



KEMENTERIAN
PENDIDIKAN DAN KEBUDAYAAN



Research and Community
Service Centre (RCPPM) of UNNES



BOOK OF ABSTRACT

IC2RSE

THE 4TH INTERNATIONAL CONFERENCE ON
COMMUNITY RESEARCH AND
SERVICE ENGAGEMENTS

2 - 6 November 2020

Virtual Conference

"Opportunities and challenges of education,
technology, innovation, social and
community service research
in new normal"



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FOREWORD

The Institute of Research and Community Service is an element of academic executor that performs some of Medan State University's duties and functions in the area of research and community service under the Rector authority. The Institute of Research and Community Service is led by a Chairman who is directly responsible to the Rector. The chairman performing his duties is assisted by a secretary.

The Institute of Research and Community Service has the duty of coordinating, implementing, monitoring and evaluating research and community service activities. When doing these tasks, the Institute of Research and Community Service holds its functions as following:

1. Devising institutional plans, programs, and budgets.
2. Performing a pure and applied scientific research.
3. Implementing community service.
4. Coordinating the implementation of research and community service activities.
5. Publishing the results of research and community service.
6. Making a cooperation in the field of research and community service with universities and other institutions both domestically and abroad.
7. Monitoring and evaluating the implementation of research and community service activities.
8. Implementing a institutional administrative affair.

The Institute of Research and Community Service consists as following:

- Chairman
- Secretary
- Administration Section
- Center
- Functional Group

The Administration Section is an administrative service unit within the Institution led by a Head who is responsible to the Chair of the Institute. When performing its duties, the Administrative Section holds its functions as followings:

1. Implementing a draft of regulation , plans, programs, activities and budgets.
2. Collecting and processing research and community service data.
3. Making documentation and publishing a research outcome and community service affair.
4. Providing information services in the field of research and community service.
5. Performing a matter of acquiring Intellectual Property Rights, research outcome and community service.
6. Implementing financial affairs, employment affairs, household affairs, and management of state property

The Administration Section of the Institute of Research and Community Service consists as following:

1. The General Subdivision has the duty of performing financial affairs, staffing affairs, management affairs, administration affairs, household affairs, and management of state property.
2. The Sub Division of program has the duty of preparing plans, programs, activities, budget for research and community service, acquisition of Intellectual Property Right, a research outcome and community service.
3. The Sub Division of Data and Information has the duty of collecting, processing, and providing a research information and community service.

The center has the duty of performing research / assessment and community service based on its area. When carrying out these activities, the Rector can appoint lecturers or other functional staff as the central coordinator. The establishment and closure of the center is

done by the rector if necessary. Research and Community Service consist of 5 centers for various fields of study, including:

1. Research Center of Humanities Service (PUSIS, Center of Economics, Law and Human Rights, Cultural Arts and Gender);
2. Science and Technology Center (Sports, KLH, Geospatial and Disaster, Mathematics and Natural Sciences, Engineering);
3. Education Service Research Center;
4. Innovation Center, Publication and Sentra's Intellectual Property Right
5. Community Service program, Professional Placement, and Internship Center

Our Vision

"Becoming an International Development and Service Institution Contributing to National Development through Research and Community Service Programs in the Field of Education, Industrial Engineering, and Culture".

Our Mission

2. Actualizing a research program and an excellent community service in the field of education, industrial engineering and culture on the national and international scopes.
3. Increasing the quantity and quality of publications of the academic community in the Medan State University into journals of national and international reputation for upgrading Medan State University's ranking in world university ranking.
4. Increasing an acquisition and diversity of Intellectual Property Right.
5. Developing research in line with community service for the industrialization of social, economic and rural cultural potentials based on sustainable community empowerment.

6. Strengthening the character of students and alumnus of Medan State University to meet market demands and also having a competitive and excellent entrepreneurial attitude in establishing start-up.

Research Synergy Foundation is a digital social enterprise platform that focuses on developing Research Ecosystem towards outstanding global scholars. We built collaborative networks among researchers, lecturers, scholars, and practitioners globally for the realization of knowledge acceleration. We promote scientific journals among countries as an equitable distribution tools of knowledge. We open research collaboration opportunities among countries, educational institutions, organizations and among researchers as an effort to increase capabilities.

Known as a catalyst and media collaborator among researchers around the world is the achievement that we seek through this organization. By using the media of International Conference which reaches all researcher around the world we are committed to spread our vision to create opportunities for promotion, collaboration and diffusion of knowledge that is evenly distributed around the world

Our Vision:

As global social enterprise that will make wider impact and encourage acceleration quality of knowledge among scholars.

Our Mission:

First, developing a research ecosystem towards outstanding global scholars. Second, Promoting scientific journals among countries as an equitable distribution tools of knowledge. Third, opening research collaboration opportunities among countries, educational institutions, organizations and among researchers as an effort to increase capabilities. Fourth, creating global scientific forum of disciplinary forums to encourage strong diffusion and dissemination for innovation.

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Prof. Dr. Paningkat Siburian, M.Pd

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Prof. Dr. Pargaulan Siagian, M.Pd

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Prof. Dr. Rosmawaty Harahap, M.Pd
Universitas Negeri Medan

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Universitas Negeri Medan

Prof. Selamat Triono, M.Sc., Ph.D
Universitas Negeri Medan

Prof. Dr. Siman, M.Pd
Universitas Negeri Medan

Prof. Dr. Sri Milfayetty, M.S. Kons
Universitas Negeri Medan

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Prof. Dr. Sumarno, M.Pd
Universitas Negeri Medan

Prof. Dr. Sumarsih, M.Pd
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Prof Dr. Zainuddin, M.Hum
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Prof. Dr. Zainuddin, M.Pd
Universitas Negeri Medan

Prof. Dr. Hamonangan Tambunan, M.Pd
Universitas Negeri Medan

Prof. Dr. Wesly Hutabarat, M.Sc
Universitas Negeri Medan

CONFERENCE CHAIR MESSAGE

We are delighted to welcome you to the The 4th International Conference on Community Research and Service Engagements (IC2RSE) by Research and Community Service Centre of Universitas Negeri Medan (LPPM UNIMED) and Research Synergy Foundation (RSF) as official partner held virtually on 2-6 November 2020.

The theme of Conference is Opportunities and Challenges of Education, Technology, Innovation, Social and Community Service Research New Normal. IC2RSE International Conference shows up as a cutting-edge social science, engineering, education, economics and science research platform to gather presentations and discussions of recent achievements by leading researchers in academic research.

It has been our privilege to convene this conference. Our sincere thanks, to the conference organizing committee; to the Program Chairs for their wise advice and brilliant suggestion on organizing the technical program and to the Program Committee for their thorough and timely reviewing of the papers. Recognition should go to the Local Organizing Committee members who have all worked extremely hard for the details of important aspects of the conference programs and social activities.

We welcome you to this conference and hope that this year's conference will challenge and inspire you, and result in new knowledge, collaborations, and friendships.

Best regards,

Dr. Diky Setya Diningrat
Conference Chair of The 4th International Conference on
Community Research and Service Engagements (IC2RSE)

RECTOR OF UNIVERSITAS NEGERI MEDAN



Dr. Syamsul Gultom, M.Pd

Born on 13th May 1976 in North Tapanuli, Dr. Syamsul Gultom, M.Pd is now serving as a rector as well as chief lecturer in Medan State University. His area of study is sports science with the taught courses that are ergonomics, sports management, and K3. In 2003, he accomplished his undergraduate degree in Universitas Sumatra Utara, majoring in public health science. Then, he continued to master degree and finally completed post doctoral degree in 2017. Dr. Syamsul Gultom, M.Pd has served on roughly 8 posts in the last 8 years, commencing from supervisor coordinator of National Exam in Tebing Tinggi town in 2012 to rector of Medan State University between 2019 and 2023. Moreover, in the past 5 years, he has conducted five researches, one of which is entitled “The Application of Cognitive Strategy and Development of Students in Research – Based Learning on Ergonomics Course in 2018”. He has also published scientific articles such as articles entitled “Measurement of Sustainability Learning For Computer Users in the Bureau Administration Center of Unimed in 2017 and The Effort to Reduce a Muscle Fatigue Through Gymnastics Relaxation and Ergonomic Approach for Computer Users in Central Building State University of Medan in 2018”. Lastly, Dr. Syamsul Gultom, M.Pd has engaged in 21 seminars and workshops since 2012.

CHAIRMAN OF RESEARCH AND COMMUNITY SERVICE CENTRE (LPPM) OF UNIVERSITAS NEGERI MEDAN



Prof. Dr. Baharuddin ST.M.Pd. who was born on 31th December 1966 in Uluvalu Basemis is a professor in Medan State University. He teaches many subjects such as research methodology, Learning Strategy, Media production and Industrial Engineering. In 1991, He completed his bachelor degree in Universitas Negeri Makasar in, majoring in electrical engineering education and electrical engineering in Universitas Islam Sumatra Utara in 2000. After that, he received master degree in Curriculum development in 1997 and his PhD degree in education technology in 2012. Between 2015 and 2020, Dr. Baharuddin ST.M.Pd. has been involved in 8 scientific researches and contributed to community empowerment, for instance, becoming instructor of training in national curriculum 2013 in senior Level in Medan city in 2015 and an instructor lecturer on development in Teacher Profession Education in level 3 in 2019. He is also an author of 18 scientific articles published in international Journal, and one of his articles is The Influence of Attitude and Subjective Norm on Citizen's Intention to Use E-Government Service (Journal of Security and Sustainability Issues). Apart from that, he is a experienced speaker and has been a keynote speaker for 17 seminars from 2015 to 2020 in many different events. Dr. Baharuddin ST.M.Pd has also written 6 books published by Unimed Press and other publishers. Then, He has some experiences in formulating public policy such as being test reviewer of civil servant candidate in 2016.

CONFERENCE CHAIR



Dr. Diky Setya Diningrat who was born on 2nd October 1977 in Bandung is currently working as Lecturer in Department of Biology at Medan State University. He completed his PhD in 2016 from ITB in Plant science and biotechnology. His area of work includes Genetics, Plant tissue culture and Cell and Molecular Biology. His responsibility includes Founder of Medan Young Researcher Community, Reviewer in international wound journal and Journal of Community research and service, member of PBBMI (Perhimpunan Biokimia dan Biologi Molekuler Indonesia), and member of ASPB(American Society of Plant Biology. He has done research from 2008 and his research includes Gene Leafy and Terminal Flowering and *Premna pubescens* Blume. His prior work experience includes visiting scientists at The schatz center for tree molecular genetic in department of ecosystem science and management at Penn State university in 2013 and being the chairman of The schatz center in professor john E. Carlson as tree molecular genetic expert. He is the author of scientific paper and has published 10 articles in International and National Peer reviewed Journals. He has been keynote speaker at scientific research in some International and National seminars. Nowadays, he is also serving as an Editor of several National and International Journals.

Summary of Speech :

North Sumatra's Endemic Plant Potential as Antiviral Covid-19.

As a university oriented to research and knowledge development, the researchers of Medan State University have been preserving a variety of North Sumatra's Endemic Plants such as Andaliman, busbuas, Hanjeli and Jamblang. For many years, They are have been used for medical purposes in Indonesia, commencing from their leaves containing highest percentage of medicinal properties (41%) to their tubers containing lowest percentage of medicinal properties (below 5%). Those plants are, for example, ginger, noni, Curcuma, fragrant lemongrass, galangal, soursop, betel, bandotan, and sapodilla. In addition, They also have secondary metabolites utilized in

pharmacy industry, flavour industry, cosmetics industry and biocidal industry. The secondary metabolites in plants inherently have no pivotal role in the primary metabolism, but they are typically useful organic compounds protecting the plants from environment stress, arranging the plant's growth, saving and transporting nitrogen. There are some strategies to increase the plant's secondary metabolite accumulation, some of which are selecting working genes or mother tree, manipulating environment, and doing mutation and genetic engineering. Then, the secondary metabolites are also produced in the three ways: by malonic acetate, mevalonic acetate, shikimic acid. Therefore, there are several herbal techniques to extract the secondary metabolites from those endemic plants, for instance, applying conventional technique and new technique to reach soluble and heat components. In case of Covid-19, How do biotechnology secondary metabolites work as antiviral covid 19? Apart from vaccine, the secondary metabolites' plants working as antiviral covid 19 is highly desirable, and this hope has started to come true since some international journal findings proved that some plants could be vaccine or antiviral drug to combat covid-19 such as in a journal entitled "Traditional chinese medicine in the treatment patients with 2019-New Corona Virus (SARS-Cov-2)". Then, there is also Coix oil containing bioactivity as antiviral, and this has been proven by the analysis of phytocompounds identified in Coix lacryma-jobi root oil. To check whether the plants have antiviral compounds, a herbal screening method is necessary to conduct, starting from preclinic testing and clinical testing to high screening up to 1000 compounds a day for activity against a protein target. After that, the results would be saved into database drug discovery and herbal medicine discovery. The development of COVID 19 drug targeting ACE2 (Angiotensin converting Enzyme 2) is Coic - Szgium oil which would work as ACEi (Angiotensin converting Enzyme i) and ARB (Angiotensin Receptor Blocker). The ingredients of this drug are coix seed oil, surfactant, tripterine, transferrin, TF-receptor, and Tf-CT-Mes. Moreover, Jamu is also another development, becoming mainstream drugs for curing the patients with COVID 19.

KEYNOTE SPEAKER



Prof. Dr. Syawal Gultom, M.Pd who was born in North Tapanuli on 3th February 1962 is an academic from Medan, North Sumatra. He accomplished his bachelor degree in math education in 1986 . Then, he continue to complete master degree in IKIP Yoyakarta in 1992 and post doctoral degree in Universitas Negeri jakarta in 2009. He has served as rector of Medan State University in the years 2007-2011 and in the years 2015–2019. He is a professor of mathematics education at Medan State University .

Before returning to service in the world of education, he served as echelon 1 in the Ministry of National Education of the Republic of Indonesia as Head of the Education and Culture Human Resources Development Agency and Education Quality Assurance (BPSDMPK-PMP) in Jakarta. During his tenure as Head of the SDMPK and PMP Bodies, he took part as compiler and trainer of Curriculum 2013 which is being implemented in Indonesia. He has ever been awarded as the figure of education by local government of Binjai and given Satyalancana Karya Satya X in 2004 by Indonesia President. Apart from that, during his career as a lecturer, Prof. Dr. Syawal Gultom, M.Pd has created many scientific works, one of which is entitled “Model Matematika Berbasis Lingkungan Untuk Pengelolaan Sampah di Kota Medan,published by journal of Business, Economy, Science and Technology (BEST). Lastly, he is a proficient keynote speaker invited in a number of seminars and conferences, and he is also a reviewer in many scientific workshops held by government and private institutions.

Summary of Speech :

Research Innovation for Education Development

The research innovation, these days, could not be a tool to response education development yet, so in this case, what is type of research needed nowadays? Currently, the flow of education development in Indonesia is still affected by the emergence of cutting-edge technology, industrial revolution 4.0, automated digital, AI, IOT, AT, and VT. This could be a golden opportunity or arduous challenge toward all development stakeholders, particularly education. The Indonesia education model upholding the value of education, research, and

service still focus on competency, content, learning model, and evaluation system, but there are still four inevitable eternal enemies faced in that country: poverty, illiteracy, injustice, and backward civilization. Therefore, To solve these issues, the role of university is vitally important to create the newly fresh innovations which could response the problems of society welfare and increase competitiveness level. This is because university is the agent of education, research, culture, knowledge, technology transfer, and economic development, in which there will be innovation, employment, industry, publication, patent and citation. Furthermore, university should prepare the individuals with four necessary skills such as critical thinking, creativity, collaboration, and communication which help boost up academic achievement. And Bloom's revised taxonomy is a way to measure high order thinking, starting from remembering and creating. Then, there must be TPACK (Technological Pedagogical, and content knowledge) as the learning issue might be that the students' new tasks are more difficult, more unpredictable and need critical thinking. The students need internet, new literacy, big data and disruptive innovation. Indonesia government in this case has provided literacy program such as oral and written literacy, science literacy, and numeric literacy, and their goal is that the students could access, manage, and comprehend information very well. Nevertheless, there is crucial and classical questions such as how to explore meaning or value. In industry 4.0 or education 4.0, reorientation curriculum 21st century, blended learning, multisided platform, data literacy, technology literacy, human literacy, physical infrastructure and QA will be implemented in education system. At last, the industry 4.0 framework and contributing digital technologies might be mobile devices, IoT platforms, cloud computing, augmented reality, location detection technologies, smart sensors and 3d printing. The result of innovation needed, these days, would lead the students to have good attitude, knowledge and skill.

KEYNOTE SPEAKER



Dr. Faizan Ali received his PhD in Marketing with a dissertation written on customer experience in the hospitality industry at the International Business School, Universiti Teknologi Malaysia (UTM-IBS) in June 2015. Dr. Ali also holds an undergraduate degree in Business Administration and Information Technology [BBA-IT (Hons)] with distinction from Institute of Management Sciences, University of Peshawar, Pakistan, and a Masters in Management with a dissertation on consumer behaviour in airline industry from Glyndwr University, United Kingdom.

Dr. Ali's research interests are in the areas of customer experience, service performance and quality, customer satisfaction and behaviour. Dr Ali is also enthusiastic about developing new scales and working on various methodological aspects of hospitality and tourism research. He has authored more than 40 international refereed journal articles and international conference papers. His recent research has been accepted and published in internationally-refereed journals such as *The Journal of Hospitality, Leisure, Sport & Tourism Education, Journal of Destination Marketing & Management, Journal of Hospitality Marketing & Management, Journal of Travel and Tourism Marketing, Worldwide Hospitality and Tourism Themes, Journal of Quality Assurance in Hospitality & Tourism, International Journal of Hospitality and Event Management, International Journal of Quality and Reliability Management* and other reputable hospitality and tourism and business journals. Dr. Ali is recipient of four "best paper" awards: one from Academy of Global Business Advancement at the 10th World Congress at Bangkok; second at the 2014 World Hospitality & Tourism Forum. Seoul, Republic of Korea; third at the 5th International Interdisciplinary Business-Economics Advancement Conference and fourth at the 2016 WDSI Annual Meeting, Las Vegas, USA.

Dr. Ali is an active member of academic hospitality associations. Currently, he serves as the Coordinating Editor for *International Journal of Hospitality Management* and as an Assistant Editor for *International Interdisciplinary Business Advancement (IIBA) Journal*. He also serves on the editorial boards of various journals including *Journal of Hotel and Tourism*

Management, *Asia Pacific Journal of Innovation in Hospitality and Tourism Research*, *Journal of Marine Tourism and City University Research Journal*. Dr. Ali is a trained expert in usage of various statistical tools such as Structural Equation Modelling (SEM) and Partial Least Squares (PLS-SEM). He has also conducted SEM and Business Research Methods related workshops in International Business School, University Teknologi Malaysia (IBS-UTM). Prior to joining the USF Sarasota-Manatee campus, Dr. Ali was a Post-doctoral researcher at the Dedman School of Hospitality, The College of Business, at Florida State University. Moreover, he has worked as a research consultant for two years on various hospitality and tourism related projects in Malaysia. His industry experience includes working at Liverpool Football Club in the UK.

Summary of Speech :

Conducting Impactful Research: Some Observations and Thoughts

In this session, the Keynote speaker started the presentation with a fun fact about research related to how much the "research meme picture" was shared in our social media. Most of them talked perceived that research is challenging. If the research so hard, why do we do research? Based on the observations and some interview, the answer is pretty consistent whatever we stayed; there are about degree and diploma, parents, teachers, and friends is expecting us to do research, then also the reason to research because of peer pressure (sense of honor and responsibility), the next reason about research interest (sense of achievement/fulfillment, curiosity) then the last reason might be strong ambition (self-expectation). By those reasons why we do research, we can conclude that the main motivation behind doing research consist of internal motivation and also external motivation where the internal motivation is stronger than external motivation because internal motivation plays important roles to make a researchers has the grit to do the research.

Prof. Fevzi Okumus (as the references) shared his thought about profiling researchers that consist of four types:

1. Copy cats

Copy Cats are the kind of researcher that "replicate" the research. For example, when we search in a Google, then find a good or interesting topic, then we just replicate it for our work. So that kind of behavior is called copy cats. In fact, many people doing this kind of research behavior when they are pushed to do research from the university or the institution.

2. Storytellers

A story teller is normally people who do any research investigating by doing a good story. Most of them are qualitative researchers who shared a good story to explain and show up the research.

3. Profilers

Profilers are the ones that mainly work with quantitative research and profile everything into numbers and data.

4. Innovators

These are people who come up with unique. They found something and bring new ideas to a particular research area. Very few numbers of a researcher that point out as innovators.

What makes a good paper?

- a. Originality- what's new about the subject, treatment or result?
- b. Relevant to and extension of existing knowledge
- c. Methodology- are conclusions valid and objective?
- d. Communication- clarity, structure, and quality of writing
- e. Convincing- sound, logical progression of the argument
- f. Theoretical and practical implications (answering the 'so what' question)
- g. Recency and relevancy of topic and references
- h. Internationality
- i. Adherence to the editorial scope and objective of the journal
- j. Title- an eye-catching title, keyword, and a good abstract

In another way, the main reason for rejection are:

- a. Paper is not well-positioned for the journal.
- b. Not clear and certain about its contribution
- c. Does not answer the "so what" question
- d. What was promised is not delivered.
- e. Outdated literature review
- f. Inconsistency- Section so not connect well
- g. Major Methodological problems
- h. Replication of a previous study
- i. Plagiarism

KEYNOTE SPEAKER



Philip Dooner is Associate publisher at F1000Research, working with research organisations, funders, and institutions on their open research platforms, including the launch of the RSF gateway. He has over 10 years' experience working in open access publishing, starting his career at BioMed Central, before becoming part of SpringerNature, and working on open access

titles across their portfolios.

Summary of speech :

Beyond Open Access: Introducing Open Research Publishing

The keynote speech by Philip Dooner talked about the Beyond Open Access: Introducing Open Research Publishing and began with the topics about sub-optimal scholarly publishing system that consist of:

- a. Prioritization of novel and positive result
- b. Bias against replication studies and negative/ null result
- c. Delays of months/years from submission to publication
- d. Wasted time and effort spent re-formatting and re-submitting
- e. Full methods and underlying data are often missing
- f. Publications are hidden behind paywalls
- g. 'Publish or perish' and 'impact factor' culture threatens research integrity
- h. Geographic regions can be excluded.

By those issues, there are rationale of open research to support the research in digital era such as:

1. Policy and mandates
2. Inefficiencies in science consist of reproducibility, research waste, incentive structures
3. Demand for rapid access
4. Desire to accelerate impact
5. Transparency
6. Technology

In this speech, the keynote also introduced the F1000research as open research platform including Research Synergy Foundation gateway there. F1000Research publishes articles and other research outputs reporting basic scientific, scholarly, translational and clinical research across the physical and life sciences, engineering, medicine, social sciences and humanities. F1000Research is a scholarly publication platform set up for the scientific, scholarly and medical research community; each article has at least one author who is a qualified researcher, scholar or clinician actively working in their speciality and who has made a key contribution to the article.

Articles must be original (not duplications). All research is suitable irrespective of the perceived level of interest or novelty; we welcome confirmatory and negative results, as well as null studies. F1000Research publishes different type of research, including clinical trials, systematic reviews, software tools, method articles, and many others. Reviews and Opinion articles providing a balanced and comprehensive overview of the latest discoveries in a particular field, or presenting a personal perspective on recent developments, are also welcome. See the full list of article types we accept for more information.

Articles (except for Faculty Reviews, see below) are published using a fully transparent, author-driven model: the authors are solely responsible for the content of their article. Invited peer review takes place openly after publication, and the authors play a crucial role in ensuring that the article is peer-reviewed by independent experts in a timely manner. Articles that pass peer review are indexed in PubMed, Scopus and other bibliographic databases.

F1000Research is an Open Science platform: all articles are published open access; the publishing and peer review processes are fully transparent; and authors are asked to include detailed descriptions of methods and to provide full and easy access to the source data underlying the results in order to improve reproducibility.

The Research Synergy Foundation gateway provides a venue for the dissemination of ideas from a diverse range of scholars. Building on the excellent work of RSF in supporting global researchers to prepare their research for publication, this venue offers an innovative open science platform to share this research with the world.

Researchers submitting to the Research Synergy Foundation gateway benefit from F1000Research's open research publishing process:

Fast – articles can be published within a week. Posters and slides published immediately.

Inclusive – it is possible to publish a wide variety of research outputs: research articles, software, data sets, protocols, negative and confirmatory results, etc.

Open – Fully open access so everyone can read the research.

Transparent – open, author-led publishing and peer review encourages fairer process.

The gateway supports the work of the Research Synergy Foundation (RSF), which aims to overcome the many obstacles experienced by researchers worldwide. These include limited access to opportunities, knowledge sharing and technology. RSF provide an integrated research ecosystem that prepares academics to contribute to the scholarly community and society and the new gateway means this can culminate with open publication of their research.

SESSION CHAIR



Dr. Joseph G. Refugio serves as Dean of the College of Business Education of St. Vincent's College Incorporated. Diplomate in Business Education conferred by the Philippine Academy of Professional in Business Education, Certified Hospitality Professionals and a recipient of the Australian Leadership Fellow in Brisbane, Australia.

Obtained his Doctorate degree in Management from University of San Jose Recoletos. Finished his Master in Business Administration, BS in Commerce major in Accounting, BS in Secondary Education major in Mathematics and BS in Hotel and Restaurant Management at St. Vincent's College Incorporated.

He was one of the presenters of the Passage to ASEAN Assembly in Temasek Polytechnic University, Singapore, visiting lecturer at Asian Institute of Cambodia, Kingdom of Cambodia and an International Speaker at Poletiknik Piksi Ganesha, Bandung, Indonesia.

Recently, he was appointed as evaluator of the papers for the Pathways to Refereed Journal Publication Training in the field of Business in Polytechnic University of the Philippines and appointed as member of the Regional Quality Assessment Team in Business Education.

Currently, served as an elected National President of the Philippine Council of Deans and Educators in Business, Vice President of the Passage to ASEAN Philippine Chapter and Board of Director of the Professors World Peace Academy – Philippines.

SESSION CHAIR



Assoc. Prof. Ann Suwaree Ashton, Ph.D graduated with a PhD and Master degree from the University of Queensland, Australia. She has been working at the National Institute of Development Administration (NIDA) in Bangkok Thailand since 2012 until present. Prior to coming to NIDA, she has experience working in the hotel industry and spent the 2008-2010 school years work as a tutor at the

University of Queensland in Australia; and senior lecture/researcher in Universities in New Zealand from 2009-2012.

Her research interested is within a wellness tourism area and presently supervises PhD and master student within wellness tourism mainly. Her current research, including spa & beauty tourism, spiritual (body and mind) retreat tourism, long distance and trail running for health, healthy food tourism, active aging 50+ tourist behaviour, international retirement migration, destination brand image development and guest lecturer at several highly respective universities in Thailand.

SESSION CHAIR



Racidon P. Bernarte is a Full Professor of the College of Communication and College of Education Graduate Studies of the Polytechnic University of the Philippines. He was the former director of the PUP Research Management Office, managing the university research program, which includes research production, dissemination, publication, and utilization. His research interests are education, cultural and

communication studies, media education, indigenous knowledge, and gender education. He specializes in research management and evaluation, international partnership, and collaboration.

He completed his doctor of education degree major in educational management at the Polytechnic University of the Philippines. He obtained his Master's degree in communication research at the University of the Philippines-Diliman.

He has been part of various commissioned and funded researches by CHED, DOST, DILG, NYC, UNICEF, and other funding agencies. He has presented research papers in national and international conferences in Thailand, Indonesia, India, Malaysia, South Korea, Germany, and the USA. He has authored and co-authored several research papers published in various national and international refereed journals. He is a visiting professor at the Budi Luhur University and Polytechnic Piksi Ganesha in Indonesia.

He is the managing director of the Asia-Pacific Consortium of Researchers and Educators or APCORE and president of the Philippine Higher Education Research Consortium or PHERC.

SESSION CHAIR



DR KULDIP KAUR is currently a senior lecturer at the Academy of Language Studies, Universiti Teknologi MARA, Malaysia. She graduated with a B.Ed (Hons) in TESOL from Moray House Institute of Education, Edinburgh, U.K. in 1998 and in 2004, she obtained her M.Ed. in TESL from Universiti Teknologi Malaysia. She obtained her

PhD in English Language from Universiti Putra Malaysia in 2019. She has 31 years of teaching experience. She has taught ESP in polytechnic for 12 years. Her research areas of interest are ESP and CDA.

SESSION CHAIR



Assoc. Prof. Dr. Irene Leong

Irene Leong is currently an Associate Professor at the Academy of Language Studies in University Technology MARA, Melaka, Malaysia. She graduated with a B.A (Hons) degree in English Studies from Universiti Kebangsaan Malaysia in 1986 and in 1994, she obtained a Master's degree from the University of Iowa, USA majoring in Computer-Assisted Instruction. She earned her PhD in

Computer Assisted Language Learning from University Putra Malaysia in 2005 and since then, has actively presented research papers on language teaching and learning in various conferences held locally and internationally. Besides being active in the field of academia, she is also involved in a number of social and community initiatives which champion the role of Science and Religion in Development. An advocate and a promoter of global unity, Irene Leong is also an international speaker on moral and spiritual education of children, youth and adults, particularly on the empowerment of women. Recently she has taken a keen interest in inter-disciplinary research in collaboration with fellow researchers from other universities.

SESSION CHAIR



Dr. Yeow Jian Ai Ai is currently a lecturer in Multimedia University, Malaysia under Faculty of Business. Her research and teaching is focused on the “people side” of work, management, and organisations. She is currently involved in a few different projects and research on social entrepreneurship, international business and also human error in manufacturing industry. She and her team received several awards

like Diamond Award and Gold Medals awards on innovation and product designs in some international showcase exhibition. Teaching is also a real passion. She has been teaching for more than 15 years and supervising undergraduates as well as postgraduate students mainly on social science topics.

SESSION CHAIR



Engr. Christopher C. Mira

Asst. Professor, Polytechnic University of the Philippines, Manila, Philippines

Engr. Mira is a graduate of B.S. Industrial Engineering and has been a Master in Industrial Engineering and Management. He has been with the university as a fulltime assistant professor since November 2006 initially handling major

Industrial Engineering subjects. Later in 2017, he has been given subjects in Quality Management for BS Accountancy and BS Business Administration Major in Human Resource Management. His involvement in research has been commended during his being a member of the University Research Group for Engineering, Architecture and Technology Colleges. He has presented various research papers in the local and international settings likewise, invited as panellist and session chair in various research presentations. He is also regularly invited by some business establishments reference to their quality and performance evaluation. He is presently the adviser of the Phil. Inst. of Ind'l. Engineers (PIIE) PUP Binan Chapter and former adviser of the Manila Innovators and Dev't. Society (MINDS). Engr. Mira is a member of several groups involving research peer evaluation, scholarly research.

SESSION CHAIR

Dr. Bibiana Lim Chiu Yiong



- Head of Learning and Teaching Unit, Pro-Vice-Chancellor (Academic) Office, Swinburne University of Technology, Sarawak Campus
- Senior Lecturer, School of Business, Faculty of Business, Design and Arts, Swinburne University of Technology, Sarawak Campus

Education Background:

- PhD in Learning Sciences, Universiti Malaysia Sarawak (UNIMAS)
- Master of Science, Universiti Malaysia Sarawak (UNIMAS)
- Graduate Certificate in Tertiary Learning and Teaching, Swinburne University of Technology
- Bachelor of Business (Information Systems), Swinburne University of Technology

Research Interests:

Dr. Bibiana's research interests are within education technology where she is particularly interested in multimedia features in content delivery, the application of mobile technology in education, the use of social media with education. Besides, she is also interested in the research of organizational behaviour, green technology, CSR implications in organizations, leaderships and general domain in management. She looks forward to welcoming all learning and network opportunities presented.

SESSION CHAIR



Dr. Rasmitadilla, M.Pd.

Lecturer and Researcher of Elementary School Teacher Education of Universitas Djuanda, Bogor, Indonesia.

The subject of Research is Inclusive Education in Elementary School.

Research Grants from The Ministry of Education and Culture of Republic Indonesia, such as: Sandwich-Like Program in Kentucky University, USA (2016); Doctoral dissertation (2018);

Short Course of Social Science and Humaniora in Leiden University (2019); Superior Applied Research of Higher Education (PTUPT) (2019-2021).

Current Research: Instructional Strategy Model Based-On the Brain Natural Learning Systems in Inclusive Elementary School.

Social Entrepreneurship Program as Founder of Graha Inklusif as a part of Foundation of Edukasi Rumah Inklusif (2020).

SESSION CHAIR



Joshua Akinlolu Olayinka, He is a lecturer in business administration (international program) at Walailak University International College, Thailand. He is a member of curriculum and program committee for business administration program and teaches human resource management, international logistic management, project management, and business statistics at the college. Prior to joining Walailak University, he had about 5 years of industry experience in human resources, specializing in compensation and benefit, employee engagement and talent and development, as well as branch management in the banking sector of Nigeria. His area of research has been in International Business, Human Resources, Organization Behavior and Management.

SESSION CHAIR



Dr. Cheah Chew Sze is a lecturer at Faculty of Business, Multimedia University, Malacca. She has completed her Bachelor's degree and Master's degree in Business Administration (Hons.), from the University of Malaya (UM). She has completed her PhD recently in the area of human resource management in Universiti Sains Malaysia (USM). She has attached to the Human Resource Department in the service industry for nine years before joining the education sector. She also a member of

Malaysian of Insitute Human Resouce Management (MIHRM). She is currently holding the position as Programme Coordinator for BBA (Hons) Human Resouce Management in Faculty of Business, Multimedia University. Her current research areas are in employee engagement, employer branding and human resource practices and proactive work behaviour.

SESSION CHAIR



Dr. Lim Kah Boon is a lecturer in the Faculty of Business at the Multimedia University, Malaysia since 2011. Currently, she is teaching Mathematics for Managers, Statistics for Managers and Management Decision Science at the undergraduate level.

Dr. Lim graduated with Bachelor of Science degree in Computational Mathematics from the University Malaysia Terengganu, Malaysia and both Master of Science degree majoring in Mathematics and Doctor of Philosophy (Ph.D.) degree majoring in Econometrics from the Universiti Sains Malaysia, Malaysia. Her current research interests include econometric, mathematical modelling, applied mathematics and statistical analysis. She has collaborated actively with researchers in several other disciplines of social sciences. Furthermore, she is also actively working with other researchers on a few national research grants.

SESSION CHAIR



Dr. Asnita Frida Sebayang is a lecturer and deputy dean on student and external affair at Faculty of Economic and Business Universitas Islam Bandung, one of private university in Bandung, West Java, Indonesia which was already took A accreditation grade from Indonesia Government. She was a deputy dean on academic and student affair at Faculty of Economic and Business UNISBA in 2016-2018. Nowadays, she take a responsibility

as a center head of Community Empowerment at Faculty of Economics and Business, Universitas Islam Bandung (UNISBA).

She born in the little city, Binjai at Sumatera Island on 16th January 1976 and grew at Karo Regency, North Sumatera until 1994. She lived at Yogyakarta Special Region 1994-2001. She took an opportunity as lecturer and research assistant in Gadjah Mada University, Yogyakarta, Indonesia 1997-2001. She moved to Bandung, West Java, Indonesia at 2001 and joined UNISBA in the same year. She hold diploma and master degree from School of Economics, Gadjah Mada University Jogjakarta, Indonesia. She enrolled Doctor degree from Bandung Institute of Technology on October 2012. During the doctor program, she joined Sandwich-like program at School of Spatial Planning, University of Groningen, the Netherlands (2009) and PhD Jamboree at School of Community Planning, University of British Columbia, Vancouver, Canada (2009).

SESSION CHAIR



Dr Leong Choi Meng is an Assistant Professor at Faculty of Business and Management, UCSI University, Malaysia. She has more than ten years teaching experience and her research interests are in financial economics, applied macroeconomics, behavioural studies and information systems. She has published more than 10 Scopus journal articles and has received few research grants from Ministry and University for her research projects in Malaysia. Leong has also received various research awards such as Outstanding Paper Award at QS Subject Focus Summit Research Sharing Session in 2018; Best Paper Award at MAG Scholar Conference in Business, Marketing & Tourism (MAG 2019) held in Macau; and two Best Paper Awards at conferences held in Malaysia in 2019. She is currently the Managing Editor of Journal of Responsible Tourism Management (JRTM), a Ministry supported journal in Malaysia.

SESSION CHAIR



Dr. Yeo Sook Fern

Dr. Yeo Sook Fern is a Lecturer at the Faculty of Business, Multimedia University, Melaka. She is currently holding the position as of the Chairperson, Centre for e-Services, Entrepreneurship & Marketing (CESEM) and also a Deputy Program Coordinator MBA. She commenced her career as a lecturer, with 19 years of teaching experience. She teaches marketing for bachelor degree programmes as

well as Master degree. She supervises BBA, MBA and PhD students. Apart from teaching, she is also active in research. She has secured international, national and university grants both as the principal researcher and project members for several researches. She has published 21 internationally refereed conference papers, 43 journal articles and 2 book chapters. Dr Sook Fern can be contacted at: yeo.sook.fern@mmu.edu.my

SESSION CHAIR



**Prof. RAYMOND CHRIS
P.MARIBOJOC, DMC, MPM, MBA,
FRIM, AFBE, PHF CTP**

St. Vincent's College Incorporated & Saint Joseph College of Sindangan Incorporated, Philippines

Prof. Maribojoc, is currently the Center Director for Community Extension and Linkages of both Saint Joseph College of Sindangan Incorporated and St. Vincent's College Incorporated, Philippines.

He has been lecturing subject areas in Political Science, Public Management, and Organizational Planning and Development in both undergraduate and graduate levels. He is a visiting lecturer at the Asian Institute of Cambodia, Poletiknik Piksi Ganesha, Bandung, Indonesia, and Word of Fire Christian Seminary, Nigeria. Moreover, he is a resident trainer/ speaker of the Department of Agriculture – Agricultural Training Institute Region IX, Philippine Ports Authority and other non-government organizations in the Philippines and abroad. His research interest focuses in the areas of management, public administration, community development, and Tourism.

He serves as a National Board Member of the Philippine Association of Researchers in Tourism and Hospitality, and, co-convenor/ organizer of international and local research conferences

CONFERENCE PROGRAM
The 4th International Conference on Community Research and Service Engagements (IC2RSE)
VIRTUAL CONFERENCE (2-6 November 2020)
DAY 1: Monday | November 2, 2020

Time (GMT+7)	Duration	Activity
07.50- 08.00	10'	Participant Login and Join Virtual Conference by ZOOM (Room 1)
08.00 - 08.05	5'	Listening to National Anthem “Indonesia Raya”
08.05 - 08.10	5'	Introduction and Conference Publication Announcement
08.10 - 08.15	5'	Welcome Remarks (Room 1) Dr. Diky Setya Diningrat Conference Chair of IC2RSE
08.15 - 08.25	10'	Opening Speech (Room 1) Dr. Syamsul Gultom, SKM., M. Kes. Rector of Universitas Negeri Medan
08.25 - 08.35	10'	Opening Speech (Room 1) Prof. Dr. Baharudin, ST., M.Pd. Chairman of Research and Community Service Centre (LPPM) of Universitas Negeri Medan
08.35 - 08.50	15'	Global Research Ecosystem Introduction (Room 1) Dr. Hendrati Dwi Mulyaningsih, SE., MM. Founder & Chairman of Research Synergy Foundation
08.50 - 08.55	5'	Group Photo Session - all participants (Room 1)

Time (GMT+7)	Duration	Activity
08.55 - 09.25	30'	Keynote Speaker (Room 1) Prof. Dr. Syawal Gultom, M.Pd. Chairman of the Senate of Universitas Negeri Medan
09.25 - 09.55	30'	Keynote Speaker (Room 1) Dr. Faizan Ali Assistant Professor, Graduate Coordinator University of South Florida, Sarasota-Manatee USA
09.55 - 10.25	30'	Keynote Speaker (Room 1) Philip Dooner Associate Publisher, F1000 Research Ltd., UK.
10.25 - 10.55	30'	Q&A Session with Keynote Speaker
10.55 - 11.10	15'	Preparation for Paralel online Presentation Session (Room 1, 2, 3, 4, and 5)
11.10 - 13.45	155'	Online Paralel Presentation Session: 5 breakouts Zoom room Room 1: Track Social Science (Session Chair : Dr. Joseph Gerunda Refugio) Room 2: Track Social Science (Session Chair : Assoc. Prof. Ann Suwaree Ashton, Ph.D) Room 3: Track Social Science (Session Chair : Prof. Dr. Racidon P. Bernarte) Room 4: Track Social Science (Session Chair : Dr. Kuldip Kaur Maktiar Singh) Room 5: Track Social Science (Session Chair : Assoc. Prof. Dr. Irene Leong)

Time (GMT+7)	Duration	Activity
13.45 - 13.55	10'	Testimonial and Post-conference information announcement at each parallel online presentation room (Room 1, 2, 3, 4, and 5)
13.55 - 14.05	10'	Preparation for Closing Ceremony after Paralel online Presentation Session (back to Room 1)
14.05 - 14.15	10'	Award Ceremony: Best Paper Best Presentation Day 1 (Room 1, 2, 3, 4, and 5)
14.15 - 14.20	5'	Closing Speech (Room 1) Dr. Diky Setya Diningrat Conference Chair of (IC2RSE)

Day 01

Monday, 2 November 2020

Session Time : 11.10 – 13.45

Room 1

Session Chair : Dr. Joseph Gerunda Refugio

Track Social Science

Paper ID	Presenter	Media	Paper Title
IC220106	Safriana	Virtual Presentation	Improving Scientific Writing Teachers' skills In North Aceh
IC220109	Samsuddin Siregar	Virtual Presentation	The Effectiveness of Learning Smash Based Blended Learning Assisted Video Media for Students Affected By Covid-19
IC220114	Indra Kasih	Virtual Presentation	Polarization Development Data Processing Test Test Guide for Voliar Sports android Based
IC220119	Muhammad Nasir	Virtual Presentation	The Sense of Islamophobia Within Daughters of Arabia, Dessert Royal and Inside The Kingdom
IC220121	Wasis Wuyung Wisnu Brata	Virtual Presentation	Implementation of Discovery Learning In Digital Classes and Its Effect on Student Learning Outcomes and Learning Independence Level
IC220127	Hidayat Hidayat	Virtual Presentation	Agrarian Conflict Resolution to Achieve Restorative Justice
IC220130	Mara Untung Ritonga	Virtual Presentation	Interactive Multimedia Development Based on Discovery Learning for UNIMED Indonesian Literature Students
IC220135	Muhammad Amin	Virtual Presentation	Integrative Learning Model Based on Scientific Approach to Produce Simultaneously Competence for Vocational Teacher Candidate
IC220140	Budi Ali Mukmin	Virtual Presentation	The Politics of Citizenship In Village Fund Management for Covid-19 Affected Communities (Study. Saentis Village, Percut Seituan, Deli Serdang)
IC220142	Husna Parluhutan Tambunan	Virtual Presentation	The Development of Learning Media Based Digital Book Using Kvisoft Flipbook in The Low Class Social Science Subject

Day 01

Monday, 2 November 2020

Session Session Time : 11.10 – 13.45

Session Chair : Assoc. Prof. Ann Suwaree Ashton, Ph.D

Track Social Science

Room 2

Paper ID	Presenter	Media	Paper Title
IC220150	Nurjannah	Virtual Presentation	Dynamics of on Line Learning Systems During The Covid-19 Pandemic Period in Department of Anthropological Education, Faculty of Social Science, Universitas Negeri Medan
IC220173	Nono Hardinoto	Virtual Presentation	Designing Resources Blended Learning Courses Growth and Development Learning Motion on Information Systems in The Network (SIPDA) State University of Medan
IC220182	Juliandi Harahap	Virtual Presentation	Early Detection of Infant Developmental Deviations Using A Developmental Pre-screening Questionnaire and The Relationship Between Maternal Knowledge and Infant Development in Rural Area of Deli Serdang
IC220187	Sulian Ekomila	Virtual Presentation	The Perception of The Global Community Concerning The Handling, Prevention, and Spread of Covid-19 In Indonesia In Relation to The Decision to Visit Indonesia
IC220190	Saidun Hutasuhut Hutasuhut	Virtual Presentation	Determinants of Student Entrepreneurship Intention
IC220191	Reh Bungana Beru Perangin-angin	Virtual Presentation	Intellectual Property Rights as An Alternative Protection of Kem Kem Traditional Medicine
IC220192	Aman Simaremare	Virtual Presentation	Development of Digital-based Learning Tools of Research Methodology Course In Early Childhood Teacher Education Department
IC220219	Noviy Hasanah	Virtual Presentation	The Global Community's Perception on The Spread of Covid-19 In Indonesia and The Decision Making Process for Duty Travel To Indonesia
IC220226	Eronid Litno Damanik	Virtual Presentation	Cultural Heritage Buildings for Urban Tourism Destinations: Portraits of Santiar In The Past

Day 01

Monday, 2 November 2020

Session Time : 11.10 – 13.45

Room 3

Session Chair : Prof. Dr. Racidon P. Bernarte

Track Social Science

Paper ID	Presenter	Media	Paper Title
IC220229	Nurkadri	Virtual Presentation	Application of Match Summary Match Comisioner (MC) Based Online Askot PSSI Kota Medan
IC220235	Zulkarnain Siregar	Virtual Presentation	Applied Islamic Cleanliness for Decision Using Sharia Banking in North Sumatera, Indonesia
IC220244	Irfandi	Virtual Presentation	Development of General Physics Teaching Materials Accompanied by ICARE-oriented Student Worksheets Based on Mobile Learning Systems to Improve Student Learning Outcomes
IC220248	Anita Yus	Virtual Presentation	Exploring The Performance of Early Childhood Education Teachers in Applying Authentic Assessment
IC220254	Ricu Sidiq	Virtual Presentation	Development of Interactive E-module Based on Infographic Multimedia on Indonesian Islamic History as An Innovative Learning Source
IC220258	Najuah Najuah	Virtual Presentation	The Use of ADDIE Model to Development Electronic Modul of History
IC220259	Rosramadhana	Virtual Presentation	Gender Sensitive Approach to Adolescent Women to Overcome Bullying Violence in Social Media
IC220260	Dedi Andriansyah	Virtual Presentation	Social Discussion The Covid-19 Pandemic in The Study of Postmodernism Metanarrative on Medan's Public Instagram Social Media
IC220268	Wawan Bunawan	Virtual Presentation	Worksheet to Built Critical Thinking Skill for Prevalence Covid 19 In Indonesia on Limited Time: Curve Matching Modelling
IC220115	Hasyim	Virtual Presentation	Building Marketing Performance Through Digital Marketing and The Ability to Build Database-Based Networks (Case study of SMEs in Medan City)

Day 01

Monday, 2 November 2020

Session Time : 11.10 – 13.45

Room 4

Session Chair : Dr. Kuldip Kaur Maktiar Singh

Track Social Science

Paper ID	Presenter	Media	Paper Title
IC220342	Hamonangan Tambunan	Virtual Presentation	Blended Learning' Implementation In Learning Styles Varieties
IC220184	Harun Sitompul	Virtual Presentation	Development of Internship Instruments in Implementation of KKNI Curriculum, Engineering Faculty Medan State University
IC220186	Deny Setiawan	Virtual Presentation	Development of Social Science Learning Based on Ethnopedagogy As A Program for Strengthening Local Value
IC220292	Muhammad Irfan	Virtual Presentation	Effect of 6-Week Circuit Training Systems for Increased Punch Speed on Boxer Athletes
IC220349	Usman Nasution	Virtual Presentation	Development of Blended Exercise Training Model for The Physical Fitness Department of Physical Education, Health and Recreation In 2020
IC220317	Sudirman	Virtual Presentation	Model for Strengthening Women's Empowerment Through The Implementation of Family Functions In Indonesian Women's Associations With Disabilities
IC220330	Hodriani Sitompul	Virtual Presentation	Learning Pancasila Education in Students' Character Development in State University of Medan
IC220271	Adi Sutopo	Virtual Presentation	Development of a Solar Electric Energy Conversion Trainer with a Project Learning Model
IC220352	Anna Riana Suryanti Tambunan	Virtual Presentation	A Preliminary Study of Higher Education Students' Intercultural Communication Competence In Indonesian Context
IC220348	Zuraida Lubis	Virtual Presentation	Development of Case Study Module for Semester II Students Department of UNIMED FIP Guidance and Counseling

Day 01

Monday, 2 November 2020

Session Time : 11.10 – 13.45

Room 5

Session Chair : Assoc. Prof. Dr. Irene Leong

Track Social Science

Paper ID	Presenter	Media	Paper Title
IC220295	Arif Rahman	Virtual Presentation	Project Learning Model in Electrical Circuit Teaching Material
IC220278	Darwin	Virtual Presentation	Strategies to Turn the “Covid-19 Pandemic” Challenge into Opportunities for the Fulfillment of Higher Education Strategic Plans in Universitas Negeri Medan
IC220281	Sarah Rouli Tambunan	Virtual Presentation	Online Learning Activities of Politeknik Negeri Medantudents Using Social Media During The Covid 19 Pandemic
IC220284	Budi Valianto	Virtual Presentation	Silatif FIK-UNIMED As An Integrated Digital Service
IC220288	Ichwan Azhari	Virtual Presentation	Studies on the Role of Newspapers Published in North Sumatra 1916-1925 years In Indonesia's Independence Struggle
IC220252	Nina Novira	Virtual Presentation	The vulnerability of Indonesian oil palm smallholder farmers in the times of global crisis
IC220276	Yuniarto Mudjisusatyo	Virtual Presentation	Change Management for Effective Improvement Quality of Study Program at Higher Education: Exploring Alternative
IC220220	Khairil Ansari	Virtual Presentation	The Development of BIPA Teaching Materials with North Sumatra Culture by Using Audio Visual Media for Beginners
IC220309	Hasratuddin	Virtual Presentation	Geometry Learning Based on Cognitive Cffict In The Department of Mathematics Universitas Negeri Meda

CONFERENCE PROGRAM
The 4th International Conference on Community Research and Service Engagements (IC2RSE)
VIRTUAL CONFERENCE (2-6 November 2020)
DAY 2 : Tuesday | November 3, 2020

Time (GMT+7)	Duration	Activity
07.50- 08.00	10'	Participant Login and Join Virtual Conference by ZOOM (Room 1)
08.00 - 08.05	5'	Introduction and Conference Publication Announcement
08.05 - 08.15	10'	Opening Speech (Room 1) Dr. Diky Setya Diningrat Conference Chair of (IC2RSE)
08.15 - 08.20	5'	Group Photo Session (Room 1)
08.20 - 08.35	15'	Preparation for Paralel online Presentation Session (Room 1, 2, 3, 4, and 5)
08.35 - 11.10	155'	Online Paralel Presentation Session: 5 breakouts Zoom room Room 1: Track Economics & Mathematics (Session Chair : Dr. Joseph Gerunda Refugio) Room 2: Track Geographic & Natural Science (Session Chair : Dr. Yeow Jian Ai) Room 3: Track Engineering & Technology (Session Chair : Engr. Christopher C. Mira) Room 4: Track Natural Science (Session Chair : Dr. Bibiana Lim Chiu Yiong) Room 5: Track Education, Culture, and Language & Litearure Education (Session Chair : Dr. Rasmitadilla)

