEM) Education



"Alam Takambang Jadi Guru"

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