Time (GMT+7)	Duration	Activity
11.10 - 11.20	10'	Testimonial and Post-conference information announcement at each parallel online presentation room (Room 1, 2, 3, 4, and 5)
11.20 - 11.30	10'	Preparation for Closing Ceremony after Paralel online Presentation Session (back to Room 1)
11.30 - 11.40	10'	Award Ceremony: Best Presentation Day 2 (Room 1, 2, 3, 4, and 5)
11.40 - 11.45	5'	Closing Speech (Room 1) Dr. Diky Setya Diningrat Conference Chair of (IC2RSE)

Day 02

Room 1

Tuesday, 3 November 2020

Session Time : 08.35 – 11.10

Session Chair : Dr. Joseph Gerunda Refugio

Track Economics

Paper ID	Presenter	Media	Paper Title
IC220105	Fitrawaty	Virtual Presentation	The Impact of The Government's Relaxation Policy During The Covid-19 Pandemic on The National Economy
IC220120	Ainul Mardiyah	Virtual Presentation	Poverty: Issues and Policy Alternatives
IC220157	Putri Sari Silaban	Virtual Presentation	Development of Learning Media for Microeconomic Theory Based on "Ed-Classes" Applications in The Economic Education Study Program
IC220166	Dede Ruslan	Virtual Presentation	Analysis of The Monetary Policy Effect on Indonesia Export Development During Period of 2010-2020 (an Analysis of Vector Error Correction Models)
IC220168	T.teviana	Virtual Presentation	Analysis of Tourism Preferences to Tourism Object In North Sumatera
IC220212	Muhammad andi Abdillah Triono	Virtual Presentation	Can The Financial Performance of Medan Micro and SMEs Production Sector be A Signal In The Use of Leanness Strategy
IC220217	R. Mursid	Virtual Presentation	The Implementation Development of Intellectual Product Business Program for Metal Fabrication on Welding Center Online

Track Mathematics

Paper ID	Presenter	Media	Paper Title
IC220178	Marlina Setia Sinaga	Virtual Presentation	Application of Game Theory To Balance Ojol Driver Benefit During The Covid-19 Pandemic
IC220331	Yulita Molliq Rangkuti	Virtual Presentation	The Internal Heat Generation Effects on Natural Convection of Micropolar Fluid in Vertical Channel

Day 02

Tuesday, 3 November 2020

Room 2

Session Time : 08.35 – 11.10

Session Chair : Dr. Yeow Jian Ai

Track Geography

Paper ID	Presenter	Media	Paper Title
IC220111	Ali Nurman	Virtual Presentation	The Impact of Collaborative Learning on The Attitude and Student's Achievement in Academic Writing
IC220112	Fitra Delita	Virtual Presentation	Challenges of E-learning Implementation During The Covid-19 Pandemic in Senior High School
IC220172	Eni Yuniastuti	Virtual Presentation	Analysis of The Spatial Distribution of The Number DHF Patients and The Factors Causing The Dengue Dever (DHF) Vulnerability Level in Medan Tuntungan District in 2020
IC220180	M Taufik Rahmadi	Virtual Presentation	Coral Reef Distribution Mapping for Bahari Tourism Development in Weh Island
IC220207	Dwi Wahyuni Nurwihastuti	Virtual Presentation	Landslide Hazard Analysis Based on A Geomorphological Approach in Deli Watershed North Sumatra Province
IC220245	Muhammad Arif Ritonga	Virtual Presentation	The Effect of Part-time Work on Student Learning Activities of The NIM 2017 Geography Education Department, Faculty of Social Sciences, State University of Medan
IC220327	Tumiur Sidauruk	Virtual Presentation	The Effect of E-learning on The Student's Learning Outcome In Higher Education
IC220321	Muhammad Ridha Syafii Damanik	Virtual Presentation	Geographic Information System for Monitoring The Pandemic COVID-19 in Deli Serdang District

Track Natural Science

Paper ID	Presenter	Media	Paper Title
IC220316	Tumiur Gultom	Virtual Presentation	Qualitative and Quantitative Character of Mutan Garlic (<i>Allium sativum</i> , L.) Cultivar Doulu MV3 Generation
IC220165	Tumiur Gultom	Virtual Presentation	The Kinship of Pitcher Plant (<i>Nepenthes</i> sp.) in North Sumatera, Indonesia

Day 02

Room 3

Tuesday, 3 November 2020

Session Time : 08.35 – 11.10

Session Chair : Engr. Christopher C. Mira

Track Engineering and Technology

Paper ID	Presenter	Media	Paper Title
IC220107	Zhilli Izzadati Khairuni	Virtual Presentation	Behavioral Architecture Approach to Concept of Housing for The Face of Pandemic
IC220131	Kemala Jeumpa	Virtual Presentation	The Relation Between Temperature and Time on The Application of Coconut Fiber Cement Panels as Potential for Wall Cover
IC220133	Edo Barlian	Virtual Presentation	Determination Typology Areas Prone Disaster in Berastagi Sub-district, Merdeka Sub-district, Dolat Rakyat Sub-district and Barusjahe Sub-district
IC220141	Rumilla Harahap	Virtual Presentation	Drainage Flood Risk Reduction Efforts at Medan City
IC220153	Bakti Dwi Waluyo	Virtual Presentation	Two-Wheeled Balancing Robot with Android Navigation System
IC220154	Janter Pangaduan Simanjuntak	Virtual Presentation	Development of Small-scale Electricity Generation Plant Based on Biomass Combustion: A Thermodynamic and Operating Parameters Study
IC220155	Batumahadi Siregar	Virtual Presentation	Thermal Conductivity of Partition Board by Polymer Composite with Filler Empty Fruit Bunches Fiber
IC220159	Rachmat Mulyana	Virtual Presentation	Implementation Analysis of The Covid 19 Prevention Protocol in Construction Project
IC220169	Amirhud Dalimunthe	Virtual Presentation	Digital Engineering Practicum Module Development Using ADDIE Model To Improve Higher-Order Thinking Skill
IC220201	Azmi Rizki Lubis	Virtual Presentation	Efforts to Improve The Power Quality of Unimed Electrical Engineering Workshop Using Double Tuned Filter

Day 02

Tuesday, 3 November 2020

Session Time : 08.35 – 11.10

Room 4

Session Chair : Dr. Bibiana Lim Chiu Yiong

Track Natural Science

Paper ID	Presenter	Media	Paper Title
IC220266	Lisnawaty Simatupang	Virtual Presentation	Characteristics Silica Volcanic Ash of Sinabung Mounth with Various Concentrations of Sodium Hydroxide As A Corrosion Inhibitor
IC220279	Tita Juwitaningsih	Virtual Presentation	Screening of Phytochemistry and Antibacterial Activities, Antioxidants and Anticancer From Extract of Acetone Benalu Kopi (<i>Loranthus Ferrugineus</i> Roxb)
IC220304	Octanina Sari Sijabat	Virtual Presentation	Utilization of Composted Oil Palm Empty Fruit Bunches on Cherry Tomato Plants
IC220310	Fauziyah Harahap	Virtual Presentation	Genetic Stability Analysis of In Vitro Pineapple From Sipahutar Using Inter Simple Sequence Repeat (ISSR) Molecular Markers
IC220320	Herlinawati	Virtual Presentation	Optimization of The Separation of Antimony Compounds Using HPLC-HG-AAS Technique
IC220326	Diky Setya Diningrat	Virtual Presentation	Potential Inhibitor of ACE2 for Antiviral COVID19 From Several Active Compounds of Coix Essential Oil By Molecular Docking Study
IC220340	Rahmatsyah	Virtual Presentation	Mapping of Coral Reef Using Sentinel 2 Satellite In Coastal Water of Sitiris-tiris
IC220343	Murniaty Simorangkir	Virtual Presentation	Antibacterial Potential of Purification Fraction of Ethanol Extract of Sarang Banua (<i>Clerodendrum Fragrans</i> Vent Willd) Leaves As Alternative Medicinal Raw
IC220277	Melva Silitonga	Virtual Presentation	Protective Effect of Ethanolic Extract <i>Plectranthus amboinicus</i> Lour on 7,12 Dimethylbez(a)anthracene Induced Lung Cancer in Rat
IC220144	Ashar Hasairin	Virtual Presentation	Lichens as Bioindicator of Air Pollution in Medan City-Indonesia
IC220161	Nora Susanti	Virtual Presentation	Antimalarial, Antioxidant and Antibacterial Activities of andaliman Fruit Extract (<i>Zanthoxylum acanthopodium</i> DC)

Day 02

Room 5

Tuesday, 3 November 2020

Session Time : 08.35 – 11.10

Session Chair : Dr. Rasmitadilla

Track Education

Paper ID	Presenter	Media	Paper Title
IC220183	Feriyansyah	Virtual Presentation	Pancasila as Educational Philosophy for Independent of Learning in the New Normal of the Covid-19 Pandemic
IC220188	Yulita Triadiarti	Virtual Presentation	Policy Analysis of Using Smartphones as Learning Media in Senior High School in Medan City
IC220126	Muhammad Ridha Habibi Z	Virtual Presentation	Investigation of Factors Affecting Teacher Performance In E-Learning Process In The Covid-19 Pandemic Period In Senior High School North Sumatera

Track Culture

Paper ID	Presenter	Media	Paper Title
IC220146	Ayu Febryani	Virtual Presentation	Folk Belief on Pancur Gading Site In Deli Tua Village, North Sumatra Province, Indonesia
IC220353	Nur'aini	Virtual Presentation	Development of Multicultural Counseling Subject Modules for Guidance and Counseling Students, Faculty of Education, Universitas Negeri Medan

Track Language and Literature Education

Paper ID	Presenter	Media	Paper Title
IC220175	Isli Iriani Indiah Pane	Virtual Presentation	Lecturer Perceptions on CEFR and Online English Language Proficiency Test for Certification In Indonesia
IC220211	Anggraini Thesisia Saragih	Virtual Presentation	Developing Productive Written Language Skills Course Materials for English Education Study Program By Humanitarian Project
IC220243	Evi Eviyanti	Virtual Presentation	Teaching Production Écrite Débutante Using Interactive Quizziz Game Learning Media
IC220264	Risnovita Sari	Virtual Presentation	Learning Media Development Hörverstehen Für Anfänger Based on Website

CONFERENCE PROGRAM
The 4th International Conference on Community Research and Service Engagements (IC2RSE)
VIRTUAL CONFERENCE (2-6 November 2020)
DAY 3 : Wednesday| November 4, 2020

Time (GMT+7)	Duration	Activity
07.50- 08.00	10'	Participant Login and Join Virtual Conference by ZOOM (Room 1)
08.00 - 08.05	5'	Introduction and Conference Publication Announcement
08.05 - 08.15	10'	Opening Speech (Room 1) Dr. Diky Setya Diningrat Conference Chair of (IC2RSE)
08.15 - 08.20	5'	Group Photo Session (Room 1)
08.20 - 08.35	15'	Preparation for Paralel online Presentation Session (Room 1, 2, 3, 4, and 5)
08.35 - 11.10	155'	Online Paralel Presentation Session: 5 breakouts Zoom room Room 1: Track Language & Literature Education and Art (Session Chair : Joshua Akinlolu Olayinka) Room 2: Track Language & Literature Education (Session Chair : Dr. Cheah Chew Sze) Room 3: Track Education (Session Chair : Dr. Lim Kah Boon) Room 4: Track Education & Sports Science (Session Chair : Dr. Joseph Gerunda Refugio) Room 5: Track Education (Session Chair : Dr. Rasmitadilla)

Time (GMT+7)	Duration	Activity
11.10 - 11.20	10'	Testimonial and Post-conference information announcement at each parallel online presentation room (Room 1, 2, 3, 4, and 5)
11.20 - 11.30	10'	Preparation for Closing Ceremony after Paralel online Presentation Session (back to Room 1)
11.30 - 11.40	10'	Award Ceremony: Best Presentation Day 3 (Room 1, 2, 3, 4, and 5)
11.40 - 11.45	5'	Closing Speech (Room 1) Dr. Diky Setya Diningrat Conference Chair of (IC2RSE)

Day 03

Wednesday, 4 November 2020

Session Time : 08.35 – 11.10

Session Chair : Joshua Akinlolu Olayinka

Track Language and Literature
Education

Room 1

Paper ID	Presenter	Media	Paper Title
IC220116	Yolani Erawati	Virtual Presentation	Teacher Representation In Learning Transfer News From School To Home During The Covid-19 Period
IC220118	Ahmad Sahat Perdamean	Virtual Presentation	German Grammar Error forms In Short Stories By Students of Universitas Negeri Medan
IC220137	Abdul Ghofur	Virtual Presentation	Why Is Mate-21 Learning Model Effective and Efficient Used During Covid-19 Pandemic In Indonesia?
IC220162	Tengku Ratna Soraya	Virtual Presentation	Material Development In Production Ecrite Intermediaire By Sipda To Improve The Writing Ability The Student of French Departement At Fbs Unimed
IC220164	Rabiah Adawi	Virtual Presentation	Pronunciation French To Improve Your Speaking Skills French Language Students Based Media Video
IC220170	Hafniati	Virtual Presentation	Developing of Learn Media "Deutschlernen" Based on android To Improve The Language Competences of German's Student

Track Art

Paper ID	Presenter	Media	Paper Title
IC220103	Mesra	Virtual Presentation	The Digitization Traditional Ornaments of North Sumatra
IC220230	Wahyu Tri Atmojo	Virtual Presentation	Hand-drawn Batik Creation: Combining Batak Karo and Simalungun Ornament
IC220255	Panji Suroso	Virtual Presentation	Organology Development and Electrification of Stringed Musical Instruments Based on North Sumatra's Ethnic Diversity In An Effort To Respond To The Challenges of The Development of The Music Industry
IC220299	Winda Setia Sari	Virtual Presentation	"The Enemy at The Gate, Lock Yourself Indoor" : Anxiety and Imageries in COVID-19 on Line Poetry

Day 03

Wednesday, 4 November 2020

Session Time : 08.35 – 11.10

Room 2

Session Chair : Dr. Cheah Chew Sze

Track Language and Literature Education

Paper ID	Presenter	Media	Paper Title
IC220265	Rina Evianty	Virtual Presentation	Implementation of Blended Learning Based Leseverstehen Teaching Materials In Germany Students KKNI
IC220274	Suci Pujiastuti	Virtual Presentation	Using A PDPP Model To Evaluate A Web-based Learning for German Writing Skills
IC220282	Jubliana Sitompul	Virtual Presentation	The Developing Interactive Multi-media With Macromedia Flash of Writing Local Culture-based Texts In The Maitrise De Langue Ecrite Course
IC220315	Muhammad Surip Surip	Virtual Presentation	Digitalization of North Sumatra Malay Ethnic Literature As A Literation Transformation of Teaching Resources In The Pandemic
IC220325	Surya Masniari Hutagalung	Virtual Presentation	Digitizing Ndikar As Learning Materials for Deutsch Fur Tourismus
IC220329	Trisnawati Hutagalung	Virtual Presentation	Utilization of android-based Mobile Learning In Poetry Teaching Materials
IC220332	Masitowarni Siregar	Virtual Presentation	Developing E-learning Based Teaching Materials for Translation As Profession Subject
IC220338	Nora Ronita Dewi	Virtual Presentation	Developing ESP Blended Learning Course Materials for Students of English Education Study Program
IC220280	Widya andayani	Virtual Presentation	Students' Preferences In Studying English Literary Works
IC220218	Marice	Virtual Presentation	Writing French Using Media Taboo Card mixed with the Herringbone Questions (QQOQCP) Strategy

Day 03

Wednesday, 4 November 2020

Session Time : 08.35 – 11.10

Room 3

Session Chair : Dr. Lim Kah Boon

Track Education

Paper ID	Presenter	Media	Paper Title
IC220101	Adek Cerah Kurnia Azis	Virtual Presentation	Development of Teaching Materials in Micro Teaching Courses for Fine Arts Department Students at Universitas Negeri Medan
IC220102	Gamal Kartono	Virtual Presentation	The Development of Local Genius Teaching Materials (Batak) As K13 Implementation In Medan City
IC220117	Yasaratodo Wau	Virtual Presentation	An Impact Policy Analysis of The Implementation of The Internship Programs 1, 2, and 3 Towards The Ministry of Research, Technology and Higher Education'S Decree No. 123 / M / KPT/ 2019 At Faculty of Teacher Training and Education, University of Negeri Medan
IC220132	Nasriah	Virtual Presentation	The Development of an Interactive Digital Module in the Lesson Planning Course
IC220312	Ayi Darmana	Virtual Presentation	Analysis of The Solution Chemistry-HOTS-Tawheed Multiple Choice Instruments
IC220134	Ade andriani	Virtual Presentation	Development of E-Book About Mathematics Teaching and Learning Strategies As Pedagogical Teaching Material In The COVID 19 Era
IC220291	Hafnita Sari Dewi Lubis	Virtual Presentation	Development Of Augmented Reality Based Teaching Materials In East Asian History To Improve Creative Thinking Skills
IC220136	Chandra Situmeang	Virtual Presentation	The Effect of Internal Characteristics on the Success of Online Learning in Accounting Subjects in Vocational High Schools During The COVID 19 Pandemic
IC220143	Zulkifli Matondang	Virtual Presentation	The Evaluation Of Implementation Online Learning On The Engineering Faculty - UNIMED
IC220222	Abdurrahman Adi Saputera	Virtual Presentation	Create New Knowledge Based on The Ecological Teaching Materials on Indonesian Language Education

Day 03

Room 4

Wednesday, 4 November 2020

Session Time : 08.35 – 11.10

Session Chair : Dr. Joseph Gerunda Refugio

Track Education

Paper ID	Presenter	Media	Paper Title
IC220138	Prihatin Ningsih Sagala	Virtual Presentation	Development of Interactive E-Book for Basic Statistics Assisted by LMS SIPDA in The Online Learning Era
IC220139	Freddy Tua Musa Panggabean	Virtual Presentation	The Development of Online Learning Integrates Media to Measure High Order Thinking Skill of Students
IC220123	Thamrin	Virtual Presentation	The Effectiveness of the Hybrid Learning Materials with the Application of the Problem Based Learning (PBL) Model to Improve Learning outcomes in Evaluation Course Learning Outcomes during the Covid 19 Pandemic
IC220341	Nasrun	Virtual Presentation	The Effect of Organizational Culture and Job Satisfaction on Lecturers' Commitment Organization In Guidance and Counseling Program At Medan State University
IC220247	Mangaratua M. Simanjorang	Virtual Presentation	Learning at Home with Augmented Reality
IC220124	Salman Bintang	Virtual Presentation	The Effect of Virtual Laboratory in Basic Electronics Subjects on Student Learning Outcomes of the Electrical Engineering Education Department
IC220179	Sri Mutmainnah	Virtual Presentation	Development of Dynamic Archive Management Books To Improve Students Competency of Office Administrative Education

Track Sports Science

Paper ID	Presenter	Media	Paper Title
IC220287	Ibrahim Wiyaka	Virtual Presentation	Differences In The Influence of Learning Methods and The Speed of Reaction To The Ability To Receive Sepaktakraw Services In UNIMED PKO FIK Students In 2020

IC220240	Diky Setya Diningrat	Virtual Presentation	Development of The Unimed Sport Gym Stick (usgs) Fitness Tool for Self-healing and Preventing Covid-19
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Day 03

Wednesday, 4 November 2020

Session Time : 08.35 – 11.10

Room 5

Session Chair : Dr. Rasmitadilla

Track Education

Paper ID	Presenter	Media	Paper Title
IC220185	Esi Emilia	Virtual Presentation	Development of a Nutrition Education-Based Junior High School Curriculum
IC220250	Arief Wahyudi	Virtual Presentation	Development of Civilization Learning Based on Moral Intelligent As A Systemic Culture Program of Main Character Values
IC220149	Deni Adriani	Virtual Presentation	Development of Virtual Class Based Learning Media Assisted With Animation Video on Research Methodology Courses
IC220151	Erma Yulia	Virtual Presentation	Feasibility of Welding Technology E-Modules To Analyze The Strength of Welded Joints
IC220152	Kamtini	Virtual Presentation	Learning Model Based on Multiple Intelligence In Stimulating Kinesthetic Intelligence In Children 5-6 Years Old
IC220253	Yeni Megalina	Virtual Presentation	The Development of E-Book Media Based STEM Using Kvisoft Flibbook Maker on Kinematics
IC220189	Abd Haris Nasution	Virtual Presentation	Development of American History Literature Based Ecopedagogy As Prevention Guidelines of Covid-19 In History Education Departement
IC220256	Arfan Diansyah	Virtual Presentation	Development of Digital Encyclopedia Teaching Materials In Indonesian History Course In Hindu Buddhist Period
IC220158	Pardomuan Nauli Josip Mario Sinambela	Virtual Presentation	Online Style of Problem Based Learning In Mathematics

CONFERENCE PROGRAM
The 4th International Conference on Community Research and Service Engagements (IC2RSE)
VIRTUAL CONFERENCE (2-6 November 2020)
DAY 4 : Thursday | November 5, 2020

Time (GMT+7)	Duration	Activity
07.50- 08.00	10'	Participant Login and Join Virtual Conference by ZOOM (Room 1)
08.00 - 08.05	5'	Introduction and Conference Publication Announcement
08.05 - 08.15	10'	Opening Speech (Room 1) Dr. Diky Setya Diningrat Conference Chair of (IC2RSE)
08.15 - 08.20	5'	Group Photo Session (Room 1)
08.20 - 08.35	15'	Preparation for Paralel online Presentation Session (Room 1, 2, 3, 4, and 5)
08.35 - 11.10	155'	Online Paralel Presentation Session: 5 breakouts Zoom room Room 1: Track Education (Session Chair : Joshua Akinlolu Olayinka) Room 2: Track Education (Session Chair : Dr. Asnita Frida Sebayang) Room 3: Track Education (Session Chair : Dr. Lim Kah Boon) Room 4: Track Education (Session Chair : Dr. Cheah Chew Sze) Room 5: Track Education (Session Chair : Dr. Joseph Gerunda Refugio)

Time (GMT+7)	Duration	Activity
11.10 - 11.20	10'	Testimonial and Post-conference information announcement at each parallel online presentation room (Room 1, 2, 3, 4, and 5)
11.20 - 11.30	10'	Preparation for Closing Ceremony after Paralel online Presentation Session (back to Room 1)
11.30 - 11.40	10'	Award Ceremony: Best Presentation Day 4 (Room 1, 2, 3, 4, and 5)
11.40 - 11.45	5'	Closing Speech (Room 1) Dr. Diky Setya Diningrat Conference Chair of (IC2RSE)

Day 04

Room 1

Thursday, 5 November 2020

Session Time : 08.35 – 11.10

Session Chair : Joshua Akinlolu Olayinka

Track Education

Paper ID	Presenter	Media	Paper Title
IC220160	Selamat Riadi	Virtual Presentation	Application of Teaching Factory Based Metacognitive Skills Learning Models In The Field of Machining
IC220167	Dina Ampera	Virtual Presentation	Development of Uis Nipes Woven Learning Based on Karo's Cultural Values In Vocational High ScDinahools
IC220171	Farihah Farihah	Virtual Presentation	The Effectiveness of Learning Models In The Course of Fashion Technology, Universitas Negeri Medan
IC220174	Lidia Simanihuruk	Virtual Presentation	Development of A Thematic Learning Platform Based on E-Learning
IC220176	Fatma Tresno Ingtyas	Virtual Presentation	Emotional Intelligence-Oriented Teacher Education Model In Micro Teaching Students Department of Family Education Universitas Negeri Medan
IC220339	Eri Widyastuti	Virtual Presentation	Designing Statistical Method Learning Tools With A Blended Learning System During The Covid 19 Pandemic Era
IC220177	Joko Suharianto	Virtual Presentation	Development of Tutorial-Based Inferential Statistics Learning Media on Instagram Social Media as Student Self Education
IC220261	Arwansyah	Virtual Presentation	Development of Inferential Train Statistical Teaching Materials Applied - Based Manual and Spss
IC220262	Ida Wahyuni	Virtual Presentation	The Development of Physics Animation Video Assisted By Levedio Animatoon on Fluid Material

Track Language and Literature Education

Paper ID	Presenter	Media	Paper Title
IC220251	Ahmad Bengar Harahap	Virtual Presentation	Analysis of German Poetry in Pandemie Plague Covid19 as a Literature Teaching in the German study Program of UNIMED

Day 04

Room 2

Thursday, 5 November 2020

Session Time : 08.35 – 11.10

Session Chair : Dr. Asnita Frida Sebayang

Track Education

Paper ID	Presenter	Media	Paper Title
IC220193	Deo Demonta Panggabean	Virtual Presentation	Making Learning Media Based on Video Tutorials Using Camtasia Studio and Videoscribe Software
IC220194	Firdaus	Virtual Presentation	The Effectiveness of Digital Instructional Media In Occupational Health and Safety Math (OHS)
IC220196	Sabani	Virtual Presentation	Analysis of Test Instruments Based on HOTS Critical Thinking on Physics in The Senior High School
IC220318	Imelda Free Unita Manurung	Virtual Presentation	Development of Virtual Science Laboratory Based on M-Application for Elementary School Teacher Education Students
IC220197	Nuwairy Hilda	Virtual Presentation	Development of Production Unit Teaching Materials During the COVID-19 Pandemic
IC220319	Srinahyanti	Virtual Presentation	Analysis Usability Google Classroom as a Platform E-Learning of Study Program PG PAUD Faculty of Education, Universitas Negeri Medan 2020
IC220198	La Ane	Virtual Presentation	Development of Teaching Materials with A Blended Learning Approach To Improve Learning Outcomes In Financial Management
IC220199	Izwita Dewi	Virtual Presentation	Analysis Impact of Using Ebooks during the Pandemic Period on Students' Mathematical Creativity Ability
IC220263	Ani Sutiani	Virtual Presentation	Preliminaries Study To Online Learning Methode, A Healthy Lifestyle and Healthy Menu Preparation In New Normal Covid-19 Period To Civil Servant Wife Union, Central Bureau of Statistics In Simalungun

Day 04

Room 3

Thursday, 5 November 2020

Session Time : 08.35 – 11.10

Session Chair : Dr. Lim Kah Boon

Track Education

Paper ID	Presenter	Media	Paper Title
IC220267	Eka Daryanto	Virtual Presentation	A meta-analysis of the e-learning influence on VET learning: preliminary study of virtual to actualization
IC220205	Sempurna Perangin-angin	Virtual Presentation	The Development of Web-based Learning Media Based on STEAM Approach to Improve Students' Programmable Logic Controller (PLC) Competency
IC220269	Andi Bahar	Virtual Presentation	Validity of Interactive Multimedia In Automotive Basic Technology Courses
IC220272	Rafael Lisinus Ginting	Virtual Presentation	Validation of Lecturer Competency Models of Education Science Faculty - Medan State University on E-Learning
IC220293	Nining Tristantie	Virtual Presentation	Is Critical Thinking Implied to Fashion Research Competencies in Virtual Learning?
IC220275	Fahrur Rozi	Virtual Presentation	The Development of The E-Learning Practicum Guide on The Basic Concept Course of Natural Science PRODI PGSD FIP UNIMED
IC220213	Albert Pauli Sirait	Virtual Presentation	Analysis of Adolescent Behavior Issues and The Urgency of Research for Unimed Guidance and Counseling Study Program Students In The Revolutionary Era 4.0.
IC220324	Sanusi Hasibuan	Virtual Presentation	The Development of Augmented Reality (AR) In Anatomy Courses
IC220257	Charles Fransiscus Ambarita	Virtual Presentation	The Development of Learning Planning Book Based on Mind Mapping on Students of Economic Education Study Program At Faculty of Economics In State University of Medan
IC220355	Lelly Fridiarty	Virtual Presentation	Development of Learning Module in The Culinary and Tourism Industry courses in Unimed Catering Study Program

Day 04

Room 4

Thursday, 5 November 2020

Session Time : 08.35 – 11.10

Session Chair : Dr. Cheah Chew Sze

Track Education

Paper ID	Presenter	Media	Paper Title
IC220336	Syarifah	Virtual Presentation	Development of Nationalist Character Instruments Based on History Learning
IC220297	Samsidar Tanjung	Virtual Presentation	Development of Learning Model Among System in Independent Learning Based on Multiculture to Improve Student Competence in History Education Program
IC220298	Abdul Hasan Saragih	Virtual Presentation	Development of Experiential Learning Model Based on The Integrative Learning Design Framework (ILDF) in The Course of Planning for Learning and Development
IC220215	Keysar Panjaitan	Virtual Presentation	Development of Learning Model Based on Generic Green Skills in Project Based Learning by Using Computer Aided Design (CAD) in Technical Drawing Skills
IC220216	Effi Aswita Lubis	Virtual Presentation	Development of Experiential Kolb Learning (EKL) Model Based on Independent Learning to Improve Student Competence in Accounting Education Subject
IC220354	Rahmulyani	Virtual Presentation	Developing Cybercounseling Guide Book for Guidance and Counseling Teacher to Solve Learning Saturation of Students in Pandemic Era
IC220221	Marsangkap Silitonga	Virtual Presentation	Online Learning Effectiveness Enhancement with Application Based on Internet of Things Concept
IC220113	Rohani	Virtual Presentation	Enhancing Critical Thinking and Problem Solving Ability Trough The Implementation of The Research-Based Learning Model In Higher Education
IC220322	Zen Fadli	Virtual Presentation	Female Perception on The Physical Education In Higher School

Day 04

Room 5

Thursday, 5 November 2020

Session Time : 08.35 – 11.10

Session Chair : Dr. Joseph Gerunda Refugio

Track Education

Paper ID	Presenter	Media	Paper Title
IC220223	Nurilam Harianja	Virtual Presentation	Development of Interactive Multimedia for French Student In North Sumatra
IC220225	Siti Wahidah	Virtual Presentation	Development of Better Teaching and Learning Learning Models In The Competence of Basic Teaching Skills of Students
IC220228	Suharjo	Virtual Presentation	Blended Learning in New Normal: The Relationship Between Students' Characteristics and Virtual Design to Learning Outcomes
IC220231	Sri Milfayetty	Virtual Presentation	The Innovation of Classroom Management to Prevent Student's Negative Behavior
IC220232	Anni Holila Pulungan	Virtual Presentation	Task Based Language Teaching in Designing Students' Scientific Writing
IC220323	Roza Thohiri	Virtual Presentation	Problem Based Learning Based E-Module Development
IC220233	Efendi Napitupulu	Virtual Presentation	Development of Transformative Learning Models and Innovations By Applying The Knowledge Center for Student Character Building In The Basic Education Unit of North Sumatera Province
IC220234	Aida Fitriani Sitompul	Virtual Presentation	Virtual Laboratory Development as Learning Media in in the Invertebrate Animal Taxonomy Course
IC220294	Maryatun Kabatiah	Virtual Presentation	The Development of Cross-Faculty / University Integrated Social Science Learning Model In The Faculty of Social Science, Universitas Negeri Medan
IC220344	Desy Afyanty Lubis	Virtual Presentation	Effective Efforts of Learning Indonesian Bridal Make-Up Through the Development of Bridal Make Up Dictate Standart North Sumatera Series

CONFERENCE PROGRAM
The 4th International Conference on Community Research and Service Engagements (IC2RSE)
VIRTUAL CONFERENCE (2-6 November 2020)
DAY 5 : Friday | November 6, 2020

Time (GMT+7)	Duration	Activity
07.50- 08.00	10'	Participant Login and Join Virtual Conference by ZOOM (Room 1)
08.00 - 08.05	5'	Introduction and Conference Publication Announcement
08.05 - 08.15	10'	Opening Speech (Room 1) Dr. Diky Setya Diningrat Conference Chair of (IC2RSE)
08.15 - 08.20	5'	Group Photo Session (Room 1)
08.20 - 08.35	15'	Preparation for Paralel online Presentation Session (Room 1, 2, 3, 4, and 5)
08.35 - 10.35	120'	Online Paralel Presentation Session: 5 breakouts Zoom room Room 1: Track Education (Session Chair : Dr. Joseph Gerunda Refugio) Room 2: Track Natural Science (Session Chair : Dr. Leong Choi Meng) Room 3: Track Engineering & Technology and Computer Science (Session Chair : Dr. Yeo Sook Fern) Room 4: Track Sport Science (Session Chair : Dr. Raymond Chris Maribojoc) Room 5: Track Sport Science (Session Chair : Dr. Rasmitadilla)

Time (GMT+7)	Duration	Activity
10.35 - 10.45	10'	Testimonial and Post-conference information announcement at each parallel online presentation room (Room 1, 2, 3, 4, and 5)
10.45 - 10.55	10'	Preparation for Closing Ceremony after Paralel online Presentation Session (back to Room 1)
10.55 - 11.00	10'	Award Ceremony: Best Paper Best Presentation (Room 1, 2, 3, 4, and 5)
11.00 - 11.05	5'	Closing Speech (Room 1) Dr. Diky Setya Diningrat Conference Chair of (IC2RSE)

Day 05

Room 1

Friday, 06 November 2020

Session Time : 08.35 – 10.35

Session Chair : Dr. Joseph Gerunda Refugio

Track Education

Paper ID	Presenter	Media	Paper Title
IC220351	Rifqi Aufan	Virtual Presentation	Developing I-Referee App To Maximaze Refereeing Learning Outcomes In Basketball
IC220237	Naeklan Simbolon	Virtual Presentation	The Effect of The Use of Teaching Materials on ICT-Based English Learning on Listening Skills of Prospective Sd Teachers
IC220238	Waminton Rajagukguk	Virtual Presentation	Effectiveness of Online Learning Process Based on Google Classroom and SIPDA
IC220333	Firman	Virtual Presentation	The Effectiveness of Group Guidance Service Implementation Using Reality Counseling Approach to Improve Social Cohesion in Preventing Student Brawls
IC220303	Asrin Lubis	Virtual Presentation	The Context Role and Lecturer's Questioning to Enhance Students' Logical Reasoning at Indonesian Higher Education
IC220334	Firman	Virtual Presentation	The Effectiveness of Group Guidance with Modeling Techniques To Increased Meaningfulness of Life in Preventing Traffic Violations Towards Smart City
IC220242	M.Nustan Hasibuan	Virtual Presentation	Development of Training Model for Strength and Conditioning Coach in Sport Science Faculty Medan State University
IC220307	E. Elvis Napitupulu	Virtual Presentation	On Developing Differential Equation Course Material in Improving Students Mathematical Higher Order Thinking Skill
IC220335	Firman	Virtual Presentation	The Effectiveness of Group Guidance Using The Gestalt Approach in Reducing Youth Aggressiveness
IC220283	Abdul Harris Handoko	Virtual Presentation	SIPDA As An LMS Optimizes Online Learning at Fakultas Ilmu Keolahragaan UNIMED

Day 05

Room 2

Friday, 6 November 2020

Session Time : 08.35 – 10.35

Session Chair : Dr. Leong Choi Meng

Track Natural Science

Paper ID	Presenter	Media	Paper Title
IC220110	Ida Duma Riris	Virtual Presentation	Antioxidant and Antidiabetic Activity of The Ethanol Extract of The Leaves of The Sijukkot (<i>Lactuca indica</i>) Plant
IC220147	Abd Hakim S	Virtual Presentation	Characterization of Glutaraldehyde Composition on PVA-Enzyme Coated PVC-KTpCIPB Membrane With XRD and UV-Vis
IC220181	Khairiza Lubis	Virtual Presentation	Scanning Electron Microscopy Study To Analyze The Morphological Characteristics of Scale of Pora-pora Fish (<i>Puntius binotatus</i>) From Toba Lake, North Sumatra, Indonesia
IC220200	Asep Wahyu Nugraha	Virtual Presentation	The Study of The Interaction Between Alpha-tocopherol With Methanol, Ethanol, Acetone, Chloroform, Carbon Tetrachloride, Cyclohexane, and N-Hexane Using The Hartree-fock Method
IC220204	Ahmad Nasir Pulungan	Virtual Presentation	Synthesis Biodiesel From Rubber Seed Oil Using Natural Zeolite Catalysts Supported Metal Oxides ZrO ₂ , PbO, and ZnO
IC220206	Rina Amelia	Virtual Presentation	Ankle Brachial Index (ABI) As A Macrovascular Marker Complication In Type 2 DM In Medan, Indonesia
IC220209	Endang Sulistyarini Gultom	Virtual Presentation	Identification Bacterial Symbionts Sponge As Antibacterial From Ngge Islands, Indonesia
IC220224	Binari Manurung	Virtual Presentation	Morphometric and Genetic Analysis of Fruit Fly <i>Bactrocera dorsalis</i> Complex on Horticultural Crops In North Sumatera-indonesia
IC220241	Diky Setya Diningrat	Virtual Presentation	Coix Phytochemical Compounds for Anti-alzheimer Activity Through Mechanisms Like Targeting β -amyloid By Molecular Docking Analysis
IC220246	Martina Restuati	Virtual Presentation	Isolation and Characterization of Endofit Fungal Molecular Which Are Potentially As Antimicrobes From Buasbuas Leaves (<i>Premnapubescens</i> Blume)

Day 05

Room 3

Friday, 6 November 2020

Session Time : 08.35 – 10.35

Session Chair : Dr. Yeo Sook Fern

Track Engineering and Technology

Paper ID	Presenter	Media	Paper Title
IC220202	Lisyanto	Virtual Presentation	Performance of Mechanical Dodos and Egrek for Oil Palm Frond Cutting Using Motoyama Machine MPHE330
IC220214	Bisrul Hapis Tambunan	Virtual Presentation	Utilization of Biomass Stove Waste Heat As A Power Plant Using The Thermo Electric System
IC220236	Putri Lynna A. Luthan	Virtual Presentation	Comparative Study on The Use of S-curve and Ms. Projects PDM Method on Scheduling and Controlling Building Construction Project
IC220347	Sahala Siallagan	Virtual Presentation	The Enormous Potency of Benchmarking
IC220350	Hermawan Syahputra	Virtual Presentation	STEAM (Science, Technology, Engineering, Art, Mathematics) and Augmented Reality-based Mobile Learning Innovation
IC220239	Abdul Hamid	Virtual Presentation	SIMLAB Model To Improve Laboratory Performance

Track Computer Sciences

Paper ID	Presenter	Media	Paper Title
IC220125	Hesti Fibriasari	Virtual Presentation	Development of E-learning Media on Production Orale Debutant Course In French Language Education
IC220128	Baharuddin	Virtual Presentation	Leveraging Technology for Vocational Training Development In Indonesia
IC220145	Muhammad Ridha Syafii Damanik	Virtual Presentation	Design of An Information System for Program Planning At Universitas Negeri Medan
IC220208	Bagoes Maulana	Virtual Presentation	The Design of Web-based Thesis Management Information System to Increase the Quality and Efficiency of Guiding Process and Document Management

Day 05

Room 4

Friday, 6 November 2020

Session Time : 08.35 – 10.35

Session Chair : Dr. Raymond Chris Maribojoc

Track Sport Science

Paper ID	Presenter	Media	Paper Title
IC220108	Sabaruddin Yunis Bangun	Virtual Presentation	Equity Teacher Education Physical Sports Health Public Middle School In Serdang Bedagai Regency
IC220122	Zulfan Heri	Virtual Presentation	Developing Learning Media Audio Visual Tutorial In Crawl Swimming Style for PKO FIK Unimed Students 2020
IC220163	Mahmuddin	Virtual Presentation	Development of SIPDA-based Learning Resource Design (Blended Learning) In The Course of Rationing Learning Strategies
IC220203	Novita Sari Harahap	Virtual Presentation	Regular Physical Exercise and Red Dragon Fruit Increased Total Antioxidant Capacity and Preventing Muscle Injury In Trained Men
IC220227	Imran Akhmad	Virtual Presentation	The Effect of Quick Strength Training on The Agility of Futsal Junior Athletes
IC220290	Rahma Dewi	Virtual Presentation	The Influence of Game Method and Interest Toward In Learning Outcome of The Basic Running Skills.
IC220300	Doris Apriani Ritonga	Virtual Presentation	The Effect of Acceptance Commitment Therapy To Reduce Anxiety of Martial Art Athletes
IC220314	Rahman Situmeang	Virtual Presentation	Development of Sanbon Kumite Engineering Learning Variations In Sport Training Education Students In 2020
IC220285	Basyaruddin Daulay	Virtual Presentation	Development of Sports Branch Test Norms
IC220311	Dewi Endriani	Virtual Presentation	Development of Information Media For Volleyball Games Based on The Sisvoli Application (Volleyball Statistical Information System)

Day 05

Room 5

Friday, 6 November 2020

Session Time : 08.35 – 10.35

Session Chair : Dr. Rasmitadilla

Track Sport Science

Paper ID	Presenter	Media	Paper Title
IC220148	Syamsul Gultom	Virtual Presentation	Working Performance and Level of Fatigue of The Female Working With Computer: An Interview Study on University Female Workers
IC220305	Suryadi Suryadi Damanik	Virtual Presentation	Development of Web Based Sports Nutritional Science Module In The Faculty of Sport Science (FIK) Medan State University
IC220306	Suprayitno	Virtual Presentation	Development of android-based Test Data Processing Model for The Physical Condition of Karate Athletes
IC220313	Onyas Widianingsih	Virtual Presentation	Development of Learning Media for Refereeing Subjects for Volleyball Subjects Based on Satelite E-learning
IC220328	Ibrahim	Virtual Presentation	Development of Drill-based Basketball Shoot Lay Up Learning Model for Students
IC220337	Afri Tantri	Virtual Presentation	Interactive Multimedia As An Optimization of Tennis Court Learning In Pandemic Period
IC220346	Asep Suharta	Virtual Presentation	Digital-based Volleyball Basic Engineering Test Instrument Design
IC220301	Amir Supriadi	Virtual Presentation	Development Ebook Model Football Teaching Book
IC220302	Indah Verawati	Virtual Presentation	Development of Major Ball Game Modifications With Play Approach In Order To Develop Basic Motion Skills In Elementary School Students
IC220308	Yan Indra Yan Siregar	Virtual Presentation	The Development of A Far Learning Variation In Sport Training Education Students Unimed FIK In 2020

List of Conference Attendees

ID	Attendee	Affiliation	Country
	Dr. Joseph Gerunda Refugio	St. Vincent's College Incorporated	Philippines
	Assoc. Prof. Ann Suwaree Ashton, Ph.D	National Institute of Development Administration (NIDA)	Thailand
	Prof. Dr. Racidon P. Bernarte	Polytechnic University of the Philippines	Philippines
	Dr. Kuldip Kaur Maktiar Singh	Universiti Teknologi MARA (UITM) Lendu, Alor Gajah	Malaysia
	Assoc. Prof. Dr. Irene Leong	Universiti Teknologi MARA (UITM) Melaka	Malaysia
	Dr. Yeow Jian Ai	Multimedia University	Malaysia
	Engr. Christopher C. Mira	Polytechnic University of the Philippines (PUP)	Philippines
	Dr. Bibiana Lim Chiu Yiong	Swinburne University of Technology	Malaysia
	Dr. Rasmitadila	Universitas Djuanda	Indonesia
	Joshua Akinlolu Olayinka	Walailak University	Thailand
	Dr. Cheah Chew Sze	Multimedia University	Malaysia
	Dr. Lim Kah Boon	Multimedia University	Malaysia
	Dr. Asnita Frida Sebayang	Universitas Islam Bandung	Indonesia
	Dr. Leong Choi Meng	UCSI University	Malaysia
	Dr. Yeo Sook Fern	Multimedia University	Malaysia
	Dr. Raymond Chris Maribojoc	St. Vincent's College Incorporated	Philippines

Track: Social Science

Improving Scientific Writing Teachers 'Skills In North Aceh

Safriana¹, Mutia Fonna², Zahratul Fitri³

^{1,2,3}Universitas Malikussaleh

Abstract

Background - *Writing scientific papers has enormous benefits for teachers, such as: it can improve the quality of learning, and can also train teachers' creativity and innovation in implementing learning. The reality is that teachers still have difficulty making scientific papers. This is as experienced by teachers in North Aceh District; teacher still experience difficulty in promotion due to the limited understanding of teachers in writing scientific based scientific works*

Purpose - *The purpose of the research is to increase the interest and skills of teachers in writing scientific papers. The solution to this problem is to conduct training programs and assistance in writing scientific papers for teachers, especially in North Aceh.*

Design/methodology/approach - *In this study, the effect of training programs and assistance in developing teachers' skills in writing papers had been looked into depth through four-months of observation at one of the teachers area schools in North Aceh*

Findings - *The survey results showed that the assistance carried out found a very good response to teacher progress. The teacher's understanding in writing scientific papers increased. This is also evidenced by the publication of scientific papers carried out by participants in the registration of scientific papers published in journals with ISSN or national journals.*

Research limitations - *The mentoring activity was limited to the physics teachers in North Aceh. Whereas, many teachers in other subjects need similar assistance for self-development, especially in creating scientific papers to support teacher careers. In addition, these activities are also limited to face-to-face activities due to the COVID-19 pandemic, so that the distribution of knowledge to participants is not optimal.*

Originality/value - *The value obtained is that measure the ability of teachers to write scientific papers, so that the results of this achievement can be used as a benchmark for carrying out similar mentoring activities next, especially for the teacher development. It also provides a reference to explain how ro improve scientific writing skill for teacher.*

Keywords : Improving, Scientific Writing, Teacher

The Effectiveness of Learning Smash Based Blended Learning Assisted Video Media for Students Affected by Covid-19

Samsuddin Siregar¹, Indra Kasih², Bangun Setia Hasibuan³

^{1,2,3}Universitas Negeri Medan

Abstract

Background - *The development of video-assisted smash blended learning was carried out because of the online learning problems faced by students during the Covid-19 pandemic in 2020. During online learning students did not master the basic techniques of volleyball smash.*

Purpose - *This study aims to determine the effect of smash blended learning assisted by video media in improving student volleyball smash learning outcomes.*

Design/methodology/approach - *Research location The research method used was the experimental method pretest-posttest control group design.*

Findings - *Based on the data analysis in both groups, it was stated that the blended learning group assisted by video media had an average value of 10.10.*

Research limitations - *Based on the difference in the average score, it can be concluded that the blended learning group assisted by video media is better at improving student smash skills during online learning.*

Originality/value - *Blended learning with video media has never been applied to students of the Medan city sports science faculty, so it is recommended that educators who carry out volleyball smash learning online can apply blended learning assisted by video media.*

Keywords : Media, Blended Learning, Smash

Polarization Development Data Processing Test Test Guide for Voliar Sports Android Based

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Abstract

Background - *The talent search conducted by volleyball coaches has not used Android application technology in determining more potential athletes*

Purpose - *This research is focused on creating an android-based volleyball talent search application*

Design/methodology/approach - *This research method uses R&D research from Borg and Gall through 10 stages. The approach used in this research is qualitative and quantitative approaches*

Findings - *This study took the distribution data of the questionnaire on the use of the android application and the appearance of the volleyball gift test application. The results of this study were given to volleyball experts and media experts in small groups having an Android-based data processing application effectiveness of 55%. With this, there is still a lot to be improved. Meanwhile, the distribution of questionnaires for IT and media experts has an android-based data processing application display of 56%. With this, there is still a lot to be improved. For large samples, for the effectiveness of the assessment questionnaire for Android-based data processing applications, for the assessment indicators of test implementation and data processing, the questionnaire value was 114 with an ideal score of 120 and obtained an effectiveness percentage of 95%. As for the physical measurement indicator, the questionnaire value was 387 with an ideal score of 400 and gave an effectiveness percentage of 97%. For all indicators, the questionnaire value was 501 with an ideal score of 520 with an effectiveness percentage of 96%. With this, the application used is suitable for use and marketed to the public. For the effectiveness of the assessment questionnaire for Android-based data processing applications, it can be seen that the questionnaire given to IT and Media experts for the assessment indicators of test implementation and data processing, the questionnaire value is 35 by*

obtaining an ideal score of 36 and the percentage of effectiveness is 57%. For physical measurement indicators, the questionnaire value is 116 with an ideal score of 120 with a percentage of 57%. For all indicators, the questionnaire value 151 with an ideal score of 156 with a percentage of 57%. With this, the application used is suitable for use and marketed to the public.

Research limitations - *use of time, insufficient funding in research*

Originality/value - *original*

Keywords : Android-Based Volleyball Scouting

The Sense of Islamophobia within Daughters of Arabia, Dessert Royal and Inside the Kingdom

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Abstract

Background - *This essay explores how the sense of Islamophobia deployed in three novels, namely, Jane P.Sason's "Daughters of Arabia and Dessert Royal", Carmen bin Laden's "Inside the Kingdom" publicly and scholarly debate, emphasizing these discussions took place on the palace of the king in Saudi Arabia. It then draws colonialization had strengthened when they generalized all Muslim women in Saudi Arabia based on the experiences of the princesses. Besides, offers a useful social scientific definition of Islamophobia as indiscriminate negative attitudes or emotions directed at Islam.*

Purpose - *The purpose of this essay is to discuss and explore the types of indicators that are most appropriate for measuring the sense of Islamophobia as well as the benefit of concept development for comparative literary and feminismanalysis.*

Design/methodology/approach - *In this essay, we use the theoretical framework put forward by Chandra Talpade Mohanty, known as "Criticism of Western Hegemony". Through this conceptual framework, there are main principles, but we use only "the ower of Subject".*

Findings - *By using the above principle, we found that the authors of the novels showed a sense of Islamophobia against Muslim (women against men) in the Saudi Royal's palace. Their mission is to colonize the women, Islam and expose the phenomena of women.*

Research limitations - *This essay focused only on gendered Islamophobia by looking through a variety of narratives techniques like expository, hyperbole and binary opposition.*

Originality/value - *This study conducted in order to increase academic references concerning on literature and will be beneficial for post colonial studies, feminism and Islamic studies.*

Keywords : Sense of Islamophobia, Islam, West, Feminism

Implementation of Discovery Learning in Digital Classes and Its Effect on Student Learning Outcomes and Learning Independence Level

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Abstract

Background - *The development of the internet, especially e-learning considerable benefits in education. Digital classes are present as a solution for teachers and students to keep in touch from the classroom.*

Purpose - *This study discusses the application of discovery learning in the Digital Classroom and its effect on learning outcomes and independent learning (SDL).*

Design/methodology/approach - *This research used a quasi-experiment method. The sample was taken by using a random sampling technique. Two classes that have the same average value used as an experiment and control groups. The instrument used a cognitive test and an SDL questionnaire.*

Findings - *The findings of this research showed that learning outcomes and self-directed learning in the experiment group were higher than the control group. Data analysis indicates $t\text{-test} > t\text{-table}$. This means that there is a significant difference in the results of learning outcomes and SDL. Based on this research, the results concluded that the implementation of discovery learning using Digital Class had a positive effect on learning outcomes and SDL.*

Research limitations - *this study was only conducted at one secondary school. the use of more samples is recommended in order to obtain a more in-depth study.*

Originality/value - *The limitations of applying face-to-face discovery learning can be overcome by implementing online learning which facilitates students to gain meaningful learning experiences.*

Keywords : Digital class, discovery learning, self-directed learning

Agrarian Conflict Resolution to Achieve Restorative Justice

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Abstract

Background - *Agrarian conflict is a phenomenon and social reality that continues to occur, spreads and increase in quantity and quality in a number of regions in Indonesia. Agrarian conflicts that have become more intensive and sustainable long time have the potential to cause social and political disintegration that can threaten the integrity of the nation.*

Purpose - *The purpose of this research is to explore information and identify the roots and processes of agrarian conflict between local communities and domestic and foreign authorities, entrepreneurs and investors; and finding information and data on practices and methods, mechanisms and strategies for resolution agrarian conflicts carried out by the parties involved in agrarian conflicts.*

Design/methodology/approach - *The methodology this research uses qualitative methods with data collection techniques through observation, structured interviews, literature studies and interviews. The data collected is processed with the stages of data reduction, data analysis and narrative construction, generalization and conclusion.*

Findings - *The findings of the research: (1) agrarian conflict is complex and multi-dimensional related to social, cultural, economic and political aspects (2) The agrarian conflict process is caused by differences perceptions, interests and differences access to control and use of agrarian resources; (3) the parties to the conflict have a strong desire to resolve agrarian conflicts in litigation and non-litigation to find a win-win solution.*

Research limitations - *Research limitations in characteristics of the sample and location of the research. This research sample location in to three locations, namely 1 sub-district in Medan City and two villages in Deli Serdang Regency, so that it is not yet fully able to provide a comprehensive overview of the process and resolution of agrarian conflicts.*

Originality/value - *The authenticity of this research integrates the study of agrarian conflict processes and agrarian conflict resolution. This approach was chosen to find practices, mechanisms and strategies for resolving agrarian conflicts. Data and descriptions of practices, mechanisms and strategies for resolving agrarian conflicts are needed by the government in resolving agrarian conflicts that are scattered in various parts of Indonesia.*

Keywords : agrarian conflict, conflict resolution, agrarian access, litigation

Interactive Multimedia Development Based on Discovery Learning for UNIMED Indonesian Literature Students

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Abstract

Background - *in this situation that is a problem with the Covid-19 pandemic which affects all human beings in the world and touches all levels of society as well as disrupting all activities of life. The world of education is an activity whose process is almost paralyzed due to the Covid 19 pandemic, all drivers of the world of education must rack their brains to find ways to keep the learning process going and students must still have their rights to feel the learning process that does not decrease. One of the things that can be done by lecturers or teachers as facilitators and those in charge of transferring knowledge even though in an indirect way is to use a medium that does not reduce student interactivity even though it is not in a class forum.*

Purpose - *This study aims to produce Interactive multimedia products based on discovery learning concepts that are packaged into interactive CD by using Adobe Professional CS6 software and knowing the feasibility level of the media used, knowing the increase in the ability to understand concepts and writing skills of students after using interactive multimedia based on discovery learning concepts*

Design/methodology/approach - *This research uses research and development method by applying the DDD-E design model which consists of four steps, namely: Decide, Design, Develop and Evaluate.*

Findings - *The results of the validation and research results indicate that interactive multimedia based on the discovery learning concept developed is feasible, efficient and effective in improving student learning outcomes*

Research limitations - *This study aims to produce interactive multimedia products and test their feasibility and effectiveness.*

Originality/value - *The discovery learning model that has been tested and has succeeded in increasing student motivation and learning outcomes in the classroom, through interactive multimedia that researchers have developed, the discovery learning model is packaged into interactive media that can be accessed by students on line and offline without reducing the pleasant learning atmosphere. and interactive. Because at this time learning is still running online and cannot be done directly on campus, so this interactive multimedia can be a way out to help lecturers transfer their knowledge.*

Keywords : multimedia, discovery learning, exposition text, Adobe Professional CS6

Integrative Learning Model Based on Scientific Approach to Produce Simultaneously Competence for Vocational Teacher Candidate

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Abstract

Background - *The development of vocational teachers candidates is still focused on mastering current teaching knowledge and skills, while the soft skills aspect has not become a concern. The exploration results show that there are 85 attributes of generic soft skills and 59 specific attributes that are relevant to be trained for vocational teachers candidates to produce simultaneous competences. Soft skills training must be integrated in the learning process, so that an effective learning model is needed in integrating soft skills in the learning process.*

Purpose - *This study aims to: (1) find an integrative learning model as a learning guide for prospective vocational high school teachers from the aspects of planning, implementation, and evaluation aspects; and (2) determine the effectiveness of using the learning model in producing simultaneous competencies for prospective vocational teachers in the learning process.*

Design/methodology/approach - *The research method uses research and development with steps adapted from Borg & Gall. Research carried out through stages; preliminary studies, preliminary model designs, expert validation, and product trials. Research data obtained through observation sheets, questionnaires, and assessment sheets. Data analysis was performed using the Wilcoxon Signed Ranks Test and the Kruskal Wallis Test*

Findings - *The results showed that (1) integrative learning models developed are in the very valid category based on the evaluation of the validator team, and the level of appropriateness of the application of the learning model is in the very appropriate category according to user ratings; and (2) the integrative learning model developed can improve the ability of vocational teacher candidates simultaneously. The data test results showed*

that the ability of soft skills increased significantly ($p = 0,000$), and the learning outcomes of prospective teachers also experienced a significant increase ($p = 0.014$).

Research limitations - *The application of the development result model is still limited to a scientific approach based on blended learning. The integrative learning model has not been able to fully accommodate online learning.*

Originality/value - *The learning model of the findings of this study will produce the simultaneous competence of prospective teachers between knowledge, skills, and attitudes in the form of soft skills according to education and learning objectives.*

Keywords : Integratif learning model, scientific approach, simultaneous competence, vocational teacher candidates.

The Politics of Citizenship in Village Fund Management for Covid-19 Affected Communities (Study. Saentis Village, Percut Seituan, Deli Serdang)

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Abstract

Background - *The Indonesian government's policy to reduce the economic effect of the poor and unable people of COVID-19 is to provide direct cash assistance (BLT) of Rp 600,000 for three months.*

Purpose - *The research aims to find out how the community participates in the use of the funds and wants to know how the Village Government's governance of Village Funds in the management of the affected Village COVID-19.*

Design/methodology/approach - *This study is based on a qualitative approach in which data collection techniques are conducted with observations, interviews, and documentation of 168 individuals receiving direct cash assistance.*

Findings - *The results of the study found that villagers in a capacity of membership (citizens who are aware of their rights and obligations) are still limited as objects of top-down state policy as well as a lack of participation to be responsible for the use of such assistance funds to be managed properly.*

Research limitations - *This research is limited only to poor villages' participation and job losses due to the Covid-19 pandemic.*

Originality/value - *The uniqueness of the research tries to offer a citizenship approach with two main aspects: membership (citizens) who have rights and obligations by treating them as subjects to produce collective action in resolving problems together Covid-19 pandemic.*

Keywords : Citizenship Politics, Cash Direct Assistance, Village Fund Governance.

The Development of Learning Media Based Digital Book Using Kvisoft Flipbook in The Low Class Social Science Subject

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Abstract

Background - *The background of this research is students' disinterest in low-class social science subject, it seen from the student's grades, and the lack of variation in teaching materials and learning media used in the learning process. So that the authors are interested in doing research with the title The Development of Learning Media Based Digital Book Using Kvisoft Flipbook in The Low Class Social Science Subject.*

Purpose - *This study aims to describe: (1) the results of expert tests regarding the product development of Digital Book learning media using the Kvisoft Flipbook in low-grade social studies subjects. (2) Student responses to the use of the Digital Book using the Kvisoft Flipbook in Low Class Social Studies courses.*

Design/methodology/approach - *This research method is a method of research and development (Research and Development / R & D). The research and development steps are guided by the ADDIE model (Analyze, Design, Development, Implementation, Evaluation).*

Findings - *The results of the research and development can be concluded: (1) The Digital Book learning media uses the Kvisoft Flipbook for the Low Class Social Studies course "Very Good". Based on the results of the evaluation of 3 validators, namely material content experts, media (display) and language. The detailed score obtained from the material content expert went through 2 validation stages of 3.8 with the very good category. The detailed score obtained from the media expert (display) through 2 validation stages was 3.9 with the very good category. The detailed score obtained from the linguist through 2 validation stages was 3.8 with the very good category. (2) The results of observations regarding the use of the*

development of Digital Book learning media using Kvisoft Flipbook in the implementation of low-grade social studies lectures, observed through observation activities obtained that 50% were very helpful and 36.85% were helped.

Research limitations - *This research only reaches the implementation stage of digital book developed using Kvisoft Flippbook*

Originality/value - *it's true that this research is carried out by researchers who have a novelty nature in producing digital book as a learning media at State Universities of Medan in low-class social science subject*

Keywords : Digital Book, Kvisoft Flipbook, low-class social science

Dynamics of Online Learning Systems during The Covid-19 Pandemic Period in Department of Anthropological Education, Faculty of Social Science, Universitas Negeri Medan

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Abstract

Background - *Online learning during the Covid-19 pandemic is unavoidable at the Department of Anthropological Education, Faculty of Social Sciences, Universitas Negeri Medan, which is in the red zone. The dynamics of implementing online learning inevitably must be faced by lecturers and students in every lecture process.*

Purpose - *This study aims to determine the dynamics of the implementation of the online learning system in this department during the Covid-19 pandemic. This was researched through the identification process related to the obstacles, challenges, and efforts made by lecturers and students in using the online learning system. In the end, this research data leads to the evaluation results as input for this department in implementing an online learning system.*

Design/methodology/approach - *The research method that will be used is qualitative with a descriptive approach. The data collection technique used in this research is to use observation, interview, questionnaire, and documentation techniques. Data analysis was carried out qualitatively in an iterative and continuous manner between data collection and analysis, both during data collection in the field and after the data was collected.*

Findings - *These students were not ready to undergo online lectures. Various difficulties are faced, including: network difficulties, minimum quotas, not maximally understanding learning, difficult to access SIPDA, many tasks from campus and home (double burden), and minimum information sources provided by the lecturer. The difficulties faced by lecturers were more drained energy and time, weakened physical energy,*

inadequate IT mastery, and spend a lot of quota. The strategy carried out by students is by dividing their time as best as possible to work, helping their parents, and studying. Meanwhile, the lecturer in dealing with problematic student networks is by making learning video recordings and active discussions in SIPDA.

Research limitations - *This research is still limited to disclosing the dynamics of the implementation of student and lecturer learning, it has not yet led to culture shock and its efforts psychologically to overcome it.*

Originality/value - *Lecturers and students have the best methods and ways to undergo online lectures while still being able to maintain their own health and hone their abilities properly though not maximum.*

Keywords : Online Learning System Dynamics, Covid-19 pandemic

Antimalarial, Antioxidant and Antibacterial Activities of Andaliman Fruit Extract (*Zanthoxylum acanthopodium* DC)

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Abstract

Background - Andaliman (*Zanthoxylum acanthopodium*.DC) is an endemic plant from Toba, North Sumatera that has antimalarial, antioxidant, and antibacterial material activities

Purpose - The objective of this study was to evaluate the antimalarial, antioxidant, and antibacterial activities from methanol extract of andaliman fruit. Sample of andaliman fruit was collected from three districts in North Sumatera (Dairi, Simalungun and Humbang Hasundutan)

Design/methodology/approach - The fruits of andaliman were dried and extracted using 96% methanol, followed by evaporation and freeze-drying. Antimalarial activity was tested using Desjardin method, antioxidant using DPPH method and antibacterial using Kirby bauer method.

Findings - Antimalarial activity test of andaliman taken from Dairi, Simalungun and Humbang Hasundutan showed a very promising results with IC₅₀ of 1.6×10^{-2} , 1.8×10^{-4} , and 9.2×10^{-3} $\mu\text{g mL}^{-1}$ Dairi, Simalungun and Humbang Hasundutan respectively. Antioxidant test results showed IC₅₀ value of 14.50; 8.13; 6.82 $\mu\text{g mL}^{-1}$ for andaliman taken from respectively. Antibacterial activity tests of the andaliman ethyl acetate fraction against *Escherchia coli* and *staphylococcus aureus* at concentration of 2000 $\mu\text{g mL}^{-1}$ showed 8.4; 8.7; 8.6mm and 8.7; 8.8; 8.5 mm clear area, respectively, while amoxycillin as positive control at concentration of 2.000 $\mu\text{g mL}^{-1}$ showed 14.6 and 13.9 mm clear area.

Research limitations - Test was performed using crude extract. Isolation and purification have not been done

Originality/value - *The new antimalarial agent*

Keywords : andaliman, *Zanthoxylum acanthopodium* antimalarial activity, antioxidant, antibacterial activity

Designing Resources Blended Learning Courses Growth and Development Learning Motion on Information Systems in The Network (SIPDA) State University of Medan

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Abstract

Background - *The limited learning resources in SIPDA make it difficult for students to design movement activities. The results of the observations were many complaints from students, they had difficulty designing movement activities for children. Therefore, lecturers must carry out various research and innovations by finding solutions in solving problems that arise in the routine of the teaching and learning process.*

Purpose - *The purpose of this study was to design learning resources for blended learning for the subject of growth and development of motion learning at SIPDA UNIMED. This learning product was developed in SIPDA Unimed for the course of Growth and Development of Motion Learning at the Faculty of Sport Sciences. The products of this research are 1) producing online teaching material products, 2) producing learning video learning resources that are suitable for use in the course.*

Design/methodology/approach - *The research method used is a development research method with a qualitative approach. Development research is not to create theories or test theories but to develop effective products to be used in SIPDA Unimed The development method used in this research is the Borg and Gall development model with 7 steps*

Findings - *The research data were collected through descriptive qualitative and quantitative data. Qualitative data in the form of written interviews with input, suggestions, and responses from validators, practitioners, observers and students. The type of quantitative data is obtained from the assessment score given by validators, practitioners, observers, and students through validation activities and field trials. The data*

obtained were described in detail to determine the level of validity, practicality, and effectiveness of the learning resources to be developed.

Research limitations - *The limitation of this research is only up to the large group trial step*

Originality/value - *From the results of the analysis of the needs of students and lecturers, they need blended learning resources in SIPDA Unimed for the Growth and Development course of motion learning. But considering the lack of learning resources that can be accessed easily by students in SIPDA Unimed. So it requires learning resources consisting of teaching materials, learning videos that make it easier to increase competence in the subject of growth and development of motion learning.*

Keywords : blended learning, learning resources, growth and development of motion

Early Detection of Infant Developmental Deviations Using A Developmental Pre-Screening Questionnaire and The Relationship between Maternal Knowledge and Infant Development in Rural Area of Deli Serdang

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Abstract

Background - Growth and development of a child must be monitored regularly in order to identify and detect growth and developmental deviations. Unfortunately, many parents are unaware of the importance in monitoring their children for detection developmental deviations. This is also compounded by health professionals that omit to perform deviations screenings for infants who came to health centre. A developmental pre-screening questionnaire (Kuesioner Pra-Skrining Perkembangan/KPSP) method can be used as a tool for early detection of developmental deviations among infants aged 0-12 months.

Purpose - This study aimed to evaluate infant development based on motoric ability, language and speech ability, socialisation and independence, and to analyse the relationship between maternal knowledge and infant development.

Design/methodology/approach - This cross-sectional study was carried out in rural areas of Deli Serdang District. Sixty mothers and 60 infants aged 0-12 months were chosen using concequitive sampling technique from the health post register. All respondents gave written informed consent. Mothers were interviewed using a structured questionnaire while assessment of infant development was performed using KPSP method. Data analysis was done descriptively and used Chi Square test with $p < 0.05$.

Findings - The results showed out of 60 infants evaluated, 46.7% had age-appropriate development, 33% had suspected developmental deviation and 20% had developmental deviation. Majority infants aged 6-9 months had underdeveloped gross motoric ability (66.7%). Majority mothers were unable

to differentiate between growth and development, where 70% mothers had unsatisfactory knowledge on infant development, nevertheless the analysis showed there was no significant relationship between maternal knowledge and infant development ($p>0.05$). Many factors contribute to infant development. It is needed to improve maternal knowledge and their skill in using KPSP as a tool in monitoring and early detection of developmental deviations.

Research limitations - *The limitation of this study is that it was difficult to convince mothers to do screening on infant development and to trust the results of the KPSP examination.*

Originality/value - *The use of KPSP at the primary care level is rarely used to detect early developmental problems in infants. Therefore it is important to promote the use of KPSP in community health center.*

Keywords : Infant Development, KPSP, Maternal Knowledge

Development of Internship Instruments in Implementation of KKNi Curriculum, Engineering Faculty Medan State University

Harun Sitompul¹, Zulkifli Matondang², Rosnelli³, Eka Daryanto⁴

^{1,2,3,4}Universitas Negeri Medan

Abstract

Background - *Engginering Faculty (EF) Medan State University (MSU) is a vocational faculty consisting of education and engineering study programs. EF MSU uses a KKNi-based curriculum, one of which is an Internship. The apprenticeship course consists of educational apprenticeships at schools and technical internships in the business and industrial world (BIW). During the apprenticeship competency assessment, it uses instruments compiled by the lecturer*

Purpose - *The purpose of this study was to produce an apprenticeship competency assessment tool for EF MSU students. An assessment instrument that can measure apprenticeship competencies accurately and accountably*

Design/methodology/approach - *The research approach is in the form of development research. The apprenticeship instrument development is carried out through the Borg and Gall approach. Research respondents were the head of the study program, the apprentice supervisor, teachers at schools, and supervisors at BIW*

Findings - *The results of the study were the compilation of competency assessment instruments from internships. The assessment instrument has met the validity and reliability requirements, so it is suitable to be used to assess student competence*

Research limitations - *Development of instruments with data sources from EF MSU, partner schools, and BIW. The instrument developed can be used to measure the competence of students who take part in educational apprenticeships at schools and engineering internships at BIW*

Originality/value - *The research resulted in a standard apprenticeship competency assessment instrument by the course competency formulation.*

These instruments can be used in general with the same competence in other areas of expertise

Keywords : Development, Appraisal Instruments, Educational Internships, Engineering Internships

The Perception of the Global Community Concerning the Handling, Prevention, and Spread of Covid-19 in Indonesia in Relation to The Decision to Visit Indonesia

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Abstract

Background - Covid-19 has become a social-economic issue after impacting the whole world and being declared as a global pandemic by the WHO in March 2020. Travel between countries and regions are restricted, the flow of goods are also limited. This hit the tourism sector hard. Travel and visit are the very heart of tourism. Beside of being the source of foreign exchange reserve for the country, tourism has also revive the local community's economy. Thus, travel restriction hit not only the country, but also the local people.

Purpose - This paper aims to understand the perception of global community concerning Covid-19 handling, prevention and threat in Indonesia in relation to their decision to visit Indonesia.

Design/methodology/approach - This study uses an online questionnaire platform using Google Form facility and spread it across nations using social media and personal relations. The questionnaire mostly used a closed-end questions with several questions as a semi closed-end question giving the flexibility for the respondents to elaborate the reasons more to their individual perspective

Findings - The preliminary result shows that 42% perceived that the handling, prevention and spread of Covid-19 in Indonesia is bad, 8% thinks the condition is good, while the rest have the perception that the condition is moderate. However, 75% stated that they will cancel the travel if they have previously planned a non-leisure visit. The reason for this decision varied from an official restriction from the country of residence to too much risk and hassle to take. This shows that physical and inner convenience is important in the decision for leisure travel.

Research limitations - *Since the study is using an online questionnaire, we cannot force potential respondents to fill it in. Thus, from the target of a minimum 10 countries, we could only received responds from 5 countries.*

Originality/value - *Our research highlighted the reasons behind the decision to perform or not to perform a pre-planned leisure travel based on respondents perception from various countries.*

Keywords : The perception of global community, Covid-19, decision to visit Indonesia

Determinants of Student Entrepreneurship Intention

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Abstract

Background - *College graduates prefer to wait for jobs that match their education and very rarely willing and able to create jobs for themselves or others. This condition is the impact of the low entrepreneurial intention of students. To increase the entrepreneurial intention, the determining factors must be known. This study examines whether entrepreneurial knowledge, self-efficacy, family factors, and gender are determinants of entrepreneurial intentions*

Purpose - *This study examines the impact of entrepreneurial knowledge, self-efficacy, family factors, and gender on entrepreneurial intentions.*

Design/methodology/approach - *The method used in this research is a survey by distributing questionnaires to students of the Economics Education Study Program, Faculty of Economics, Universitas Negeri Medan, who are taking Entrepreneurship courses as many as 97 people. Data were analyzed using moderated regression.*

Findings - *The results showed that entrepreneurial knowledge and self-efficacy were proven to influence entrepreneurial intentions significantly. However, self-efficacy, family factors, and gender are not proven to moderate entrepreneurial knowledge's effect on entrepreneurial intentions. Based on the average score of student entrepreneurial intentions, there is no linearity between parents' occupation of an entrepreneur and entrepreneurial intentions. It is precisely the entrepreneurial intention whose parents are non-teacher civil servants. The Minang tribe's entrepreneurial intention was higher based on ethnicity, and the Karo tribe's lowest. Furthermore, the entrepreneurial intention based on gender; female students are higher than male students*

Research limitations - *This study only involved Economics Education study program students who were taking courses. The number of respondents between distinct groups (ethnicity, gender, occupation of parents) is not balanced. Subsequent research needs to involve all study programs and distinguish students who have not and have taken entrepreneurship courses*

Originality/value - *This study describes the relationship between parents' occupation and the level of student entrepreneurial intention. This study tries to reveal whether there are differences in entrepreneurial intentions based on student ethnicity.*

Keywords : self-efficacy, entrepreneurial intention, family, ethnicity

Intellectual Property Rights as An Alternative Protection of Kem Kem Traditional Medicine

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Abstract

Background - *Kem Kem is knowledge that has been passed down from one generation to the next in the Karo tribe. In its development, Kem Kem gained widespread trust by the community outside the Karo tribe. Kem Kem has cultural values and intellectual property, but until now Kem Kem has not received maximum protection.*

Purpose - *This study aims to look at the prospects and barriers to protection of the Kem Kem as Intellectual Property Rights.*

Design/methodology/approach - *The data in this research were obtained from evaluative empirical normative law research. This research method ends to look at and determine better laws for the protection of Kem Kem. The study was conducted in, Medan City and Deli Serdang District. Primary and secondary data were analyzed using qualitative data analysis. Conclusions are drawn using deductive and inductive methods.*

Findings - *Kem Kem has the prospect of obtaining intellectual property rights protection. Kem Kem can be protected by Patents, Trademarks and Geographical Indications as part of intellectual property rights. Apart from prospects, there are also barriers to the protection of Kem Kem as part of intellectual property rights. These obstacles include the difficulty of fulfilling the requirements for registration as an intellectual property right, the lack of understanding of Kem Kem practitioners about the importance of protecting intellectual property rights, Kem Kem is considered public property, the local government has not maximally helped Kem Kem practitioners to preserve Kem-Kem, and there is no community of Kem-Kem practitioners.*

Research limitations - *The limitation in the research is the lack of studies and literature that previously related to Kem Kem.*

Originality/value - *This research was conducted by researchers based on the processing of data obtained by researchers during the implementation of the research. And previously there has never been any research on the protection of Kem Kem as intellectual property rights.*

Keywords : intellectual property right, kem kem, traditional medicine

Development of Digital-Based Learning Tools of Research Methodology Course in Early Childhood Teacher Education Department

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Abstract

Background - *Early Childhood Teacher Education students all this time were experienced difficulties in understanding the research methodology course both theoretically and practically. To assist them to understand the subject matter, digital-based learning tools are developed. These digital-based learning tools is a necessity in learning research methodology course, especially during the COVID 19 pandemic era*

Purpose - *This study aims to develop digital-based learning tools in a research methodology course. The learning tools that were developed consist of the Semester Learning Plan, Modul, and subject matter video.*

Design/methodology/approach - *The development of this module is conducted through the Research and Development Method by Borg & Gall, involve (1) Research and information collecting, (2) Planning, (3) Develop a preliminary form of product, (4) Preliminary field testing, (5) Main product revision, (6) Main field testing, (7) Operational product revision, (8) Operational field testing, (9) Final product revision, (10) Dissemination and implementation. The participant involved in the process of developing this learning module consists of material and media design experts, and students who have studied the research methodology course and students who are writing their undergraduate thesis. Data collection using interviews, assessment scale instruments, and checklists. Data analysis using quantitative descriptive analysis*

Findings - *The final product is made after material and media design expert validation provides recommendations for testing in small groups and large groups. Testing results in the small group obtained an average value of 3.76 (good) and the large group with an average value of 3.70 (good). This indicates that digital-based learning tools in research methodology subject*

are already worth using. The learning module consists of: Module 1. Research concept; Module 2. Types of research method; Module 3. Research problems; Module 4. Theoretical foundation, thinking framework, and research hypothesis; Module 5. Research methodology, design, population, and sample; Module 6. Research data collection techniques and instruments; Module 7. Research data analysis techniques; Module 8. Writing research proposals according to the type of research method; Module 9. Compilation of research results, discussion, conclusions, and suggestions; and Module 10. Writing research reports according to the type of research method. The final product of the teaching material module is formatted in portable document format (pdf.) which is each learning activity in it can be accessed by the student by clicking the provided link.

Research limitations - *This research has limitations, where this research is preliminary so that further development is needed, besides that researchers also experience several obstacles to coordinating with the team directly due to the COVID 19 pandemic, but all are resolved by utilizing internet networks and technology to coordinate.*

Originality/value - *The advantages of the products created make the products created have their own characteristics compared to other products, the modules developed from this research are very relevant to the needs of novice researchers such as students who have to complete their studies by writing a thesis, on the other side, the modules created are also supported by learning videos so that they support students to study online, especially during the COVID 19 pandemic.*

Keywords : digital learning tools, learning modules, R&D models

The Global Community's Perception on the Spread of Covid-19 in Indonesia and the Decision Making Process for Duty Travel to Indonesia

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Abstract

Background - Covid-19 has turned from a merely global health issue into a global economic issue. One of the sector affected is the flow of goods and people. Travel restrictions and limitation has reduced the movements of people between countries and regions to a minimum level, suffocating both domestic and international air travel industry. Beside of affecting the economy from the limited travel, travel restriction has also the potential to disrupt businesses, researches and other duty travel that needed physical attendance. This would in turn also affect the economy.

Purpose - The purpose of paper is to analyse the perception of non Indonesian not living in Indonesia concerning the spread of Covid-19 in Indonesia and relating it to the decision to visit Indonesia during this time of pandemi.

Design/methodology/approach - With a qualitative approach, this study targeted to receive responses from non Indonesian from different countries using online questionnaire facility, Google Forms[®]. Most of the questions in the questionnaire used a closed-end questions. However, several questions is designed as a semi closed-end question to facilitate the respondents' individual perspective.

Findings - Our preliminary result shows that 42% did not think the situation of Covid-19 in Indonesia is good, 8% percieved the contrary, and 50% thinks that the condition is moderate. From the reason to continue or to abort the plan to visit for business, research, and other non-leisure purposes, we could see that decision is made based of some sort of personal loss and benefit analysis. Those who decided to follow with plan reasoned that it would affect their future carrier and that if they strictly follow the

health protocol they would be safe. Those who decided to cancel the plan reasoned that it would be too dangerous, risky, and cause too much hassle.

Research limitations - *Since the study is using an online questionnaire, we are dependent upon the will of the potential respondent to fill it in. Therefore, we received responses from 5 countries, while the target is 10 countries.*

Originality/value - *Our research highlighted the decision making process of going or cancelling previously planned non-leisure travels to Indonesia.*

Keywords : Global community's perception , spread of Covid-19, decision making process to visit Indonesia

The Development of BIPA Teaching Materials with North Sumatra Culture by Using Audio Visual Media for Beginners

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Abstract

Background - *The Indonesian language learning media for foreign speakers (BIPA) which is theoretical in the form of texts is less effective because it does not stimulate the ability of learners.*

Purpose - *The aim of the study is to develop interesting and relevant teaching materials for BIPA learning, especially at the beginner level (A1 and A2) at State University of Medan.*

Design/methodology/approach - *Four-D (4-D) model. The implementation stage consists of four steps, consisting of define (define), design (design), develop (development), and disseminate (distribution / spread). The data collection instrument in this development research was a questionnaire in order to obtain the validity. While the research instrument developed to assess the audio-visual media that has been prepared is to use a validation sheet. Prototypes products are developed based on the aspects of material, language, presentation and appearance. The prototype for the development of BIPA learning media was assessed based on the material and media aspects by the material and media expert lecturer.*

Findings - *Based on the results of a questionnaire that has been distributed to four BIPA classes with a total of 65 students, the result data obtained is that BIPA teaching materials with North Sumatra culture are in the good category, because they achieve a success rate of 59%.*

Research limitations - *However, in developing this media to be even better, expert lecturers still provide input for product improvement.*

Originality/value - *Based on these improvements, it can be said that the development of BIPA teaching materials with North Sumatra culture assisted by audiovisual media has met the feasibility.*

Keywords : BIPA; developments; teaching materials; audiovisual media; beginners

Cultural Heritage Buildings for Urban Tourism Destinations: Portraits of Siantar in the Past

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Abstract

Background - *The study was motivated by the failure to use historical buildings, plantation heritage, embryos, and modernization of Siantar City. The problem is focused on the optimization and distribution patterns of historic buildings, icons for urban tourism destinations. Icons become distinctive characteristics, narratives, identities, and collective memories for tourist attraction*

Purpose - *The study contribution is useful for the protection, utilization, and development of cultural heritage buildings into tourist destinations in urban areas. More specifically, the study aims to explore and discuss the optimization of urban tourism to support economic and territorial growth.*

Design/methodology/approach - *The study is carried out qualitatively with a pragmatic methodological approach according to the tourism paradigm. The study departs from the colonial archives; photographs, maps, newspapers, notes, and field research focused on the identification, significance, and contribution to the city's history. The research data were transcribed verbatim and analyzed thematically. Raw information is reduced and coded according to the relevance of the study. Data are combined into categories and themes reflecting descriptive analysis, classification, and interpretation. Data validation was done through triangulation strategies, member checking, rich descriptions, and saturation*

Findings - *Urban tourism, the findings of this study were carried out in 3 stages; development based on national consensus in law, utilization into public space, appreciation for managers, and management incentives, and determining urban tourism designs.*

Research limitations - *The study does not include spatial planning, landscape, durability, aesthetics, and architecture for urban development. The study recommends the importance of further research including points*

to find the substance of comprehensive cultural heritage buildings for cities and tourist destinations.

Originality/value - *Utilization of cultural heritage buildings for urban tourism destinations, the findings of this study reflect the city embryo with plantation characteristics, portraits of cities in the past, packed into urban tourism experiences*

Keywords : cultural heritage buildings, urban tourism.

Application of Match Summary Match Comisioner (MC) Based Online Askot PSSI Kota Medan

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Abstract

Background - Basically developing an-based MC Football Match report application Online. Where this has not been studied by the Match Commissioner (MC) who is at the Provincial Association (ASPROV) PSSI North Sumatra, especially in the City Association (ASKOT) PSSI Medan.

Purpose - This R & D research aims to increase the resources of the MC ASKOT PSSI Medan City through Application Development Match Summary Match Commissioner (MC) based on Online City Association (ASKOT) PSSI Medan (MSNF Unimed Application). This research uses R & D research methods, adopting from Borg and Gall's research until the stage (1) initial data collection, stage (2) initial product manufacture, stage (3) preliminary trial (model) and evaluation of product experts/experts, stage (4) main trial, stage, and stage (5) large-scale trial.

Design/methodology/approach - This research design uses a method quasi-experimental. The quasi-experimental design used is the time-series design. This study design uses only one group, so it does not require a control group.

Findings - The results from after using this application that has been in the initial trial (model) on MC ASKOT PSSI Medan from 19 people as many as 63% (12 people) were able to use this application, and as many as 37% (7 people) were not able to use it.

Research limitations - The person testing the application of MSNF Unimed was carried out on 19 MC ASKOT PSSI Medan, the researchers limited this research to only stage 5 of 10 stages of development research due to time constraints and will continue the mass product socialization stage throughout North Sumatra Province. in the following year (2021).

Originality/value - *In addition to online development research, there are additions to the MSNF Unimed application where the player's name is directly connected to the Match Summary.*

Keywords : Application, MSNF Unimed, Online

Applied Islamic Cleanliness for Decision Using Sharia Banking in North Sumatera, Indonesia

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Abstract

Background - *The world problem today is facing the coronavirus outbreak. The impact of it, many company revenues have been decreasing, because a consumer feels worried about that. To prevent this Virus, World Health Organization (WHO) has issued the cleanliness method with applying cleanliness. Cleanliness is the most important for all people before entering the company, house, and mall must be clean. The cleanliness application from WHO for reducing pandemic spread such as washing hand, use mask and clean clothes is a part of Islamic cleanliness. based on that this research, using Islamic cleanliness as a research variable*

Purpose - *The purpose of the research, to explore the relationship Islamic cleanliness as a decision for a consumer to using sharia banking in North Sumatera*

Design/methodology/approach - *The sample of this study are people who used Sharia banking in North Sumatera, Indonesia. The total respondent in this research is 250 people with accidental sampling. The questionnaire using a Likert scale and were analyzed with smart Partial Least Square (PLS) to accomplish this research*

Findings - *The findings of this research, that sharia banking consumers will be considered cleanliness because of coronavirus disease. The Islamic cleanliness based on consumer perceptions is cleanliness employee, interior, exterior, restroom, and tools. The company must be put sink for hand washing before entering the building. This can make consumers save from the virus and the employee must be using cleanliness apparel. as a consumer will be considering in waiting area with a good circulation is the most important to them. The correlation testing found the Islamic cleanliness having a relationship to consumer decision to using sharia banking*

Research limitations - *The limitations of this research, the model still testing in one province in Indonesia. For the next research, this model must be tested with a different culture, province, and country. Because not all people have the same perception.*

Originality/value - *This research developed from the previous research by adding the Islamic cleanliness rules for these variables. Because, Islamic cleanliness teaching, how to prevent disease with hygienic and purity. Therefore, the originality of this research is applied to Islamic cleanliness as a variable indicator to the determination of consumer decision.*

Keywords : Islamic cleanliness, sharia banking

Development of General Physics Teaching Materials Accompanied by ICARE-Oriented Student Worksheets Based on Mobile Learning Systems to Improve Student Learning Outcomes

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Jurubasa Sinuraya⁴

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Abstract

Background - *In preparing for more innovative learning, it must be related to the models, approaches, methods and techniques that will be applied in the learning process. One of the methods in this case includes the selection and determination of teaching materials, the preparation and possible procurement of remedies and the development of these teaching materials*

Purpose - *This study aims to determine the development process, the quality of feasibility and the improvement of student learning outcomes in the General Physics subject using teaching materials accompanied by mobile learning-based ICARE-oriented student worksheets*

Design/methodology/approach - *udging from the approach, this research is included in mixed methods research, which is a research approach that combines qualitative and quantitative research in one study. The use of this approach is based on considerations because the data collected in this study include two types of data, namely quantitative and qualitative data. The development steps were adapted from the model developed by Dick and Carry with the implementation stages consisting of: (1) analysis, (2) design, (3) development, (4) implementation, (5) evaluation.*

Findings - *The results of this study are: 1) Based on the results of data analysis, the validity, distinguishing power, and difficulty level of the 40 items that have been developed, there are 21 valid questions. As for the results of the calculation of the reliability of the test, the reliability coefficient value of $11 = 0.897$ was obtained, so that the reliability of the questions was included in the high category.*

Research limitations - *After that, a limited application will be carried out in one class to obtain student learning outcomes data using ICARE-oriented general physics teaching materials based on a mobile learning system.*

Originality/value - *This research was funded by Universitas Negeri medan*

Keywords : ICAR, Learning Outcomes, LKME, Mobile Learning, Teaching Materials

Exploring The Performance of Early Childhood Education Teachers in Applying Authentic Assessment

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Abstract

Background - *Assessment is one of the main components of learning which has an equal position with other main components, namely material objectives and strategies. However, Early Childhood Education teachers have not treated the assessment components the same as the other three components (Suyadi, 2016; Sofia, 2017; Wardah and Cahniyo, 2019).*

Purpose - *This study aims to determine how the application of authentic assessment in kindergarten. Thus, this study evaluates the adequacy of the assessment and instruments implementation. Research respondents were kindergarten teachers in North Sumatra Province who came from four regions totaling 65 people. The data were collected using a questionnaire and document analysis, which consisted of lesson plan, children's work and notes as well as the assessment instruments used by the teacher.*

Design/methodology/approach - *Data were analyzed using descriptive statistical techniques and qualitative analysis by linking existing data to obtain meaning.*

Findings - *The results of the analysis show that: (1) every time they carry out a lesson, 100% of kindergarten teachers carry out an assessment, which is to record what the children are doing and collect the children's work, generally through worksheets provided by the teacher and immediately given a grade without using an assessment rubric, (2) as many as 89% of kindergarten teachers have not used an authentic assessment strategy, (3) 97% of kindergarten teachers only use checklists to collect assessment data for children's development and learning, (4) 98% of kindergarten teachers have not used assessment rubrics to determine children's development achievements, and (5) 89% of kindergarten teachers did not collect assessment data in the context of emerging competencies being developed.*

Research limitations - *This study examines the teacher performance in implementing the authentic assessments. The performance factor is seen from the side of product and process. This research is still studying the product, while for the process performance will be the target of further research.*

Originality/value - *The results of this study are useful as a basis for developing an authentic assessment model for early childhood.*

Keywords : early childhood, authentic assessment, instrumentation and assessment rubrics

The Vulnerability of Indonesian Oil Palm Smallholder Farmers in the Times of Global Crisis

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Abstract

Background - *Since 2010, Indonesia has overtaken Malaysia as the biggest palm oil producer in the world. From the nearly 8 Million hectares of oil palm plantation spread across the country, more than 40 % belonged to smallholder farmers. Almost all of those smallholder farmers do not possess any processing skill, thus they are dependent to oil palm mills to sell the fruit bunch. The export oriented nature of palm oil resulted in the price fluctuation that follows global dynamics.*

Purpose - *With case studies in four villages in Labuhanbatu Utara Regency, this paper seeks to understand the impact of such arrangement to the economic resilience of oil palm smallholder farmers during global crisis when the demand of palm oil slumps and the price tend to plunge as well.*

Design/methodology/approach - *The study used a qualitative approach using semi-structured in-depth interview to interview smallholder oil palm farmers, village officials, oil palm fruit middlemen, agriculture and plantation office officials, and food security agency.*

Findings - *The results show that smallholder oil palm farmers are most vulnerable in multiple aspects. Since the farmers are dependent to the mills for the selling of the oil palm fruit, they do not hold any power to determine the price. Their lack of processing skills do not allow any possibility for an added value to the oil palm fruit, thus give them no alternatives other than to sell the fruit to the mills. If the worst case scenario of the ultimate food scarcity ever to happen, they would suffer greatly since it is difficult and costly to convert oil palm planted land to any other crop.*

Research limitations - *This study applies to general type of smallholder oil palm farmers with no affiliation to palm oil mill, thus excluded any farmers who managed to come together to establish a communal palm oil mill.*

Originality/value - *Oil palm has been perceived as a 'strong' and profitable crop by most Indonesians. Strong in a sense that it would give high income and that the price is stable. This study proved, however, that the perception is very much overestimated and that the farmers are even more vulnerable than rice farmers.*

Keywords : Vulnerability, smallholder oil palm farmer, global crisis

Development of Interactive E-module Based on Infographic Multimedia on Indonesian Islamic History as an Innovative Learning Source

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Abstract

Background - *This semester, in an atmosphere of the COVID-19 pandemic, innovative learning resources are needed to improve the quality of learning.*

Purpose - *This study aims to create an interactive e-module product based on multimedia infographics on Indonesia History in the Islamic age course.*

Design/methodology/approach - *The methods used in research and development method or research (R&D). This research was conducted on students in the department of history education class. The research stages used were the Borg and Gall method. The data collection technique used is questionnaires. Next, the data analysis technique used the percentages and averages calculation*

Findings - *The results of this study indicate that the validation scores of material experts fall into the very vindicable category, and the resulted of small and medium-scale product trials fall into the legitimate category. The result of large-scale use trials and affectiveness tests show that the interactive multimedia infographic-based e-module was so awful it is feasible dan effective to use in the learning process.*

Research limitations - *The limitations of the research product are that the file size is too large.*

Originality/value - *The uniqueness of the research product is that the download can be used offline on a cellphone or computer so that it can save internet data.*

Keywords : Development, Interactive E-Module, R&D

The Use of ADDIE Model to Development Electronic Modul of History

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Abstract

Background - *Students need learning aids that are by the development of communication technology during the corona disease pandemics. In history subjects, there are not many electronic modules developed for unit semester learning outcomes.*

Purpose - *This study aimed to develop an Electronic Module of History (EHM/MES) using The ADDIE model as a learning aid for high school students and to determine its feasibility and attractiveness.*

Design/methodology/approach - *This study used to research and development method. The ADDIE development model includes 5 activity sequel steps. The steps must be carried out in order and cannot be randomized. We used interviews and questionnaires to collect data from education experts, Indonesian History teachers, and students.*

Findings - *The results showed that the MES developed could be used by XI grade high school students in the Indonesian History subject for semester 1. The product packaged in 4 separate chapters according to the curriculum analysis. Based on the results of data analysis and discussion of the MES development process, can be explained that (1) expert testing on the validation results of material experts was a very great criterion, media experts and learning design experts were very great criteria, (2) The level of attractiveness of the MES in individual trials of three Indonesian history subject educators gets an average result of with the category interesting, The small group trial from 5 educators got results so attractive criteria, and the use of digital modules at the implementation stage, students had attractiveness test results highly attractive criteria.*

Research limitations - *The limitation of this study is that the MES developed has not been tested for its effectiveness because of the difficulty in controlling the test activities due to the learning system policy during the*

current pandemic and the development process is still using unpaid applications.

Originality/value - *The novelty of value from this MES is that it can hyperlink and hypertext so that the display of the module becomes more attractive.*

Keywords : ADDIE, Electronic Modules, MES, Technology.

Gender Sensitive Approach to Adolescent Women to Overcome Bullying Violence in Social Media

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Abstract

Background - *This research reveals and develops a theoretical study of cultural values to understand the distinct differences between humans and gender-sensitive approaches. Issues that lead to a new system of understanding about the importance of respecting different human beings and avoiding violent acts of bullying through social media.*

Purpose - *This research finds a new model in gender-sensitive approaches to adolescent girls to overcome bullying violence in social media.*

Design/methodology/approach - *The research method used in this research is a qualitative research method with a virtual ethnographic approach. Searching techniques on the internet in collecting virtual-based data are the basis for collecting research data. Data analysis is practically needed in compiling, reviewing, and submitting questions to the online community. A gender-sensitive approach model to introduce the nature of women, especially for adolescents, can be implemented. The application of a gender sensitive approach model is carried out on young girls, especially students. The target of this research is to focus on adolescents who are still in high school? The criteria for the subjects in this study are determined based on adolescents who have done bullying and received bullying, especially on social media. Activities oriented towards forming multicultural-based groups of young women.*

Findings - *The introduction of ethnic characteristics becomes the basis for strengthening gender identity in applying a gender-sensitive approach model. The model found is used as a reference for young women, especially students, to guard and anticipate bullying. This research has an impact on changing the behavior of young women in engaging in bullying violence on social media and anticipating the spread of violence, especially girls who are vulnerable to crimes on social media.*

Research limitations - *For adolescent women to overcome bullying violence in social media*

Originality/value - *This research find a new model in gender-sensitive*

Keywords : gender-sensitive, bullying, social media, virtual ethnography, behaviour change

Social Discussion The Covid-19 Pandemic in The Study of Postmodernism Metanarrative on Medan's public Instagram Social Media

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Abstract

Background - *The Covid-19 pandemic in Indonesia raises a dynamic that is not about tackling its spread. Advances in information technology in providing access to information about Covid-19 have not been able to create a unified narrative direction of understanding among the people of Medan City. Metanarrative can be seen in daily behavior and the response to comments on news Medan's public Instagram about Covid-19.*

Purpose - *This research aims to reveal the response to comments from followers which can then explain the conceptualization, metanarrative and the social discourse of the Medan Society regarding the contents of the Covid-19 Pandemic news on Instagram accounts through reviewing the views of Postmodernism.*

Design/methodology/approach - *This research is a qualitative study using a virtual ethnographic method through observing commenting activity on the virtual media Instagram public accounts of Medan City. Observation is also supported by unstructured interviews with several online followers, and then also supported by discourse analysis techniques to unravel the context and interpretation of a "commentary" text on Instagram.*

Findings - *The results showed that the covid-19 news posts on the @Medantrending, @Medantimes.co, and @MedanDubbing Instagram accounts were always filled with narrative struggles to think of the people of Medan through comment responses. The struggle for "Truth" from a newsletter creates its realism for each individual so that this realism then presents conceptualizations and metanarrative about Covid-19 in the community, so that it raises an attitude of non-compliance in regulations made by the Government. The metanarrative is also connected to the*

imagination of social discourses which are always discussed in every policy made by the government through contradicting comments.

Research limitations - *This study requires an in-depth look at the responses to comments on other public Instagram accounts. Then direct interviews so that they can "read" the body's gestures and facial expressions of the informants in giving answers because this is the characteristic of ethnographic research.*

Originality/value - *Research in Postmodernism studies in examining health phenomena is rarely carried out by Anthropological researchers, so that the results of this research will later be an addition to the scientific repertoire of Anthropology which discusses postmodernism and health.*

Keywords : Covid-19 Pandemic, Metanarrative, Postmodernism

Worksheet to Built Critical Thinking Skills for Prevalence Covid 19 In Indonesia On Limited Time: Curve Matching Modelling

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Abstract

Background - *Data on the spread of covid 19 in Indonesia is usually displayed in the form of a bar chart and a graph of the function of the number of people versus time for cases of increase, death and recovery. Display data in the form of graphs and diagrams is quite adequate for use in television news shows or breaking news*

Purpose - *The Covid 19 case can be used as a source of authentic learning data in the Data Processing Workshop course investigation. Curve matching based data modeling can be developed in the form of scientific worksheets. The challenge of developing worksheets is at what stages must be done in order for the mathematical model to match the distribution of the data*

Design/methodology/approach - *The development of worksheets has met the academic requirements in terms of pedagogy and knowledge content. The validity and reliability of the worksheets have met the requirements according to the validator's decision and evidence of empirical data analysis*

Findings - *Worksheets are developed based on excel, SPSS and Matlab with studies based on critical thinking skills*

Research limitations - *The limitation of this study is that the prediction formula produced still does not meet the real data that occurs for cases of infection, recovery and death for a long time interval*

Originality/value - *The original research contained in the learning source data is authentic and continues to move during the pandemic. data is inputted into scientific worksheets that apply critical thinking skills in excel, spss and matlab presentation*

Keywords : worksheet, curve matching, critical thinking skills

Development of a Solar Electric Energy Conversion Trainer with a Project Learning Model

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Abstract

Background - *Mastery of solar energy in the subject of energy conversion is one of the key competencies that must be mastered by students of Electrical Engineering. Furthermore, understanding and applying renewable energy is important for students to master as a basis for future energy independence in Indonesia. This is because of the availability of non-renewable energy sources in the form of fossil fuels have been decreasing. The use of new and renewable energy for electricity generation is a solution to the problem of electricity availability to achieve energy independence in Indonesia, which is being able to meet energy needs of at least 23% of the total energy demand by 2050*

Purpose - *The objective of project learning in energy conversion provides students with comprehensive knowledge of how the process of converting solar energy into electrical energy. In addition, it also improves student skills in how to operate energy conversion equipment and analyze the amount of electrical energy produced in the energy conversion process*

Design/methodology/approach - *The development of Solar Electric Energy Conversion Trainer using Research and Development methods that include analysis of students needs for electric energy conversion sciences, feasibility studies, planning building trainer models, test Limited trial and improvement of Solar Electric Energy Conversion Trainer*

Findings - *Mastery of electrical energy conversion competencies apart from theoretical (analyzing) is also accompanied by the ability to operate and maintain. Analytical and practical activities can be optimized by activating students through independent problem solving using a solar energy trainer with a project learning model*

Research limitations - *One factor in the effectiveness of the conversion of electrical energy with solar cells is the quantity of light that dampens the solar cell maksimum in sunny conditions not cloudy. Setting the direction of the solar cell against sunlight to always be perpendicular is still done manually, so it needs to be designed automation in the next research*

Originality/value - *Development of Solar Electric Energy Conversion Trainer with a Project Learning Model*

Keywords : Energy Conversion, Renewable Energy, Solar Power Generation, project-based learning

Change Management for Effective Improvement Quality of Study Program at Higher Education: Exploring Alternative

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Abstract

Background - *The duties and functions of the study program are to provide education, research, and community service. The Public Service Agency's version of financial management provides an opportunity to add tasks and functions of study programs as an income-generating unit. The potential for additional income in addition to student tuition fees can be used to improve the quality of services in the fields of academics, research, and community service which will have an impact on improving the quality and competitiveness of graduates.*

Purpose - *This study aims to formulate change management at the level of the study program, primarily on the aspects of process effectiveness and revenue enhancement which focuses on income generation, which is a new task and function of the study program.*

Design/methodology/approach - *Action research are used in this study. The Mechanical Engineering study program at the State University of Medan was designated as a research subject. Data obtained from the results of self-evaluation analysis, SWOT analysis, observation, and interviews with study program managers, lecturers, and laboratory assistants.*

Findings - *The results of the SWOT analysis show that the study program is in a position to be ready to grow and develop and supports aggressive strategies for change. S-W position = 1.76 and O-T position = 0.81. The position of the study program's readiness to support these changes is used as the basis for setting targets and methods of change in the context of implementing change management. The formulation of targets and methods of change that are set are the aspects of the objectives and strategic objectives of the study program, organizational culture, strategy, tasks, technology, human resources, and structure. The final results of this study are the change*

management paradigm, the 2020-2045 study program development roadmap, and the 2020-2024 Study Program Business Strategic Plan, which are based on the formulation of these change management targets and methods.

Research limitations - *The COVID 19 pandemic hampered the observation process for data collection.*

Originality/value - *The Business Strategic Plan as the research output which contains the normative components of the Strategic Plan, namely the vision, mission, objectives, targets, policies, performance indicators, and programs as well as funding, as well as the financial projection of the results of the income-generating business is one of the guidelines that can ensure the sustainability of the study program.*

Keywords : change management, income-generating

Strategies to Turn the “Covid-19 Pandemic” Challenge into Opportunities for the Fulfillment of Higher Education Strategic Plans in Universitas Negeri Medan

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Abstract

Background - *The Covid-19 pandemic has an impact on the education world, including higher education at Universitas Negeri Medan (Unimed). The implementation of lockdown policies, physical distancing, and large-scale social restrictions requires online learning. Since 2015, Unimed has developed an Online Learning System (SIPDA). The target of SIPDA user in the strategic plan is 90% in 2020. However, in fact until December 2019 its use has only reached 20%.*

Purpose - *The research purposes were: (1) to analyze the positive implications of online lectures in the Covid-19 pandemic; (2) to formulate a strategy to turn the challenges of the Covid-19 pandemic into an opportunity to fulfill the Unimed strategic plan*

Design/methodology/approach - *Survey data were analyzed using quantitative methods. The research population were all lecturers at Unimed. Respondents determination were done by random sampling. Data analysis was carried out descriptively.*

Findings - *The results showed that there was an increase in the use of information and communication technology by lecturers in the learning process, that consist of e-learning media, social media, and web meeting applications. At the beginning of Covid-19 pandemic, 40% of lecturers still used social media. In May and June 2020, 60% of the lecturers have used a web meeting application. Meanwhile, the overall achievement of using online learning has reached 88%. The strategy to turn the Covid-19 pandemic challenges into opportunities are establishing online learning policies, signing the lecturer performance contract, increasing the capacity of lecturers on ICT, and increasing bandwidth capacity.*

Research limitations - *This research was limited to lecturers at Unimed. The future research object can be extended to educational staff in carrying out academic administration services.*

Originality/value - *The challenges of Covid 19 pandemic can be an opportunity to accelerate the fulfillment of Unimed's strategic plan. The pattern of changes in the work behavior of lecturers at Unimed is rapidly adapting to the Covid-19 pandemic conditions.*

Keywords : Covid-19, online learning, strategic plans, challenges, opportunities

Online Learning Activities of Politeknik Negeri Medan Students Using Social Media During The Covid 19 Pandemic

Sarah Rouli Tambunan¹

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Abstract

Background - *Online learning is well known to enrich learning activities. Since covid 19 pandemic, online learning is no longer a complement but a substitute for conventional learning. Previous research has focused more on the advantages of online learning when combined with conventional learning. However, how student learning activities when they do online learning without face-to-face contact with the teacher are completely unknown*

Purpose - *The purpose of this writing is to describe how the online learning activities of Politeknik Negeri Medan students during the Covid 19 pandemic.*

Design/methodology/approach - *This research is a descriptive study with a quantitative approach. The data analysis technique used descriptive statistics. The sample in this study amounted to 98 students from 17 study programs at the Medan State Polytechnic. Data collection techniques through surveys using a questionnaire containing a list of questions then measured using ordinal data developed by Rensis Likert*

Findings - *The result shows that writing activity is the most dominant activity carried out by students (85%). It indicates that teacher focus more on written assignments. Therefore, it is not surprising that emotional activity as students interest in online learning was low (49%). This study also found that mental activity as the ability to analyze and problem solving, is in the moderate category (60%) whereas online learning requires students to be able to learn independently*

Research limitations - *Online learning researched in this study is online learning that took place during the COVID-19 pandemic from June-September 2020*

Originality/value - *The value presented in this study can help teacher to evaluate and develop a more effective online learning activities. A plan to continue the work by developing a curriculum or teaching materials so students will be more interested in learning.*

Keywords : online learning, learning activities

Silatif FIK-UNIMED as An Integrated Digital Service

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Abstract

Background - *The Faculty Integrated Service Information System at the Faculty of Sport Sciences, State University of Medan is a system that in addition to facilitating lecturers in the administrative staff in the process of providing learning services and academic administration services, it also makes it easier for students to carry out various academic processes at the department and faculty levels such as: research administration, the trial process of final assignment and the judicial process. Because it is web-based, information and data can be accessed by authenticated users (whether lecturers, staff, students) anywhere and anytime.*

Purpose - *This study aims to optimize the utilization and strengthening of learning services and academic administration services. Research respondents were lecturers, staff and students of the Sports Science Faculty.*

Design/methodology/approach - *The data were then analyzed using the development method*

Findings - *The results obtained from this research are the development of a Web-based Information System with a case study at the Faculty of Sport Science, State University of Medan, where in the development process system development tools are used, namely: Data Flow Diagrams (DFD), Context Diagrams, Entity Relationship Diagrams (ERD) and Flowcharts, using the programming language PHP.7, HTML5 and MySQL as the database engine.*

Research limitations - *The limitation of this research is the unavailability of work operational standards related to SILATIF content.*

Originality/value - *Plagiarism Checker*

Keywords : Database, Information, Services

Studies on the Role of Newspapers Published in North Sumatra 1916-1925 years In Indonesia's Independence Struggle

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Abstract

Background - *The origin and spread of nationalism are seen from the perspective of an imagined community created creatively by an educated elite who was acquainted with Western civilization and spread through printing capitalism in the form of press, pamphlets, and literary works. In many well-known and unknown organizations, the nationalist movement spreads in many media places, including organizations or independent media. If we look at the history of the press that emerged since the late 19th and early 20th centuries, it appears that the idea has not only spread in Java, but has also emerged in various cities in Indonesia. This research revealed the media's role in growing and spreading the idea of nationalism in the mass media published in North Sumatra in 1916-1925.*

Purpose - *This study described the forms of the idea of independence that appeared in newspapers published in North Sumatra in 1916-1925. Besides, it examined what editions the idea of Indonesian independence was published in newspapers published in North Sumatra in 1916-1925. At the end of this research, it analyzed the ideological background of newspapers containing the idea of Indonesian independence in North Sumatra in 1916 -1925.*

Design/methodology/approach - *This study used the Discourse Analysis research method and imagined community theory from Benedict Anderson.*

Findings - *The results found that the struggle for Indonesian independence had appeared since 1916 in various newspapers published in North Sumatra. The struggle for independence was carried out openly in three categories. First, it was carried out openly demanding Indonesian independence, as seen in the newspapers Benih Merdeka (1918), Soeara Batak (1920), and Pewarta Deli (1917). Second, it was carried out by attacking various policies of the Dutch government that were detrimental and*

oppressive to the Indonesian people, as seen in the newspapers, Perempoean Bergerak (1920), Warta Timoer (1923), Orgaan Bataksche Studiefonds (1922), and Tjermin Karo (1925). Third, it was done covertly with language and subtle commentary on the ideals of Indonesian independence, injustice, and oppression by the colonial government. It was found in the Andalas newspaper (1923), Soeara Djawa (1916), Soeara Bondjol (1922), Sinar Zaman (1921), Mandailing (1923) dan Al-Moektabas (1924).

Research limitations - *This study used several newspapers to inform Indonesia's struggle to reach independence. Further, may the other newspapers will be used to support the findings in this study.*

Originality/value - *The originality lies in the data sources collected and documented by the researcher for years. Besides, the study that uses newspapers as a source of data to inform about the Indonesian independence struggle was only present in this study.*

Keywords : Newspapers, nationality, independence, North Sumatera

Effect of 6-Week Circuit Training Systems for Increased Punch Speed on Boxer Athletes

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Abstract

Background - *BOXER* or what is often known as a sport tarung derajat is a martial arts sport originating from Indonesia. This sport tarung derajat (*BOXER*) is a full body contact sport where this martial arts sport requires great speed in carrying out all movements, especially hitting movements. The problem that is often encountered by athletes is the difficulty in increasing the speed of the punch. As it was found, there was a lack of understanding by coaches and athletes in determining what exercises were right for increasing punch speed. Furthermore, in this study, which examines the benefits of Circuit Training Systems training to increase punch speed in student athletes tarung derajat (*BOXER*).

Purpose - This study aims to determine the impact of the treatment of Circuit Training Systems training on the speed of punch in student athletes Tarung Derajat (*BOXER*).

Design/methodology/approach - The type of method in the study to be used is the pretest-posttest experiment method using Equivalent time series design. The implementation in this study was conducted through repeated inter-time research, conducted over 6 weeks during which at the 9th and 18th treatment were performed measurements or tests to see how much exercise the Circuit Training Systems had on the speed of the blow.

Findings - The population in this study involved 20 tarung derajat (*BOXER*) student athletes / sample. The sampling technique in this study used random sampling and amounted to 15 people. In this study, the instrument used was the Blow Speed Test. Furthermore, from the results of data analysis after being given treatment using Circuit Training Systems, which obtained an average post test score (31.8125). Hypothesis test results provide t -value = 2.06 and t -table = 1.753 with $dk = 15$ and a significant level $\hat{I}\pm = 0.05$, so it can be seen that t -count (2.06) > t -table (1.753) which means that h_0 is rejected and h_1 is accepted. Based on this test, it was concluded that there

was an effect of Circuit Training Systems training on the results of increasing punch speed in BOXER athletes.

Research limitations - *In this study, the limitation of the research was that it was only tested on tarung derajat (BOXER) student athletes and this study also did not rule out the possibility of being carried out in other sports.*

Originality/value - *In this study, there are uniqueness and differences from other research, especially in the research variable indicators. From the characteristics of coaches and athletes, it can be seen from the background that there is a lack of understanding in determining what exercises are right for increasing punch speed, so that they only do exercises monotonously without any renewal of other types of training to support increased punch speed.*

Keywords : Circuit Training Systems, Punch Speed, BOXER

Project Learning Model in Electrical Circuit Teaching Material

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Abstract

Background - *Electrical circuit competence for students of the Electrical Engineering Department is very important because the electric power system cannot be separated from circuit analysis. Mastery of electrical circuits in an electric power system is very important because mastery of the basic circuit will make it easier for students to analyze electrical networks, electrical machines, and other electrical components. Based on this, the electrical circuit in the electric power system becomes the basis for the analysis of the electric power system, so that electrical engineering students can understand in depth. Students' understanding of electrical circuit analysis becomes easier by using a project learning model because students do not only perform numerical calculations but can also test through laboratory activities, so they can apply theory directly in practice.*

Purpose - *The purpose of this research is to produce electric circuit teaching materials with a project learning model.*

Design/methodology/approach - *The development of electrical circuit teaching textbooks using Research and Development methods that include analysis of students' needs for electrical sciences, feasibility studies with two material experts and two media experts, planning building models and building materials model of electrical circuit teaching textbooks, one test limited trial with 31 students and improvement of electrical circuit teaching textbooks.*

Findings - *The results showed that electrical circuit teaching materials with project models based on expert assessment of materials and media are worth using students. The results of the trial of 31 students also showed that students became more aware of the analysis of electrical circuits.*

Research limitations - *The limitation of this study is that the trial was only done only once with pre-test and post-test design.*

Originality/value - *the authenticity of the research lies in the use of books that students more easily understand the application of electricity law by conducting practical activities as part of the project task.*

Keywords : Electric circuit, teaching materials the basics

Geometry Learning Based on Cognitive Conflict In The Department of Mathematics Universitas Negeri Medan

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Abstract

Background - *Geometry is one of the compulsory courses for students majoring in mathematics at the State University of Medan. Geometry has a deductive axiomatic character, which is a science whose truth leads to previous truths. Thus, the agreement is the highest reference in the geometric system. Conflict is an action from the existence of a gap that arises and is felt from an information or incident. Cognitive conflict occurs when students become aware of a mismatch between what is on their mind and information from outside. The concept of learning geometry occurs as a result of the information or system received by a person that causes action, interaction and reflection. Thus for action to occur, it is necessary to have contextual problems that challenge as a source of conflict. Conflict in learning geometry is a necessary condition that must be designed and offered to students, so that learning can achieve the student's mental interactive activity process. With cognitive conflict, which results in an awareness of incongruity with prior knowledge, this can spur emotions or motivate students to seek the real truth. This motivation can encourage the integration of efforts to find the real truth as a result of one's rational thinking ability and will be arranged in a cognitive structure and occupy long-term memory.*

Purpose - *The purpose research is to improvement of students' mathematical reasoning abilities and creative thinking in learning geometry through cognitive conflict approaches in the Mathematics Department of Mathematics and Natural Sciences, Medan State University.*

Design/methodology/approach - *This type of research is a semi-experimental study with a two-class control and pretest-posttest experimental design. The location of this research is the Department of Mathematics, FMIPA UNIMED Medan, Jl. Willem Iskandar Psr. V Medan Estate. While*

the subjects in this research were 35 students in the 2019 F Mathematics Education Study Program (PSPM) and 32 PSPM 2019 A classes.

Findings - *The research result that the role of cognitive conflict in learning geometry will be able to improve students' rational thinking (reasoning) and emotional intelligence.*

Research limitations - *This study only took two classes through online learning*

Originality/value - *the results of research can be accounted for*

Keywords : cognitive conflict, learning, geometry, reasoning,

Model for Strengthening Women's Empowerment Through The Implementation Of Family Functions In Indonesian Women's Associations With Disabilities

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Abstract

Background - *Limited space for persons as with disabilities in the Indonesian Association of women with disabilities during the COVID 19 period*

Purpose - *Can implement family functions during the COVID 19 pandemic*

Design/methodology/approach - *The study use research and development method which was carried out in two forms, namely qualitative and experimental exploration*

Findings - *The model of strengthening the empowerment of women with disabilities through the application of family functions is able to change the attitudes of women with disabilities from previously not understanding and carrying less about health protocols issued by the government in carrying out activities at home, now becoming aware of the importance of the health and obeying applicable regulations*

Research limitations - *Only for families for women with disabilities who are members of the Indonesian Association of women with disabilities*

Originality/value - *Women with disabilities are more empowered in implementing family functions during the COVID 19 pandemic*

Keywords : women's empowerment, disabilities, family function, model

Learning Pancasila Education in Students' Character Development in State University of Medan

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^{1,2,3,4}Univeristas Negeri Medan

Abstract

Background - *This is considered important because education is a vehicle for shaping the character of citizens. This goal is in line with the Pancasila Education course as an effort to (1) develop personality; and (2) strengthen Pancasila scholarship. These two goals are very important, because Pancasila for the Indonesian people is not only an ideological concept, but also an ethical concept that governs human life both individually and collectively.*

Purpose - *This study aims to examine the role of the Pancasila Education in developing the character of students at the State University of Medan (Unimed).*

Design/methodology/approach - *This research uses a quantitative approach with descriptive analysis method. Data collection techniques used were through interviews, distributing questionnaires and documentation studies. Sampling with using purposive random sampling.*

Findings - *The results showed that learning Pancasila Education as a General Compulsory Subject (MKWU) at the State University of Medan was still verbalistic which was characterized (1) centered on lecturers / teachers; (2) the use of less attractive media and learning resources; (3) the dominant use of lecture, discussion and question and answer methods, (4) less building educational interactions; (5) assessment that focuses on cognitive aspects and does not pay attention to affective and psychomotor aspects. Because it is verbalistic, courses are still not able to develop character in students. So that the main objectives of this course have not been able to be achieved optimally. Thus, Pancasila Education learning is needed which can touch the strengthening of cognitive, affective and psychomotor aspects in a balanced*

manner so that it can equip students to face various challenges both at the local, national and global levels.

Research limitations - *This research was conducted at the State University of Medan. Where the research subjects are students and lecturers who study and teach Pancasila Education program.*

Originality/value - *This article is original researched and written by us and is not the result of duplication, fragmentation and plagiarism. This article is also not currently being published or has been published in another journal. This article also does not contain any statements that violate the law.*

Keywords : Learning, Pancasila, Character.

Blended Learning' Implementation in Learning Styles Varieties

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Abstract

Background - *It needed much information in clarifying factors of playing a role in determining learning success through blended learning. Many researchers investigated blended learning, but none of them explain the impact of learning style varieties when implementing blended learning. The role of learning styles needs clarifying because there are several conflicting statements about the impact of the diversity of student learning styles on learning achievement. There are different statements regarding the role of learning styles in the learning process. For that, it is necessary to investigate to ensure that.*

Purpose - *Finding out the effect of learning styles and the blended composition diversity effect on students' competence building in teaching and learning activity. Likewise, the interaction between learning styles and blended composition.*

Design/methodology/approach - *Eighty-four participants were involved in the investigation and placed in 12 experimental groups. A total of seven participants with the same learning style were taken and placed in each experimental group. All participants were screened based on the Kolb Learning Style Inventory 4.0, consist of Diverger, Assimilator, Converger, and Accommodator. Blended learning is formed in three types of combination of online and face to face. Data were collected through a competency test and analyzed using 2-way ANOVA at a significance level of 0.5.*

Findings - *It was found that the diversity of learning styles and the diversity of the blended composition had a significant effect on competence. Likewise, the interaction between learning styles and blended composition also has a significant effect. In the subsequent analysis, it appears that each group of participants based on their learning style shows better results, namely Diverger with the composition of 25: 75 OL-F2F, Assimilator at the*

composition of 50:50 OL-F2F, Converger at the composition of 75:25 OL-F2F, and Accommodator at the composition of 72:25 OL-F2F.

Research limitations - *This study only focused on three types of compositions of online learning and face-to-face learning groups in the context of blended learning and imposed on prospective teacher students with various types of learning styles. Based on that, there is an opportunity for subsequent researchers to review other factors that play a role in the teaching and learning process through blended learning” with other forms of fusion saw from various other learning characteristics, including cognitive style and cognitive control.*

Originality/value - *Blended learning is not used only without paying attention to the factors that have a role in the success of learning*

Keywords : Diverger, Assimilator, Converger, Accommodator, Competence

Development of Case Study Module For Semester II Students Department of UNIMED FIP Guidance And Counseling

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Abstract

Background - *Case studies are one of the basic components in providing Counseling (BK) services, in order to improve the quality of student skills in providing BK services, the ability to conduct case studies is one of the things that must be done.*

Purpose - *The purpose of this research is the availability of standard Case Study Module teaching materials for second term student of the Guidance and Counseling Department, FIP, Medan State University.*

Design/methodology/approach - *This research is development research by the Borg and Gall model. The data in this research are collected by a questionnaire that given to material experts and media experts. The main field trials were given to 30 students and the operational field trials were given to 100 students with purposive sampling technique.*

Findings - *The expected output in this research is the Case Study Module with ISBN and scientific publications in scientific journals. The results showed, the score of media expert validation was 70 and the value was 87.5 in excelent category, the score of material expert validation was 90 and the value was 90 in excelent category. The first try out, assest by questionnaire and the score was 2514, so the value was 83.8 in the excelent category. The operational try out, getting score 9343, mean 93.43 and its called excelent. In addition, the effectiveness test shows a value of 90.93 in the excelent category.*

Research limitations - *This research is still being tested in the scope of the BK department at Medan State University.*

Originality/value - *Based on study, Thus it can be said that the case study module is feasible to use.*

Keywords : Module Development, Case Study

Development of Blended Exercise Training Model for The Physical Fitness Department of Physical Education, Health And Recreation in 2020

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Heri Masmur Sembiring⁴

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Abstract

Background - *Research conducted to develop the product of the Blended Exercise Model. The Blended Exercise exercise model is an exercise model developed from several training models that combine several physical activity activities in a series at predetermined intervals of time*

Purpose - *This study aims to develop a conceptual and procedural blended exercise model that produces an exercise model to improve the physical fitness of the program Department of Physical Education, Health And Recreation students and the physical condition of the athlete.*

Design/methodology/approach - *The research method used was Research and Development with 60 students as research subjects. The study results study in a blended exercise model developing fitness components related to health, namely, 1) cardiovascular endurance, 2) muscle strength, 3) speed and 4) flexibility. Model developed Reclined Obligie Twists, Switch Sid, Back Row Pull and Press, Jackknife crunches, Windshileld Wipers, Sit Up, Push Up, Back Up, Pop Squat, Walk Downs, High Knees, Burpee, Star Jump, Plank to Push Up, Jumping Lunges and Jack, Thigh Slaps, Mt. Climber, Squat Jacks, Lateral Jump. Conclusion Experts and subjects are declared appropriate and valid.*

Findings - *Based on data obtained from the results of the Blended Axercise training model. Based on the pretest and posttest, it was found that the results of the physical fitness of the students in the pretest were the lowest score of 7 and the highest score of 13. Whereas in the posttest, the results of the physical fitness ability were the lowest score of 4 and the highest score was 16. The average score and standard deviation in the pretest were also amounted to 6.73 and 2.12, while the Posttest amounted to 9.00 and 1.96*

Research limitations - *The low creativity of students in designing the form of exercise and still low training models that are combined with physical fitness components to increase cardiovascular endurance, muscle strength, speed and flexibility or flexibility*

Originality/value - *An exercise model developed from several training models that combines several physical activity activities in a series with intervals within a predetermined time to improve physical fitness.*

Keywords : Blended Exercise, Training, Model

A Preliminary Study Of Higher Education Students' Intercultural Communication Competence In Indonesian Context

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Abstract

Background - *Language is interconnected (Gulbinskiene and Lasauskiene, 2014). Awareness of other cultures is as important as language skills. At the higher education level, the culture of teaching target languages and teaching linguistic skills should be given great importance. Most language teachers would agree that applying language skills effectively, cultural environment awareness is essential. Effective intercultural communication means more than just language skills, as not understanding a foreign language ensures understanding the meaning of the speaker. It is also traditions and community awareness. Moreover, foreign awareness is one of language education's fundamental aims. Understanding the differences between cultures where people of different races, ideologies, political and social views coexist is essential.*

Purpose - *The main objective of this preliminary study is to reveal the level of intercultural communication competence between EFL students at a university in Indonesia.*

Design/methodology/approach - *A quantitative research approach.*

Findings - *Findings indicated that of eighty-nine participants studied, and it was found that fifty participants had a low ICC level, while thirty-nine participants had a high ICC level. Concerning gender differences, the results showed that male participants received higher levels than female participants in the ICC level group.*

Research limitations - *Future research with a broad number of higher education students will be needed to ensure accurate analysis. Second, gathering data for one administrative method using a questionnaire. Further*

studies can involve interviews to assess intercultural communication competence in a foreign language.

Originality/value - *Intercultural communication competence is still rare to explore in higher education context.*

Keywords: EFL, Indonesia, intercultural communication competence

Track: Economics

The Impact of the Government's Relaxation Policy During the Covid-19 Pandemic on the National Economy

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Abstract

Background - *The more widespread the impact of the Covid-19 pandemic on the community, will eventually spread to the economic conditions of the community, both in terms of income, consumption, production, investment as well as exports and imports. The government overcomes this worst possibility, with a relaxation policy*

Purpose - *The purpose of this research are; to analyze the effect of consumption, investment, government spending and net exports on gross regional domestic income in Indonesia prior to the government's relaxation policy*

Design/methodology/approach - *This research, conducted by taking data on consumption, investment, government spending and net exports of Indonesia from January 2010 to March 2020. Data were analyzed by using the Vector Error Correction Model (VECM). Before being analyzed, the data will pass through the assumption test stages, then the VECM test is carried out, and the data significance test*

Findings - *The results show that in the long run all data have a significant effect on national income, but not while in the short run .there are some that do not have a significant effect, for example EXPORT (-2), IMPORT (-2), CONSUMPTION (-2), FDI (-1) , PMA (-2), PMDN (-1), PMDN (-2), while other variables have a significant effect. This condition is due to the production process which takes more than one year to increase the GDP. Apart from that, the prevailing regulations, regulations and bureaucracy do not stimulate an increase in production which ultimately slows economic growth*

Research limitations - *The limitations this study are that the data is not optimal due to limited research time, so that the impact of the relaxation*

policy is not yet visible, besides many other supporting variables are not used even though they are able to contribute. against national income.

Originality/value - *The originality of this research is because it uses the latest pandemic data and issues, so that the analysis results can be used as a picture of the current economy*

Keywords : Household Consumption, Investment, Government Spending

Building Marketing Performance Through Digital Marketing and The Ability to Build Database-Based Networks (Case study of SMEs in Medan City)

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Abstract

Background - *Along with the covid-19 factor, the digital economy's growth is accelerating. In the era of the Covid-19 pandemic, SMEs that are easy to respond to changes will be able to survive and compete. The existence of a clear market as a place to market their goods is one of the measures of Small and Medium Enterprises (SMEs)*

Purpose - *The aim of this study is to address the business phenomenon and the results of research on the ability in the new economic era to create networks on marketing efficiency. Through the implementation of information technology in business activities, the modern economic age.*

Design/methodology/approach - *A non-probability sampling approach with a purposeful sampling methodology. Testing models and hypotheses with AMOS software version 23 using structural equation modeling analysis of the Structural Equation Model (SEM).*

Findings - *The results indicated that SMEs were able to boost marketing efficiency when they were able to create and grow database-based networks. Research has also found that digital marketing, quality strategies and network building have led to improving the efficiency of SMEs marketing in Medan City*

Research limitations - *Difficulty obtaining primary data for SMEs that meet predetermined criteria in the Covid-19 era. The difference in the characteristics of the type of business causes differences in the treatment and responses of respondents in explaining their business. The ability to explain the variables in statistical testing is still relatively moderate based on the r squared test.*

Originality/value - *The development of new concepts is built from contemplation or a synthesis of supporting theories. This study proposes a new concept of database-based network capabilities which is based on the main theory of Resources Based View Theory*

Keywords : Small and Medium Enterprises (SMEs), E-commerce, Android, Competitiveness

Poverty: Issues and Policy Alternatives

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Abstract

Background - Poverty alleviation and reduction efforts must be carried out comprehensively, covering all aspects of life and carried out in an integrated manner. Education and health are basic services that must be fulfilled in order for people's living standards to increase. The government has regulated the state revenue and expenditure budget (APBN) for the education and health sector in such a way as to reduce the level of poverty in Indonesia, but the potential for each different region to cause unequal economic growth also plays a role in improving the welfare of the community.

Purpose - The objectives of this study are; to analyze the effect of the level of inequality of economic growth, the education budget and the health budget on poverty levels in all provinces in Indonesia in the long and short term.

Design/methodology/approach - This research was conducted by taking data from the Gini Ratio Index, the APBN for the education sector, the health budget, the poverty level of all provinces in Indonesia from 2015-2019. Data from related agencies, such as BI, BPS, BAPPENAS, and PEMKO, were analyzed using Panel Data Before being analyzed, the data will pass through the assumption test stages, such as the panel data regression model test, Chow test, Hausman test, Langrange Multiplier test, significance test, determination coefficient test, autocorrelation test, multicollinearity test and heteroscedasticity test.

Findings - Panel data analysis results show that all variables have a significant effect on poverty levels in Indonesia, for government spending on education and health has a negative effect on poverty levels, while the level of inequality has a positive effect on poverty levels. Several provinces also have the same results, although there are several variables that are not significant to the poverty level

Research limitations - *Limited data availability is an obstacle in this study, especially when the budget variable is obtained from several health expenditures, so it is feared that it will not be accurate*

Originality/value - *This research is original because it uses new variables, so that the result is something new and can be used as a basis for policy making.*

Keywords : GNI, Government Expenditure in the Education and Health Sector

Development of Learning Media for Microeconomic Theory Based on "Ed-Classes" Applications in the Economic Education Study Program

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Abstract

Background - Current education must be able to adapt to technological developments, namely the industrial revolution 4.0. So that E-learning study is needed to support the learning process. One of the breakthroughs to facilitate learning is to change the concept of e-learning using a platform that is more practical and more accessible to students, namely application-based learning media.

Purpose - This study aims to develop and produce learning based on the "Ed-Classes" application as a learning medium for microeconomic theory.

Design/methodology/approach - This study uses the research and development (R&D) method with the ADDIE method, namely analysis, design, and development, implementation (implementation), and evaluation (evaluation).

Findings - Based on the results of the study, the application of teaching materials made and validated by 2 expert validators in the form of a media expert (3.64) and a material expert (3.25) resulted in a decision that the application of teaching materials had a high level of feasibility with a note that revisions were needed. After all revision notes were corrected, a small group trial was carried out in 1 class. Based on the results of small group trials, it is known that there is a significant increase in learning outcomes before and after using "Ed-Classes" based teaching materials. The result is that all factors of user convenience, usability and time effectiveness have an average value of 3.54, meaning that it is concluded that the application developed meets the criteria of readability and practicality

Research limitations - *The sample was determined by purposive random sampling and the sample class was used for the application and testing of a small limited sample, namely the third semester of the Economic Education Study Program in the microeconomic theory course.*

Originality/value - *Based on the results of the study, the application of teaching materials made and validated by 2 expert validators in the form of a media expert (3.64) and a material expert (3.25) resulted in a decision that the application of teaching materials had a high level of feasibility with a note that revisions were needed. After all revision notes were corrected, a small group trial was carried out in 1 class. Based on the results of small group trials, it is known that there is a significant increase in learning outcomes before and after using "Ed-Classes" based teaching materials. The result is that all factors of user convenience, usability and time effectiveness have an average value of 3.54, meaning that it is concluded that the application developed meets the criteria of readability and practicality.*

Keywords : Learning Media, Ed-Classes Applications, Microeconomic Theory

Analysis of The Monetary Policy Effect on Indonesia Export Development During Period of 2010-2020 (An Analysis of Vector Error Correction Models)

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Abstract

Background - *The latest problem that will have an impact on the Indonesian economy is covid19. Based on data as of May 5, 2020 from the Task Force for the Acceleration of Handling Covid-19, the total number of corona positive sufferers in Indonesia reached 12,071 people.*

Purpose - *The objective of the research was to to analyze the impact of monetary policy on Indonesian exports through intermediate instruments such as Export Credit (CrEX), Bank Interest Rates (rd), Money Supply (JUB), Inflation (INF) and Exchange Rates (EXC)*

Design/methodology/approach - *Using the Vector Error Correction Model (VECM) approach, this research demonstrates that monetary policy model for influencing the export in the long-run and the short-run. This technique is known by dynamic model.*

Findings - *The research conclusion divided into three period. Firstly, the periode before covid 19. In the short-run the monetary instruments which has significant effect on export are given by CAR, inflation and export credit. But in the long-run the significant effect was given by reserve requirement, Loan to Deposit Ratio, exchange rates, inflation, export credits, interest rates and money supply. Secondly, the period after covid 19. In the short-run the significant effect on export was only given by reserve requirement and inflation. In the long-run, almost all of the variables used in the research were significant, except the export credits. Thirdly, the period before covid till after covid 19. In the shorth-run the significant effect on export was only given by money in the broad terms. But in the long-run the significant effect on export was given by all of the variables*

Research limitations - Countries currently face monumental fiscal challenges posed by the economic and revenue impacts of the covid. However, their ability to use fiscal policy to overcome these challenges is still very limited due to structural and capacity issues. In this study, it is limited to analyzing monetary policy only.

Originality/value - The estimation model to be used with Vector Error Corection Model (VECM) estimation, basically it has been done a lot, but during the Covid 19 pandemic it was still limited to see how monetary policy behavior before and after Covid 19 and its impact against Indonesian exports.

Keywords : Monetary Policy, Export, VECM

Analysis of Tourism Preferences to Tourism Object In North Sumatera

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Abstract

Background - *North Sumatra Province is one of the provinces that has received attention from the Central Government in developing tourist destinations*

Purpose - *The objective of the research was to to analyze the competitiveness of tourist destinations in the North Sumatra region as an effort to expand theoretical and empirical evidence about the structural relationships among constructs 1) the impact of tourism development, 2) environmental attitudes, 3) place attecchment, 4) development preferences about destination attractions / resources, and 5) support for a comprehensive strategy to improve competitiveness objectives*

Design/methodology/approach - *The method of data collection and data analysis used in the Research on Optimization Strategy for Tourism in North Sumatra Region is the quantitative method of Structural Equation Modeling (SEM) to identify and analyze the development of competitiveness of North Sumatra tourism based on visitor perspectives that reflect the services expected by the demand side..*

Findings - *Based on the results of research and analysis of the tourist preference indicators of tourist objects in North Sumatra, it was found that in empowering tourist areas with the development of the image of tourist areas in North Sumatra Province, it is necessary to prioritize the development of elements of tourism image builders that contribute greatly, namely human resource development, security and safety. , hygiene and health, preferences and prices, and marketing strategies. In addition, to increase the competitiveness of tourist areas, a business climate policy and sustainability of protection, facilities and infrastructure are needed as well as increased tourist attraction.*

Research limitations - *The limitations in this study only focus on the perception of a destination and tend to only focus on several factors at one time. For example, the image of the area, the competitiveness of the area and the quality of service in the tourist area, so that not all aspects that affect the increase in tourism competitiveness are observed and do not really consider aspects related to the tourism development strategy.*

Originality/value - *Although theory-based research efforts have developed an understanding that is oriented towards the main constructs of service in the context of tourist destinations, these studies continue to need to improve theory and methodology by introducing new variables and / or modified frameworks to increase predictive power. The novelty in this research is related to the current competitiveness aspects for tourist destinations in North Sumatra Province*

Keywords : Tourism Service Quality, Tourism Image, Tourist Attraction

Can The Financial Performance of Medan Micro and SMEs Production Sector Be A Signal in The Use of Leanness Strategy

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Abstract

Background - *Business actors need strategic steps in every effort to maintain and improve business performance. Study and deepening of the strategies used by Micro, Small, and Medium Enterprises (MSMEs) in maintaining their performance conditions are needed as a barometer of crisis resistance in the macroeconomic sector, especially MSMEs in Medan as the 3rd largest city in Indonesia. Most studies relating to business strategy practices on MSMEs' financial performance in Indonesia have not provided comprehensive information, both conceptually and characteristics that exist in Indonesia in general. Therefore, this study is an exploratory study on the production strategy used by Medan Micro, Small, and Medium Enterprises.*

Purpose - *This research aims to analyze the Medan City Micro & SMEs' financial performance in the production sector through a leanness production strategy.*

Design/methodology/approach - *This study used an explorative inferential quantitative. Moreover, the research location is the city of Medan. The research population is all of the Medan City Micro & SMEs Production Sector recorded by the Medan City Cooperative and Micro & SMEs Office. The sample size technique is based on Isaac and Michael's and Cohens' formula, so the number of samples taken is at least 123 business actors. The data needed are primary data and secondary data. The research variables used consisted of one endogenous variable (use of lean strategy), two exogenous variables (external lean practice, and internal lean practice), and one mediating variable (financial performance). Three hypotheses (inner model) were tested using PLS-SEM (Non-Parametric Statistics) data analysis techniques with mediation effects and assisted by Smart PLS 3.0.*

Findings - *Based on the path coefficient, Internal Leans Practice predominantly influences the financial performance of Medan City Micro & SMEs compared to External Leans Practice. Internal Leans Practice is the primary signal in seeing the practice of Leans Strategy in the Micro & SMEs Production Sector in Medan City.*

Research limitations - *Due to the COVID 19 pandemic, researchers found it difficult to study respondents in detail through direct interviews and to observe the respondent's production environment. Thus, it is necessary to replicate this study in the future to obtain more accurate information.*

Originality/value - *This study was originally carried out based on data from the Medan City Micro & SMEs Service Office issued in 2020 as secondary data and online observation data based on address data and contact numbers of Micro & SMEs players recorded at the Medan City Micro & SMEs Service Office.*

Keywords : Leanness Strategy, Financial Performance, External & Internal Practice of Leanness

The Implementation Development of Intellectual Product Business Program for Metal Fabrication on Welding Center Online

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Abstract

Background - *The welding business in the form of welding workshops, welding courses, welding education and training, welding construction services, welding level qualifications, and certification is indeed quite fast in line with the increasing demand for iron and metal welding services today and making the welding business continue to this day and become a business that is promising in the future.*

Purpose - *The purpose of the research, as the word itself indicates, is to provide the reader with a background to the study, and hence to smoothly lead into a description of the methods employed in the investigation.*

Design/methodology/approach - *The purpose development of intellectual product business program is to accelerate the process of developing an entrepreneurial culture in higher education, opportunities, and work experience for students to be able to equip themselves to work in creating and building entrepreneurial skills, encouraging the development of a culture in the use of higher education research results for the community, and fostering cooperation with all stakeholders to match the product to be produced.*

Findings - *The results of this research are production and business opportunities for metal fabrication welding is very promising and has a good market value, if it is done through service development and entrepreneurship training, it provides opportunities for entrepreneurship for students. Production-oriented education is an important part of the effort to create development of intellectual product business program at the State University of Medan which continues to increase in several stages, especially in the form of service, production, education and training, welding workshop entrepreneurship, and online-based services..*

Research limitations - *This program will have a good impact on increasing the weld metal fabrication production unit. Through education and training, welding products and services can increase income generation and become a very promising opportunity in the future.*

Originality/value - *The uniqueness and novelty and originality of development of intellectual product business program shows that there are excellent collaboration and production management, facilities and infrastructure, marketing management, and human resources that are able to develop and improve development of intellectual product business program.*

Keywords : intellectual product unit business program, metal fabrication, welding, center online

Track: Geography

The Impact of Collaborative Learning on The Attitude and Student's Achievement In Academic Writing

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Abstract

Background - *Currently, the 21st-century learning is directed towards achieving 4cs namely critical thinking, creative thinking, collaboration, and communication. Collaboration skills can be improved through learning that facilitates students to interact and work together. This approach is suitable to be applied in developing the ability to write scientific papers.*

Purpose - *The main objective of this study is to determine the impact of collaborative learning on the attitude and students' achievement in academic writing.*

Design/methodology/approach - *The study adopted a pretest-posttest experimental approach. There are 56 students in 2 classes (28 experimental groups and 28 as controls group) are selected as participants of the research. An academic writing test and questionnaire were used for collecting data. SPSS version 20 is used for data analysis such as mean, standard deviation, regression, and independent t-test.*

Findings - *The findings revealed that the mean scores obtained by the collaborative learning group are statistically significantly higher than the mean scores non-collaborative learning ($t=3.45$, $p=0.002$). Additionally, the results showed that the mean of the students' attitude with collaborative learning was 8.74, while the mean of the students' taught by non-collaborative learning was 6.26. The difference between students' attitudes was significant ($p=0.015$) in favor of collaborative learning. Therefore, it can be concluded that collaborative learning shows a better positive impact on student's attitudes and achievement in academic writing than non-collaborative learning in higher education.*

Research limitations - *This research has a limitation in the short research time so that the data student's attitude and writing skills might be improved if taken a long time.*

Originality/value - *This research has never been conducted and found in a literature review. The results of this study will enrich the literature and approaches in improving student positive attitudes and the ability in academic writing.*

Keywords : collaborative learning, attitude, achievement, academic writing

Challenges of E-Learning Implementation during the Covid-19 Pandemic In Senior High School

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Abstract

Background - *The Covid-19 pandemic has brought changes to the delivery of education in Indonesia and even the world. E-learning has become a familiar concept in the education field during this pandemic. However, e-learning is a challenge for teachers and students, especially those who are accustomed to face-to-face learning in class.*

Purpose - *The purpose of this study is to describe the challenges teachers and students faced in implementing e-learning during the Covid-19 pandemic.*

Design/methodology/approach - *This study used a qualitative approach by collecting data through structured interviews via WhatsApp and online questionnaires on a google form. The participants in this study consisted of 163 teachers and 235 students in senior high school of North Sumatera. The data analysis was conducted through a descriptive method by using three concurrent flows activity consisting of data reduction, data presentation, and conclusion.*

Findings - *The results showed that the challenges faced by teachers were especially expertise, preparation for learning, access to e-learning, and management of learning in the e-learning platform, supporting facilities, and time effectiveness in e-learning. While the challenges faced by students include understanding the material, access to the learning process, discipline in online learning, learning support facilities for e-learning, and the conditions of the learning environment.*

Research limitations - *The limitation of this study is that data source consisting of teachers and students is only related to geography subjects. If it involves participants from several subject, the results will be advanced.*

Originality/value - *This research reveals problems that occur in the field, there has never been a similar study so that it can be taken into consideration for policymakers. The results of the study also enrich the literature in the e-learning context.*

Keywords : challenges, e-learning, senior high school

Analysis of the Spatial Distribution of the Number DHF Patients and the Factors Causing the Dengue Dever (DHF) Vulnerability Level in Medan Tuntungan District in 2020

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Abstract

Background - *Terrain is one area that pitch high cases of dengue hemorrhagic fever (DHF) in North Sumatra. One of the problems with the high cases of DHF is in Medan Tuntung District, which is also used as a research site.*

Purpose - *This study aims to: (1) determine distribution of spatial number of patients with DHF and (2) determine the level of vulnerability of a region of the dengue disease based on the parameters of population density, residential density, distance to the river, the distance against TPS garbage, and settlement patterns.*

Design/methodology/approach - *This research is a type of survey research . Data collection techniques include agency surveys, field surveys, and map and image analysis. The research stages are divided into two stages, namely: (1) analysis of the spatial distribution of the number of DHF sufferers , and (2) analysis of the vulnerability of an area to DHF*

Findings - *Based on analysis of the spatial distribution of the number of patients with DHF in 2019, spread to nine villages in the district of Medan Tuntungan. The highest incidence of dengue cases was in sub-district Mangga 33 cases and the lowest was in sub-district Sidomulyo 2 cases. The results of the analysis of the level of vulnerability of an area to dengue fever are Mangga Village with a population density of 11,393 people, a dense settlement density of 3.15 km² , irregular settlement patterns with an area of 4.04 km², distance to the river*

Research limitations - *This study is limited only to the analysis of the spatial distribution of the incidence of DHF and its spread factors. This*

research can still be developed and added with other physical and social parameters. In addition, it can also be analyzed by different methods and parameters.

Originality/value - *The uniqueness or novelty in this research is to use google earth image and agency data to analyze the susceptibility to dengue fever in a place .*

Keywords : vulnerability, mapping, Dengue Hemorrhagic Fever (DHF)

Coral Reef Distribution Mapping for Bahari Tourism Development in Weh Island

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Abstract

Background - *A coral reef ecosystem is a unique and only growing underwater ecosystem in the tropics. Coral reef ecosystems have various roles, including protecting the coast from ocean waves, provide economic value, as well as deep environmental services development and attraction of marine tourism*

Purpose - *This research aims to; (1) mapping distribution of coral reefs on the Weh Island; (2) analyzing the potential suitability zone coral reefs for marine tourism use on Weh Island; and (3) do test the accuracy of Landsat 8 OLI imagery in mapping the distribution of coral reefs on the Weh Island.*

Design/methodology/approach - *The method used in this research is data utilization remote sensing to carry out distribution and zoning of coral reefs using PCA transformation and multispectral classification.*

Findings - *This study provides a map of the distribution of coral reef distribution and a map of zones that can be used as a reference for marine tourism as input in sustainable tourism management.*

Research limitations - *This research has limitations in the level of Landsat 8 oil image resolution in recording and can give different results when using high-resolution images.*

Originality/value - *This research has never been conducted before and it is very important to know the distribution of coral reefs for sustainable marine tourism management, considering that coral reefs are marine animals that have high productivity and are sensitive to changes in weather, temperature, and salinity.*

Keywords : Coral Reef, Landsat 8 OLI imagery, Weh Island, Mapping, Marine Tourism

Landslide Hazard Analysis based on A Geomorphological Approach in Deli Watershed North Sumatra Province

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Abstract

Background - Indonesia is a disaster-prone area, including one that is prone to landslides. According to BNPB (2020), the trend of landslides in Indonesia in the last 10 years has continued to increase. The landslide also occurred in the province of North Sumatra, which has various regional characteristics with land uses that also do not match its designation. One of them is in the Deli watershed area.

Purpose - The research purposes were: (1) to analyze the geomorphological characteristics of Deli watershed, (2) to analyze the characteristics of the factors causing landslides in Deli watershed, and (3) to analyze the landslides hazard in Deli watershed based on a geomorphological approach.

Design/methodology/approach - The geomorphological characteristics were analyzed based on satellite image interpretation, geological map interpretation, and field survey. The characteristics of the factors causing landslides were analyzed using secondary data and field survey. The analysis of landslides hazard used Geographic Information System (GIS). Moreover, the research results were analyzed as descriptively and spatially.

Findings - The results show that the geomorphological characteristics of Deli Watershed consist of volcanic landform, denudational landform, and fluvial landform. The factors that caused landslides in the Deli watershed varied, consisting of landform, slope, soil, lithology, land use, and rainfall. Furthermore, the landslides hazard in Deli watershed also varied. The landslide hazards are high in upstream areas with volcanic and denudational landforms. They cover 4 sub watershed that consist of Petani, Simaimai, Bekala, and Babura sub watersheds.

Research limitations - *The research conducted was medium scale. Then in the future, more detailed research can be carried out in the upstream of the Deli watershed.*

Originality/value - *The novelty value of this research looks at research sites that have not been investigated for landslide hazard in a whole of one watershed.*

Keywords : landslide, hazard, geomorphological characteristics, Deli watershed

The Effect of Part-Time Work on Student Learning Activities of the NIM 2017 Geography Education Department, Faculty of Social Sciences, State University of Medan

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Abstract

Background - *The objectives of this study were to determine the effect of part-time work on student learning activities of the NIM 2017 Geography Education Department, Faculty of Social Sciences, State University of Medan. To determine the factors behind the students of the NIM 2017 Geography Education Department, Faculty of Social Sciences, State University of Medan, working part time.*

Purpose - - *(1) To determine the effect of part-time work on student learning activities of the NIM 2017 Geography Education Department, Faculty of Social Sciences, State University of Medan. (2) To determine the factors behind the students of the NIM 2017 Geography Education Department, Faculty of Social Sciences, State University of Medan, working part time.*

Design/methodology/approach - *This research was conducted in the Department of Geography Education, FIS Unimed, with a population of all NIM 2017 students who work part time. The research sample used a total sampling technique with the characteristics of students doing lectures while working as many as 20 students. As a survey research, the data collection technique uses a questionnaire which is submitted to respondents online through the Google Form application. Then the data were analyzed using quantitative descriptive analysis techniques.*

Findings - *The objectives of this study were to determine the effect of part-time work on student learning activities of the NIM 2017 Geography Education Department, Faculty of Social Sciences, State University of Medan. To determine the factors behind the students of the NIM 2017*

Geography Education Department, Faculty of Social Sciences, State University of Medan, working part time.

Research limitations - *How the effect of part-time work on student learning activities and what factors motivate students to work part-time.*

Originality/value - *The results showed that (1) there was a significant effect of part-time work on the learning activities of students of the NIM 2017 Geography Education Department. This was shown by comparing the value of t_{count} with t_{table} , the value of $t_{count} > t_{table}$ was obtained, which $t_{count} = 4,81 > t_{table} = 2,10$ with a significance value is $0.037 < 0.05$ so it can be concluded that H_a is accepted, that is part-time work has a significant effect on learning activities. Then, (2) the factors behind the students working part time, namely for economic needs or adding pocket money, this can be seen through a circle diagram which shows that as many as 14 respondents (70.00%) chose to increase pocket money.*

Keywords : Part time work, Student learning activities

Geographic Information System for Monitoring The Pandemic COVID-19 in Deli Serdang District

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Abstract

Background - *The world is in shock with the issue of Corona Virus Disease (COVID-19) which has spread to 65 countries in the world, and the World Health Organization has stated that COVID-19 is a pandemic. Indonesia has at least 14,032 victims of the coronavirus (data from 10/05/20). One of the provinces with a high number of COVID-19 cases is the Province of North Sumatra. The largest contributors to the number of COVID-19 cases in North Sumatra are Medan City and Deli Serdang Regency. The increasing number of Covid-19 cases demands that each region must have an information system to monitor case developments spatially.*

Purpose - *This study aims to analyze the pattern of the spread of COVID-19 cases and develop a geographic information system for monitoring COVID-19 cases.*

Design/methodology/approach - *This research is a type of R&D research. The distribution pattern analysis was carried out by looking at the distribution of the number of cases in the sub-district administrative area. The development of the geographic information system resulted in a web-GIS that presented the vulnerabilities and risks of each district. The development of information systems uses the SDLC (System Development Life Cycle) method. All data is managed in the form of a geodatabase that is connected to a web server. Geographical information system testing uses the black box test.*

Findings - *The results showed that there were 3 out of 22 districts with Covid-19 cases more than 10% of the total cases. These sub-districts are Percut Sei Tuan (26.1%), Sunggal (15%), and Tanjung Morawa (10.2%). By location, the area is directly adjacent to the city of Medan which has the highest number of cases in North Sumatra.*

Research limitations - *This research was conducted in Deli Serdang Regency, excluding other districts or cities in North Sumatra. The data analyzed in this study were only the number of sufferers affected by COVID-19 (hub analysis) and did not display the movement paths of people (patients) affected by COVID-19.*

Originality/value - *The novelty of this study is the absence of an information system that provides details of the vulnerability and risk of COVID-19 in Deli Serdang Regency.*

Keywords : COVID-19, Geographic Information System, WEBGIS, Deli Serdang District

The Effect Of E-Learning On The Student's Learning Outcome In Higher Education

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Abstract

Background - *Recently, online learning has become a popular method that is widely used and implemented by all educational institutions. Many universities in the world using e-learning during Covid-19 pandemic.*

Purpose - *The main objective of this research is to analyze the effect of e-learning implementation on student's learning outcome.*

Design/methodology/approach - *The study adopted a pretest-posttest experimental approach. There are 40 students in 2 classes (20 experimental groups and 20 as controls group) are selected as participants of the research. The experimental groups using e-learning by SIPDA (e-learning platform developed by Universitas Negeri Medan) and the controls group by face to face learning. The learning outcome was measured using a researcher-developed test consisting of 15 multiple-choice and 5 fill-in-the-blank items. The computer statistics software SPSS version 20 is used for data analysis such as validity, reliability, analysis of covariance, and independent samples t-test.*

Findings - *According to the result of an independent samples t-test, the posttest mean in learning outcome among the students in the experimental group is statistically significantly higher than the corresponding mean among the students in the control group. Therefore, it can be concluded that e-learning shows better positive effects on student's learning outcomes than traditional teaching (face to face learning) in higher education. Also, the e-learning activities are more effective for learning compared to face to face learning*

Research limitations - *The limitation of the present research is the whole of course material can't represent trough instruments used in the research.*

Also, the finding can't explain in detail the effect of e-learning on student's cognitive, affective, and psychomotor.

Originality/value - *This study uses a sample of students who taking e-learning for the first time so there has been no influence from other subjects that still use face to face learning. Therefore, the test as instruments developed based on the characteristics of lecture material so that it can measure indicators of learning outcome for the subject*

Keywords : e-learning, learning outcomes, higher education

Track: Natural Science

Antioxidant and Antidiabetic Activity of the Ethanol extract of the Leaves of the Sijukkot (*Lactuca Indica*) Plant

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Abstract

Background - *Sijukkot (Lactuca indica L)*, the plants have been from an area in the village of Parsaoran Sibisa Ajibata, Toba Samosir, North Sumatera, has long been used and believed to be a medicinal plant, especially as a medicine for diabetes, although it has never been studied.

Purpose - For that we in this study conducted research from Sijukkot leaf of the extract ethanol. We feel it is important to research the activity of these plants as antidiabetic and antioxidants.

Design/methodology/approach - It is extracted plant leaves using 96% ethanol. The antioxidant of ethanol extract leaves has been tested by the DPPH and tested the anti-diabetic activity of the ethanol extract of sijukkot leaves by in vitro using the alpha amylase enzyme inhibition method

Findings - the antioxidant has showed IC₅₀ values of 118,94 ppm, it has a strong antioxidant. We also tested the anti-diabetic activity of the ethanol extract of sijukkot leaves by in vitro using the alpha amylase enzyme inhibition method and the results showed the IC₅₀: 132,413ppm, It has moderate anti-diabetic activity

Research limitations - AS Basic research to be developed for medicinal plants

Originality/value - The originality of this research can be justified by the researcher

Keywords : *Lactuca indica L*, Antioxidat, Antidiabetic

Characterization of Glutaraldehyde Composition on PVA-Enzyme Coated PVC-KTpClPB Membrane with XRD and UV-Vis

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Abstract

Background - *The UV-Vis spectrum pattern consists of both absorbance and wavelength. Absorbance is represented by the peak height and the peak width points at the wavelength. The UV-Vis spectrum pattern is shaped like a zeromal distribution having a peak height and a peak width.*

Purpose - *The purpose of this study was to investigate the UV-Vis spectrum pattern of the PVA-GA-Enzim solution.*

Design/methodology/approach - *Research has been conducted using a PVA-Enzyme solution with a small peak width. To characterize the indicator electrode, PVA-GA-Enzyme was immobilized, coated with PVC-KTpClPB, and analyzed by using XRD and UV-Vis technique. The concentration of glutaraldehyde (GA) used in the composition are 2.6%, 2.7%, 2.8%, 2.9% and 3%. There are two ways to immobilize the urease enzyme on the indicator electrode; first, the PVA – Enzyme solution was mixed with GA, immobilized at the following indicator electrode, and coated with PVC-KTpClPB. Second, PVA-Enzyme immobilization on the indicator electrode was coated with GA and layered by PVC-KTpClPB..*

Findings - *The result of the research showed that the XRD diffraction spectrum pattern is the immobilized GA of 2.9%, which is symmetric. There was a shift in the absorbance peak and a change in its width in the absorbance spectrum pattern UV-Vis PVA-GA-E of 2.9%.*

Research limitations - *The concentration of glutaraldehyde (GA) used in the composition of 2.6%, 2.7%, 2.8%, 2.9% and 3%.*

Originality/value - *The best result from the immobilized PVA-GA-Enzyme solution on the indicator electrode was at a composition of 2.9% GA. The novelty of this research was on the glutaraldehyde can increase the width of the absorbance peak.*

Keywords : Characterization, PVA-GA-Enzim, PVC-KTpCIPB, XRD; UV-Vis.

The Kinship of Pitcher Plant (*Nepenthes* sp.) in North Sumatera, Indonesia

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^{1,2,3,4}Universitas Negeri Medan, ⁵Universitas Sumatera Utara

Abstract

Background - Indonesia is the center of the diversity of the Pitcher Plant. Its distribution area includes the islands of Sumatera, Kalimantan and Java. The highest diversity is found in Kalimantan and Sumatera where many endemic species are found. Sumatera ranks second with 29 species that have been identified. North Sumatera has a Pitcher Plant which is endemic to the island of Sumatera and the province of North Sumatera.

Purpose - This research aims to determine the Pitcher Plant kinship in North Sumatera.

Design/methodology/approach - This research was conducted in six districts, which are Central Tapanuli, South Tapanuli, Humbang Hasundutan, Toba, Dairi and Samosir districts. The research method is survey and direct observation in the field. The data was analyzed using cluster analysis with the UPGMA (Unweighted Pair-Group Method Arithmetic) in the NTSYS (Numerical Taxonomy and Multivariate System) version 2.00 software

Findings - The results showed that there were six species of Pitcher Plant, namely *Nepenthes tobaica*, *Nepenthes gracilis*, *Nepenthes rhombicaulis*, *Nepenthes eustachya*, *Nepenthes ampullaria* which are original species, *Nepenthes reinwardtiana* x *spectabilis* one species is a natural crossed. The kinship of Pitcher Plant was observed based on the morphology which included 37 characters and 72 sub characters. The results of the analysis of the character of Pitcher plants were obtained 5 groups. Group I, namely *Nepenthes eustachya* and *Nepenthes reinwardtiana* x *spectabilis* with a similarity coefficient value of 0.74. Group II, namely *Nepenthes gracilis* and *Nepenthes rhombicaulis* with a similarity coefficient value of 0.74. Group I and II have a similarity which is group III with a similarity coefficient value of 0.61. Group IV has a similarity coefficient value

of 0.57 with *Nepenthes tobaica*. The kinship relationship of groups I, II, III and IV with *Nepenthes ampullaria* form group V which the farthest with a similarity coefficient value of 0.52.

Research limitations - Material only pitcher plant endemics Sumatera Utara and kinship by morphological traits.

Originality/value - The first research of pitcher plant kinship in North Sumatera

Keywords : pitcher plant, morphology, kinship, *Nepenthes* sp., cluster

Scanning Electron Microscopy Study to Analyze The Morphological Characteristics of Scale of Pora-pora fish (*Puntius binotatus*) from Toba Lake, North Sumatra, Indonesia

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Abstract

Background - *Pora-pora* (*Puntius binotatus*) is a freshwater endemic fish of Sumatra Island, especially found in the Toba and Singkarak Lakes. The study morphological characteristic of scale of *Pora-pora* fish is necessary in fish taxonomy.

Purpose - Therefore, the objective of this study is to observe the morphological characteristics of scale of *Pora-pora* fish.

Design/methodology/approach - In the present study investigated the scale morphology between the dorsal fin to lateral line and lateral line by using Scanning Electron Microscope.

Findings - We found that the scales of *pora-pora* fish have the general morphological characteristics of the cycloid scales. The scale morphology between the dorsal fin to lateral line and lateral line slightly differently. Lateral line scales of *Pora-pora* fish had no focus area, replacing by a lateral line canal which is located along the anterior-posterior axis of scales with two openings. Anterior opening is bigger and wider comparison to posterior opening part. The circuli of dorsal scale was orientated to focus. However, the circuli of lateral scale was faced lateral line canal.

Research limitations - The study of scale morphology of *Pora-pora* fish need to be more explored every year due to breakage of the circuli could be used as an indicator for habitat pollution.

Originality/value - Scanning Electron Microscopy of the scale morphology of *Pora-pora* fish is reliable taxonomic tools in fish taxonomy.

Keywords : Pora-pora fish, Puntius binotatus, scale morphology, SEM

The Study of The Interaction Between Alpha-Tocopherol with Methanol, Ethanol, Acetone, Chloroform, Carbon Tetrachloride, Cyclohexane, And N-Hexane Using The Hartree-Fock Method

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Abstract

Background - Determination of the suitable solvent in the $\hat{I}\pm$ -tocopherol extraction process is an important step. So far, solvency determination uses trial and error methods. The weakness of this method is that it consumes a lot of chemicals so it is not efficient. One of the methods can be used to determine the best solvent is computational chemistry method through molecular modelling.

Purpose - The aim of this study is to determine the interaction between $\hat{I}\pm$ -tocopherol compound with methanol, ethanol, acetone, chloroform, carbon tetrachloride, cyclohexane, and n-hexane compounds.

Design/methodology/approach - This research is molecular modelling using computational chemistry calculations using the Hartree-Fock method with a function/ basis set UHF/3-21G.

Findings - The thermodynamic data obtained from computational chemistry calculations with the function/ basis set UHF/3-21G on the interaction between $\hat{I}\pm$ -tocopherol-methanol compounds are $\hat{\Delta}^\ddagger E = -42,804 \text{ kJ/mol}$, $\hat{\Delta}^\ddagger H = -45.282 \text{ kJ/mol}$, $\hat{\Delta}^\ddagger S = -115,326 \text{ kJ/mol.K}$, and $\hat{\Delta}^\ddagger G = -10,864 \text{ kJ/mol}$; $\hat{I}\pm$ -tocopherol-ethanol are $\hat{\Delta}^\ddagger E = -44,683 \text{ kJ/mol}$, $\hat{\Delta}^\ddagger H = 47,164 \text{ kJ/mol}$, $\hat{\Delta}^\ddagger S = -142,479 \text{ kJ/mol.K}$, and $\hat{\Delta}^\ddagger G = -4,645 \text{ kJ/mol}$; $\hat{I}\pm$ -tocopherol-acetone are $\hat{\Delta}^\ddagger E = -35,665 \text{ kJ/mol}$, $\hat{\Delta}^\ddagger H = -38,146 \text{ kJ/mol}$, $\hat{\Delta}^\ddagger S = -119.101 \text{ kJ/mol.K}$, and $\hat{\Delta}^\ddagger G = -2,599 \text{ kJ/mol}$; $\hat{I}\pm$ -tocopherol-chloroform are $\hat{\Delta}^\ddagger E = 1.982 \text{ kJ/mol}$, $\hat{\Delta}^\ddagger H = -0.496 \text{ kJ/mol}$, $\hat{\Delta}^\ddagger S = -65,555 \text{ kJ/mol.K}$, and $\hat{\Delta}^\ddagger G = 19,066 \text{ kJ/mol}$; $\hat{I}\pm$ -tocopherol-carbon tetrachloride $\hat{\Delta}^\ddagger E = -8,465 \text{ kJ/mol}$, $\hat{\Delta}^\ddagger H = -10,943 \text{ kJ/mol}$, $\hat{\Delta}^\ddagger S = -69,493 \text{ kJ/mol.K}$, and $\hat{\Delta}^\ddagger G = 9,793 \text{ kJ/mol}$; $\hat{I}\pm$ -tocopherol-cyclohexane are $\hat{\Delta}^\ddagger E = -27475.142 \text{ kJ/mol}$,

$\hat{\Delta}H = -27477.623 \text{ kJ/mol}$, $\hat{\Delta}S = -98.318 \text{ kJ/mol.K}$, and $\hat{\Delta}G = -27448.281 \text{ kJ/mol}$; $\hat{I}\pm\text{-tocopherol-hexane}$ are $\hat{\Delta}E = 33,977 \text{ kJ/mol}$, $\hat{\Delta}H = 31,498 \text{ kJ/mol}$, $\hat{\Delta}S = -111,573 \text{ kJ/mol.K}$, and $\hat{\Delta}G = 64,795 \text{ kJ/mol}$. Based on the analysis of these thermodynamic data, it was found that $\hat{I}\pm\text{-tocopherol-cyclohexane}$ have the best interaction, lead to cyclohexane was the best solvent for $\hat{I}\pm\text{-tocopherol}$ compounds.

Research limitations - This study uses molecular modeling through computational chemistry calculations with a function/ basis set UHF/3-21G.

Originality/value - Use of computational chemistry methods to determine suitable solvents for $\hat{I}\pm\text{-tocopherol}$ compounds.

Keywords : $\hat{I}\pm\text{-tocopherol}$, solvent, interactions, and computational chemistry

Synthesis Biodiesel from Rubber Seed Oil Using Natural Zeolite Catalysts Supported Metal Oxides ZrO₂, PbO, and ZnO

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Abstract

Background - *The main obstacle in the use of rubber seed oil as a raw material for biofuel is the high FFA level above 2%. The process currently being developed is synthesis using a solid acid heterogeneous catalyst. In this research, a solid acid catalyst based on natural zeolite was developed.*

Purpose - *The purposes of this research is to produce renewable fuel products with environmentally friendly catalysts based on natural zeolite.*

Design/methodology/approach - *The methods used include activated catalysts with mineral acids and calcined with nitrogen gas flow to produce active natural zeolite (ZAA). In order to maximize its catalytic activity, natural zeolites are embodied metal oxides of PbO, ZnO, and ZrO₂ through wet impregnation methods. The catalysts activity test was carried out in the biodiesel synthesis process from rubber seed oil at temperature 60Â°C for 60 minutes with 5% (w/w oil) catalysts.*

Findings - *From the results of XRD characterization, it is known that the crystallinity of the catalyst increased after the activation process and ZrO₂ loaded from 73.83 to 76.74% and 77.12%, respectively. Meanwhile decreased after the metal oxide loaded of PbO and ZnO to 66.79% and 41.08%, respectively. The crystal size analysis showed that the PbO/ZAA and ZrO₂/ZAA catalysts ranged from 7-11 nm while ZnO/ZAA was 7-52 nm in size. This is in accordance with the surface morphology analysis using SEM which shows that the crystalline grains on the surface of the ZnO catalyst are larger than other catalysts. The EDS data showed that the catalyst component after activation and impregnation decreased Al levels due to the dealumination process as well as reduced impurities from other elements.*

Metal oxides loaded has an effect on ZA performance in increasing biodiesel conversion and reducing FFA content below 2%. The best performance was shown by ZrO₂/ZAA catalysts with yield conversion of 58.104% and characteristics of water content, FFA content, and density of 0.092%, 1.081%, and 0.880 g/cm³, respectively.

Research limitations - *This research was conducted at certain process conditions that could be developed in the future to produce maximum product conversion.*

Originality/value - *Biodiesel product produced in this research have met SNI standart for the FFA content and biodiesel density.*

Keywords : Biodiesel, Rubber seed oil, Natural Zeolite catalyst, metal oxides, characterization

Ankle Brachial Index (ABI) as a Macrovascular Marker Complication in type 2 DM in Medan, Indonesia

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Abstract

Background - *Macrovascular complications are most common and have high mortality due to increased cardiovascular disease such as stroke, accelerated atherosclerosis, and atrial fibrillation. Peripheral Artery Disease (PAD) is the most common complaint experienced by DM patients. PAD will increase the risk for intermittent claudication, ischemic ulceration, and amputation.*

Purpose - *The purpose of this study was to detect the prevalence of macrovascular complications with ABI as a marker and the factors that influence it in T2DM patients.*

Design/methodology/approach - *This research is a correlative study with a cross-sectional approach. The study population was T2DM patients who came and controlled in primary health care with a total sample of 89 with consecutive sampling (based on inclusion and exclusion criteria). The source of research data is primary data. Before the study, the study had received ethical clearance by the Research Ethics Commission of North Sumatra University. Data were processed using SPSS and analysis using one-way Anova.*

Findings - *The results showed as many as 34 patients (38.2%) had borderline ABI, while 26 people (29.2%) had PAD and 29 people (32.6%) with normal ABI. There was a correlation between ABI and levels of Hydroxy vitamin D (25OH-D) and triglycerides (p 0.05).*

Research limitations - *ABI influences many factors, but sometimes, patients are not honest with other conditions that can affect ABI measurements.*

Originality/value - *ABI examination is easy to do and has enormous benefits because ABI describes the macrovascular complications that T2DM patients experience.*

Keywords : Macrovascular complications, ABI, lipid profil, Hydroxy vitamin D

Identification Bacterial Symbionts Sponge as Antibacterial from Ngge Islands, Indonesia

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Abstract

Background - Various of kind of synthetics antibiotics have been developed to fight infectious diseases caused by bacteria, but the use synthetics antibiotics is irrational, without a doctor's prescription and is not continuous raises a new problem called resistance. Resistance over a long period of time can cause very serious problems especially bacteriz which can cause acute infections.

Purpose - One way to prevent the spread of problems regarding bacterial resistance is the use of antibacteial derived from sponges symbionts

Design/methodology/approach - The research or method inthis research is experimental with descriptive data analysis. Identification of sponge symbionts bacteria was carried out using the 16 SrRNA approach.

Findings - The result of study of two sponges namely *Clathrina sp* and *Agelas sp* found twenty three (23) isolates of symbiont bacteria and 4 isolates of bacteria that have potential to be antibacterial against MDRO (*Klebsiella pneumonia* type ESBL, *Pseudomonas aeruginosa* type ESBL and *Staphylococcus lugdunensis* type MRSA. Isolates S113, S119 and S213 were selected with the largest clear zone (9.3mm, 8.3 mm and 8.1mm). Biochemical test results showed that the three isolates as *Bacillaceae* family. Gene sequencing of isolates S113, S119 and S213 were adjusted to the GenBank database using BLAST method and the result was that the S113 isolates had 98% homology with *Bacillus wiedmannii* strain FSLW8-0169, S119 isolate had 99,23% had homology with *Bacillus paramycooides* strain MCCC 1A04098 and ioslates S213 has a homology of 97,28% with *Bacillus albus* strain MCCC 1A02146.

Research limitations - The limitation of this study is that it only identifies at the homology level.

Originality/value - *Research of the identification of sponge symbionts bacteria which antibacterial activity againsts MDRO is still rare*

Keywords : Antibacterial, Multi Drug Resitance Organism

Morphometric and Genetic Analysis of Fruit Fly *Bactrocera dorsalis* Complex on Horticultural Crops in North Sumatera-Indonesia

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Abstract

Background - *The fruit fly Bactrocera dorsalis complex (Diptera: Tephritidae) belong to economically important insects because can act as serious pests on horticultural crops in agriculture ecosystem. There is no morphometric and genetic studies of fruit fly Bactrocera dorsalis complex that come from North Sumatra that has been carried out until now.*

Purpose - *This study purpose is to find out the morphometric and genetic data of fruit fly Bactrocera dorsalis complex that attack guava (Psidium guajava) and lime (Citrus sp) crops in Pancurbatu-North Sumatera-Indonesia.*

Design/methodology/approach - *The fruit fly catching was conducted by using Steiner trap. Morphometric data that be measured were body length (Y), wing length (X1), wing width (X2), hind leg length (X3) and tibia length (X4). Meanwhile, genetic character included nucleotide composition and sequence variation of mtCOI DNA gene. The genetic study was carried out by DNA isolation, PCR, electrophoresis and sequencing.*

Findings - *The research result showed that fruit fly on horticultural crops (lime and guava) based on morphological data and mtCOI DNA gene belong to Bactrocera dorsalis Hendel. The body size, wing and hind leg of guava fruit fly population were significantly larger and longer than lime fruit fly. The wing length has the highest contribution regarding fruit fly body length determination ($Y = 0.57X1 + 3.66$; $R^2 = 0.52$). The mtCOI gene of both fruit fly populations was rich in A/T nucleotide (65.06%), while G/C was 34.92%. The frequency of A/T of lime fruit fly (65.11%) was richer than in guava fruit fly (65.02%). The nucleotide variation value of both fruit fly populations was 1.16%.*

Research limitations - *The number of sampling site at this research is still two locations and genetic analysis still include nucleotide composition and nucleotide variation. Next time, sampling site will be added and genetic data analysis will include genetic diversity, genetic distance and haplotype connectivity.*

Originality/value - *The new findings in this research are morphometric differences of fruit fly on different horticultural crop, the relationship among morphometric trait and nucleotide variation based on mtCOI DNA gene sequence.*

Keywords : Bactrocera dorsalis, horticultural, morphometric, mt COI, Sumatera Utara

Coix Phytochemical Compounds for Anti-Alzheimer Activity Through Mechanisms Like Targeting β -amyloid by Molecular Docking Analysis

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Abstract

Background - *Coix lacryma-jobi* naturally occurring phytochemical compounds such as flavonoids, polyphenols, alkaloids, and glycosides may potentially protect against neurodegeneration as well as play an important role in the prevention and cure of various diseases including neurodegenerative diseases like Alzheimer's disease. Many phytochemical compounds show anti-Alzheimer activity through specific pharmacological mechanisms like targeting β -amyloid.

Purpose - This study aims to examine the opportunities for bioactive compounds from coix phytochemical compounds as prevention and cure of anti neurodegenerative that can be used as anti-Alzheimer by using an autodock vina molecular docking approach.

Design/methodology/approach - The method used in this research is ethanol extraction to obtain a coix phytochemical compound. GCMS is used to identify bioactive compounds present in the coix phytochemical compound. Meanwhile, to test anti-Alzheimer activity through mechanisms like targeting β -amyloid by molecular docking analysis using autodock vina.

Findings - The GCMS analysis of coix ethanol extracts results produced about 38 phytochemical compounds. Four candidate compounds of 38 phytochemical compounds have potential as an anti-Alzheimer activity through mechanisms like targeting β -amyloid based on the results of the analysis using PASSonline software (<http://www.way2drug.com/PASSOnline/predict.php>) namely gamma-

sitostenone, 4-campestene-3-one, stigmasterol and tetracosanoic acid. The results of molecular docking analysis with autodock vina between gamma-sitostenone, 4-campestene-3-one, stigmasterol, tetracosanoic acid, and β -amyloid showed that ligands can be an β -amyloid inhibitor by substituting NAG ligands. The communication between proteins and ligands is a hydrophobic hydrogen bonding interaction. These results indicate the inhibitory ability of gamma-sitostenone, 4-campestene-3-one, stigmasterol, and tetracosanoic acid to β -amyloid at a varying level. The best results are given by the interaction between x and amyloid where there are more than 4 amino acid ligand interactions with the protein. Three other ligand compounds vary in their interactions with β -amyloid and have less than 4 interactions with amino acids with proteins.

Research limitations - *Alzheimer's triggers are not only disturbances in β -amyloid but there are other proteins namely Beta-secretase 1 and Acetylcholinesterase. For the results of this study to be comprehensive, it is necessary to test the phytochemical compound against Beta-secretase 1 and Acetylcholinesterase in their activity as anti-Alzheimer's.*

Originality/value - *This research is pioneering research in testing the molecular docking of phytochemical compounds ethanol extract of coix as an anti-Alzheimer's activity.*

Keywords : anti-Alzheimer, phytochemical compounds, molecular docking analysis

Isolation and Characterization of Endofit Fungal Molecular Which Are Potentially as Antimicrobes From Buasbuas Leaves (*Premnapubescens* Blume)

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Abstract

Background - *One of the plants that contain secondary metabolites and has been known to inhibit the growth of pathogenic bacteria is buasbuas. The content of secondary metabolites found in the leaves of buasbuas, is also thought to be produced by a group of endophytic fungi and endophytic bacteria that live on the leaves of buasbuas.*

Purpose - *This study aims to obtain the isolates of endophytic fungi and bacteria from the leaves of buasbuas and get fungal isolates and endophytic bacteria from the leaves of the buasbuas that could produce antibacterial.*

Design/methodology/approach - *This type of research uses experimental methods. The data analysis technique used is descriptive qualitative. The method used in research to produce endophytic fungi and endophytic bacteria that have antibacterial ability is first to isolate endophytic fungi that are present on each leaf of the buasbuas. All fungi and bacteria that live on wild leaves were tested for their antibacterial activity against pathogenic bacteria called vibrio cholerae ATCC 39315TM, Staphylococcus epidermidis ATCC 14990TM, Propioni bacterium acnes ATCC 33179TM, Bacillus cereus ATCC 14579TM, and Escherichia coli ATCC 25922TM.*

Findings - *The results of isolation of endophytic bacteria obtained six isolates, old leaves found 2 endophytic bacterial isolates from young leaves (IBM1 & IBM2), 2 endophytic bacterial isolates from intermediate leaves (IBS1 & IBS2) and 2 endophytic bacterial isolates from mature leaves (IBT1 & IBT2). Endophytic fungi isolation of mature leaves found 2 endophytic fungi isolates from young leaves (IJM1 & IJM2), 4 endophytic fungi isolates from intermediate leaves (IJS1, IJS2, IJS3, and IJS4) and 2 endophytic fungi*

isolate from old leaves (IJT1 & IJT2). Antibacterial activity test of endophytic bacterial isolates against pathogenic bacteria produced the highest inhibitory zone in isolates from IBS2 bacteria and against B. cereus ATCC 14579TM bacteria, which was 12.76 ± 0.8504 mm. In the selection test of endophytic fungi isolates against pathogenic bacteria produced the highest inhibitory zone in IJT2 isolates against E. coli ATCC 25922TM which was 30.70 ± 0.3605 mm..

Research limitations - *The samples used were all leaves (young, intermediate and mature leaves). And this reasearch was limited to obtaining isolates of fungi and endophytic bacteria from Buasbuas leaves that were able to produc antibacterial.*

Originality/value - *The results Isolation of endophytic bacteria and fungi from Buasbuas leaves against pathogenic bacteria produce a high inhibition zone and prove that endophytic bacteria and fungi in Buasbuas leaves are potential to be antibacterial.*

Keywords : Premna pubescens, Fungi, Bacteria, Endophytes, Antimicrobials

Characteristics Silica Volcanic Ash of Sinabung Mount With Various Concentrations of Sodium Hydroxide as a Corrosion Inhibitor

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Abstract

Background - Silica synthesized from volcanic ash of Sinabung mount was taken from Namanteran village, Kabupaten Karo has been done with the sol gel method. Micro pore and high pore surface area the silica of volcanic ash Sinabung Mounth is very potential to used as a corrosive inhibitor.

Purpose - The purpose of the research are to know the effect of various concentrations of sodium hydroxide pada peningkatan kadar silika abu vulkanik sinabung as a corrosion inhibitor and the characterization.

Design/methodology/approach - The methodology of the research used sol gel method is soaking the volcanic ash with hydrochloric acid to remove impurities. The research was continued destructed volcanic ash using a variation of Sodium Hydroxide are 4M, 6M, 8M until the viscous obtained followed by addition of water. The solution was then filtered to produce sodium silicate (Na_2SiO_3) as silicate raw material. The gelling with added Hydrochloric acid 3M after that it was analyzed using XRD, FTIR, AAS SEM. The corrosion test was carried out by smering the obtained silica with metal .

Findings - Analysis using FTIR showed that the Si-O-Si and Si-OH groups were obtained which indicated that the silica gel was successfully prepared. XRD data (area $2\theta = 20-24^\circ$) show that silica as amorphous SEM data shows that silica has a pore cavity that looks rough and irregular and the characterization using AAS obtained silica equal to 70, 80, 86%.

Research limitations - This research is focused on the application of silica which has the highest content is 86% as corrosion inhibitors in iron .

Originality/value - *The results of this study have value specifically is silica, which is used as a corrosion inhibitor in ferrous metal, which is the result of the preparation of volcanic ash using sodium hydroxide.*

Keywords : Volcanic ash Sinabung, Silica, characterization , corrosion inhibitor

Protective Effect of Ethanolic Extract *Plectranthus amboinicus* Lour on 7,12 Dimethylbez(a)anthracene Induced Lung Cancer in Rat

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Abstract

Background - 7,12Dimethylbenz(a)anthracene (DMBA) is a carcinogenic substance found in the environment. DMBA can damage liver and lungs and also blood biochemical and non-specific immune. *Plectranthus amboinicus* Lour Spreng is a medicinal plant that has anti-cancer and antioxidant activities

Purpose - The purpose of this study was aimed to examine the protective effect of ethanolic extract *Plectranthus amboinicus* Lour Spreng (PEE) leaves on biochemical profile of blood, non-specific immune system and histology of rats induced by DMBA

Design/methodology/approach - The 25 female rats were divided into five groups of five rats each. PEE refers to ethanolic extract of *Plectranthus amboinicus*. The control group was received CMC. DMBA group received DMBA 20 mg/kg of body weight once every four days for 32 days. The groups of DMBA+PEE175, DMBA+PEE350, DMBA+PEE700 received PEE (175, 350, 700 mg/kg of body weight respectively) every day orally for 27 days after DMBA induction. On day 60 rats were weighed, Blood samples were collected to assess biochemical and non-specific immune. Rats dissected and remove lungs carefully, They were fixed in 10% formalin. For histological preparations were using the H&E method. The lung cancer observed through histopathology that consist of bronchial exudate, emphysema and inflammatory cell infiltration. The data were analyzed by one-way ANOVA

Findings - There were increased ALT, AST, ALP, total and direct bilirubin on DMBA group. In DMBA+PEE175, DMBA+PEE350, and DMBA+PEE700 groups there were decreased significantly for ALT, ALP, total and direct bilirubin if compare to DMBA group. Total protein, albumin

and globulin were increased significantly in DMBA+PEE175, DMBA+PEE350 and DMBA+PEE700 groups compare to DMBA group. Neutrophils and monocytes were increased significantly respectively in DMBA+PEE175 and DMBA+PEE350 if compare to all other groups. Bronchial exudant, emphysema and inflammatory cells infiltration were decreased in DMBA+PEE175, DMBA+PEE350 and DMBA+PEE700 significantly compare to DMBA group

Research limitations - *This research was limited on macroscopic study. For further research it is necessary to study on cellular level*

Originality/value - *The novelty of this research is protective properties of *Plectranthus amboinicus* ethanolic extract against lung damages in rat induced DMBA*

Keywords : Plectranthus, DMBA, Lung cancer, biochemistry

Screening of Phytochemistry and Antibacterial Activities, Antioxidants and Anticancer from Acetone Extract of Benalu Kopi (*Loranthus Ferrugineus Roxb*)

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Abstract

Background - *Benalu kopi (Loranthus ferrugineus Roxb)* is a high percentage of the host parasite found in the north Sumatra area. This parasitic plant is widely used by the community for traditional treatment of various diseases. Unfortunately, there was very little research being done to excavate the potential for these parasitic plants as medicinal raw material.

Purpose - This study is aimed at screening phytochemistry and testing acetone extract of *Loranthus ferrugineus Roxb* as antibacteria, antioxidants and carcinogens.

Design/methodology/approach - Phytochemistry screening is done by using chemical traction. Antibacterial tests were made against bacteria *B. cereus* ATCC 1178, *S. enterica* ATCC 14028, *P. acne* ATCC 27853 and *S. mutans* ATCV 35668 using paper disc diffusion methods (CLSI-M02-A11, 2012). Test his antioxidal activity using medode DPPH. Tests of anticancer activity using cells HeLa and A549 cells based on MTT assay methods.

Findings - The acetone extract of *L. ferrugineus Roxb* signed the activity against on all the antibacterial test with inhibition zone diameter ranging from 6.2 mm – 11.1 mm. Strong antibacterial activity indicated by the bacteria *S. mutans* ATCV 35668. Extract of acetone from the *Loranthus ferrugineus Roxb* has antioxidant activity very strong at $IC_{50} = 48.71 \mu\text{g/mL}$. Tests of anticancer activity indicate cytotoxic activity against HeLa cells with the value $IC_{50} = 47.62 \mu\text{g/mL}$ and to cell A549 at an $IC_{50} = 192.83 \mu\text{g/mL}$. The plants of the coffee parasite contain alkaloids, flavonoids, terpenoids and tannin compounds. *L. Ferrugineus Roxb* plant is potential as a source of medicinal compounds

Research limitations - *This antibacterial test is still qualitative, therefore it is necessary to continue the MIC and MBC measurement. Cytotoxic test has carried out in two cancer cells, so it needs to be tested against other cancer cells. It is necessary to isolate secondary metabolic active compounds which has activity as antibacterial, antioxidant and anticancer.*

Originality/value - *This research used raw ingredient for *Loranthus ferrugineus* Roxb from north Sumatra which is rarely studied as a raw ingredient for medicine.*

Keywords : Loranthus ferrugineus Roxb, phytochemical, antioxidants, anticancer, antibacterial

Utilization of Composted Oil Palm Empty Fruit Bunches on Cherry Tomato Plants

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Abstract

Background - *One of the efforts to increase the productivity of cherry tomatoes is the application of organic matter to the growing medium for cherry tomato plants. One type of organic material that can be used can be derived from the composted of oil palm empty bunches.*

Purpose - *The purpose of this study was to analyze the effect of compost application on the growth of cherry tomato plants.*

Design/methodology/approach - *The method used in this research is descriptive qualitative*

Findings - *The results of the study were obtained from the observations of each plant treatment with different growing media showing different vegetative growth of tomato plants. The treatments carried out were: P0: Top soil without chemical fertilizers and compost (control) P1: Top soil + oil palm empty bunch compost (1: 1) P2: Top soil + cow dung compost (1: 1). In the P0 treatment, the height and growth of the plants were not much different from cow dung compost, but some of these plants were attacked by fungal wilt disease. Whereas plants using empty palm fruit bunch compost were decomposed with the help of bacterial symbionts and trichoderma bioactivators, plant growth was not affected by wilt disease. because the bacillus bacteria and the Trichoderma fungus that are used can control pathogens and can be a source of biological fertilizer for cherry tomato plants. That the genus Bacillus can produce antibiotic compounds that can damage the cell walls of pathogenic bacteria*

Research limitations - *the limitation of the study was only to see the effect of compost on the growth of cherry tomatoes*

Originality/value - *This study is original and not the result of plagiarism*

Keywords : Compost, Cherry tomato, Bacterial Symbiont's

Genetic Stability Analysis Of In Vitro Pineapple from Sipahutar Using Inter Simple Sequence Repeat (ISSR) Molecular Markers

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Abstract

Background - *The famous pineapple in North Sumatra is from Sipahutar. The availability of pineapple seeds very limited. This problem can be solved by in vitro culture techniques, but in vitro culture techniques can allow the emergence of somaclonal variations from plant tissue culture results, especially in plantlets that have undergone the subculture stage. This somaclonal variation is one of the problems in commercial seedling production. It is necessary to carry out an initial examination using the Inter Simple Sequence Repeat (ISSR) molecular marker.*

Purpose - *The purpose of this study was to determine the genetic stability of the in vitro pineapple plant from Sipahutar using ISSR molecular markers.*

Design/methodology/approach - *Sample contain: a). comes from the Sipahutar pineapple, b). Sipahutar pineapple which is grown in a laboratory environment, c). Sipahutar pineapple acclimatized, d). In vitro Sipahutar pineapple. DNA isolation using DNA isolation Geneaid Kit. Primary selection has been carried out on 10 primers. Primers that can be used to amplify the sipahutar pineapple DNA were 7 primers, with different levels of polymorphism, using ISSR molecular markers. The appearance of the DNA band is read using the Gen Pro Analyzer 3.1 application. Then analyzed for stability and genetic similarity.*

Findings - *The results of the research on amplification of DNA from Sipahutar pineapple with 4 parameters, a). comes from the Sipahutar pineapple, b). Sipahutar pineapple which is grown in a laboratory environment, c). Sipahutar pineapple acclimatized, d). In vitro Sipahutar pineapple, showing different amplifications in the same or different primers.*

The genetic stability of plant tissue culture from Sipahutar pineapple for 4 parameters is low. The results of the analysis, the genetic diversity of Sipahutar pineapple plants that was propagated by in vitro culture has a similarity level of 75 - 94%.

Research limitations - *The number of primers used is very limited. Temperature fluctuations in the laboratory and the stability of the electric current is not good*

Originality/value - *The genetic stability of plant tissue culture from Sipahutar pineapple for 4 parameters is low.*

Keywords : genetic stability, pineapple from Sipahutar, ISSR

Qualitative and Quantitative Character of Mutan Garlic (*Allium sativum*, L.) Cultivar Doulu MV3 Generation

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Abstract

Background - - Consumption of garlic in Indonesia comes from imported and local varieties. Local cultivar was found in Sumatera Utara is Doulu cultivas has small clove and striking smell. Propagation of Doulu cultivar with vegetative propagation using bulb and had limited diversity. To increase the diversity of Doulu cultivars, mutations were carried out using gamma rays

Purpose - This study aims to determine the phenotypic of cultivated garlic Doulu cultivar generation of MV3

Design/methodology/approach - This research was conducted at the Balai Penelitian Tanaman Sayuran Tongkoh, Berastagi, North Sumatra, from February to June 2020. This research used 231 garlic bulbs. The design used was a nested design with ear to row planting technique. The parameters observed were growth age, height of plant, number of leaves, bulb diameter, bulb's weight, number of cloves, clove's diameter, weight of cloves, leaf orientation, leaf color, structure of the bulb, color of cloves, and bulb shapes.

Findings - The leaf orientation is low, the leaf color is Moderate Yellowish Green, and the color of the Cloves is white with the base of the cloves are purplish in color. Plant height 60-70 cm, number of leaves 7-8, stem diameter 0.8 cm, The bulb structure are structure namely Regular two-fan groups, Regular multi-cloved, Regular quadruple, Irregular, Regular two-cloved, Irregular. The shape of the Doulu garlic bulb is Flat Globe, Broad oval, Rhomboid, Broad Elliptic, and Globe. The bulb's weight ranges from 12-16 grams with a diameter of 30-33 mm and the weight of the cloves ranges from 1.2-1.7 grams with a diameter of 10-13 mm

Research limitations - *Research only on morphological traits*

Originality/value - *The first research for garlic cultivar Doulu which is irradiated by gamma ra*

Keywords : Garlic, Doulu cultivar, Mutation, MV3 generation, Phenotypic

Optimization of the Separation of Antimony Compounds using HPLC-HG-AAS Technique

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Abstract

Background - Antimony is a non-essential element found in plants, animals and humans. Antimony released into the environment through human activities such as spoilage, mining, smelting and burning of fossil fuels. The toxicity of the antimony compound depends on its shape. It is necessary to research for the separation of antimony compounds, because these species are found in environments with different matrices and toxicities.

Purpose - This research has been developed High Performance Liquid Chromatography-Hydride Generation-Atomic Absorption Spectrophotometry (HPLC-HG-AAS) technique for separation of antimony compounds

Design/methodology/approach - The antimony compounds have been analyzed were Sb (III) and Sb (V), due to of their wide usage in industries and in daily life. A tetra butyl ammonium hidroxide (TBA-OH) has been used as ion pairing reagent for the separation of antimony compounds by Ion Pair-Reversed Phase (IP-RP) chromatographic technique. To increase the sensitivity of determination it can be realized by hydride generation (HG) technique, through a gas-liquid separator and a unit of hydride generator merged on-line with an AAS detector. So, this research used HPLC-HG-AAS technique for separation of antimony compounds.

Findings - The result of this investigation has been shown by the value of fundamental chromatographic parameters obtained. The optimum composition eluent methanol : tetrabutyl ammonium hydroxide (TBAOH) are 0 : 100, containing of 5 mM TBAOH as ion pairing reagent and the eluent pH are 7. The capacity factors (k') obtained for the Sb (V) and Sb (III) species were 4.72 and 8.23 respectively, indicate the effectiveness of the developed chromatographic system.

Research limitations - *The gas-liquid separator used by the mixing technique between the acid, sample, and reductant reagents occur in a coil reaction before going to the gas-liquid separator. The HPLC-HG-AAS technique developed able to separate of antimony compounds with a good separation performance.*

Originality/value - *The developed HPLC-HG-AAS technique has been successfully used to separate the antimony compounds in non-polar stationary phase columns and can be detected in the AAS detector.*

Keywords : Antimony, hyphenated technique, ion pair, hydride generation.

Potential Inhibitor of ACE2 for Antiviral COVID19 From Several Active Compounds of Coix Essential Oil by Molecular Docking Study

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Abstract

Background - Besides having antibacterial activity, coix essential oil is also reported to have antiviral activity. Along with the COVID19 pandemic, it has opened up opportunities to make coix essential oil an antiviral for COVID19. Previous research has shown that SARCoV 1 and 2 enter the human body through a receptor on the cell membrane known as Angiotensin-Converting Enzyme 2 (ACE2). Through a molecular docking approach, this research was conducted to determine whether the bioactive compounds produced from coix essential oil can become ACE2 inhibitors that prevent attachment with COVID19. Purpose: The purpose of this study is to examine the opportunities for bioactive compounds from coix essential oil as ACE2 inhibitors that can be used as antiviral COVID19 by using a molecular docking approach.

Purpose - The method used in this research is steam distillation to obtain coix essential oil. GCMS is used to identify bioactive compounds present in coix essential oil. Meanwhile, to test the inhibitory ability of the bioactive compounds in coix essential oil is molecular docking using autodock vina.

Design/methodology/approach - The result of steam distillation from coix seeds yielded 12.8 mL of oil from a 1 kg sample. The GCMS results produced about 49 phytochemical compounds. Of the 44 compounds, 4 candidate compounds have potential as antiviral and ACE2 inhibitors based on the results of the analysis using PASSonline software (<http://www.way2drug.com/PASSOnline/predict.php>) namely Dodecanoic acid, Tetradecanoic acid, 7-Amino-8-imino-2-(2-imino-2H-chromen-3-yl)-1,4-diphenyl-7,8-dihydro-1H-1,5,7,10-tetraaza-phenanthren-9-one. In this study, Tetradecanoic was chosen for molecular docking analysis because of

the data showing that it can act as an antiviral for influenza. The results of molecular docking analysis with autodock vina between tetradecanoic and ACE2 showed that tetradecanoic can be an ACE2 inhibitor by substituting NAG ligands. The communication between proteins and ligands is a hydrophobic hydrogen bonding interaction. In protein, two amino acids interact hydrophobically with the amino acids Val93, namely Lys26 and Asn90. These results indicate the inhibitory ability of tetradecanoic compounds to ACE2 at an intermediate level.

Findings - *This study must be continued by performing molecular docking on other bioactive compounds to compare their inhibitory ability against ACE2.*

Research limitations - *This study must be continued by performing molecular docking on other bioactive compounds to compare their inhibitory ability against ACE2.*

Originality/value - *This research is pioneering research in testing the molecular docking of bioactive compounds coix as an ACE2 inhibitor for antiviral COVID19.*

Keywords : ACE2 inhibitor, COVID19, Coix essential oil, molecular docking

Mapping of Coral Reef Using Sentinel 2 Satellite in Coastal Water of Sitiris-tiris

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Abstract

Background - Coral island is an area of the village of Sitiris-tiris which is located in the Indonesian ocean with potential for natural resources in the form of coral reefs. The materialization of the village of Sitiris-tiris toward a maritime education village, especially promoting coral islands, requires information on the existence of coral reefs around coral islands, especially for the type of coral reef on the side reefs that live around coral islands.

Purpose - Research aims to map the coral reefs in the coastal area of coral island, Sitiris-tiris village using Sentinel-2 imagery

Design/methodology/approach - The method used is remote sensing with Sentinel-2 image processing recorded on July 25, 2020

Findings - The results obtained coral island of the village Sitiris-tiris surrounded by a coral reef zone with a back reef area 15.169 m², reef flat of 68.110 m², reef crest of 2.569 m² and reef front of 782 m². The existence of coral reefs has the potential to become a place for fish to live and attract tourists to come to coral islands

Research limitations - Map the coral reefs in the coastal area of coral island, Sitiris-tiris village using Sentinel-2 imagery

Originality/value - Mapping the coral reefs use Sentinel-2 imagery

Keywords : coral reef, sentinel-2, Sitiris-tiris

The Natural Antibacterial Potential of The Refined Fraction of The Ethanol Extract of The Leaves of Sarang Banua (*Clerodendrum Fragens Vent Willd*)

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Abstract

Background - *Exploration of plant-based antimicrobials as raw material for natural medicine needs to be done along the increasing number of sufferers caused by bacterial infections especially in developing countries. Sarang banua is a local traditional medicinal plant found in Simalungun, North Sumatera, Indonesia, that identified as Clerodendrum fragrans Vent Willd and included in Verbanaceae family.*

Purpose - *This research was conducted to find the active fraction of purification of ethanol extracts of sarang banua leaves which has the potential as an alternative natural antibacterial agent.*

Design/methodology/approach - *Purification method is carried out using chromatography methods. The antibarial test was carried out using microdilusi and diffusion methods.*

Findings - *The purification results of the ethanol extract of C fragrans produced four combined fractions. Based on the measurement results of the inhibition zone diameter, the minimum inhibitory concentration and the minimum kill concentration of the four fractions, that the A and B fractions have higher antibacterial activity than the other fractions against bacteria S enterica, S aureus and E coli. Chloramphenicol is used as a positive control.*

Research limitations - *The antibacterial test in this study was limited to in vitro (pre-clinical) tests, can be improved to clinical tests.*

Originality/value - *The results of this study indicate that the fractions of the purified ethanol extract of C fragrans leaves have different antibacterial*

potential, which can be used as further clues to find antibacterial compounds in local plants C fragrans Vent Willd.

Keywords : Clerodendrum fragrans Vent Willd, antibacterial, refined fraction, medicinal plant of Indonesian.

Lichens as Bioindicator of Air Pollution in Medan City-Indonesia

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Abstract

Background - *The sensitivity of lichens to air pollution can be seen through changes in its diversity and accumulation of pollutants in the talus so that lichens can be used as bi-indicators. Research on lichens as a bioindicator of air pollution in Medan has not been reported.*

Purpose - *This research's aims to know what type of Lichens which can be used as air pollution bioindicator.*

Design/methodology/approach - *This research was conducted in Medan City and Deli Serdang, North Sumatera Province. Descriptive research method Lichens on mahogany stand tree. Sampling technique with vertical transect method upward as high as two meters. Descriptive data analysis.*

Findings - *The results of liquefaction research on mahogany stands from four research locations were 2165 samples including 7 families, 7 genus of 11 species with 2 types of thallus (Foliose and Crustose). The value of the index of biodiversity in Pancur Batu area, Deli Serdang $H' = 1.510$ (medium). Area Jl. Yosudarso $H' = 0.787$ (low). Area Jl. Jend. Sudirman $H' = 1.697$ (Medium). Cik Ditiro street area, $H' = 1.366$ (medium). *Lecanora conizaeoides* (7) the most tolerant type of liquex, while *Parmelia saxatilis* (4) has the potential to be a tolerant bioindicator. Type of *Parmelia glabratula* intermediate Lichens *Parmelia glabratula* (3), *Graphis scripta* (9), and *Opegrapha atra* (10), *Moden sensitive Parmelia caperata* (2); *Graphis elegans* (5); And *Tryphethelium virens* (6) are in one cluster. Lichens used as biomonitoring species *Lepraria incana* (8) and *Pertusaria amara* (11) are cosmopolitan widespread liqueurs.*

Research limitations - *This research is limited to only a few road areas predicted to have a high level of traffic density. The samples were taken and the analysis were also limited to the bark of Mahogany trees planted around*

the road in the observation area. Research with a wider area of observation and different areas will provide a broader view of Lichen's role as a bioindicator of air pollution.

Originality/value - *Research related to lichens in Medan City, Indonesia has not been done much, especially in areas with high traffic density. The findings of lichens types from the results of this study have also not been reported.*

Keywords: air pollution, bioindicator, lichens, Medan city, thallus

Track: Mathematics

Application of Game Theory to Balance Ojol Driver Benefit During The Covid-19 Pandemic

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Abstract

Background - *Ojol drivers (motorcycle taxi drivers) are a group of people who are directly affected economically due to the Covid 19 pandemic. As partners who are declared equal, ojol drivers do not have the right to stipulate regulations on cooperation relationships with online transportation companies. This raises the question of what form of partnership has been offered to ojol drivers so far?*

Purpose - *This study is to analyze the position of a partnership between online transportation companies and Ojol drivers so that it can be run in a balanced and fair manner with the expectation of increasing the income of Ojol drivers*

Design/methodology/approach - *Game theory as a mathematical model tends to be applied in situations of conflict of interest. The model is built with the concept of cooperation that takes into account the interests of all players. Simulations of alternative options are arranged in a payoff table until they reach a stable point using Matlab software.*

Findings - *Simulation Increasing the number of users of online transportation services triggers an increase in the number of data variations. Simulation the increase in the number of online transportation application users has triggered an increase in the number of advertisers. Simulation of improvement of cooperation contracts by sharing risk factors with online transportation companies, making partners' positions balanced. Incentives with promo rates as an optimal utility function for motorcycle taxi drivers which will increase motorcycle taxi drivers' income. Increased data collection and number of advertisers as optimal utility functions for Ojol driver.*

Research limitations - *This study does not consider government policies regarding online transportation, and also ignores the existence of competition factors among similar online transportation companies.*

Originality/value - *The use of game theory was first used to balance Ojol drivers' benefits during the Covid-19 pandemic by simulating contract revisions between Ojol drivers and online transportation companies as balanced partners.*

Keywords : payoff, strategy, ojol drivers, online transportation company

The Internal Heat Generation effects on Natural Convection of Micropolar Fluid in Vertical Channel

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Abstract

Background - *A phenomenon of convective heat has been intensively studied, because of many industrial uses, such as room air conditioning, nuclear reactor cooling and many other practical conditions. The conversion of liquid metals (with additives / suspensions) to natural convection heat in a confined fencing is considered an important topic. The theory of micropolar fluids was first formulated in a vertical channel and also in a vertical vertical, fully developed free convection of a micropolar fluid.*

Purpose - *This paper explores the internal heat generation effects on the natural convection of vertical channel micropolar fluid with asymmetric wall temperatures and concentrations. In particular, to look for the internal heat generation effects on velocity, microrotation, temperature and concentration variations.*

Design/methodology/approach - *The internal heat generation effects on asymmetric walls in various situations is discussed in this paper. Microrotation, temperature and concentration for the natural convection of micropolar fluid are calculated by internal heat generation by the shooting method with RK4 and HAM methods to determine microrotation and velocity.*

Findings - *The findings of this paper are: 1. By increasing G values, the linear speeds increase, but this gain is subsequently suppressed by uniform heating. By increasing G values, the angular velocities decrease, but later the uniform heating improves this reduction. 2. By the the lamda values for the internal heat generation considered, the linear and angular velocities increase. The heating exponent modifies the distribution of temperature within the channel, but the fluid concentration is not changed by the heating*

exponent. The major effect of the generation of internal heat is accomplished by the uniform generation of heat.

Research limitations - *In this paper, heat source is divided by three cases, uniformly heat, non-uniformly heat and strongly uniform heat cases. $G=1.0$ indicates the weak, $G=2.0$ indicates the moderate and $G=3.0$ indicates the strong internal heat generation parameters.*

Originality/value - *There is no publication anywhere, the writers announce. In the normal convection of a micropolar fluid, internal heat production is first considered in a vertical channel with asymmetric wall temperatures and concentrations*

Keywords : Micropolar Fluid, Internal Heat Generation, Shooting Method, Homotopy Analysis Method, Natural Convection

Track: Art

The Digitization Traditional Ornaments of North Sumatra

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Abstract

Background - *The traditional art of North Sumatra leaves artifacts in the form of ornaments that arepahatan on the walls of traditional houses, walls of office buildings, and some on the walls of people's homes. In addition, ornaments are also applied to the traditional clothing of the People of North Sumatra known as the Batak Tribe. The traditional ornament serves as an ornament and has social meanings, both as a guide to life, and as a belief in having supernatural powers to be the protector of mara danger.*

Purpose - *In this day and time the application of traditional ornaments has begun to disappear, even though there are, but very few. Application on the walls of buildings is difficult because the building materials have changed from wood to cement. Then the younger generation did not show such cultural preservation measures, as a large number (about 80%) do not understand the meanings contained in the ornament. On the other hand, the local government of North Sumatra also does not make it as a local content teaching material in elementary and secondary schools.*

Design/methodology/approach - *Research and development (R&D) is a process used to develop and validate educational products.*

Findings - *There needs to be a policy to maintain the sustainability of this traditional culture. One of the steps taken on this occasion is that penetili conduct ornament revitalization with digitization techniques. The change from manual (drawn, and embedded) was then developed into image processing in a computer application program (corel draw) and then formed into cutting sticker. Cutting sticker results can be applied to any field with paste technique. In each ornament that is used as a cutting sticker is written the name of the ornament and the origin of the area.*

Research limitations - *The choice of researchers to apply the ornament to a food jar is that young people generally like the artwork in the form of*

stickers. Food jars are often used by people anywhere and anytime. Hopefully through this way, the younger generation will be interested in re-recognizing the Traditional Ornament of North Sumatra.

Originality/value - *This development effort is also expected to bring out new products that are characterized by the area of North Sumatra (local genius), namely food jars decorated with Ornaments of North Sumatra. This product can be a favorite of the people of North Sumatra, and also as a tourist eye cendra of North Sumatra.*

Keywords : traditional, Ornaments, digitization, cuttino

Hand-rawn Batik Creation: Combining Batak Karo and Simalungun Ornament

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Abstract

Background - *One of the seven ethnic groups in Northern Island of Sumatera is Batak Karo and Simalungun. They have unique and exquisite ornamental cultural resources. However, these ornaments have not been created in many hand-drawn batik.*

Purpose - *This study aims to create a hand-drawn batik art work with dabbling techniques using Remasol Batik dyes and dyeing cap techniques using naphthol batik dyes. Pictures of Batak Karo and Simalungun ornament artifacts were obtained from reference books and direct observation. The forms of Batak Karo and Simalungun ornaments are created through a special method with structured stages starting from design preparation, incubation, execution, confirmation and validation of works.*

Design/methodology/approach - *The visual process of creating works of art has resulted in ten works of batik art. Four works in the form of non-functional hand-drawn batik art and six batik artworks that have practical functions.*

Findings - *The ten works of batik art show the combination of Karo and Simalungun ornaments. However, not all batik art works are the result of a combination.*

Research limitations - *However, there are written batik art works that only depict Batak Karo ornaments and there are also hand-drawn batik artworks that only depict Simalungun Batak ornaments.*

Originality/value - *The research on the creation of hand-drawn Batik originating from the Batak Karo and Simalungun ornaments is very original and has never been done by other researchers.*

Keywords : design, creation, ornament, batik

Organology Development and Electrification of Stringed Musical Instruments Based on North Sumatra's Ethnic Diversity in an Effort to Respond to the Challenges of the Development of the Music Industry

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Abstract

Background - *This research is oriented towards further development of the results of research that was carried out in 2018, namely the creation of stringed musical instruments based on the ethnic diversity of North Sumatra. This development research also aims to improve art products as an effort to anticipate in responding to challenges in the increasingly developing world of the music industry, then these development innovation products can be commercialized on an industrial scale.*

Purpose - *1. To formulate the organology development of stringed musical instruments based on the ethnic diversity of North Sumatra. 2. To find out what forms of organology categories can answer the challenges of the progress of the music industry that are faced by artists as actors. 3. To determine the electrification device that can be adjusted based on the novelty of developing stringed musical instruments based on the ethnic diversity of North Sumatra. 4. To determine the feasibility of a stringed musical instrument that can be commercialized on an industrial scale.*

Design/methodology/approach - *This study uses a research and development approach. Obtaining research data collected from two sources, namely primary data and secondary data. Primary data were obtained through in-depth interviews and participant observations, which aim to collect complete data followed by focus group discussions. The research and development approach is grouped into 3 stages, namely pre-development, development and application development.*

Findings - *Based on the results of the studies that have been carried out in this development research, several things can be concluded, namely: 1. In*

this development research, an organology development formula was found based on the need for a musical instrument function that is more flexible in its use and still displays symbols of ethnicity and musical idioms from the North Sumatra tradition. The development product consists of four types, namely: 1) Type K three string, 2) Types of four-stringed KKH, 3) The eight-string KHG type, 4) Type G eight strings. 2. All the products of the development of stringed musical instruments can be categorized into the concept of string organology or long-necked electric acoustic string instruments, which are characterized by having a long neck, a resonance chamber on the body and a resonance hole on the back of the instrument. 3. The electrical device used in each instrument development product is the Piezo Pickup Preamp 3-Band EQ Equalizer Tuner. This is very much adapted to the character of the acoustic sound color of the idiom of North Sumatra traditional music which has a special character. 4. After conducting clinical trials of the product for 6 months involving industry players and the user community, it is declared that they meet the criteria for being produced on an industrial scale.

Research limitations - *1. The formulation of the development of stringed music organology. 2. Organology form category of stringed music. 3. Stringed music electrification device. 4. Feasibility of instrument form that can be commercialized.*

Originality/value - *This paper has a very high level of originality*

Keywords : Development, Organology, Electrification, Stringed Musical Instruments, Music Industry.

"The Enemy at The Gate, Lock Yourself Indoor" : Anxiety and Imageries in COVID-19 Online Poetry

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Abstract

Background - *Today's COVID-19 has resulted in the response of mass written in a global world. However only few research covered up the critical response toward the digitalized works.*

Purpose - *This article offer a detailed study of imagery to describe the global fear toward Corona virus, as people's enemy. Also this study aims at exploring the representation of anxiety and enemy evoked through images, the language of sense experience, found din 52 online poetry that were published online in news paper and magazine globally .*

Design/methodology/approach - *This research is conducted by employing a content analysis of 52 poems published online in news paper and magazine written by poets in five different country.*

Findings - *The result of the research implicates that gate, door, bedroom and home are attributes to build and o evoke the image of anxiety. The online poetry describing visual and tactile images of COVID-19 makes the reader stand on the verge of anxiety yet self-awareness to be ready to face the enemy.*

Research limitations - *The article would serve as critical view on popular literature in the time of pandemic published solely in digital media.*

Originality/value - *Poetry written by people in different places throughout the global world evokes both different and similar observation of COVID 19 through imageries*

Keywords : Anxiety, imageries, online poetry, covid-19, content analysis

Track: Computer sciences

Development of E-Learning Media on Production Orale Debutant Course in French Language Education

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Abstract

Background - *The industrial 4.0 affected the massive development of the internet and digital technology. Learning utilize information technology by conducting face to face learning and using e-learning and the process will continue.*

Purpose - *Therefore, this research examined the development of e-learning media on Production Orale Debutant course aims to explain the process of creating learning blogs, and feasibility of learning blogs.*

Design/methodology/approach - *This research was conducted using the methodology Research and Development model Borg and Gall development model. This learning blog was conducted in several stages, namely (a) doing analysis on needs and technology benefit. (b) collecting data of Semester Learning Plan and learning materials, (c) creating design of learning blog, (d) validating product and (e) revising product.*

Findings - *The result showed that the average value the total score of materials in learning blog is 68, with a percentage of 80,95% and the average score of 3, 24 (good category). The total score of media in learning blog was 66, with a percentage of 83%, and the average score was 3,3 (good category)*

Research limitations - *The limitation in this study is only five steps out of ten of Borg and Gall development and this research is carried out for the beginner-level.*

Originality/value - *Furthermore, the learning blog of Production Orale Debutant was declares suitable to be used for learning activities.*

Keywords : Learning Blog, E-Learning, Production Orale

Leveraging Technology for Vocational Training Development in Indonesia

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Abstract

Background - *While considered outdated in some geographic locations, print media remains the main tool for learning in training and education in Indonesia because it is well understood and easy to develop and implement. There are therefore few supports for technology-based educational tools.*

Purpose - *The objective of this study was to determine whether a technology-based approach to training for vocational instructors could be designed and delivered successfully using mostly trainers to drive the development of a digital delivery format*

Design/methodology/approach - *The methodology was first driven by the Analysis, Design, Development, Implementation, and Evaluation (ADDIE) model using grounded theory as a theoretical basis for extrapolating evidence using a sample of ten subject matter and instruction experts.*

Findings - *The findings section is the most important part of the abstract and nothing should compromise its range and quality. The result section should therefore be the longest part of the abstract and should contain as much detail about the finding as the journal word count permits.*

Research limitations - *In the evaluation phase, a sample of 29 experts in the subject matter and instruction provided their opinion of the quality of the learning application. Twelve students were assessed before and after taking the program against a control of 12 students in training to become instructors in the previous year.*

Originality/value - *It is recommended that vocational and other institutes of learning in Indonesia and other developed contexts consider the development of customized learning application as a means of reaching a*

greater number in the population and transforming access to skill training and learning

Keywords : ADDIE Model, digital learning, education in Indonesia, vocational training technology in the classroom

Design of an Information System for Program Planning at Universitas Negeri Medan

Muhammad Ridha Syafii Damanik¹, Agus Junaidi², Teguh Febri Sudarma³, Suci Pujiastuti⁴

^{1,2,3,4}Universitas Negeri Medan

Abstract

Background - *Planning is the most important part of achieving organizational goals. As one of the Education Public Service Agency in Indonesia, Universitas Negeri Medan has a key performance index stipulated in the Performance Agreement, Strategic Plan, and Business Plan and Budget.*

Purpose - *This paper aims to discuss the development of information systems to support the determination of each unit's work program following the goals and objectives of institutional performance.*

Design/methodology/approach - *This research is a type of R&D research. The information system development method used is (SDLC) System Development Live Cycle with a waterfall model. The feasibility test used is White-Box Testing, Black-Box Testing, Alpha Testing, and Beta Testing.*

Findings - *This study indicates that the information system design for program planning developed is feasible to use.*

Research limitations - *The object of this research is the program planning information system at Universitas Negeri Medan.*

Originality/value - *This research's novelty is the absence of an information system at the Universitas Negeri Medan that can determine performance programs according to the aggregation of key performance indexes from the leader to the smallest unit.*

Keywords : Information System, Program Planning

The Design of Web-based Thesis Management Information System to Increase the Quality and Efficiency of Guiding Process and Document Management

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Abstract

Background - *A thesis is one of the important documents in the world of education at universities so that the completion requires several steps and coordination between the university, lecturers, and students. However, in reality, the miscommunication between lecturers and students in the guidance process and the document management system at the university has not been properly managed.*

Purpose - *This study aims to design a management information system to manage the entire process of completing undergraduate student theses.*

Design/methodology/approach - *The method used in this study is based on the Borg and Gall approach which consists of the identification of potentials and problems, data collection, needs analysis, design, validation, testing, revision, and system distribution. In designing a management information system, this research uses Data Flow Diagrams (DFD), the PHP programming language with the CodeIgniter framework, and the MariaDB database engine.*

Findings - *The developed system is an online thesis guidance management information system that helps students, lecturers, and university to carry out the thesis tutoring and documenting process. The system provides a web-based application which is involving the university management, students, and lecturers.*

Research limitations - *This study analyses the actual situation of the thesis management system in recent years and resolves the basic functions and structures of the developed system. However, the system still needs to be improved in integrating the plagiarism checking process.*

Originality/value - *Based on the testing data, shows the results which indicate the system is reliable to be implemented at the university.*

Keywords : thesis, guiding, document, management information system

Track: Language and Literature Education

Teacher Representation in Learning Transfer News from School to Home during the Covid-19 Period

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Abstract

Background - *In writing news in a media, sometimes the information that is reported is subjective or in favor of certain interests and groups. The media represent facts by influencing the reader's view of the discourse being reported. Language or text is a representation that plays a role in shaping the subject, discourse theme, and strategy in it.*

Purpose - *The purpose of this study is to describe and produce an explanation formulation of teacher representation in news about the transfer of learning from school to home during the Covid-19 period.*

Design/methodology/approach - *This study uses Theo Van Leeuwen's discourse analysis, which examines the text from the point of view of how a social actor experiences both exclusion and inclusion of a text. The data collection technique used in this research is documentation technique. The data analysis technique was carried out using three stages, namely data reduction, data presentation, and drawing conclusions.*

Findings - *In this study, the strategies used by the media to represent teachers in news of transferring learning from school to home during the Covid-19 period were found, namely in the exclusion process, exclusion and nominalization strategies were found. Furthermore, in the process of inclusion, differentiation-indifference, objectivation-abstraction, and nomination-categorization strategies are found. Teachers are poorly represented by the media. This can be seen from the data analyzed in the results and discussions. Teachers seem to be burdening students by giving many tasks, lacking creativity and are fixated on completing curriculum content in teaching so that students become bored during the transfer of learning from school to home during the Covid-19 period.*

Research limitations - *The scope of this research is limited to the representation of teachers in news about the transfer of learning from school to home during the Covid-19 period in the Daily Padang Ekspres.*

Originality/value - *The results of this study can be used as a reference for further researchers, especially in the field of critical discourse analysis.*

Keywords : representation, critical discourse, Theo Van Leeuwen

German Grammar Error Forms in Short Stories By Students Of Universitas Negeri Medan

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Abstract

Background - *The results of the evaluation of learning in writing subjects (Schreibfertigkeit) showed that students made German grammar mistakes in writing. Therefore, it takes an effort to find out the mistake causes and efforts to minimize errors in writing.*

Purpose - *The research aims to describe the form of errors, the causes of errors and the efforts to minimize errors by students in writing short stories.*

Design/methodology/approach - *This research is a qualitative study using a writing test instrument. The research subjects were 20 students of the 2019 batch. Students were given a 60-minute writing test. After the test was completed, the short story texts by students were collected, corrected, tabulated and analyzed.*

Findings - *The results of the research analysis using qualitative techniques show that through the application of error analysis, 12 forms of German grammar errors were found, four causes of errors and three attempts to minimize errors in writing short stories.*

Research limitations - *The limitation of the research was that the writing test was done only once and the research subjects were only 20 students*

Originality/value - *The number of mistakes students make in writing is due to the fact that 55% of the research subjects have never studied German and German grammar in school.*

Keywords : error analysis, writing, short stories, German grammar

Why is Mate-21 Learning Model Effective and Efficient Used During Covid-19 Pandemic in Indonesia?

Abdul Ghofur¹, Andi Wete Polili², Rabiah Adawi³

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Abstract

Background - *Covid-19 has changed learning practices around the world, from classical face-to-face learning to learning from home using the online media. In Indonesia, quite a number of problems have appeared since the application of the distance learning, such as a poor availability of internet networks, an increase in student learning costs, teachers have difficulty choosing and using the appropriate learning model in the covid-19 pandemic situation.*

Purpose - *This article aims to share knowledge about the use of the Mate-21 learning model in distance learning, especially in French speaking learning for beginner students at one of universities in Indonesia.*

Design/methodology/approach - *The method used in this research is development research with five stages: needs analysis, planning, design, development, and implementation. At each stage, evaluation and revision are carried out to ensure the validity of data obtained at each stage of the research.*

Findings - *The preliminary findings of this research are (1) students give positive responses to the use of the Mate-21 learning model, and (2) students' speaking ability is significantly increased on several trials. Students feel that they can more easily carry out an autonomous learning using the Mate-21 learning model. Students can learn at a very flexible time. The level of effectiveness (correlation) of learning outcomes between before and after using the Mate-21 learning model is 0.854 (very strongly correlated category).*

Research limitations - *This research is limited to the use of the Mate-21 learning model for French learning speaking for beginner level students in distance learning.*

Originality/value - *Based on the data above, it is concluded that the Mate-21 learning model is effective and efficient in French speaking learning in distance learning. The Mate-21 learning model is also assumed to be effective and efficient to be used in learning other subjects in distance learning. Therefore, it is recommended to be used in learning other subjects.*

Keywords : Learning, Mate-21, Covid-19, Autonomous Learning, French.

Material Development in Production Ecrite Intermediaire By SIPDA To Improve The Writing Ability The Student of French Departement At FBS Unimed

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^{1,2,3}Universitas Negeri Medan

Abstract

Background - *The problem of this research is the low students writing ability in Production Ecrite Intermediaire course. The course of Production Ecrite Intermediaire is the continuity of Production Ecrite Débutant course which describe the material writing competence in level A2 (base level) with an expectation that the students can improve their capacity and passed the DELF level A2 exam*

Purpose - *Material Development by SIPDA aims to enable students to improve their writing skills. This research makes teaching materials that will later be uploaded to the SIPDA Unimed network in the Production Ecrite Intermediaire course*

Design/methodology/approach - *The research method used is Research and Development. This research was carried out in the French Language Education Study Program FBS UNIMED by developing SIPDA-based teaching materials in lectures, to find out that these teaching materials can improve the writing skills of students of the FBS Unimed French Language Education Study Program.*

Findings - *The results of this study show that SIPDA is very effective in helping students to improve the writing ability of French texts*

Research limitations - *This research recommends to the lecturers of French courses in general to using SIPDA in the teaching and learning process of writing in the classroom of Production Ecrite Intermediaire.*

Originality/value - *This research is so important to do in covid pandemic situation who uses distance learning in PEI courses where students learn from their own homes.*

Keywords : Material Development, Production Ecrite Intermediaire, SIPDA

Pronunciation French To Improve Your Speaking Skills French Language Students Based Media Video

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Abstract

Background - *Targets to be achieved from this research is the increased ability to speak French students as a result of the use of textbooks and instructional videos were developed. Textbooks developed will be published. Moreover, the targets to be achieved is indexed international journals are published. Moreover, the targets to be achieved is indexed international journals are published.*

Purpose - *This research aims to develop textbooks and instructional video products Production Orale debutant speaking skills and to measure the feasibility of the media products that can be used as a medium of learning conversational skills in French to improve the ability of students Prodi spoke French Language Education UNIMED.*

Design/methodology/approach - *This study uses research and development (research and development) by Sugiyono through six stages, namely (1) the analysis of the potential and problems, (2) data collection, (3) the design of the product, (4) design validation, (5) product revision , and (6) product trials. This study uses observation and questionnaires to analyze the potential and problems. Researchers tested the product to the students of French language education Prodi UNIMED using questionnaires. The process used to develop and validate a product of education (learning model in the form of videos and books as textbooks). Data needed in this research will be collected through the study documentation and observation of learning.*

Findings - *The results of this study indicate that video media can improve the pronunciation of French Language Speech To improve French language students. The results of this study indicate that video media can improve the*

pronunciation of French Language Speech To improve French language students.

Research limitations - *This study was limited in the research on the pronunciation of French in French FBS UNIMED Students.*

Originality/value - *This research is important because the pronunciation of French implemented as initial capital to learn French from the beginning level to the final level.*

Keywords : pronunciation french, speaking skills french language, media video

Developing of learn media "Deutschlernen" based on Android to improve the language competences of German's student

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Abstract

Background - *The use of learn media is very important in language learning. The innovative Media that integrated many aspects of language competences that are packaged in one Android-based application makes learning more interesting, easy and fun. Therefore it is necessary to develop the Deutschlernen application which contains of A1 level learning material which includes vocabulary, pictures, expressions (Redemittel), Grammar, Dialogue, Quiz, etc, to improve students' German language skills.*

Purpose - *This research aims to; (1) to develop the Deutschlernen German learning application to improve the German language skills of students, (2) to see the effectiveness of the Deutschlernen application in improving students' German language skills. The specific target to be achieved in this study is to improve students' communication skills in German by using the Deutschlernen application which is uploaded on the play store.*

Design/methodology/approach - *The method used is the Borg and Gall Research and Development method. The data is taken from the A1 Studio Express book and the teaching materials used in the Sprechfertigkeit fÄ¼r AnfÄ¼nger course which is then developed by the Deutschlernen application and uploaded to the Playstore.*

Findings - *this learning Media contains of A1 level learning material which includes vocabulary, pictures, expressions (Redemittel), Grammar, Dialogue, Quiz, etc, to improve students' German language skills.*

Research limitations - *This research is focused on developing learn materials for the level A1 and will be examined the effectiveness of the media in improving the language competences of the German students in the future by using the "Deutschlernen application on the Playstore".*

Originality/value - *this learn media is simple to use and easy to learn, because we can use this media anytime and everywhere. The material contains of some expression and vocabulary that often use in daily communication. This media also can improve the student's language skill in 4 competences such as speaking, writing, reading, and listening at once.*

Keywords : application, android, Deutschlernen.play store, German language skills, Sprechfertigkeit für Anfänger.

Lecturer Perceptions on CEFR and Online English Language Proficiency Test for Certification in Indonesia

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^{1,2,3}Universitas Negeri Medan

Abstract

Background - *English language proficiency test for certifying lecturers has been executed widely in Indonesia. Yet, little is known about how the lecturers perceived their experiences towards the Common European Framework Reference (CEFR)-based language test, and their abilities and practices with English as the language for instructions in an academic context.*

Purpose - *This paper investigated lecturers' perceptions on their English abilities and the English proficiency test based on their personal and language backgrounds.*

Design/methodology/approach - *Online surveys and interviews were conducted to discover how lecturers perceived their satisfaction and knowledge towards the English language proficiency test. The participants were 106 junior lecturers of Universitas Negeri Medan from different faculties. The data were collected through online questionnaires and virtual interviews.*

Findings - *The findings demonstrated that most of the lecturers lacked knowledge on CEFR, acting as a barrier in understanding their level of English abilities. It also revealed that there was a need to develop an online English Language Proficiency Test for Lecturer Certification that blends CEFR and the context in which it is used for measuring their English abilities in an academic context.*

Research limitations - *However, the mandated inclusion of Indonesian lecturers' accountability system to certification may lead to impractical results if the lecturers' abilities in English are not addressed.*

Originality/value - *Lecturer Perceptions towards their English abilities and its use, and The need of English Proficiency Test Development for Lecturer Certification*

Keywords : lecturers' perceptions, English proficiency test, Indonesian lecturer certification

Developing Productive Written Language Skills Course Materials for English Education Study Program by Humanitarian Project

Anggraini Thesisia Saragih¹, Amrin Saragih², Christine Helena³,
Yuni Khairina⁴, Ade Namira⁵

^{1,2,3,4,5}Universitas Negeri Medan

Abstract

Background - *There are eight programs that can be implemented by universities in implementing the freedom of learning campus policy*

Purpose - *This study is aimed to develop the appropriate materials funded by Humanitarian projects for Productive Written Language Skills*

Design/methodology/approach - *This study was conducted by R and D through six phases, namely gathering information and data, analysing the data, designing new materials with Humanitarian Texts, validating by experts, revising new materials and producing the final product. The instruments of collecting data were interviews and questionnaires.*

Findings - *The result shows about humanitarian Project is one of the concept freedom of learning about 64 %. Their privilege knowledge about humanitarian project also came from their surroundings in 56%. There are five units in this course materials, namely The Problem of Humanity, What is Humanitarian Project, Not-for_Profit Humanitarian Organizations, Educatioanla non Profit Organization, Helping Others through Volunterering*

Research limitations - *This study focused in reading and writing skills by designing 5 unit course material of humanitarian texts*

Originality/value - *The originality of this study is relating with one of progmas in freedom of learning policy by indonesian goverment in education curricullum*

Keywords : Humanitarian, projects, reading, writing, texts

Writing French Using Media Taboo Card mixed with the Herringbone Questions (QOOQCP) Strategy

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Abstract

Background - *Writing skill has been considered as one of the language skills that occurred to be conceivably the most difficult skill to master. Thus, learning by utilizing Android cellphones was required so that learners were encouraged to practice their writing individually or in groups.*

Purpose - *This study aimed to design and develop learning media for writing French (Production Écrite Intermédiaire) for the A2 DELF level using Taboo card with the Herringbone Questions (QOOQCP) strategy.*

Design/methodology/approach - *The research method used in this study was Research and Development (R&D) proposed by Klein, J, and Richey, R (2007) through information and data collection, planning, development of learning media, expert validation, and product revision. The research instrument used was validation sheets for media and material experts, and the questionnaire responses of 22 third semester students of Universitas Negeri Medan, French Language Education study program.*

Findings - *The final product of the learning media based on Android using Adobe Flsh cs6 As3, which was a software program to design a Taboo card game application and formatted in .exe, and apk., For,.exe format was able to be operated on a computer with an Operating System (OS) Windows XP, Windows 7, Windows 8, and Windows 10. Meanwhile, for the apk format was able to be installed on the android cellphone with the support of adobe Air25.0 with the additional software assistance of Photoshop (image editing) and Corel VideoStudio (editing Mp3 files). The application of Taboo card containing text materials and worksheets using Herringbones Questions (QOOQCP). The results of data analysis obtained that the average of the overall score taken from the alpha test I and II validated by the material experts were 90.75% and 100%, and the media experts were 88.89% and*

100%. Furthermore, the students' responses to the questionnaire assessment were 85.5%. Therefore, Android-based media products using Adobe Flash cs6 approved to be valid as learning media.

Research limitations - The associated texts in this study were descriptive, narrative, and argumentative. As what has been mandated by the Law of the Republic of Indonesia Number 20, 2003 concerning the National Education System, in writing texts for educative purposes, cultural values must have adhered to the realm of the educational setting.

Originality/value - This research is something new for students to practice their writing French individually or in groups using Taboo card with the Herringbone Questions (QOOQCP) strategy.

Keywords : design, media carte Taboo, herringbone questions, android, production
©crite

Teaching Production *Écrite Débutante* Using Interactive Quizziz Game Learning Media

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Abstract

Background - *The Covid-19 pandemic forces a social distancing policy or in Indonesia it is better known as physical distancing to minimize the spread of Covid-19. Universitas Negeri Medan as one of the LPTKs responded with a policy of learning from home, through online learning with the use of information technology.*

Purpose - *The objectives of this study were to: (1) develop teaching materials based on Quizziz interactive game learning media in teaching Production *Écrite Débutante*, (2) assessing the feasibility of teaching materials based on Quizziz interactive game learning media in teaching Production *Écrite Débutante*.*

Design/methodology/approach - *This development research uses the ADDIE (Analysis, Design, Development, Implementation, Evaluation) development model. The research instrument used was a questionnaire and validation instruments for material experts and the design of teaching materials.*

Findings - *Based on the results of the assessment by teaching material experts Production *Écrite Débutante*. based on interactive game learning media Quizziz that was developed has content feasibility, namely the average score of 91.33%.very good), the feasibility of presenting the average score of 94.54%. (very good), and the linguistic aspect obtained an average score of 94.61%. (very good).The average score of the expert's assessment of teaching material design obtained 85.9% (Good). Based on the results of the validation, it shows that the teaching materials Production *Écrite Débutante*. which has been developed to meet the demands of learning needs.*

Research limitations - *Researchers limit the problem to the process of developing teaching materials based on interactive quizziz game learning media in teaching Production *Écrite Débutante**

Originality/value - *Production Écrite Débutante teaching materials based on interactive quizziz game learning media*

Keywords : learning media, quizziz, production Écrite Débutante

Learning Media Development Hörverstehen für Anfänger Based on Website

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Abstract

Background - *Based on the results of classroom observations in the Hörverstehen für Anfänger course (beginner listening skills) in semester 1, there are still many students who experience difficulties during the learning process which has an impact on student learning achievement. The main difficulty faced by students is in the form of words and intonations that are still unfamiliar to hear which makes it difficult for students to understand lessons about these subjects. The difficulties of students in learning German can be seen when the teaching and learning process takes place using the Studio A express book. When studying, students only hear the audio from the CD contained in the book without displaying text to facilitate students' understanding. This is an obstacle for students if they only follow learning with the book. This also makes students feel bored and bored, which ultimately lowers learning achievement.*

Purpose - *The purpose of this research is to produce a website-e-learning media product using the ADDIE development model (Analysis, Design, Development, Implimentation, Evaluation).*

Design/methodology/approach - *The method used in this research is a quasi-experimental method with a quantitative approach. The research design used was Pre-Test and Post-Test Control with one kind of treatment. In this study, there are two kinds of variables, namely the independent variable which is denoted as (X) and the dependent variable which is denoted as (Y). Independent variables or also known as influencing variables or causal variables. In this study the variable is the use of website learning media (X). The data collection technique used by researchers in this study was a test. The data collection techniques used in this study were the pre-test and post-test learning achievement of Hörverstehen für Anfänger. The initial test was conducted to determine the learning achievement of students before being given treatment and the final test was to determine the learning achievement of students after the treatment.*

Findings - *The research findings show that web-based learning is in accordance with basic needs in learning and can improve student achievement.*

Research limitations - *This study is within the scope of teaching German*

Originality/value - *and this research has never been done before.*

Keywords : development, instructional media, ADDIE

Implementation of Blended Learning Based Leseverstehen Teaching Materials in Germany Students KKNI

Rina Evianty¹, Risnovita Sari²

^{1,2}Universitas Negeri Medan

Abstract

Background - *The research background began with Indonesian students learning German who were less motivated in learning. This study aims to apply the effectiveness of Corel Video Studio learning media in Leseverstehen learning. The Leseverstehen course is one of the reading skills-oriented courses that must be mastered in German. In this course, students are required to make KKNI assignments.*

Purpose - *The purpose of further research is to develop the abilities of students in a learning process.*

Design/methodology/approach - *The method used is quantitative descriptive, namely by using the Corel Studio video application in which there are various interesting themes from various activities*

Findings - *The results show that there is a significant increase in learning outcomes using Corel Video Studio in Leseverstehen learning.*

Research limitations - *This study limits the study of skills to interest in learning and reading for foreign language learners.*

Originality/value - *This research is urgent and important to carry out during the Covid 19 pandemic.*

Keywords : Corel Video Studio, KKNI Task, Leseverstehen

Using a PDPP Model to Evaluate a Web-Based Learning for German Writing Skills

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Abstract

Background - *The study deals with the evaluation of a web-based learning. The main reason for the study is to provide the students or the learners a website for learning German online, especially for writing skills. With the website they can learn German online alone at home or wherever they like. If they need an online tutor, they can write an email to the admin directly.*

Purpose - *The main reason for the study is to provide the students or the learners a website for learning German online, especially for writing skills. With the website they can learn German online alone at home or wherever they like. If they need an online tutor, they can write an email to the admin directly.*

Design/methodology/approach - *The method for the study is the PDPP model. PDPP is the abbreviation from Planning-Development-Process-Product Evaluation. The result of the research from Zhang and Cheng from the University of Hongkong (2012) is the main literature.*

Findings - *At the beginning of the study, the researchers tried to develop a web-based learning medium. JIMDO, a website builder from Germany, has been used. The website is available on <https://menulisschreiben.jimdosite.com/>. The development of the website is on progress. It is still not perfect. More contents for example quiz or a segment for the vocabulary should be developed.*

Research limitations - *The website has been offered to the German students at the Department of German, Universitas Negeri Medan, Indonesia, who take a course of German writing. There are 31 (thirty-one) students in this course. The PDPP model is very useful to evaluate the website and find out, whether it has benefits for a web-based learning or maybe not.*

Originality/value - *The early result of the evaluation using the procedure of PDPP model is good. Most of the students see the website as an extra help for them to learn how to write a description or an essay in German well.*

Keywords : Web-based learning, German, Writing, Unimed, PDPP Model

Students' Preferences in Studying English Literary Works

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Abstract

Background - Numerous studies analysed the EFL students' language skills in studying literary works. However, only a few studies investigated the students' preference in literary works.

Purpose - Therefore, this study aims to identify the students' preference in learning literary works particularly in analysing prose in one of state universities in Indonesia.

Design/methodology/approach - This is a qualitative descriptive study with fifty students of English Literature Department as the participants. The data were gained by giving questionnaire and interview.

Findings - The results showed that more than half of the participants are less interested in reading. The participants also preferred to read novel in Bahasa Indonesia. Furthermore, the participants were also less interested in reading the printed material. They were more interested in audio visual material like videos in you tube channels and movies. All of the students now are familiar with gadget all the time. It was also found that nowadays the students are more interesting in watching the movies than reading the novels since there are many stories from novels were filmed. They said that reading took a lot of time and was boring. On the other hands, watching movies was more entertaining and enjoyable as the stress relief. In watching movies, they can get along with friends or family members while reading novels is more personal and individualistic

Research limitations - fifty students of English Literature Department in one state university in Medan were interviewed as the participants

Originality/value - It is suggested to the lecturers teaching literary works to consider the lifestyle of the students to conduct the better teaching.

Keywords : learning literary works, Indonesian students, reading preference, students preference

The Developing Interactive Multi-Media With Macromedia Flash of Writing Local Culture-Based Texts In The Maîtrise De Langue Ecrite Course

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^{1,2,3}Universitas Negeri Medan

Abstract

Background - *Maîtrise de Langue Ecrite course has been done conventionally through printed textbooks so that the class situation is monotonous and the class atmosphere is boring. Interactive multimedia is useful for developing learning materials by combining text, images, audio and animation. Multimedia learning is expected to provide students with the opportunity to experiment and explore so that students get a learning experience rather than just listening to lecture descriptions / explanations.*

Purpose - *This study aimed to design and develop interactive learning multimedia in writing texts based on local culture in the Maîtrise De Langue Écrite course that was appropriate to meet the requirements of writing competency in French for the B1 DELF level.*

Design/methodology/approach - *This study used development research that applied the Thiagarajan method called the Four-D with four stages, namely defining, designing, developing, and distributing. Media developed using Macromedia Flash 8, as was described as a software program for creating two-dimensional animation.*

Findings - *The final product of the learning media based on Macromedia Flash Professional 8 was packaged in a Compact Disc (CD) with the capacity of a file size was 200 MB. The learning media files formatted in .swf, .fla, .flv formats, and a windows projector that operated on computers with the Windows XP, Windows 7, Windows 8, and Windows 10 Operating System (OS). The contents of the media included researcher profiles, materials, worksheets, and references for each chapter. The result of data analysis obtained for the average of the overall score from the alpha test I and II as validated by the materials expert was 92.85% and 100%, and the media expert was 88.89% and 100%. Furthermore, the Beta test results for the*

students' responses assessments were 86.1%. Thus, media products based on Macromedia Flash Professional 8 approved as valid to be used as learning media.

Research limitations - *The associated texts in this study were descriptive, narrative, and argumentative. As what has been mandated by the Law of the Republic of Indonesia Number 20, 2003 concerning the National Education System, in writing texts for educative purposes, cultural values must have adhered to the realm of the educational setting.*

Originality/value - *This research is something new for students who are expected to contribute greatly to helping them write texts easily*

Keywords : writing, development, interactive media, local culture

Digitalization of North Sumatra Malay Ethnic Literature as a Literation Transformation of Teaching Resources in the Pandemic

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Abstract

Background - *Language and language education*

Purpose - *The purpose of this paper is to provide literacy in teaching materials and learning digital literature that can be used as an alternative to ethnic learning during the Covid 19 pandemic. Malay literature is one of the ethnic literatures used as teaching material in schools and colleges in North Sumatra. The problem in this paper is how is the packaging and utilization of Malay Literature in North Sumatra as literacy of teaching sources. The theory used to analyze is the development of teaching materials and text analysis or the value structure of literary works*

Design/methodology/approach - *The quantitative descriptive method is used to calculate eligibility as teaching material and to describe the values in literature that are relevant in this period*

Findings - *Based on the analysis of the values contained in ethnic Malay literature, the values of honesty, cooperation /friendliness, religion, and harmony between humans and nature are obtained. The values contained in the 10 relevant ethnic literatures became the teaching materials for localization during the pandemic*

Research limitations - *The problem in this paper is how is the packaging and utilization of Malay Literature in North Sumatra as literacy of teaching sources*

Originality/value - *The values contained in the 10 relevant ethnic literatures became the teaching materials for localization during the pandemic*

Keywords : digitalization, Malay literature, teaching materials, literacy sources

Digitizing Ndikar as Learning Materials for Deutsch fur Tourismus

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Abstract

Background - *Ndikar is a martial art of the Batak Karo tribe that can be used as a cultural tourism program in North Sumatra. Cultural tourism is very popular with foreign tourists at this time. Digitalized materials can be used as cultural tourism objects through the network. In addition, Ndikar as cultural tourism has never been informed in German. Therefore, the Deutsch fur Tourismus course is informed about Ndikar.*

Purpose - *This research is a development research which aims to produce teaching materials for the Deutsch fur Tourismus course. The digitization of Ndikar is one part of the material being developed.*

Design/methodology/approach - *Digitalization is carried out by following the digitization steps proposed by Beagrie and Greenstein (in Lee, 2001: 8) which consists of seven steps, namely (1) digitalization planning, (2) gathering information, (3) preparing for digitization, (4) digitizing, (5) editing, (6) distribution, (7) concluding the results of digitization. Information was taken directly from the resource person who was in the Lingga Tanah Karo Cultural Village*

Findings - *The digitization process is carried out through the website with the help of wix.site. The results of the digitization consisted of Ndikar videos and texts that tell the history of Ndikar and the cultural and philosophical values that exist in Ndikar. The Ndikar video exposes the Essential Steps in Movement, which are not the same as any other martial art. The translation of words and sentences in German is made in the form of descriptions, because many words cannot be found in German*

Research limitations - *An in-depth study of the selection of students of Ndikar was not found, because the informant was not taught by his previous teacher about this. This study will be examined in future studies*

Originality/value - *The novelty of this determination lies in combining digitalization theory and translation theory with borrowing techniques*

Keywords : digitizing, Ndikar, teaching materials, Deutsch fur Tourismus

Utilization of Android-Based Mobile Learning in Poetry Teaching Materials

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Abstract

Background - *Mobile learning is a learning media that allows educators to deliver learning material to students using Android-based media. One of the courses in Indonesian and Literature Department is Teaching Prose, including poetry which allows it to be presented using android-based mobile learning.*

Purpose - *The objective was to elaborate the effectiveness of mobile learning in poetry teaching materials in Indonesian and Literature Department.*

Design/methodology/approach - *All Students of Indonesian and Literature Department were taken as the object of the study an 35 of them were taken af the sample. This research uses quantitative research methods in the form of experiments and descriptive research with the type of pre-test-final-single group test (the one group pre-test-post-test).*

Findings - *Based on the results of previous research, it is shown that Android-based mobile learning is effective.*

Research limitations - *Learning output before using mobile based learning on poetry, the results was 73,4. Learning output after using mobile based learning on poetry, the results was 86,30.*

Originality/value - *For this reason, the use of Android-based mobile learning is effectively used in poetry teaching material in Indonesian and Literature Department.*

Keywords : Keywords : Mobile Learning, Android, Poetry

Developing E-Learning Based Teaching Materials for Translation as Profession Subject

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Abstract

Background - *Translation competence is needed by students learning foreign languages in undergraduate level in Indonesia for they can become translators in the government body once they finish their undergraduate degree. But in universities in Indonesia, competences as translators are not widely taught. In English educational study program, Universitas Negeri Medan, translation as profession was just introduced in the 2019 Curriculum. No qualified and valid teaching materials developed yet.*

Purpose - *The aim of this study is creating E-instructional based teaching material of Translation as Profession subject.*

Design/methodology/approach - *This study used Research and Development design utilizing three phases. Phase one is survey and evaluation of current condition. Phase two designing the teaching materials. Phase three validating the materials by experts.*

Findings - *The findings indicate that the three phases: survey and evaluation of current condition, designing the teaching material, validating the material by experts were utilized to answer the question of the study. The validity test of pedagogical materials by the specialists on the findings indicated that the pedagogical materials created were pertinent, applicable and upright for students of English Pedagogical Study Program with an average score (4.30). The material was uploaded to FBS UNIMED E-Learning to be utilized by the learners and lecturers.*

Research limitations - *The limitation of the research lies on the limited respondents, next research should involve more respondents.*

Originality/value - *The originality or value of this endeavour is that so far this is the only study on material development designed for Translation*

as Profession Subject in English Education study Program in Universities in Indonesia.

Keywords : translation as proffesion, teaching materials

Developing ESP Blended Learning Course Materials for Students of English Education Study Program

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Abstract

Background - *Industrial Revolution 4.0 has influenced many sectors, which are now a lot changes entering to human life by the presence of information technology. The use of power and data in the massive digital technology has become unlimited caused by its development at this present time.*

Purpose - *This study is aimed at developing the appropriate blended course materials of English for Specific Purposes for students of English Education Study Program, Languages and Arts Faculty, Universitas Negeri Medan.*

Design/methodology/approach - *Research and Development (R & D) design is applied through six stages, there are 1). collecting information and data, 2). data analysis, 3). new materials design based on the needs analysis, 4). experts vaidation, 5). new material revision, and 6). final product.*

Findings - *Based on need analysis with students of English Education Study Program in the seventh semester. This study developed ESP Blended Learning Course materials which focused on the following materials: Model and teaching Strategies in ESP ; Language Features : Linguistics and Grammar; Language Skills (Listening, Reading, Speaking and Writing); Genre Text in ESP (Descriptive Text, Procedure Text, Analytical Exposition Test and Argumentative Text.*

Research limitations - *This research is focused on ESP Blended Learning Course Materials for Students of Seventh Semester of English Education Study Program*

Originality/value - *This ESP is designed with four integrated skills and language features related to the topic coverage in the specific discipline.*

Keywords : Need Analysis, Blended Learning, ESP Course Materials, Research and Development (R & D)

Track: Education

Analysis of German Poetry in Pandemic Plague Covid19 as a Literature Teaching in the German study Program of Unimed

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Abstract

Background - *During the current phenomenal Covid 19 pandemic outbreak, its impact is very significant affecting all aspects of life. The government, through the minister of national education, has made a policy to restrict campus activities by imposing online learning systems. This of course affects the mental and emotional learning of students as well as lecturers. One of them affects the process of conducting literature or literature lectures in which poetry is one of the materials of literary study. Poetry is a literary work that is included in the lyric class which is created not only to be understood, but more than that poetry must be enjoyed, lived and interpreted. So as to produce a personal experience of its own. Personal experiences during this pandemic outbreak can be written in verse or lyric form so as to produce an anthology of poetry that is interesting to discuss and research in a study.*

Purpose - *Therefore this study aims to analyze German poetry produced during the Covid-19 pandemic so that it becomes the teaching material for German literature in the FBS Unimed German language education study program.*

Design/methodology/approach - *The model used in this study is the Design and Development (D&D) Model or design research and development by Richey and Klein (2007).*

Findings - *With this research, it is hoped that the quality of learning in literature or literature courses will increase so that students can quickly understand about German children's literature and literature.*

Research limitations – *This research was conducted at the Faculty of Language and Arts, German Language Education Study Program, UNIMED.*

Originality/value – *From the research results, an anthology book of German poetry during the Covid19 pandemic outbreak will be obtained as teaching material and related digital learning media as well as journal articles or indexed proceedings on a national and international scale.*

Keywords: Analysis, German Poetry, Pandemie Plague Covid19

Development of Teaching Materials in Micro Teaching Courses for Fine Arts Department Students at Universitas Negeri Medan

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Zuanda⁵

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Abstract

Background - *The relationship between interest and learning outcomes are two things those cannot be separated, a high interest in learning for a course or subject will affect a good learning outcome as well. Less interest, of course, will an effect not good for learning outcomes. How to improve better learning outcomes of course with high interest in learning, high interest in learning can be obtained by the existence of new creativity or innovation from media or teaching materials that are presented in the learning process, the media or teaching materials must follow technological developments or the currently. Based on the conditions above, it is necessary to develop interesting teaching materials to increase the stimulus of students, in this case it is focused on students, especially for students who take Micro Learning Courses. The objectives expected in this research are: 1). Producing e-book based teaching materials, 2). Revealing the validation, practicality, and effectiveness of e-book based teaching materials, and 3). Produce a scientific publication in International Proceedings. This research is development research, where in this research will make a new product to support the learning system in the Fine Arts Department at Universitas Negeri Medan.*

Purpose - *1). Producing e-book based teaching materials, 2). Revealing the validation, practicality, and effectiveness of e-book based teaching materials, and 3). Produce a scientific publication in International Proceedings.*

Design/methodology/approach - *This research is development research, where in this research will make a new product to support the learning system in the Fine Arts Department at Universitas Negeri Medan.*

Findings - *Less interest, of course, will an effect not good for learning outcomes. How to improve better learning outcomes of course with high interest in learning, high interest in learning can be obtained by the existence of new creativity or innovation from media or teaching materials that are presented in the learning process, the media or teaching materials must follow technological developments or the currently.*

Research limitations - *How to improve better learning outcomes of course with high interest in learning, high interest in learning can be obtained by the existence of new creativity or innovation from media or teaching materials that are presented in the learning process, the media or teaching materials must follow technological developments or the currently*

Originality/value - *Based on the conditions above, it is necessary to develop interesting teaching materials to increase the stimulus of students, in this case it is focused on students, especially for students who take Micro Learning Courses. The objectives expected in this research are: 1). Producing e-book based teaching materials, 2). Revealing the validation, practicality, and effectiveness of e-book based teaching materials, and 3). Produce a scientific publication in International Proceedings.*

Keywords : development, teaching materials, micro learning.

The Development of Local Genius Teaching Materials (Batak) as K13 Implementation in Medan City

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Abstract

Background - *The Implementation of Curriculum 2013 (K13) focuses on encouraging students to be better able to make observations, ask questions, reason, and communicate (present) what they get or know after receiving learning material at school. The objects that become learning in the 2013 curriculum emphasize more on natural phenomena, social phenomena, art phenomena, and cultural phenomena. The application of the existing phenomena can be done through the local genius of the area, in a local content study.*

Purpose - *Starting from the above conditions, it is necessary to develop Teaching Materials on Fine Arts and Local Minded Arts (Batak) as the Implementation of K13 for Middle Schools in Medan City. The objectives expected in this study, namely; 1). Producing Teaching Charts of Local Content (Batak) Arts and Crafts as Implementation of K13 for Middle Schools in Medan City, 2). Revealing the validation, practicality, and effectiveness of Local Content Arts and Crafts (Batak) Teaching Materials as Implementation of K13 for Middle Schools in Medan City, and 3).*

Design/methodology/approach - *This research will be conducted using 4D models (four-D models). The model used in this study is 4D (four-D models). According to Thiagarajan (1974: 7) the development of the four-D model consists of 4 (four) stages: 1). Define; 2). Design (design); 3). Development (develop); and 4). Spread (dissiminate). This research only reached the develop stage, namely stage 3 (three), while dissemination was not carried out.*

Findings - *Produce valid, practical, and effective K13 Teaching Materials for Middle Schools in Medan City.*

Research limitations - *There has been not program from the city and provincial education offices to facilitate the realization of joint teaching materials related to the Arts and Crafts of the North Sumatra region which consists of eight ethnicities, the low knowledge of students about the arts and crafts of the North Sumatra region.*

Originality/value - *Teaching Materials for Learning Arts and Crafts with Local Content (Batak) as the Implementation of K13 for Middle Schools in Medan City that are valid, practical, and effective.*

Keywords : development, teaching materials, K13, Medan.

Enhancing Critical Thinking and Problem Solving Ability Trough The Implementation of The Research-Based Learning Model In Higher Education

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Abstract

Background - Currently, 21st-century learning is directed towards achieving 4cs namely critical thinking, creative thinking, collaboration, and communication. Critical thinking and problem-solving ability as part of higher-order thinking skills (HOTS) can be improved through learning that facilitates students to interact and work together.

Purpose - The purpose of this study is to describe enhances critical thinking and problem solving ability among students in Demography subject in Geography Department Universitas Negeri Medan, Indonesia.

Design/methodology/approach - This study used a qualitative approach by collecting data through tests and online questionnaires on the google form. Data were collected using observation and tests (to measure critical thinking and problem-solving ability). The participants in this study consisted of 28 students. The data analysis was conducted through adescriptive method by using three concurrent flows activity consisting of data reduction, data presentation, and conclusion.

Findings - The results of the research indicate that the implementation of research-based learning (RBL) can develop critical thinking skills and problem-solving ability. It is proved by the fact that the students were able to show their interpretation, analysis, evaluation, inference, and explanation abilities as indicators of critical thinking. Also, the students able to understanding the problem, devising a plan, carrying out the plan (indicators of the problem-solving ability).

Research limitations - The limitation of this study includes the coverage of data only in the demography subject. Research-based learning will be

more meaningful if students conduct field research. However, due to the Covid-19 pandemic, students cannot carry out field research related to course studies.

Originality/value - *The result of the study can be used as a reference in learning to improve the abilities of young researchers.*

Keywords : critical thinking, problem solving ability, RBL

An Impact Policy Analysis of The Implementation of The Internship Programs 1, 2, And 3 Towards The Ministry of Research, Technology And Higher Education's Decree No. 123 / M / KPT/ 2019 At Faculty of Teacher Training And Education, University of Negeri Medan

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Abstract

Background - *This study examines the Impact Policy Analysis of the Implementation of the Internship Programs stage 1,2, and 3 towards the Ministry of Research, Technology and Higher Education's Decree No. 123 / M / Kpt / 2019 at Faculty of Teacher Training and Education, University of Negeri Medan. Internship is a program to introduce students to employment opportunities which will become a place to work.*

Purpose - *The purpose of this study was to analyze based on research findings 1, 2, and 3 on the enforcement of the Decree of the Ministry of Research, Technology and Higher Education 123 / M.KPT / 2019 at FIP Unimed.*

Design/methodology/approach - *This study uses descriptive correlational analysis with the research subjects were all Unimed FIP students who have completed Internship Programs 1, 2, and 3.*

Findings - *The research findings include (1) What are the students' perceptions of the process of Organizing Internship Activities 1, 2 and 3 at FIP Unimed, (2) How are the learning experiences gained from the implementation of the three-stage Internship Program at the Education Unit by FIP Unimed Students, and (3) How is the Impact of the Implementation of Internship Program Policy 1, 2, and 3 on the enforcement of Kemenristekdikti Decree 123 / M.KPT / 2019 at FIP Unimed.*

Research limitations - *This research is limited only to the impact of government regulations in implementing internship programs in college*

issued by the Ministry of Research, Technology and Higher Education in 2019.

Originality/value - The results of this study indicate the correlation coefficient between the two variables reaches 0.086 with the average value of student perceptions of experience during the internship program 1, 2, and 3 reached 4.01 which belong to the good category; while the average value of students' perceptions of Kemenristekdikti Decree No. 123 / M / Kpt / 2019 at the FIP of Medan State University reached 3.24, which is still in the good category too. This means that the Ministry of Research, Technology and Higher Education Decree No. 123 / M / Kpt / 2019 for students did not have a significant impact on the Internship program 1, 2, and 3 at FIP, State University of Medan. This is due to the failure to implement the policy due to a change in policy from the new government in the Republic of Indonesia, both in the nomenclature of ministries and ministers. However, the Ministry of Research, Technology and Higher Education policies can encourage students to have a high commitment to learning in equipping themselves to become competent tertiary graduates when they have completed their studies in college.

Keywords : Analysis, Impact, Policy, Internship, Experience

The Effectiveness of the Hybrid Learning Materials with the Application of the Problem Based Learning (PBL) Model to Improve Learning outcomes in Evaluation Course Learning Outcomes during the Covid 19 Pandemic

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Abstract

Background - *It is suspected that educational institutions have not been able to yield the alumnus who have professional competence, both in terms of knowledge, attitudes and skills. Hybrid learning is an attempt to overcome it. How practical is the application of hybrid learning with a problem-based learning model (PBL) in improving learning outcomes, makes this research important during the Covid-19 pandemic.*

Purpose - *This study aimed to see the effectiveness of the hybrid learning materials application with PBL model to improve students' outcome in evaluation course in learning outcomes at the Business Education Study Program, State University of Medan. This study aimed to see the effectiveness of the hybrid learning materials application with PBL model to improve students' outcome in evaluation course in learning outcomes at the Business Education Study Program, State University of Medan. This study aimed to see the effectiveness of the hybrid learning materials application with PBL model to improve students' outcome in evaluation course in learning outcomes at the Business Education Study Program, State University of Medan.*

Design/methodology/approach - *The study used a quasi-experimental method of the Posttest control group design. Data collection was carried out by conducting tests after class. The sample selected in this study were all students of the Business Education study program in evaluation course in learning outcomes. It consists of 50 people of two classes (A and B). Class A*

is an experimental class applying hybrid learning with PBL and class B without hybrid learning with a direct learning model as a control class.

Findings - *The results showed that the application of hybrid learning with the PBL model was effective to improve learning outcomes in evaluation course in learning outcomes . The results of this study also found that the independence and creativity of student learning was higher by applying hybrid learning with problem-based learning models compared to the control class.*

Research limitations - *Research has not controlled for things that can interfere with validity, such as prior knowledge and mathematical abilities that can be used as covariates. For further researchers, they can control variables that can affect the dependent variables to be studied. Research has not controlled for things that can interfere with validity, such as prior knowledge and mathematical abilities that can be used as covariates. For further researchers, they can control variables that can affect the dependent variables to be studied. Research has not controlled for things that can interfere with validity, such as prior knowledge and mathematical abilities that can be used as covariates. For further researchers, they can control variables that can affect the dependent variables to be studied.*

Originality/value - *This study offers an application of hybrid learning using PBL with problem-based worksheets. The application of hybrid learning with PBL is based on worksheets. The results of this study will enrich the techniques in the application of the learning model.*

Keywords : hybrid learning, problem based learning, learning outcomes of evaluation course

The Effect of Virtual Laboratory in Basic Electronics Subjects on Student Learning Outcomes of the Electrical Engineering Education Department

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Abstract

Background - *Some facilities for basic electronics practicum in the electrical engineering education laboratory are not yet available. Therefore, a substitute practicum effort is made to use a virtual laboratory to achieve the predetermined competencies.*

Purpose - *This study aims to determine and measure the effectiveness of learning outcomes in basic electronics subjects using Proteus software as a virtual laboratory.*

Design/methodology/approach - *The research method used is quasi-experimental design with the design type nonequivalent control group design. The data analysis technique used the t-test to determine differences in student learning outcomes.*

Findings - *The results showed that the learning outcomes in a class using a virtual laboratory obtained an average value of 73.5 and a standard deviation of 9.66 with the highest trend level of 18.75%. Meanwhile, the class that did not use a virtual laboratory obtained an average value of 67.84, and the standard deviation was 10, with the highest tendency level of 6.25%.*

Research limitations - *The populations in this study were all first-semester students in the 2020/2021 academic year majoring in electrical engineering education at Universitas Negeri Medan.*

Originality/value - *The results of the t-test on learning outcomes in basic electronics subjects obtained $t_{count} > t_{table}$ ($2.3 > 1.999$), meaning that there was a positive influence or improvement on student learning outcomes in classes using virtual laboratories on basic electronics subjects.*

Keywords : Virtua Laboratory, Basic Electronics Practicum, Learning Outcomes

Investigation of Factors Affecting Teacher Performance in E-Learning Process II The Covid-19 Pandemic Period in Senior High School North Sumatera

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Abstract

Background - *The hard work of the teachers so far deserves to be appreciated. Amid In social restrictions due to the Covid-19 outbreak, we must remain enthusiastic about pursuing and teaching science. Almost no one thought the face of education would change drastically due to the COVID-19 pandemic. The concept of home-schooling has never been mainstream in the national education discourse. Many factors affect teacher performance. Both aspects come from within the teacher himself and from outside the teacher. These factors include work discipline, management of facilities and infrastructure, electronic learning, and so on. If these factors have met the right criteria, the teacher's performance can be useful.*

Purpose - *This study's purpose to analyze : 1. Direct Influence of Facilities and Infrastructure Management on Electronic Learning (E-Learning) / online at SMA / SMK in North Sumatera. 2. Direct Effect of Work Discipline on Electronic Learning (E-Learning) / online at SMA / SMK in North Sumatera. 3. Direct Influence of Facilities and Infrastructure Management on Teacher Performance at SMA / SMK in North Sumatera. 4. Direct Effect of Work Discipline on Teacher Performance at SMA / SMK in North Sumatera 5. Direct Effect of Electronic Learning (E-Learning) / online on Teacher Performance at SMA / SMK in North Sumatera. 6. Indirect Influence of Facilities and Infrastructure Management on Work Discipline at SMA / SMK in North Sumatera. 7. Indirect Effect of Work Discipline on Teacher Performance at SMA / SMK in North Sumatera.*

Design/methodology/approach - *This study uses a qualitative method. We conducted this research on teachers, principals, school committees, and parents of students at high schools (SMA) / vocational high schools (SMK) in*

North Sumatra. Research time during July-November 2020. The variables in this study were Management of Facilities and Infrastructure (X1), Work Discipline (X2), and E-learning (Y) and Teacher Performance (Z). This study used path analysis. Of the 120 questionnaires, only 31 questionnaires were returned and processed by researchers from 14 schoolsâ€”the method of determining the sample using a convenience sampling method is easier on convenience.

Findings - From the test results, the F value is 96.22, with a significance value of 0.000. Since the significance probability is smaller than 0.05, we conclude that H1 is accepted, so we conclude that: 1. Management of Facilities and Infrastructure directly affects Electronic Learning (E-Learning) / online at SMA / SMK in North Sumatra. 2. Work Discipline has a negative direct effect on Electronic Learning (E-Learning) / online at SMA / SMK in North Sumatra. 3. Management of Facilities and Infrastructure has a positive indirect effect on teacher performance / online at SMA / SMK in North Sumatra. 4. Work Discipline has a positive indirect effect on Teacher Performance at SMA / SMK in North Sumatra. 5. Electronic Learning (E-Learning) has a negative direct effect on Teacher Performance at SMA / SMK in North Sumatra. 6. Management of Facilities and Infrastructure has an indirect effect on Work Discipline in SMA / SMK in North Sumatra. 7. Work Discipline has an indirect effect on Teacher Performance at SMA / SMK in North Sumatra.

Research limitations - We conducted The study only at SMA / SMK Accounting in North Sumatra.

Originality/value - This research is focused on the electronic learning system at the time of the Covid-19 pandemic. All SMA / SMK carry out electronic learning without any preparation.

Keywords : Teacher performance, work discipline, management of facilities and infrastructure, electronic learning, SMA / SMK

The Development of an Interactive Digital Module in the Lesson Planning Course

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Abstract

Background - *lesson planning is one of the courses at the Early Childhood Education on the Education teacher program, the scope of this course is about student preparation to support the successful implementation of learning in the form of media preparation, materials, and learning evaluation which will create some teachers who can plan their lessons with good quality. The development of interactive digital-based learning modules helps students develop knowledge and practice skills in their learning.*

Purpose - *This study aims to develop an interactive digital module in a lesson planning course, as well as to measure the feasibility of an interactive digital module according to the assessments of experts and users.*

Design/methodology/approach - *The media assessment was carried out by a team of material and media expert lecturers, while trials were carried out on 66 students of the V semester at early childhood education, on teacher education study program. The design of this study is used to research and development which refers to the ADDIE model, namely Analysis, Design, Development, Implementation, and Evaluation.*

Findings - *In essence, the results of the assessment of media aspects are in the very feasible category, with a percentage of 96.1%. The results of the assessment from the material aspect are also given a very feasible category, with a percentage of 100%. Furthermore, the results of the test assessment from students of 86.2% were also classified as very feasible, so that the average overall assessment result was 94.1%. This means that the interactive digital modules that have been developed in the lesson planning course are very suitable in the learning process.*

Research limitations - *The limitation of this research is only in the lesson planning course, hopefully, in the future, it can be developed in other courses.*

Originality/value - *The application of interactive digital-based modules in higher education, especially in the course of theory, is still lacking, so research on the development of interactive digital modules in this learning planning course needs to be developed.*

Keywords : Lesson Planning, Digital Module, Interactive, Feasibility

Development of E-Book About Mathematics Teaching And Learning Strategies As Pedagogical Teaching Material In The COVID 19 Era

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Abstract

Background - *We know that learning processes were done by online during the pandemic COVID 19, it's for every level of education including university level, therefore needed learning tools to support that learning model such as e-books, because it's easily accessible.*

Purpose - *The purpose of this research to describe the e-book development process, describe the validity, practicality, and effectivity of the E-Book on Mathematics Teaching and Learning Strategies as pedagogical Teaching Material In The COVID 19 Era.*

Design/methodology/approach - *This research is development research because its process is used to develop and validate educational products, in this case, the product is an ebook. The type of development method is the Thiagarajan development model which has 4 stages in the research is to Define, Design, Develop, and dissemination.*

Findings - *The result of this research is an e-book that has a validity value of 4.8 in a good category and has a good readability value. However, this book does not have a significant influence on student learning activities, it can be seen by the low student activity and the negative response of students to this book. The findings of this study are that e-books are appropriate learning media in the online era but not following the characteristics of children who have kinesthetic learning styles.*

Research limitations - *This research to see the validity, readability, and effectiveness of the e-book, the future will be an in-depth study regarding the effectiveness of the e-book for each student's learning style.*

Originality/value - *E-book about mathematics teaching and learning strategies is a book important for students who will be mathematics teachers. It gives us a lot of information about learn and teaching mathematic better.*

Keywords : e-book, COVID19

The Effect of Internal Characteristics on the Success of Online Learning in Accounting Subjects in Vocational High Schools During The COVID 19 Pandemic

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Choms Gary Ganda Tua Sibarani⁴

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Abstract

Background - *The pandemic of COVID 19 has changed the way people conduct things, including educational activities. Since online learning has become a necessity, it must be possible for schools to do it well.*

Purpose - *This research seeks to define the internal characteristics of the school that will decide the performance of online learning in vocational school accounting subjects (In Indonesia known as Sekolah Menengah Kejuruan-SMK).*

Design/methodology/approach - *This study will be performed by regression analysis with moderating variables with a quantitative approach. The data will be collected by sending online questionnaires to 300 SMK students in North Sumatra, Indonesia with a major in accounting.*

Findings - *This study concludes that the success of the online learning process as measured by Learning Satisfaction (LS) and Learning Outcome (LO) is influenced by Student Characteristics (SC), Learning Accessibility (LA), and Textbook (TB) while Multimedia Materials (MM) and Text Materials (TM) has no effect. Teacher Support (TS) which is placed as a moderating variable is proven not to be a moderator. Even though SC is an influential variable but because it is something that cannot be intervened, the policy recommendation will focus to another variable. School management really needs to pay attention to the ease of access to online learning and the availability of books that are suitable for online learning. The management of the school must also pay attention to increasing the capacity of teachers to support the online learning process.*

Research limitations - *This research does not discuss factors outside of school that are likely to impact the performance of the online learning process, such as economic circumstances, community, and numerous other variables.*

Originality/value - *Accounting subjects in vocational schools are the focus of this study. As vocational schools need a higher degree of interaction than general schools, this is very significant. A fairly significant policy design basis will be given by the data analysis results in this report.*

Keywords : online learning, vocational, accounting, COVID, SMK

Development of Interactive E-Book for Basic Statistics Assisted by LMS SIPDA in The Online Learning Era

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Abstract

Background - *The Covid-19 epidemic forces the university to apply online learning methods. Government policy in March 2020 regarding the application of online learning has resulted in very significant changes to conventional learning methods. Changing teaching materials from textbooks to e-books is a must as a form of adjustment related to current university conditions that implement full online learning using LMS SIPDA*

Purpose - *The purpose of this research is to produce an interactive e-book on the basics of research statistics assisted by the LMS SIPDA is valid, practical, and effective in improving student problem-solving abilities*

Design/methodology/approach - *The type of this research is Research and Development (R&D) with the ADDIE development model*

Findings - *Media is a tool that supports online learning. At the student needs analysis stage, 85% of students need integrated learning media. The SIPDA integrated e-book increases student attendance and activity by 60%. At the product design stage, the e-book has created in a PDF file developed using Kvisoft Flipbook Maker by adding video, image, and SWF. The validity level of the e-book was 92.08% by material experts and 89.1% by media experts. The grade of practicality seen from two things, namely: (1) Questionnaire for responses from media experts and two practitioner lecturers, it is found that the e-book developed can be applied in a Good category (3.92) and meets too practical criteria (80%) used in the era of online learning. (2) The student responses questionnaire in the small group was obtained in a Good category (3.96) and too practical (85%)*

Research limitations - *Factors that influence the progress of online learning are the availability of internet packages and the strength of the*

network. Student short responses to the e-book require additional evaluation to measure the level of student understanding of concepts. Limited development research in the SIPDA Class is not yet extensive in others. The control group trial has not been implemented due to time constraints

Originality/value - *The novelty of interactive e-book assisted by LMS SIPDA is a development of PJJ teaching materials by customization. It means mixing various content objects is like compiling Lego according to the learning outcomes of statistics courses*

Keywords : Interactive E-book, ADDIE, Online Learning

The Development of Online Learning Integrates Media to Measure High Order Thinking Skill of Students

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Abstract

Background - *HOTS is a high-order thinking skill that requires critical, creative, analytical thinking on information and data in solving problems. The low level of high-order thinking skills is experienced not only by students at the school level but also in tertiary institutions. The researcher's analysis results, most students still find it challenging to solve HOTS questions on the C4-C6 indicator.*

Purpose - *This study aims to: (1) analyse the feasibility and effectiveness of learning developed through media-integrated network learning to measure student HOTS, and (2) analyse the increase in student HOTS using online learning integrated media.*

Design/methodology/approach - *This research includes development research to produce online learning integrates media of Adobe Flash media and the Articulate Story Line (online based) and instruments to measure student HOTS in the General Chemistry study. The development model used refers to the ADDIE development model.*

Findings - *The result of this research is that the online learning prototype integrated with Adobe Flash and Articulate Story Line (online-based) and HOTS instruments is valid and effective. Validity is fulfilled qualitatively by the validators. Effectiveness is fulfilled based on the implementation of learning in an integrated media network that students can access online and proven by the increase in students' ability to complete HOTS instruments with the results of t-test analysis of 22.136 and $p = 0.000$. So it can be concluded that online learning is integrated with of media Adobe Flash and Articulate Story Line (online based) and HOTS instrument valid and effective in improving students' HOTS.*

Research limitations - *This study's limitation is that the media integrated online learning developed can only be accessed or used on computers so that further development is needed to be accessed and used on smartphones.*

Originality/value - *This study's results are in the form of online learning prototypes integrated with media of Adobe Flash and Articulate Story Line (online-based) and HOTS instruments to measure student HOTS, which according to researchers, have never been done by other researchers.*

Keywords : Online Learning, Media of Adobe Flash and Articulate Story Line, HOTS

The Evaluation of Implementation Online Learning on The Engineering Faculty - UNIMED

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Abstract

Background - *The purpose of this study was to evaluate the process activities and the various obstacles in implementing online learning at EF Unimed.*

Purpose - *The purpose of this study was to evaluate the process activities and the various obstacles in implementing online learning at EF Unimed.*

Design/methodology/approach - *The research approach used was evaluation with the Stufflebeam model, namely the CIPP (Content, Input, Process, and Product) model. Data is taken from students about the implementation of online learning*

Findings - *The results of the study found that: 1) availability of learning resources is still low, it is an aspect of content 2) network strength is still weak in the input aspect, 3) the help test service is lacking in the process aspect, and 4) online effectiveness is less than the product aspect. Of the four components on average the lowest is online learning tools.*

Research limitations - *The implementation of this research was carried out at EF Unimed. The focus studied in this research is the content/material, facilities, processes, and outputs of online learning.*

Originality/value - *The research resulted that learning facilities contributed to the effectiveness of online learning at EF Unimed.*

Keywords : Evaluation, CIPP Model, Online Learning

Development of Virtual Class Based Learning Media Assisted with Animation Video on Research Methodology Courses

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Abstract

Background - *The current conditions of the Covid-19 pandemic have resulted in extraordinary changes, include in the sector of education. In this case, all levels of education are directed to immediately transform and adapt drastically to do learning from home use online media. This condition causes is needed for inovation in the lecture system. One of efforts that can be done is to develop learning media that is suitable for the current situation and conditions needed.*

Purpose - *The purpose of this research is to produce an animated video that is used as a media in the Research Methodology course that can be accessed through a virtual class and knows the student's response to the use of the animated video media.*

Design/methodology/approach - *The research method is used was R&D with a development procedure consisting of Four D Models. The data collection tool used was a validation sheet that was given to the expert in the form of a Likert scale questionnaire, then found the mean score. while to measure student perceptions it is calculated using the percentage formula to look the level of practicality in using learning media.*

Findings - *Based on the research finding, it is known that the development of a virtual class based research methodology animation video uses the Four-D model. Define, obtained that students need animated videos that can help students learn independently. Design, obtained the results of learning media according to student needs. Develop, validated by material experts with a mean total score of 4.29 in the valid category and revised according to expert advice, while expert validation related to learning media found that the average total score for media validity was 4.33 with the valid*

category. Furthermore, the try out is limited to some students in class A semester V with an average total score of 84.03 with the category of practical learning media to use.

Research limitations - *The limitations of research in implementing a broader try out involving a control group cannot yet be implemented. Researchers only produce products that are suitable for use but have not been able to provide information about the effectiveness of learning media products optimally.*

Originality/value - *The element of novelty in this research is that this animated video was developed to overcome learning problems amid the Covid 19 pandemic. by using animated videos.*

Keywords : Learning Media, Virtual Class, Animation Videos

Feasibility of Welding Technology E-Modules to Analyze The Strength of Welded Joints

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Abstract

Background - *One of the competencies that graduates of the Mechanical Engineering Education Department must have is to be able to analyze the strength of a weld joint. Increasing student competence in analyzing the strength of welded joints, as a reference, a feasible and practical instructional media is needed. Instructional media that specifically analyzes the strength of welded joints are not yet available at the Department of Mechanical Engineering Education of Unimed, so this Instructional media is developed which specifically analyzes the strength of welded joints. Instructional media is developed in electronic form (e-modules) to make it more practical in use.*

Purpose - *The purpose of this study was to determine the feasibility of welding e-modules. Feasibility can be determined through the e-module development process.*

Design/methodology/approach - *The e-module development uses the research and development (R and D) method from Borg and Gall. The steps for developed e-modules use the ADDIE model (Analysis, Design, Development, Implementation and Evaluation), namely (1) Needs analysis, (2) Planning and formulating learning objectives. (3) Development in the form of making modules (4) Feasibility of e-modules through validation by material experts, media experts and instructional design experts. Data collection techniques were carried out by distributing questionnaires and observations.*

Findings - *This study resulted in (1) evaluation of material experts that the technology subject matter was included in the very feasible criteria with an average score of 4.30. (2) The learning design expert's assessment is included in the very feasible criteria with an average score of 4.20. (3) the evaluation of instructional media experts falls into the feasible criteria with*

an average score of 4.03, (4) an increase in the value of student learning outcomes by 75.50%, this proves that e-module technology is suitable for use.

Research limitations - *The research subjects were limited to 5th semester students of the Department of Mechanical Engineering Education of Unimed.*

Originality/value - *The welding technology e-module was developed oroginally because it has never been developed by other researchers and has been proven to improve student competence in analyzing the strength of welded joints.*

Keywords : feasibility, e-modules, welding technology, weld joints

Learning Model Based on Multiple Intelligence In Stimulating Kinesthetic Intelligence In Children 5-6 Years Old

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Abstract

Background - *Every child has different characteristics with different ways of learning. Children tend to have a very active nature because they have seen muscle development that allows them to perform a variety of skills. By using learning based on multiple intelligence, children are more stimulated to carry out the learning process and significant development achievements are achieved.*

Purpose - *The research objectives of this study, namely to see how the achievement of kinesthetic intelligence in children aged 5-6 years, to produce a multiple intelligence-based learning model in stimulating the kinesthetic intelligence of children aged 5-6 years, and to see the effectiveness of the development of multiple intelligence-based learning in stimulating the kinesthetic intelligence of children aged 5-6 years.*

Design/methodology/approach - *This research uses a development research method by conducting time-series tests on data processing. The population used is children aged five to six who are in kindergarten age, namely children aged 5-6 years.*

Findings - *Children show a good increase in the stimulation of kinesthetic intelligence using a learning model that has been developed.*

Research limitations - *The limitation of this research is children who are in Kindergarten age, namely children aged 5-6 years in Medan City.*

Originality/value - *The novelty of this research is to produce and use a learning model based on multiple intelligences that children have. But still, focus on stimulating children's kinesthetic intelligence.*

Keywords : Multiple Intelligence, Kinesthetic, Children

Online Style of Problem Based Learning in Mathematics

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Abstract

Background - *Currently, the outbreak of the Covid-19 pandemic has forced all parties, especially the world of education, to change the way of learning. The use of technology in learning is an important thing that must be done to be able to satisfy today's needs. The implementation of technology in education is necessary for organizing online learning, which cannot be avoided now. This form of online learning becomes an alternative so that social processes and interactions in learning will continue to occur. Furthermore, students' ability to construct their mathematical concepts and principles must still occur. The support of learning model used in this process is very meaningful, therefore Problem based learning (PBL) which is combined with online learning forms is deemed suitable to be applied in learning.*

Purpose - *The purpose of this research is to produce problem-based online learning in mathematics.*

Design/methodology/approach - *The research method used is the development research method developed by Dick and Carey*

Findings - *This study is an ongoing research. So far through this study, the researchers identify and developed the learning material and related learning tools needed. The development of these learning material and tools considered their validity as a quality standard, which was obtained based on validation by experts and trial results.*

Research limitations - *This study is limited to some material related to differential calculus*

Originality/value - *The researchers in this study tried to develop an online learning that is based on PBL theory, in a way that creates a new social processes and interactions in PBL without reducing the characteristics of PBL itself.*

Keywords : online learning, Problem Based Learning, learning tools, validity, differential calculus

Application of Teaching Factory Based Metacognitive Skills Learning Models in The Field of Machining

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Abstract

Background - *The TEFA BMS is a model developed for Prospective Vocational Teachers in machining field in responding the demands of graduates skill in Machining Engineering on the Industrial Revolution era 4.0, who are not only skilled in working technically, but also able to think, behave, and act creatively in facing of unexpected changes.*

Purpose - *This research aimed to test the effectiveness the application a Learning Model of Teaching Factory Based on Metacognitive Skill (TEFA-BMS).*

Design/methodology/approach - *The test method used was the Two-Group Pretest-Posttest Design. The research subjects involved are 82 students and 5 lecturers of Mechanical Engineering Education, State University of Medan, which designed with Two-Group Pretest-Posttest Design. The instruments used were standard and valid tests and non-tests. The validity of the instrument tested using the SPSS 22 software and Aiken's V Formula.*

Findings - *The results showed that the feasibility model average has practicality reached to 87.72%, while the effectiveness of the model tested by t-test has succeeded to increase learning outcomes significantly 15.44 or 0.000*

Research limitations - *Research data samples are still from one higher education institution. Then the product from the results of this research is still focused on the machining sector.*

Originality/value - *This model is not only able to improve psychomotor skills but also shape discipline and work responsibilities as a manifestation of the results of metacognitive skills.*

Keywords : Learning Model, Machining Technology, TEFA-BMS.

Development of Uis Nipes Woven Learning Based On Karo's Cultural Values In Vocational High Schools

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Abstract

Background - *Learning is said to be successful when learning activities are able to facilitate students in the transfer of value process in the context of building national character as stated in the curriculum. In fact, learning activities are a determinant factor for the success and quality of graduates*

Purpose - *This study aims to develop a learning model of Uis Nipes weaving based on the relevant Karo cultural values in schools*

Design/methodology/approach - *The research uses research and development through the Borg and Gall model development approach. The research subjects were the teachers and students of the Vocational School (SMK) Negeri 1 Berastagi where the research was conducted. Data collection techniques using observation and interviews. The data analysis technique used a qualitative descriptive technique.*

Findings - *The research findings can be described as follows. First, the relevant Uis Nipes weaving learning model used for the cultivation of Karo cultural values is Carl Rogers' version of the non-directive learning model. Second, modification and adjustment of this learning model are carried out so that it can be used to instill Karo's cultural values, especially those related to the format of the lesson plan. Third, teachers are able to carry out Uis Nipes weaving learning using a non-directive model for planting Karo cultural values in accordance with the applicable curriculum in schools while still paying attention to the Karo regional government policy regarding the development of a Karo ethnic-based curriculum.*

Research limitations - *The results of the study found that noble values formulated in various expressions need to be given to students, among others; Uis Karo is a culture of the Karo tribe. Uis Karo is a set of traditional clothes used in cultural activities. Uis (cloth) means clothing in Karo so that its*

development has made uis nipes into various types, styles, and functions. Uis is made from cotton, spun, and woven manually using looms instead of machines. The composition of the yarn as the basic material for Uis Nipes uses cotton yarn with natural dyes, but some also use factory fabrics that are dyed with chemical dyes. Some of this uis nipes are rare because they are no longer used in everyday life, or are only used in cultural ritual activities related to animist beliefs and are no longer practiced.

Originality/value - Originality

Keywords : Karo Cultural Value, Uis Nipes Weaving Learning

The Effectiveness of Learning Models in The Course of Fashion Technology, Universitas Negeri Medan

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Abstract

Background - *The essence of the learning model is designing a set of actions that aim to change the existing situation to the desired situation that the function of the learning model is very essential because the essence of learning depends on the learning model developed. The description of the quality of vocational education graduates applies an obligatory measure to be accounted for, namely the quality of graduates according to community standards. The first criterion includes aspects of student success in fulfilling competencies that are oriented towards the demands of the world of work. While the second criterion includes student success in the ability to get a job in accordance with the standard of learning outcomes.*

Purpose - *This study aims to determine the effectiveness of the Computer Based Instruction (CBI) learning model which can improve student learning outcomes in fashion technology.*

Design/methodology/approach - *The method used in this research is a research and development method (Research and Development). This research, which is the object of research, is the subject of Fashion Technology which is designed with a Computer-Based Instruction model.*

Findings - *The steps for developing the Computer Based Instruction learning model are as follows: 1) The needs analysis stage, 2) The design stage, 3) The development stage, 4) The validation and testing phase, 5) The final stage of the Computer Based Instruction learning model product*

Research limitations - *then tested eligibility by validating on material experts, with results on qualification (88.7%); while instructional media experts, the validation results are stated in the qualifications (92.7). Comments and suggestions from the validation results are used to revise the product. After the learning model was declared feasible, small group trials*

were carried out on qualifications (66%), moderate group trials on qualifications (75.7%), then the results of field trials on qualifications (87.8%). The results showed: (1) the effectiveness test on students was at the qualification (89.1%) and the effectiveness test on the lecturers was at the qualification (93%), (2) The average score of the students before applying the Computer Based Instruction learning model was at qualification (47.1%) after the application of the Computer Based Instruction learning model was at the qualification (78.3%) Student learning outcomes increased (31.2%).

Originality/value - Originality

Keywords : Computer-Based Instruction (CBI) Learning Model, Clothing Technology Subject

Development of a Thematic Learning Platform Based on E-Learning

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Abstract

Background - *Thematic subjects have not been designed online*

Purpose - *The aim of this study is to describe the validity, practicality, and effectiveness of Thematic learning tools based on E-Learning at Elementary School Teacher Education of Faculty Education, Univeristas Medan Estate.*

Design/methodology/approach - *In this study, the Development Model is used the four D (4-D) model, which is using three stages, namely defining, designing, and developing. The dissemination stage is not done because of time constrains and costs. The subject in this study were student of elementary school teacher at University State of Medan. The data analysis technique in this study used data validity, practicality data analysis and effectiveness test data analysis*

Findings - *Based on the results of this study, it was concluded that the learning tools for thematic learning subjects based on E-Learning such as syllabus 93,84% (very Valid), RPS 92,85% (very Valid) dan authentic assessment 85,88% (valid). Validation results of teaching material based on a materially sophisticated is 96% (very valid), a designer 91,67 (very valid) and media savvy 90% (very valid). E-learning-based thematic learning teaching materials are stated to be practical based on the results of field trials with a practicality level of 90.90%. The value of the effectiveness of thematic learning teaching materials based on E-Learning was 86.2%.*

Research limitations - *The dissemination stage is not done because of time constrains and costs*

Originality/value - *Based on this description, it can be said that learning tools such as syllabus, RPS, and thematic learning materials based on E-Learning are very valid, authentic assessment is declared valid, E-Learning-*

based thematic learning teaching materials are effective and practical for use on PGSD FIP UNIMED students.

Keywords : Development of learning tools, Thematic learning, e-learning

Emotional Intelligence-Oriented Teacher Education Model in Micro Teaching Students

Department of Family Education Universitas Negeri Medan

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Abstract

Background - *In the process of teaching skills, it must contain elements of the value of learning applied by various teacher candidates, to familiarize prospective teachers to apply basic teaching skills in a professional manner requires practice in teaching practice directly in the classroom.*

Purpose - *The purpose of this research is to develop an Emotional Intelligence Oriented Micro Teaching Model for students, so that it is hoped that micro teaching-learning can function as a vehicle to practice basic teaching skills that must be possessed, before appearing directly in the real class.*

Design/methodology/approach - *This research is the development of a micro teaching-learning module with an Emotional Intelligence oriented orientation, as the sample is culinary education students who are taking the micro-teaching course.*

Findings - *The profession of teachers as teaching staff, in government regulations, what is meant by educators as agents of learning has four functions, namely; 1) the learning facilitator function; namely, the teacher has a professional obligation to manage to learn so that it can help students in learning. 2) The function of the motivator; that is, every teacher is required to have the ability and skills to generate learning motivation. 3) Learning boost function; closely related to the function of the motivator, that the teacher must be able to act as a stimulant, a motivator for learning. 4) The function of inspiring learning; students are as active learners. Mastery of each type of basic teaching skill, cannot be done all at once but must go through a planned process, through various learning approaches and be carried out continuously.*

Research limitations - *The emotional intelligence-oriented micro-teaching module was developed to practice teaching skills with the presentation of material expert validation (86%) in the very feasible category, media expert validation (85%), and learning design expert validation (90.5%) in the very feasible category. Furthermore, in individual trials (94.84%) in the very feasible category, the results of small group trials (94.15%) and in field trials (93.96%) fall into the very feasible category. The results of student teaching practice using the emotional intelligence-oriented micro-teaching module are higher than the results of student teaching practice without using the micro-teaching module, which has been tested through statistical tests with the test results showing the value of count $4.43 > 1.671$.*

Originality/value - *Originality*

Keywords : Learning Module, Microteaching.

Development of Tutorial-Based Inferential Statistics Learning Media on Instagram Social Media as Student Self Education

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Abstract

Background - *The number of online lecturing problems so far certainly has an impact on the quality of learning and student learning outcomes. Problems with unstable signal, limited internet quota, inadequate facilities / gadgets and other disturbances during learning, of course, must be tricked so that students can study more effectively. One solution is to compile instructional video tutorials on inferential statistics courses using the SPSS analysis application. Later the resulting learning videos will be published on the YouTube channel account. This of course can make it easier for students to access learning whenever needed when network conditions and internet quota are more stable.*

Purpose - *The research is aimed to improve the quality of learning eye study statistical inferential on a student program of study Education Economic Faculty of Economics Unimed. In particular, this study aims to compile a feasible and effective inferential statistics learning video for learning, along with modules learning.*

Design/methodology/approach - *Research is using the methods of research and development (R&D) by using a model of the Borg and Gall. Research is carried out in the department of education economics FE Unimed with the population of the entire class of students of the third semester whotook the eye study of statistical inferential years of teaching of 2020/2021.*

Findings - *Based on the results of the draft module and a video tutorial learning statistical inferential based SPSS, subsequently validated by 2 validator expert materials and media resulted in the decision that the module and video tutorials have a level of feasibility are high with a record needs to*

do revision . After the entire record of the revision corrected do test try to group small at 30 students . Based on the results of tests trying to group little known to occur an increase in the result of learning that is significant before and after using the modules and video tutorials statistical inferential applied based SPSS .

Research limitations - *The result is the whole factor of convenience for users, power use and effectiveness wa k tu has a value average of 3,62 means that concluded that the module and the video tutorials were developed already meets the criteria of legibility and practicality.*

Originality/value - *The research is carried out only up to the stage to 7 which produce a draft revision of the module teaching to the next will need to step the use of video and modules on a scale large.*

Keywords : Video Learning, Statistics Inferential, SPSS

Development of Dynamic Archive Management Books To Improve Students Competency Of Office Administrative Education

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Abstract

Background - *of Dynamic Archive Management Ability is a competency that must be mastered by graduates of the Office Administration Education Study Program, Faculty of Economics, State University of Medan. However, currently there is no book on Dynamic Archive Management that can be used as a guide in managing dynamic archive with various filing systems*

Purpose - *of this research is to arrange a book of Dynamic Archive Management which will be used in improving the quality of Dynamic Archive Management learning and as a guide for archivists and archive managers in storing and finding archive based on various filing systems.*

Design/methodology/approach - *of this research uses the Research and Development approach (R&D) of Dick & Carey model, with a combination of qualitative and quantitative research.*

Findings - *Based on the results of the paired samples test with SPSS, it showed that t count is 2.383 > t table is 2.045, thus it can be seen that there is an average difference between the pre-test and post-test learning outcomes, which means that there is an effect of using the Dynamic Archives Management book in improving student learning outcomes in the subject of Dynamic Archive Management.*

Research limitations - *of this research is limited by the process of developing the Dynamic Archives Management book and the implementation of testing the book of development result.*

Originality/value - *of the book of Design Result Archives Management is to present clear procedures of the process of storing and recovering archives based on alphabetical filing system, subject system filing, number filing system, region filing system and date filing system.*

Keywords : Management, Archives, Dynamic

Pancasila as Educational Philosophy for Independent of Learning in The New normal of the Covid-19 pandemic

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Mahfuzi Irwan⁴**

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Abstract

Background - *COVID-19 pandemic is a challenge for education. Bureaucratic rigidity in education is challenged to provide a flexible implementation of education according to the recommendations of The Centers for Disease Control and Prevention to avoid meetings of more than 10 people*

Purpose - *This article aims to explore the values of Pancasila as an educational philosophy independent of learning in the new normal of the Covid-19 pandemic. This study reconstructs the Spiritualistic, Scientific, and Philosophical Values in Pancasila as a learning approach for Indonesians as independent learners.*

Design/methodology/approach - *This research used a qualitative approach with the Grounded Theory method. Data from research subjects are used for basic arguments for the Spiritualistic, Scientific, and Philosophical values in Pancasila as a learning approach in the new normality of the COVID 19 pandemic.*

Findings - *First, Pancasila values are the basis of Independent Learners in the new normal of the Covid-19 pandemic; second, if the values of spirituality, science, and philosophy of Pancasila can be used as a learning approach for independent learners in the new normal of the Covid-19 pandemic.*

Research limitations - *This study is limited because it only builds basic arguments, so it needs to be applied research in the future.*

Originality/value - *The research builds the basis of arguments for the elaboration of a spiritualistic approach, a philosophical approach, and a*

scientific approach as a learning approach in the new normal of the Covid-19 pandemic

Keywords : learning approach, Independent Learners, new normal, Pancasila

Development of a Nutrition Education-Based Junior High School Curriculum

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Abstract

Background - *Awareness of proper nutritional behavior through an early age has a major impact on health of students in adulthood. The lack of nutritional information obtained by students in junior high school curriculum causes their nutritional behavior to be low. Strategies for integrating nutrition messages into subject matter have the potential to provide nutrition education to junior high school students*

Purpose - *The objectives of this study were: (1) Formulating nutritional messages based on the nutritional behavior of students, (2) examining subjects in junior high schools that contain nutritional material, and (3) developing nutritional messages as content in the junior high school curriculum.*

Design/methodology/approach - *This type of research is Research and Development (R&D). Research location SMPN 35 Medan. The population in this study were students of SMP 35 Medan, totaling 820 students consisting of 22 classes. The minimum sample size is 93 students. The data collection technique was done by filling out the questionnaire. FGDs are conducted with subject teachers who have material related to nutrition messages, so that nutrition messages can be added to the material. Data were analyzed using qualitative descriptive analysis techniques.*

Findings - *The results of the initial survey and previous studies found that 15 nutritional indicators with low nutritional behavior. The 15 indicators are used as 15 messages that will be included in the subject matter in the SMP curriculum. The results of tracing subjects in the SMP and FGD curricula with teachers, there are 5 subjects that contain nutritional material, such as mathematics, science, physical education, cultural arts and crafts. The development of 15 nutritional messages into selected subjects is carried*

out by adding the meaning of messages, materials, learning activities along with examples of exercises and teacher aids for each basic competency

Research limitations - *This research is still exploring the subjects and messages that are included in the subjects which will be developed into e-modules for teachers and e-books for students.*

Originality/value - *This research is a continuation of previous research. The selected nutrition messages are adjusted to the junior high school curriculum and the current condition of adolescents so that these messages can be applied in learning and daily life.*

Keywords : behavior, curriculum, education, nutrition, student

Development of Social Science Learning Based on Ethnopedagogy As A Program for Strengthening Local Values

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Abstract

Background - *This research was by the factual condition of the occurrence of a value crisis among the younger generation on the pride of local wisdom values.*

Purpose - *This study was aimed to develop ethnopedagogy-based Social Science learning as a program to strengthen local wisdom values at the Faculty of Social Sciences, State University of Medan*

Design/methodology/approach - *The research method was the R&D method following the Borg & Gall procedure. The research subjects involved: (1) lecturers and students of the Faculty of Social Sciences, State University of Medan; and (2) six expert validators. The instrument was used an expert validation questionnaire which was analyzed using the Percentage Mean Score (PRS).*

Findings - *The research results showed that the social studies textbooks based on local wisdom developed were very valid. Other findings were based on the test results showed that ethnopedagogy-based Social Science learning could strengthen the values of local wisdom that exist in Indonesia in a global era filled with value paradoxes*

Research limitations - *The scope of research was limited to the study of local wisdom as a subject in social science learning.*

Originality/value - *This study focused on ethnopedagogy-based social science learning which had not been widely studied by researchers, with added value oriented towards strengthening the values of local wisdom in a global era that was full of changes or value paradoxes.*

Keywords : Social Sciences, ethnopedagogy, local wisdom



Policy Analysis of Using Smartphones as Learning Media in Senior High School in Medan City

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Abstract

Background - *The use of smartphones needs considering as a learning medium in improving the quality of learning. On the other hand, many schools still make regulations prohibiting carrying/using smartphones in schools. Requires further analysis so that the established rules can support the educational process standards.*

Purpose - *This study aims to determine the concept of using smartphones in schools. The analysis results expect to be accepted by all society levels and become the basis for determining policies to accept smartphones as a learning medium*

Design/methodology/approach - *This research is a qualitative research model with a stage application approach in the Policy Analysis Process developed by Brewer (1983). The first analysis process carried out was an initial survey of the need for smartphones as learning media. Completion through the stages of initiation, estimation, selection, implementation, evaluation, and follow-up. The research was conducted at Senior High Schools in Medan City from June to September 2020. It was taken data in June and August 2020.*

Findings - *The analysis results in each stage can prove the positive impact that occurs regarding the use of smartphones as a learning medium. The most master technology most mastered by students is smartphones, and technology is constructive in learning success. The analysis results concluded that smartphones could be accepted as learning media in high schools in Medan at the selection stage. One of the factors considered to have contributed significantly to making conclusions in the analysis process was the Covid-19 pandemic. The entire analysis stage concludes that the policy can supervise smartphones in schools and establish supervisory rules.*

Research limitations - *The policy implementation stage has not been carried out optimally due to the Covid-19 pandemic, requiring students to study from home.*

Originality/value - *This research focusses on policy analysis, which always raises controversial opinions about smartphone use among students. Research is becoming more interesting because of the Covid-19 pandemic when the research stage carries out. That conditions accelerated decision making at the selection stage.*

Keywords : Policy Analysis, smartphones, learning media

Development of American History Literature Based Ecopedagogy As Prevention Guidelines of Covid-19 in History Education Departement

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Abstract

Background - *Environmental intelligence or ecopedagogy today is important to be internalized in students as part of the environment. History records that increasing environmental intelligence / ecopedagogy is one of the solutions that have been implemented by the Americans in dealing with various pandemics such as the Blackdeath plague (14-15 century), smallpox epidemic (15 century), Yellow Fever (18 century), Spanish Flu (century 20). When the world is hit by the Sars, Mers and Covid-19 Pandemic in the 21st century, ecopedagogy is an important solution in terms of prevention.*

Purpose - *This study purpose is producing an ecopedagogy-based American History literature that can be used as a guideline / solution for the prevention of the Covid-19 pandemic against the background of the past experiences of Americans in overcoming various kinds of pandemics.*

Design/methodology/approach - *This study uses the Research and Development method of the Borg and Gall model which consists of 4 stages, namely Preliminary Study, Development, Field Testing, Dissemination and Product Socialization.*

Findings - *The results of this study indicate that as a medium of literature this is in the Good category with a mean score of 4.14 from the results of the validity test. While the material content obtained a score of 4.14 from the validity test results and entered into the good category.*

Research limitations - *The limitation of this research is until the stage of product dissemination and socialization.*

Originality/value - *This research has a novelty value in the form of American Green History literature products.*

Keywords : American history, literature, ecopedagogy, covid-19

Making Learning Media Based On Video Tutorials Using Camtasia Studio And Videoscribe Software

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Abstract

Background - *During the current COVID 19 pandemic, learning in higher education must be carried out by online learning using an e-learning platform. Online learning can be done synchronously and asynchronously. Synchronous online learning with online chat and video conferencing enables students and lecturer to ask and answer questions immediately. Synchronous online learning allows students to avoid feelings of isolation because they communicate with others during the learning process, while when compared to asynchronous online learning students usually complete their lessons and simply use the internet as a support tool. However, synchronous online learning is not very flexible in terms of time because students have to set aside a certain time slot to attend lecture sessions directly in real-time. Besides, the synchronous application of online learning often experiences problems with internet network disruptions among some students, and some do not even succeed in joining until the lecture session ends. This has the impact of making synchronous online lectures less effective. To overcome this problem, online learning can be done by making instructional media based on video tutorials.*

Purpose - *The objectives of this study were: (1) Producing video tutorial-based learning media using Camtasia Studio and Videoscribe software, (2) Knowing the feasibility of video tutorial-based learning media using Camtasia Studio and Videoscribe software*

Design/methodology/approach - *This research uses research and development stages that adapt the 4D development model*

Findings - *The results of this study indicate that the material expert's assessment stated that video tutorial-based learning media met the very feasible criteria with a percentage of 86%. The learning expert's assessment of video tutorial-based learning media with an overall percentage of 72% that meets the proper criteria. The media expert's assessment of video*

tutorial-based learning media with an overall percentage of 80% that meets the proper criteria. Student responses to limited trials obtained an overall percentage of 78% which met the good criteria.

Research limitations - *The limitations of researchers in developing this video tutorial-based learning media include not all content of high school physics material displayed in the steps of making a video tutorial using Camtasia Studio and Videoscribe software according to normal production time, in the sense that there is a part of the steps for making the same video accelerated so that the duration video tutorial is not too long. In the next video making, it is hoped that it will be displayed in normal time so that students can follow the steps of making the whole video*

Originality/value - *The novelty of this research lies in the resulting learning media in the form of video tutorials made using Camtasia Studio and Videoscribe software on high school physics learning materials*

Keywords : Media, Learning, Video Tutorials, Camtasia Studio, Videoscribe

The Effectiveness of Digital Instructional Media In Occupational Health And Safety Math (OHS)

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Abstract

Background - *Advances in information and communication technology have made learning media material displayable using digital (electronic) equipment. Digital learning media is more interactive and can be stored in softcopy so that it is easy to apply without time and space limits. The Occupational Safety and Health (OHS) subject has only used learning media in the form of hardcopy printed textbooks.*

Purpose - *The purpose of this research is to validate digital instructional media through the development of OHS instructional materials.*

Design/methodology/approach - *This research uses a research and development (R&D) approach, the development stage of teaching materials is designed in three stages, namely (1) planning and formulating learning objectives, (2) the development stage in the form of making OHS digital learning media, and (3) formative evaluation and revision stages. by material experts, media experts and instructional design experts. Data collection techniques in evaluating digital instructional media are carried out by observation and questionnaires using a Likert scale. The effectiveness of digital learning media is measured by calculating learning outcomes before using digital instructional media (pretest) compared to after using digital instructional media (posttest).*

Findings - *The results of the pretest and posttest showed an increase in the value of learning outcomes by 81.02%. This research and development has implications for improving student learning outcomes taking occupational safety and health (OHS) courses.*

Research limitations - *The final product of this research is in the form of digital instructional media for occupational safety and health (OHS) subjects which are used by students of the Department of Mechanical Engineering Education, State University of Medan.*

Originality/value - *The digital learning media for occupational safety and health (OHS) courses developed in this study are not yet available in the Department of Mechanical Engineering Education, State University of Medan.*

Keywords : effectiveness, instructional media, digital, OHS

Analysis of Test Instruments Based on HOTS Critical Thinking on Physics in The Senior High School

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Abstract

Background - *During the Covid-19 Pandemic, the implementation of learning was carried out online, but it is hoped that it does not eliminate the essence of the implementation of the revised K-13 curriculum, namely the scientific approach in the learning process which is known as Observing, Asking, Trying, Communicating, and Conclude. By implementing the scientific approach, it will design the mind set of students in criticizing a problem in everyday life. This is what is required in the implementation of the revised K-13 curriculum, critical thinking is a high-level thinking ability that students must familiarize with. HOTS questions are a measurement instrument used to measure higher-order thinking skills, namely thinking skills that do not just remember, restate, or refer without processing.*

Purpose - *The purpose of this study was to determine the HOTS-based test instrument for high school critical thinking that has been used in the learning process and learning evaluation. 2). Knowing the level of difficulty and different power of the instrument and the effectiveness of the answer keys for high school tests.*

Design/methodology/approach - *The type of research used is descriptive research with qualitative and quantitative approaches with documentation study. Retrieval of data using survey observation, interviews, and documentation. Qualitative analysis in the form of critical thinking HOTS criterion analysis and quantitative analysis by calculating the difficulty level index, difference power and the effectiveness of the answer key distractor.*

Findings - *The findings in the study indicate that the test instruments used at the high school level have not met the criteria for HOTS high-level*

thinking. As for the results of the calculation of the difficulty level of the test, 8% of the questions were in the easy category, 46% in the medium category and 46% in the difficult category. For the difference power, 42% of the questions were in the bad category, 33% of the questions were in the enough category, 4% of the questions were in the good category and 21% of the questions were in the very good category.

Research limitations - *The limitation of this research is the HOTS category of critical thinking test instruments.*

Originality/value - *a combination of qualitative and quantitative research types and the calculation of item analysis on the test instruments used in senior high schools.*

Keywords : test instrument, HOTS thinking critical, Senior High School

Development of Production Unit Teaching Materials During the COVID-19 Pandemic

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Abstract

Background - *One of the profiles of a culinary education program graduate is to become a food entrepreneur. The production unit is one of the courses that teaches students to be entrepreneurial. During this pandemic, entrepreneurial learning is limited in time and space.*

Purpose - *The research objectives were (1) identifying the problems experienced by students during the COVID-19 pandemic, (2) developing teaching materials for the Production Unit.*

Design/methodology/approach - *This type of research is a Research and Development (R&D) with 3 stages, namely Define, Design and Develop. Determination of the sample by purposive sampling, namely Catering Education students. Validation is carried out by entrepreneurship education experts and Production Unit lecturers. Data were analyzed using qualitative descriptive analysis techniques*

Findings - *The results of problem identification found that student motivation to try food during the pandemic was low (43%). The low motivation of students is because during the Covid 19 pandemic they thought that people's purchasing power was reduced, people were afraid to leave the house, there were restrictions on activities outside the home and the current learning process online. The development of teaching materials The production unit at the define stage resulted in a change in the learning method, which is usually face-to-face to online. The design stage in this study was to design the curriculum content, especially the 100% online learning process. Design learning materials using online learning applications. The learning materials consist of developing ideas, calculating selling prices, online and offline marketing, making business plans, carrying out guided practices by students and lecturers and evaluating practical implementation. At the develop stage by making online learning designs, using the facilities*

provided by Unimed, namely SIPDA and other applications. Online learning activities such as conducting discussions through Google Meet, Zoom Meeting, discussion forums and chats at SIPDA. Food business practices are carried out at home by making videos and uploading them on networks such as YouTube. Provide guidance and assistance in every business practice. The results of the validation of teaching materials include several inputs such as conducting discussions with students before and after doing business, deepening online marketing materials and making revisions for the validation results.

Research limitations - *Assessment of skills should be carried out directly, especially on the quality of the food produced. In the practice of this online production unit, it is difficult to directly assess students' skills in entrepreneurial practice, especially the taste of the food.*

Originality/value - *This study develops teaching materials that combine theory and practice with entrepreneurship.*

Keywords : entrepreneurship, materials, pandemic, teaching

Development of Teaching Materials With A Blended Learning Approach To Improve Learning Outcomes In Financial Management

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Abstract

Background - *Learning financial management in the Accounting Department, Faculty of Economics, Unimed still uses teaching materials in textbooks. In general, the teaching material intends for class (face to face) learning. The Unimed policy requires lecturers to develop online learning. The existing textbooks cannot fulfill online learning needs. Based on this phenomenon, it is necessary to develop teaching materials with a blended learning approach to improve financial management learning outcomes.*

Purpose - *In general, this study aims to develop teaching materials with a blended learning approach to improve financial management learning outcomes. Specifically, the objectives of this study are: 1) Knowing the initial conditions of learning that can improve learning outcomes in Financial Management at the Unimed Faculty of Economics; 2) Developing a Blended Learning conceptual model of learning in order to improve learning outcomes in Financial Management; 3) Implementing the Blended Learning Approach Learning to improve learning outcomes in Financial Management.*

Design/methodology/approach - *This study designed with a development research approach with the following activity stages: (1) A preliminary study that was evaluative and explorative, on previous learning models, (2) Designing a Conceptual Model, (3) Model Validation, (4) Testing the conceptual model, (5) Revising the test results to get the final model. The subjects of this study were students of 3rd-semester Accounting Department Faculty of Economics who programmed the course of Financial Management.*

Findings - *The study results were that the Development of Teaching Materials with a Blended Learning Approach to Improve Learning Outcomes in Financial Management showed: the results of the validation test from*

design experts, material experts, and media experts showed that the results needed improvement. After the refinement, the subsequent trials carried out: 1 Individual trial, three students, 2. Small group trials to 15 students, 3. Large group/class trials to 30 students. These trials found that the teaching material products with blended learning shortener got excellent results.

Research limitations - *The study results were that the Development of Teaching Materials with a Blended Learning Approach to Improve Learning Outcomes in Financial Management showed: the results of the validation test from design experts, material experts, and media experts showed that the results needed improvement. After the refinement, the subsequent trials carried out: 1 Individual trial, three students, 2. Small group trials to 15 students, 3. Large group/class trials to 30 students. These trials found that the teaching material products with blended learning shortener got excellent results.*

Originality/value - *This research is development research that produces Blended learning approach teaching materials that are relatively new and have not to find before.*

Keywords : Teaching materials, Blended Learning, learning outcomes, Financial Management

Analysis Impact of Using Ebooks during the Pandemic Period on Students' Mathematical Creativity Ability

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Abstract

Background - Before the pandemic, only 28% of the 122 mathematics education students chose to use ebooks, but during this pandemic, 68.29% of students preferred to use ebooks rather than conventional books.

Purpose - This study aims to determine whether students who prefer to use ebooks have higher mathematical creativity than the other one.

Design/methodology/approach - This type of research is a quantitative study with a descriptive approach.. Quantitative research is used to find out whether the creativity of students who choose to use ebooks has higher mathematical creativity than the other one.

Findings - The results showed that students who preferred the ebook had the following opinion: 1) 38% say of ebooks can accelerate mastering the material, 2) 46, 3 it can help them writing creatively, 3) 43.9% ebook give them lots of ideas to solve mathematics problems, 4) 36.8% it helped them become fluent in solving math problems, 5) 46.3% it helped them more flexible in solving math problems, 6) 38, 2% said ebook can grow their interest in reading, 7) 90.2% it can be read anywhere, 8) 86.2% it can be read at any time, 9) 30.9% it can be their collection books, 10) 50.4 ebook was easy to read, 11) only 22% on those book can write small notes, 12) 78.4 ebook more durable than the conventional book, 13) 66.7% ebook can be read in a relaxed time, 14) 17.1 it will give a problem with their health if they read those book too long. The results of quantitative research show that there is no effect of this type of book on students' mathematical creativity.

Research limitations - This research only limited to the effect of using conventional ebooks and books on the ability of mathematical creativity during a pandemic. Future research will be conducted on the effect of using

ebooks on user comfort in terms of health and psychology which have an impact on creativity students' mathematics.

Originality/value - *3rd-semester students, including generation Z, spend more time using smartphones, tablets, laptops. But in the days before the pandemic, they preferred reading conventional books.*

Keywords : ebooks, mathematical creativity

The Development of Web-based Learning Media Based on STEAM Approach to Improve Students' Programmable Logic Controller (PLC) Competency

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Abstract

Background - *The development of industrial automation technology in factories in the era of the industry revolution 4.0 was very rapid. One of the competencies needed for graduate students in the field of electrical engineering in industrial automation is the PLC competency that requires equipment and applications that are quite expensive and difficult to learn. Besides, conventional learning methods are not very effective in making students with diverse learning styles master this competency.*

Purpose - *The study is implemented to develop a web-based learning media as the assistive media for the students to improve their competency on Programmable Logic Controller (PLC). The students of Department of Electrical Engineering Universitas Negeri Medan involve in this study.*

Design/methodology/approach - *The steps of this research adapt the methodology of Borg and Gall (1998) which consists of understanding the problem, collecting information, designing, developing, validating, testing, revising, installing, improving design, and distributing the product. The research and media development apply the STEAM (Science Technology Engineering Art and Mathematics) approach to support the pedagogy aspect.*

Findings - *When the study was implemented, the data showed that commonly, respondents believe the web-based learning media is reliable to be used to improve the students' competency on Programmable Logic Controller (PLC).*

Research limitations - *The contents in the learning media are adapted from the standardized syllabus so that the revisions only affected to the user interface and user experience.*

Originality/value - *The testing process which was carried out by users and experts generates results describe that the learning media is qualified to be applied to the students officially.*

Keywords : plc, web-based learning, steam

Analysis of Adolescent Behavior Issues and the Urgency of Research for Unimed Guidance and Counseling Study Program Students in the Revolutionary Era 4.0.

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Abstract

Background - *Researchers think that research is needed to analyze how the issues related to the social behavior of adolescents in the industrial revolution era 4.0.*

Purpose - *it aims to; (1) to know the description of the issue of adolescent behavior in the era of the industrial revolution 4.0, (2) to find out the urgent research methods to be carried out by Counseling Guidance study program students in the era of the industrial revolution 4.0*

Design/methodology/approach - *This research has been conducted using a qualitative approach. As many as 15 schools in several districts in North Sumatra were interviewed.*

Findings - *On junior high school level, there were 90 cases of verbal bullying by female students, then there were 40 cases of verbal and non-verbal bullying by male students . There were 70 cases of access to pornographic films by class IX students. There were 40 cases of playing online games by 30 male students. There are 110 cases of bullying committed by 70 female and 40 male students. There were 5 cases of fraud committed by 5 male and female students of class XII through social media. There were 10 cases of brawls between schools that were caused by teasing each other on social media. There are 38 cases of online gambling by male students. Researchers also interviewed three lecturers from the guidance and counseling departement. the lecturers concluded that the research methods that should be carried out by students were qualitative research methods and Guidance and Counseling Action Research.*

Research limitations - *The limitation of this research was the negative behavior of adolescent in digital era.*

Originality/value - *The results of this study are used as a reference in making textbooks for research methodology courses of Guidance and Counseling that have never been done before.*

Keywords : Research Metodology, Digital Era, Behavior

Development of Learning Model Based on Generic Green Skills in Project Based Learning by Using Computer Aided Design (CAD) in Technical Drawing Skills

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Abstract

Background - *The technical drawing is one way used to explain an idea to someone who needs information in the engineering field. CAD is very important to use in technical drawings to make it easier for someone to explain these ideas and concepts so that the information obtained can be understood clearly.*

Purpose - *The purpose of this study was to find out the feasibility and effectiveness of the Learning Model Based on Generic Green Skills in Project-Based Learning by Using CAD in Technical Drawing Skills.*

Design/methodology/approach - *This study uses Research and Development method proposed by Borg & Gall model. The subjects were students of the Department of Mechanical Engineering Education, State University of Medan, who were reviewed by design experts and material experts. Trials are conducted by individual trials, small group trials, and field trials, as well as testing the effectiveness of the learning model by comparing the results of the experimental group with the control group. The analysis used the descriptive analysis at each stage of development and continued with t-test statistical analysis to determine the effectiveness of the Learning Model Based on Generic Green Skills in Project-Based Learning by Using CAD in Technical Drawing Skills to improve students outcome.*

Findings - *The results showed that The Learning Model of Generic Green Skills in Project-Based Learning by Using CAD could be declared worthy of its level of applicability and excellence in terms of the aspects of learning, material, and media; The Learning Model of Generic Green Skills in Project-Based Learning by Using CAD effectively to improve student learning outcomes in Technical Drawing Skills.*

Research limitations - *Drawing techniques that are by ISO standards using CAD helps students in doing technical drawing assignments closely related to the practice of e-learning on generic green skills in vocational education is currently the focus in developing student skills in vocational.*

Originality/value - *The uniqueness of the generic green skill-based learning model in project-based learning can help students understand the material in the course of Technical Drawing Skills by using CAD.*

Keywords : learning model, generic green skills, project based learning, computer aided design, technical drawing skills

Development of Experiential Kolb Learning (EKL) Model Based on Independent Learning to Improve Student Competence in Accounting Education Subject

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Abstract

Background - *The low level of understanding of students in mastering the basic concepts of financial accounting in institutions, it is necessary to conduct the research on the development of EKL model based on independent learning and is expected to be able to increase student competence in the field of accounting education.*

Purpose - *The purpose of this study was to find out the feasibility and effectiveness of EKL model based on independent learning to improve student competence in accounting education subject.*

Design/methodology/approach - *This study uses Research and Development method proposed by 4Dmodel. The subjects were students of Accounting Education, State University of Medan,, who were reviewed by design experts and material experts. Trials are conducted by individual trials, small group trials, and field trials, as well as testing the effectiveness of the learning model by comparing the results of the experimental group with the control group. The analysis used the descriptive analysis at each stage of development and continued with t-test statistical analysis to determine the effectiveness of EKL model based on independent learning to improve student competence.*

Findings - *The results showed that the use of EKL model based on independent learning could be declared worthy of its level of applicability and excellence in terms of the aspects of learning, material, and media; the use of EKL model based on independent learning was effectively to improve learning student outcomes in accounting education subject.*

Research limitations - *This research is limited to the students of accounting education whose learning uses the EKL model based on independent learning.*

Originality/value - *This research is limited to the students of accounting education whose learning uses the EKL model based on independent learning.*

Keywords : experiential kolb learning, independent learning, student competence, accounting education

Online Learning Effectiveness Enhancement with Application Based on Internet of Things Concept

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Abstract

Background - *Online learning that is fully used as a solution in the teaching and learning process during the 2019 corona virus disease pandemic or known as COVID-19 is still in doubt of its effectiveness, especially in Teknik Elektro study program, Universitas Negeri Medan. Some of the problems that occur related to online learning using smartphones are that some students are often late in submitting assignments and are less active in participating in online discussions during lectures.*

Purpose - *A solution is needed that can increase student learning effectiveness even though learning is carried out online with cellphone assistance by applying the concept of Internet of Things (IoT) to manage students' cellphone so that their functions can be improved and the online learning process can take place smoothly without distraction.*

Design/methodology/approach - *The research process was carried out by providing the IFTTT application program implementation guidebook to students and lecturers. This program will establish communication between lecturers' smartphones and students. In the IFTTT program, the lecturer is given a time trigger, at which time the application will take action to send a message to the group of courses on the telegram that has been made where all students have joined. The message that goes to the group will trigger the student's IFTTT program, it will trigger the callmebot program provided by the telegram which will make a call to the student's cellphone that the learning or assignment has been provided.*

Findings - *The results obtained from this study were an increase in the average student learning achievement index. The average score of students in the subjects tested before using this program was 76, after implementing this program on the mobile phones of students and lecturers there was an increase in the average score of students to 91, which was an increase of 12%*

in the average score of students, and there was a decrease in student absence from class by 35%.

Research limitations - *This research was only conducted for students for 1 semester in the calculus course to obtain student learning outcomes using the IFTTT application.*

Originality/value - *The originality of this study is that there has been no previous research on the application of IoT in online learning.*

Keywords : Online Learning, IoT, Application

Create New Knowledge Based on The Ecological Teaching Materials on Indonesian Language Education

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Abstract

Background - *In language educational situation, students need discourse based on their actual life. To study Indonesian language and to elaborate the materials, they need examples from their nature and their culture. From this, language education will be easier to make an implementation from this academic purpose. Based on observation, Education language (Bahasa Indonesia) created by government with common discourse on their teaching materials. Teachers want a new paradigm to change the common teaching materials into the ecological teaching materials.*

Purpose - *The purpose of this research is: 1) To elaborate the teaching materials on Indonesian language education in Langkat, Batubara, and Tanjungbalai's high schools, 2) To create a new paradigm based on ecological education, 3) To evolve Indonesian language teaching materials based on ecological education.*

Design/methodology/approach - *This research used ecological theory of Indonesian language. Ecological theory on education is promoted by Sarwiji (Sebelas Maret University). This research used Borg and Gall research and development method to create and to experiment the teaching materials for student high school.*

Findings - *The result of this research is a product that elaborate ecological education to the teaching materials of Indonesian language education. This product can use with the textual oriented and digital oriented.*

Research limitations - *To get a product of research an Indonesian language teaching materials based on ecological education.*

Originality/value - *The digital product is dedication for being a solution in pandemic situation that brings us to the new knowledge era*

Keywords : Ecological teaching materials, Indonesian language education, digital

Development of Interactive Multimedia for French Student in North Sumatra

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Abstract

Background - *Development of a teaching medium that is able to meet the needs of the learning process during the Covid-19 pandemic where the learning process cannot be done directly or face to face, especially in foreign language learning, especially French in class X semester 1 students who should receive the most basic French language learning . This situation is of course a big challenge for teachers as facilitators who must transfer knowledge to make the learning process better and students do not lose the real atmosphere of the learning process. An interactive multimedia for French Learners in North Sumatra using Adobe flash professional CS6 software which aims to improve student motivation and learning outcomes in writing descriptive text material contained in the learning objectives decire une personne et une chose. Interactive multimedia that is developed and implemented in learning is very important because it has been proven to be feasible and effective. The object of this research is the students of class X at SMA 21 Medan.*

Purpose - *The purpose of the research is to develop interactive multimedia on descriptive text material for French learners in North Sumatra and knowing the effectiveness of interactive multimedia products based on Adobe Flash Professional CS 6 to improve the ability to write descriptive text of students of SMA Negeri 21 Medan.*

Design/methodology/approach - *This research was conducted using the R&D development research method by adapting the DDD-E development model, as for the interactive multimedia development steps for learning descriptive text writing skills for students of class XI SMA as follows: (1) Decide, (2) Design (product design) , (3) Development (product development), (4) Evaluation (product test). To obtain data validity, validation of media experts and material experts*

Findings - *To obtain data validity, validation of media experts and material experts is required with the following results: (1) material validation shows the eligibility percentage is 88.5% in the very good category (2) media validation shows the Feasibility percentage is 87.3% with the very good category. The results of individual trials were declared "very good" with an average percentage of 82.7%. The results of small group trials were stated to be "very good" with an average percentage of 86.3% and the results of limited field trials were declared "very good" with an average percentage of 88.5%. Then, the effectiveness of interactive multimedia products is seen from the increase in student learning outcomes in descriptive text material before and after using interactive multimedia. There is a difference in value 22.30*

Research limitations - *This research was conducted to determine the feasibility and effectiveness of interactive multimedia products in descriptive text learning for French learners in high school.*

Originality/value - *Interactive multimedia that is feasible and effective is used for teaching French in high school, especially class x semester 1, which must acquire basic French knowledge with a precise and interesting process during the Covid 19 pandemic.*

Keywords : interactive multimedia; descriptive text, fresch students

Development of Better Teaching and Learning Learning Models in The Competence of Basic Teaching Skills of Students

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Abstract

Background - *Basic teaching skills are various skills related to teaching techniques. These skills must be mastered by prospective teachers in order to carry out the teaching and learning process properly, more specifically that each teacher must have in order to carry out teaching assignments effectively, efficiently, and professionally.*

Purpose - *The objectives of this study are: (1) to develop a Better Teaching And Learning learning model that can foster character, increase student interest, activity, and learning outcomes in teaching exercises, determine the validity, effectiveness, and practicality of the Better Teaching And Learning learning model.*

Design/methodology/approach - *This research is a research development (R&D). The research was carried out in three stages, namely: (1) theoretical exploration and expert research on the Better Teaching And Learning model. (2) Empirical Test, to empirically validate the Better Teaching And Learning model. (3) The implementation stage, to determine the effectiveness and practicality of the Better Teaching And Learning model.*

Findings - *The results showed that the Better Teaching And Learning learning model that was developed was to integrate the basic teaching skills of Makeup Education students, and it was presented in eight stages of teaching skills (questioning skills, strengthening skills, variation skills, explaining skills, opening, and closing learning skills, group guiding skills, class management skills, individual group teaching skills). This model is declared valid by the validator and supported by the results of empirically validated through field trials. This model has also been tested for its effectiveness in fostering character and increasing student interest, activity, and cognitive learning outcomes.*

Research limitations - *The practice of implementing the Better Teaching And Learning model has also been tested through observations of the ability of prospective teachers in classroom learning, learning responses to the ease with which prospective teachers use the Better Teaching And Learning model, and student acceptance responses to the Better Teaching And Learning learning model applied by Pre-service teacher. The final result shows that the Better Teaching And Learning learning model developed has met the criteria of validity, effectiveness, and practice.*

Originality/value - *Originality*

Keywords : Better and Professional Learning, basic teaching skills competencies

Blended Learning in New Normal: The Relationship Between Students' Characteristics and Virtual Design to Learning Outcomes

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Abstract

Background - *The current covid-19 pandemic period marked by the implementation of Large-Scale Social Restrictions and continued in the new normal phase, requires that learning in all educational units including higher education must implement Mix learning. In reality, the learning process of teaching has obstacles for both teachers and learners. So it is necessary to find various determinants of the success of mix learning reviewed from the characteristics of students and the design of Virtual LMS. This research was conducted to further the success rate of learning by noticing the mix of learning mixes reviewed from the characteristics of students and Virtual design*

Purpose - *The purpose of this study is to predict the significance of the effective of blended learning by taking into account the students characteristics and Virtual design as independent variables and learning outcomes as dependent variables*

Design/methodology/approach - *The research method used is descriptive which uses the survey approach to determine the significance of the relationship between independent variables to independent variables. Study result data based on semester end values is used as an external benchmark and is associated with data characteristics of students and virtual design in the mix learning environment. The survey was conducted on 186 respondents using self-developed instruments. The implementation of data retrieval is carried out using the online methods available in the LMS. The data analysis technique used is a single and double regression as a predictor of the strength of the relationship between independent variables and dependent variables separately or together*

Findings - *The results of analysis of single and double regression data show that student characteristics (background of habitual use of virtual, attitude and self-control) and virtual design (technology quality, ease of application, online network availability and roof-to-face support) can be predicted to power in supporting learning success using blended learning. The results showed that some students can predict the level of utilization of mix learning in the context of learning results reviewed from the characteristics of students and Virtual plans*

Research limitations - *This research is limited to the utilization of regulations at Medan State University that implement an Online Learning System (SIPDA). In addition, there are many other factors that influence the success of mix learning during the time of digitization*

Originality/value - *This research is unique and different from other research, especially on variable indicators of research. The characteristics of students are seen from a habitual background using online learning methods, readiness to use online learning and LMS models used in reference to regulations at Universitas Negeri Medan*

Keywords : Blended, student characteristics, Learning Outcome

The Innovation of Classroom Management to Prevent Student's Negative Behavior

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Abstract

Background - *This research was motivated by the phenomenon of students' negative behavior, such as bullying, sexual abuse, and intolerance in elementary school.*

Purpose - *The intervention purpose of innovation the quality of teachers' classroom management, through creative art techniques.*

Design/methodology/approach - *There are four techniques of creative art, such as creative visualization, drawing, role play, and creative art by using sand and figurine. . This study involved 28 elementary teachers of SDN 060891 and SDN Percobaan Medan, North Sumatera. This study analyzed a descriptive qualitative research method.*

Findings - *The results found that there were significant increases in teachers' management classrooms to prevent students' negative behavior, such as more responsive, divide and focus attention, give directions clearly, give a reinforcement, reprimand, process management in small and large classes, group problem solving, and behavior modification.*

Research limitations - *This study had limitations that research was in a small group of teachers and three study cases, such as bullying, sexual abuse, and intolerance.*

Originality/value - *The value of this study found in the teachers themselves, they imagined how to be the students who were the victim of bullying, sexual abuse, and intolerance and how the teacher managed other students to respond to the situation.*

Keywords : Innovation; Classroom Management; Students' Negative Behaviour

Task Based Language Teaching in Designing Students' Scientific Writing

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Abstract

Background - *The professionalism of a lecturer can also be measured from the teaching material he or she designs. Teaching materials are one of the most important elements needed in teaching and learning process, particularly in Scientific Writing course. Suitable textbooks are needed to support the smoothnes of learning. In the last period, the Scientific Writing lecture process for students at the English Language Education Study Program at the Universitas Negeri Medan has not undergone a meaningful review and development. In addition, there are no teaching materials based on Task Based Language Teaching in the Scientific Writing course.*

Purpose - *This study aims to explore the design process of Task Based Language Teaching methods in scientific writing materials and to examine the learning outcomes of lecturers who take tutorial course on the technique of writing task based scientific papers.*

Design/methodology/approach - *The research design used was evaluation research and development research using the label "Educational Research and Development". The data collection methods used in this study were observation, interview, questionnaire and giving tests. The subjects involved in this study were students of the 4th semester of the English language education study program.*

Findings - *The results show that the task based language teaching methods is appropriate for scientific writing subjects by considering the resluts of validation, content feasibility indicators, and conformity with the competency achevement index. it means that the quality of students learning in scientific writing courses increases and reaches more than 70 percent. Moreover, it also proves that the task based language teaching method is running well as expected. and the students were very challenged with the given tasks.*

Research limitations - *However, this study still need to be refined and more details in terms of the content of teaching materials by adding more assignments.*

Originality/value - *Scientific writing courses have never been studied based on task based language teaching method. This research on task based language teaching has very good implications for students.*

Keywords : Teaching, Designing, Scientific Writing, Task Based Language Teaching

Development of Transformative Learning Models And Innovations By Applying The Knowledge Center for Student Character Building in The Basic Education Unit of North Sumatera Province

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Abstract

Background - *Advances in technology and social behavior are a challenge in integrating the values of the nation's character and culture in learning today and in the future. The challenge in question is how a learning model that includes strategies for integrating the values of national character and culture into learning with effective, efficient and attractive learning patterns?*

Purpose - *The research objective is to integrate the values of national character and culture in basic education units referring to the preparation of teaching materials with material content developed from material contained in regional culture and local wisdom which is reconstructed as a learning model as a guide in preparing learning in building student character starting from planning, implementation, to the evaluation system.*

Design/methodology/approach - *This research was adapted from the Borg and Gall development model combined with Dick and Carey's learning design model. The first design of this learning product development model is programmatically designed and student-centered learning by being processed in five steps, namely: learning design, development of preliminary learning models, validation, testing, revision of the preliminary learning model.*

Findings - *The research findings are the use of transformative learning models and innovation by applying a knowledge center for character building students which is limited to the basic education unit of the province of North Sumatra.*

Research limitations - *Presented transformatively with deep learning applications. Networks, such as knowledge centers, which are taught through online learning.*

Originality/value - *The originality of this research is contained in the study of character education including character values that are extracted from regional culture and local wisdom which can provide space in developing students' insights to get to know and feel more of their identity as a form of character development*

Keywords : Transformative learning model, Knowledge center, Character building of students, Regional culture and local wisdom

Virtual Laboratory Development as Learning Media in in the Invertebrate Animal Taxonomy Course

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Abstract

Background - *Virtual laboratories can be used to support distance learning patterns, especially in the current Covid-19 pandemic conditions. Invertebrate Animal Taxonomy (THI) subject is very dependent on practicum activities. Virtual laboratories can support practicum activities in laboratories that are interactive, dynamic, animative, and have a virtual environment so that they are not boring and can support students to learn and understand THI course material. One of the efforts made is developing virtual laboratory-based learning media.*

Purpose - *The purpose of this research is to determine the feasibility of a virtual laboratory being developed as a learning medium.*

Design/methodology/approach - *This study uses the Research and Development (R&D) method. Research procedures include: (1) identification of potentials and problems, (2) data collection, (3) data for development, (4) product design, (5) design validation, (6) design revision, (7) limited scale trials, (8) product revisions, (9) wide-scale trials, (10) final products. Product trials were carried out on third semester students in the THI class, Department of Biology, FMIPA UNIMED.*

Findings - *The results showed that the average evaluation of material experts was 2.85 (very good criteria) and the average evaluation of media experts was 2.3 (good criteria). The acceptance level of the virtual laboratory by students reaches the supportive and very supportive criteria of 95.5% (limited scale trial) and 96% (wide-scale trial). The average score of each student and lecturer response item reached very supportive criteria. The results of the student evaluation using a virtual laboratory showed that classical completeness was 86.4%.*

Research limitations - *The material used in the virtual laboratory is invertebrate animal material in the THI course. Based on expert validation, lecturer and student responses and student evaluation results, the virtual laboratory is suitable for use as a learning medium in the Invertebrate Animal Taxonomy course.*

Originality/value - *This research has never been conducted, especially a video virtual laboratory on invertebrate animal material. The material content of the video describes and identifies phyla, Porifera, Cnidaria, Platyhelminthes, Nematoda, Annelida, Arthropoda, Molusca, and Echinodermata.*

Keywords : Development, Virtual laboratory, media, Invertebrates.

The Effectiveness of ICT-Based English Learning Materials of Integrated English Towards Teacher College Students' Listening Skills

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Abstract

Background - *In Indonesia, the government makes English a compulsory subject for students, starts from elementary school to high school level. Even at the higher education level, all study programs must provide English language courses for 1 or 2 semesters, even if the discipline taken is not related to English. Hence, it shows how important the mastery of English. English is one of the needs in today's life. Also, the ability to speak English is one's pride. People who can master foreign languages, including English, will have more value in their life. Problems in learning English are not only found at the level of primary, secondary, and upper education, but continue to the tertiary level. Several studies have proven the problems in English language skills. It applies to both students with English major and non-English majors. To fulfill their obligations as university students, they are required to take English courses and even have to pass a TOEFL test with a passing grade score.*

Purpose - *This research aims to investigate the effectiveness of ICT-based learning on improving all aspects of the English skills of Elementary School Teacher College students.*

Design/methodology/approach - *To achieve that goal, we use an experimental methodology with a pretest and post-test design of two groups, using the cluster random sampling.*

Findings - *Manova's result showed that a significant difference in English language skills, which can be concluded that the treatment that combines the Moodle-based e-learning and face-toface classes has effectively impacted students' English skills.*

Research limitations - *In this research, we focus on the skillsets of the English Language they are reading, writing, listening, and speaking.*

Originality/value - *To test students' ability in the first three skills, we used some form of descriptions, while for the speaking skills, we collected data using observation sheets.*

Keywords : ICT, blended learning, listening, english

Effectiveness of Online Learning Process Based on Google Classroom and SIPDA

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Abstract

Background - *Trigonometry courses are abstract, so students need to understand deeply so that the concept of trigonometry can be digested. In addition, the level of matter is increasingly abstract. In order for abstract trigonometric learning to be easily understood by students, an interesting learning medium is needed. Learning media can change something abstract to be concrete and complex to be simple. One of the ICT media that can be used in learning is internet media. With the help of technological sophistication, researchers have made learning media in the form of e-learning. The media is in the form of various kinds of learning content produced from various kinds of virtual application program software. Thus the researcher wants to discuss whether the use of internet-based electronic media in learning (e-learning) in trigonometry courses is effective in improving learning outcomes of students majoring in mathematics.*

Purpose - *This study aims to determine the effectiveness of the application of online learning models based on google classroom and SIPDA in the mathematics department in trigonometry lectures.*

Design/methodology/approach - *The research method used in this study was a quasi-experimental research method with 2 classes of students majoring in mathematics in the first semester. The research design used was the pretest-posttest control group design..*

Findings - *Based on the data on the pretest and posttest values in the google classroom class, the normalized gain value for the google classroom class is 0.48 and the sipda class is 0.58.*

Research limitations - *This research is focused on the use of e-learning media using the Google Classroom application program and SIPDA in trigonometry subjects.*

Originality/value - *When compared to the gain value between the google classroom and the sipda class, it can be concluded that the effectiveness of using e-learning media in the sipda class is higher than the google classroom.*

Keywords : online learning, google classroom, SIPDA

Development of Training Model for Strength and Conditioning Coach in Sport Science Faculty Medan State University

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Abstract

Background - *Trainer procurement and development is one of the 10 existing policy pillars. To produce optimal performance the role of the coach is very decisive. Athletes who have good talents and abilities if trained by a coach who does not have good training abilities, these athletes will certainly not show good performance and vice versa, achievement will be achieved if supported by the ability of a good coach. To produce a reliable trainer requires time that is not fast, it takes education and experience in that field.*

Purpose - *The purpose of this research were (1) prepare a draft of strength and conditioning coach training model. (2) prepare a draft of strength and conditioning coach training assessment, (3) Preparing a draft training module for the strength and conditioning coach, (4) Increasing the student's ability to train, especially in strength and conditioning, (5) Becoming a strength and conditioning coach training guide, As a pilot beginning to become a strength and conditioning coach Professional Certification Institute in North Sumatra.*

Design/methodology/approach - *The method used in this research is to use a qualitative approach and use research and development research methods (R & D).*

Findings - *1. Curriculum training for strength and conditioning coach 2. Training modul for strength and conditioning coach*

Research limitations - *The research is still in the scope of the department, not including broader trainers such as those in the provincial sports branch officials*

Originality/value - *“The model curriculum that was developed emphasizes more in doing practice or a larger portion of practice than theory.*

Keywords : Model, development, strength and conditioning coach, training

Learning at Home with Augmented Reality

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Abstract

Background - *The pandemic brought by Covid19 has been forcing us to enter a condition called new normal. Whether or not we are ready, the educational world should respond properly, in order to provide the best learning experiences available for the students. Face to face classroom approach needs to be reconsidered for common safety, while learning from home is unavoidable. The question is how should we handle this matter. Learning is human innate ability through continuous reflection on ones' experiences. The changes brought by this pandemic itself is kind of experience that may provide an opportunity for us to learn. This current new normal concept pushes us as educators to rethink the best way to use available technology to support students' learning experiences. One of available technologies that may be explored for its further usage in education is augmented reality. Combination of reality and digital reality brought by this technology may provide a unique experience for students in their learning experiences.*

Purpose - *This paper discusses the innovative learning experiences using augmented reality features that may support students' learning at home.*

Design/methodology/approach - *This paper is using critical narrative inquiry as the method of analysis and representation.*

Findings - *The augmented reality based application used in learning provides a unique and attractive experience for students in learning, which allows them to learn independently at home or any comfortable places.*

Research limitations - *The topic discussed in this research was limited to solid geometry shapes. The result mentioned in this paper is transferable to those who have similar condition and characteristics.*

Originality/value - *Learning design, tools and applications, which are developed in this research, provide an alternative in teaching and learning*

mathematics for teachers, parents and students. Especially in current situation when students need to learn from home.

Keywords : Augmented Reality, learning from home

Development of Civilization Learning Based on Moral Intelligent as A Systemic Culture Program of Main Character Values

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Abstract

Background - *This research was motivated by the factual condition of the occurrence of a moral crisis among Indonesia's young generation, including the weak culture of the main character values.*

Purpose - *This development research was aimed to develop moral intelligence-based Citizenship Education learning as a systemic program for the culture of the main character values*

Design/methodology/approach - *The research method was used by the Research & Development. The research subjects involved: (1) a lecturer who taught introduction courses of civics; (2) students as subjects for limited group trials; and (3) three experts for the validation of teaching materials who had criteria for Citizenship Education experts including politics, law, and moral philosophy. The instrument was used as an expert validation questionnaire which was analyzed using the Percentage Mean Score (PRS)*

Findings - *The results of the research showed that civics learning textbook based on intelligent moral that developed was very valid and suitable for being used and giving contribution on the strengthening of character for students in their scope life in a global era that full of change and value paradoxes*

Research limitations - *The scope of this research was limited to the study of civics learning based on moral intelligence as a systemic program of cultivating character values among students*

Originality/value - *This study focused on civics learning based on moral intelligence which had not been widely studied by researchers, with added value oriented towards strengthening character values in the global era*

among students as prospective teachers of Pancasila and Citizenship Education

Keywords : Citizenship, moral intelligence, character

The Development of e-book Media based STEM using Kvisoft Flibbook Maker on Kinematics

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Abstract

Background - During the Covid 19 pandemic, learning, which was usually direct, turned into e-learning. Educators mostly use social media, learning media and meeting media in bold learning activities. Learning using LMS (learning management system) such as using SIPDA, google classroom, schoology, and others. Teachers can send teaching materials, videos and quizzes. Students who used to have learning resources such as printed books are not given them anymore. Therefore it takes the same media but can be used boldly, namely e-book media. E-books can be made into several formats such as plain text, pdf, JPEG, LIT, HTML and OPF (open e-book package.FlipBook). This e-book media only use in one subject, that is Physics subject,

Purpose - This study research aims to determine to develop e-book media based on STEM using kvisoft flipbook maker subject matter of Kinematics, valid, effective and feasible to use.

Design/methodology/approach - Design product/Method Research and Development (R & D) /a quantitative descriptive study/ The data collection techniques used were questionnaire methods and documentation. The selection of three schools was based on purposive sampling.

Findings - The result of this study shows that: 1) E-book media based STEM is valid as the validation result from matter expert and media expert 2) Effectiveness stage is seen from pretest value and posttest value of X grade students from three schools 3)Eligibility according to questionnaire responses a)The Percentage of eligibility score from matter expert 86,5 % b)The percentage of eligibility score from media expert 80,56% c)The percentage score of response reviewer teacher from three schools are 83,33 %, 91,07 %, and 96,67% d)The percentage test score of response initial stage student trial 77% e)The percentage score of response from

student's reviewer limited group field trial of three schools from SMA Dharma Pancasila 70,84%, SMA Wathaniyah 88,9 % and SMA Muhammadiyah 1, 74,14 %. According to the result of evaluation and questionnaire response can conclude that e-book media based STEM using kvisoft flipbook maker is very feasible and developing.

Research limitations - Until 7 th stages methods R & D borg and Gall. Kinematics material which will consist of straight motion, vertical motion, parabolic motion, circular motion.

Originality/value - Originality , many e-book media. But no one has created STEM-based e-book media using the kvisoft flipbook maker on kinematics material.

Keywords : e-book media, STEM, Kinematika, kvisoft flipbook maker

Development of Digital Encyclopedia Teaching Materials In Indonesian History Course in Hindu Buddhist Period

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Abstract

Background - *Research on the Development of Digital Encyclopedia Teaching Materials in the Subject of Indonesian History The Hindu Buddhist era was motivated by the lack of a Digital Encyclopedia of Indonesian History in the Hindu Buddhist Period.*

Purpose - *The purpose of this research is to make it easier for students to understand the historical events of the Hindu Buddhist period in Indonesia.*

Design/methodology/approach - *The development of teaching materials uses the ADDIE development model consisting of Analysis, Design, Development, Implementation, and Evaluation. In this research, the development step is carried out in only four stages; Analysis, Design, Development, and Implementation. The feasibility test involves experts, namely Indonesian history material experts, Learning Media experts and students. The research instrument used a questionnaire. Data analysis technique used descriptive quantitative and qualitative. The encyclopedia's feasibility test results from material experts show good categories at stage one and stage two.*

Findings - *The percentage of the feasibility test for stage 1 material experts is 72.6%, this result shows that the teaching materials developed are in the feasible category. The percentage of the feasibility test for stage 2 material experts is 88.6%, this result shows that the teaching materials developed very feasible. The percentage of feasibility of the test results from media experts is 88 %, this result shows that the product being developed is very feasible. The average student assessment results from the small group were 4.2. The percentage of eligibility of the results of the assessment of small group students is 84%. These results indicate that the teaching materials developed are suitable for use. The average student assessment results from*

the large group were 4.1. The percentage of the feasibility of the large group student assessment results is 82%. These results indicate that the teaching materials developed are suitable for use.

Research limitations - *The problem of this research is limited only to the development of digital encyclopedia teaching materials of Indonesian history material during the Hindu Buddhist period.*

Originality/value - *The novelty of research is to make it easier for students to understand history chronologically.*

Keywords : Development, digital teaching materials, History of Indonesia The Hindu Buddhist period.

The Development of Learning Planning Book Based on Mind Mapping on Students of Economic Education Study Program at Faculty of Economics in State University of Medan

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Abstract

Background - *Mind maps are designed to map all knowledge completely and thoroughly by developing the working potential of the two hemispheres both in writing and verbally using a combination of colors, symbols, shapes, and so on. The use of this mind map-based Learning Planning textbook will help students activate the entire brain, look for the chronological order of a problem, focus their thoughts on a theme so that they can increase mastery of the lesson planning subject matter.*

Purpose - *This study aims to: (1) describe the feasibility of a mind map-based Learning Planning textbook, and (2) describe the effectiveness of a mind map-based Learning Planning textbook.*

Design/methodology/approach - *This study uses 4D model (four-D models) consisting of 4 main stages, namely: 1) define, 2) design, 3) develop and 4) disseminate.*

Findings - *The results of this study based on the needs analysis concluded that the development of mind map-based Learning Planning textbooks was needed by students, namely 82.24% of students stated that they were not familiar with mind map-based Learning Planning textbooks and 17.76% stated that they were familiar with mind map-based Learning Planning textbooks. Based on the validator's assessment of the aspects of the textbook components developed, it was stated very good with a total percentage of 92.50%, while the validator's assessment of the appropriateness of the material substance was considered very good, namely 94.54%.*

Research limitations - *The limitation of this research is a proper and effective mind map-based Learning Planning textbook that reaches the dissemination stage.*

Originality/value - *The results of this study are in the form of a mind map-based Learning Planning textbook that has never been developed by other researchers.*

Keywords : Mind maps, Textbooks, Lesson Planning, Development.

Development of Inferential Statistics Teaching Materials Based on SPSS Statistics Applications

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Abstract

Background - *The rapid development of technology is entering the era of the Industrial Revolution 4.0. now demands the relevance and involvement of the role of academics in curriculum and lectures. One of them is the relevance of adaptive teaching materials to increasing students' technological literacy. One of the relevance of the teaching materials needed is in the Inferential Statistics course.*

Purpose - *This study aims to produce Inferential Statistics teaching materials based on manual and SPSS.*

Design/methodology/approach - *This study uses a research and development (R&D) method based on the Bord and Gall concept. Population research this is the whole student eyes of college statisika inferential third semester at the department of pe ndidikan economy in the year 2020. The sample was determined by purposive random sampling and the sample class was used for the application and testing of a small limited sample, namely class C of Economic Education.*

Findings - *Based on the results of the draft of inferential statistics teaching materials based on manual and SPSS, then validated by 2 material and media expert validators resulting in a decision that the teaching material has a high level of feasibility with a note that revisions need to be made. After the entire record of the revision corrected, do test try to group small at 30 students of class C. Based on the results of tests trying to group little known to occur an increase in the result of learning that is significant before and after using the materials of teaching statistics inferential applied based manual and SPSS.*

Research limitations - *The result is the whole factor of convenience for users, power use and effectiveness time has a value average of 3,65, means*

that concluded that the books were developed already meets the criteria of legibility and practicality.

Originality/value - *The research is carried out only up to the stage to 7 which produce a draft revision of product ingredients teaching to the next will need to stage further the use of books-scale large.*

Keywords : Material Teaching, Statistics Inferential, Manual and SPSS

The Development of Physics Animation Video Assisted by Levedio Animatoon on Fluid Material

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Abstract

Background - *With the corona pandemic the government requires the learning process to be carried out from home. The reality in the field during the pandemic the teacher teaches students with e-learning media including google scholar, schoology and social media such as whats app Teachers send learning materials and quizzes via e-learning. This of course will lead to boredom. To overcome this, it is necessary to design media so that the learning process is more varied and makes students learn independently. Research limitation : a. using two different school, that is SMA Wathaniyah and SMA Dharma Pancasila representing schools in Medan city and Deli serdang, b) As a small group is class XII SMA Whataniyah , while the large group are class XI science SMA Whataniyah and SMA Dharma Pancasila. No one has made an animated video with the aid of levedio aniatoon on dynamic and static fluida*

Purpose - *This study aims to develop a physics animation video assisted by Levedio animatoon on fluid material which is valid, effective and feasible to use.*

Design/methodology/approach - *Fluid material consists of dynamic fluid and static fluid. This research was conducted at Wathaniyah Tanjung Lenggang Senior High School and Dharma Pancasila Senior High School. The resulting product is an animated video which is applied to partners Wathaniyah Senior High School. The study used Research and Development R&D method by Borg and Gall which was modified by Sugiyono. The stages carried out during the research are potential problems, collecting data, making media designs, validating material experts and media experts, the first revision, testing products in small groups, the second revesion, testing products in large groups and final revision. This type of research is a quantitative descriptive research.*

Findings - *The results of this study indicate that: 1) the physics animation video assisted by levedio animatoon is valid 2) The level of effectiveness seen from the pretest and posttest scores of class X students who came from two schools, Dharma Pancasila Senior High School are 68,5 and 69.5, while Wathaniyah Senior High School are 46,4 and 63,21 3) Eligibility according to the responses from filling out the questionnaire : (a) percentage of eligibility score of material experts 99 % (b) percentage of feasibility score of media experts 86,5% (c) Percentage of responses from small groups, Wathaniyah Senior high school students as much as 86.6% (d) Response scores percentage of the large group test student reviewers came from two schools, Wathaniyah Senior High School 97,5 % and Dharma Pancasila Senior High School is 78,85 %. Thus the levedio animatoon-assisted Physics animation video is very feasible to be used and developed.*

Research limitations - *7th stage & Method by Borg and Gall*

Originality/value - *Originality*

Keywords : video animation, levedio animatoon, fluid

Preliminaries Study to Online Learning Methode, A Healthy Lifestyle and Healthy Menu Preparation in New Normal Covid-19 Period To Civil Servant Wife Union, Central Bureau of Statistics in Simalungun

**Ani Sutiani¹, Rini Selly², Tyas Permatasari³, Marini Damanik⁴,
Moondra Zubir⁵, Ricky Andi Syahputra⁶**

^{1,2,3,4,5,6}Universitas Negeri Medan

Abstract

Background - *The introduction of online learning as a form of community service by the Medan State University Research and Service Institute with the socialization of life skills to get a healthy life and the preparation of a healthy menu in the New Normal Covid-19 era has executed at civil servant wife union, Central Bureau of Statistics in Simalungun The introduction of online learning as a form of community service by the Medan State University Research and Service Institute with the socialization of life skills to get a healthy life and the preparation of a healthy menu in the New Normal Covid-19 era has executed at civil servant wife union, Central Bureau of Statistics in Simalungun district*

Purpose - *During the meeting, not only the introduction of Google classroom but also the guidelines for a healthy lifestyle socialized. At the end of the session, the nutrition needs during the new normal COVID -19 period was proposed.*

Design/methodology/approach - *Online and offline learning program*

Findings - *Almost 80% of participants are familiar with Google Classroom. However, regarding the content, appearance, and function of the google classroom itself, most of the participants did not understand well. Moreover, about 75% have applied their dinner plate (a healthy menu on a dish that is consumed by the participants every day) is a task that must be collected through Google Classroom.*

Research limitations - *The time of reearch was limit so it just take some part of google classroom studies.*

Originality/value - *The community service activity was succesfull because the participant feel satisfied. They knew google classroom methode , guidelines for healthy lifestyle and the nutrition needs preparation during the new normal COVID-19.*

Keywords : google classroom, healthy lifestyles, healthy menu, new normal, COVID 19

A Meta-Analysis of The E-Learning Influence on VET Learning: Preliminary Study of Virtual to Actualization

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Abstract

Background - *The use of e-learning has become a hot topic in recent years in Indonesia. Research on the effectiveness of e-learning has been widely conducted in various types of education with generally positive results. However, the effect of e-learning on VET learning which is performance learning has not been truly measurable.*

Purpose - *The purpose of this study was to analyze the effect of e-learning in VET learning.*

Design/methodology/approach - *This type of research was a quantitative study with a meta-analysis approach. A total of 19 articles on e-learning in VET learning were selected as samples. The 19 articles were taken from the journal Sinta accredited (the national index in Indonesia).*

Findings - *The main findings of this study indicate that e-learning has a great influence on VET learning. This is obtained by measuring the average effect size value of 19 articles which is $0.328 > 0.25$ so that it is categorized as a large effect category. Another interesting finding is that the effect of e-learning in VET learning is only on learning theory, increasing motivation and interest but not on learning performance.*

Research limitations - *The low amount of research on e-learning in VET learning causes difficulty in finding related articles.*

Originality/value - *Meta analysis on the effect of e-learning on VET learning is certainly an interesting study. The reason is that almost all forms of VET learning are learning practices (performance learning). Therefore, the study of e-learning in VET practical learning is a new study that can be developed.*

Keywords : e-learning, VET learning, performance learning, meta analysis

Validity of Interactive Multimedia in Automotive Basic Technology Courses

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Abstract

Background - *The instructional process requires interaction, both interactions made by students with instructional resources, and students with the instructional environment. The use of information and communication technology devices allows for more effective teaching and instructional activities. The instructional process for the Basic Automotive Engineering Subject (TDO) has only been carried out using power point media with the presentation, lecture and discussion method, where only 15% of students are active, more passive and only as good listeners so that the instructional objectives and competencies are expected not achieved.*

Purpose - *On the basis of these problems, a study aimed to determine the validity of interactive multimedia in automotive basic technology course which will produce interactive multimedia products of automotive basic technology (TDO) course that are valid for application.*

Design/methodology/approach - *The method used is the research and development (R & D) method by Borg and Gall. The stages of interactive multimedia validation are guided by the Gerlach and Ely models which consist of the stages of determining the material, determining objectives, assessing entry behavior; determine strategies, create groups, allocate time, allocate places, choose instructional resources, validation, and feedback. The data collection technique was carried out by observation and questionnaires.*

Findings - *This study resulted in (1) the material expert's assessment that the Basic Automotive Engineering (TDO) material was included in the very valid criteria with an average score of 3.94. (2) the learning design expert's assessment is included in the very valid criteria with an average score of 4.18. (3) expert assessment of instructional media is included in the valid criteria with an average score of 4.20.*

Research limitations - *The validity of interactive multimedia is determined by validating by material experts, media experts and instructional design experts.*

Originality/value - *The final product of this research is interactive multimedia which is not yet available at the Department of Automotive Engineering Education, State University of Medan.*

Keywords : validity, interactive multimedia, TDO

Validation of Lecturer Competency Models of Education Science Faculty - Medan State University on E-Learning

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Abstract

Background - *The policy of maintaining physical distance during the Pandemic made every lecturer to conduct e-learning so that learning continued. This certainly forces lecturers to improve their competence. To determine the success of this learning system, an evaluation of the process and competence of lecturers in implementing e-learning is carried out.*

Purpose - *This study aims to determine the profile of the implementation of e-learning in the Faculty of Education during the Pandemic and to validate the competency model framework of lecturers in managing e-learning.*

Design/methodology/approach - *Validation of this competency model is carried out using the Delphi method. The instrument used was a questionnaire containing a list of competency indicators that included planning and preparation, learning environment, instruction in learning, professional responsibility. The research panelists were 5 experts in the development of e-learning based on their experiences, research and scientific publications, 10 lecturers who used to organize e-learning, and 15 students who did e-learning. Panelists are asked to provide an assessment of the list of competencies provided.*

Findings - *In general, the implementation of e learning is running well, but student satisfaction is still low. The competency model for implementing e learning has been established*

Research limitations - *This research is limited to the scope of the Medan State University Education science Faculty*

Originality/value - *This research is interesting because it relates to the implementation of e learning in locations with weak internet networks and*

most of the implementers are people who are not fluent with technological equipment.

Keywords : Competency; Lecturer; E-Learning

The Development Of The E-Learning Practicum Guide On The Basic Concept Course Of Natural Science PRODI PGSD FIP UNIMED

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Abstract

Background - *Natural science learning in PGSD Study Program still tends to focus more on the form of formulation than emphasizing aspects of natural phenomena themselves. Whereas practicum activities in the laboratory in elementary school natural science learning can be used to show natural events or symptoms so that students can be directly involved in carrying out such observations. This activity should be achieved if learning is also with adequate practical activities, so that students gain empirical experience in addition to theoretical activities obtained in the classroom.*

Purpose - *The purpose of this research is to produce products and know the feasibility of developing a practicum e-learning guide to the natural science basic concept courses of Elementary school PGSD FIP UNIMED. The practice activities of natural science course in the Prodi PGSD FIP UNIMED are still using the simple practicum guidelines of natural science that exist in the basic concept module of elementary schools that have not been developed for a long time, and are still very conventional, containing only the instructions that students must work on, without involving the student's thought process and lacking clarity on learning problems that often occur misconceptions in understanding it.*

Design/methodology/approach - *This development research using Model 4-D consists of 4 stages of development namely (1) defining stage (define) the purpose of lectures by analyzing the curriculum of the course of the basic concept of science, (2) planning stage (design), designing practical manuals that comply with curriculum demands and improving students' ability to use technology in practicum, (3) developing stages (Develop), developing and producing practicum manual products in accordance with expert assessments and trials in PGSD students who attend science basic concepts , and (4) disseminating stage (Disseminate) provides existing*

practicum manuals to other lecturers in the same KDBK to obtain feedback and input so that better results are obtained

Findings - *The results are 1) validation of the practicum manual of this basic natural science concept course conducted by a team of validators consisting of expert lecturers from the college, show that the developed practicum manual is included in the good category. 2) The results of trials conducted against 35 PGSD students in class C 2019 Medan State University show that the ability and understanding of students towards the subject matter Of the basic concept of ipa increased after the lecture using a practicum manual developed by researchers.*

Research limitations - *The Development Of The E-Learning Practicum Guide On The Basic Concept Course Of Natural Science for PGSD FIP UNIMED Students*

Originality/value - *Practicum Guide Book Prosiding*

Keywords : Development, Practicum Guide, Natural Science, Elementary School.

SIPDA As An LMS Optimizes Online Learning at Fakultas Ilmu Keolahragaan UNIMED

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Abstract

Background - *The development of science and technology has led to the transformation of conventional education into digital form, both content and systems through e-learning which enables the teaching and learning process via the internet, intranet or other computer network media. The concept of e-learning learning has been implemented in the world of education as evidenced by the widespread implementation of e-learning in educational institutions including higher education (universities).*

Purpose - *This study aims to optimize LMS-based learning in FIK that has been developed by Universitas Negeri Medan. This research is an applied research using SIPDA Unimed in the Faculty of Sport Sciences.*

Design/methodology/approach - *Research respondents were lecturers at the Faculty of Sports Science who came from the PJKR, IKOR and PKO majors. Data obtained through interviews, observation, and documentation of learning history.*

Findings - *The results obtained are (1) usefulness aspects, (2) appearance, (3) operational, (4) operational, (5) speed of access, (6) learning interactions. Optimization is validated by experts and socialized to lecturers in the Unimed FIK environment to be implemented in full online learning.*

Research limitations - *The limitation of this research is the unavailability of work operational standards related to SIPDA content.*

Originality/value - *Review*

Keywords : SIPDA, Learning Management System, E-Learning

Development of Augmented Reality Based Teaching Materials in East Asian History to Improve Creative Thinking Skills

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Abstract

Background - *Creative thinking is a skill needed from a student in which students are future candidates for the nation. In an effort to improve students' creative thinking skills, East Asian history teaching materials were developed, which so far have been deemed incapable of improving students' creative thinking skills majoring in history education.*

Purpose - *this research aims to foster students' creative thinking in East Asian History Subject by using Augmented Reality based teaching material.*

Design/methodology/approach - *Research model used in this research is Lee and Owens which divided into some steps such as needs assessment/analysis, design, development, implementation, and evaluation teaching material related to the result achieved.*

Findings - *Result of trials which collected from three experts such as media, material, and educational shows that average score for media aspect get 4.44 with category of 'Very Good', average score for material is 4.46 with category 'Very Good' and for educational aspect get 4.5 with category 'Very Good'.*

Research limitations - *This study is limited on History Education student 2019 of Universitas Negeri Medan with East Asian History teaching material based on Augmented Reality result.*

Originality/value - *The use of Augmented Reality in teaching material development is rarely done. And generally it is used in architectural. So that it is need to develop an East Asian History Augmented Reality based teaching material.*

Keywords : East Asian, Augmented Reality, Creative Thinking

Is Critical Thinking Implied to Fashion Research Competencies in Virtual Learning?

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Abstract

Background - *Learning during pandemic presents a challenge for lecturers to give their best. The difficulty in doing online learning is when it comes to provide meaningful learning experiences. Meaningful learning here is that can measure the learner's ability both cognition and psychomotor in harmony. Critical thinking skills are one of the demands that a learner must have which is expected to have an impact on skills (psychomotor). However, the critical thinking aspect is often an ability that is sometimes difficult for learners to achieve, especially if it is related to psychomotor tasks in learning fashion research. Besides, the aspect of critical thinking is relatively difficult to identify clearly and concretely to be used as an evaluation in fashion research learning.*

Purpose - *Online Fashion research learning requires efforts so that learners can have critical thinking skills in order that learners can carry out psychomotor tasks at the same time, namely finding conceptual ideas in Fashion Research activities.*

Design/methodology/approach - *This research apply descriptive analysis method on learning outcomes in fashion learning research which is conducted online. Critical thinking skills use mind map strategies (spider diagrams) in formulating problems that lead to students' ideas. The research instrument employ various tests implementing the principles of critical thinking and psychomotor learning outcomes.*

Findings - *The results of this study constructs critical thinking test that express analytics concepts of problems, evaluation problems concepts, synthesis ideas in operating standards of fashion research, habits to execute solutions.*

Research limitations - *This research conducts on student learning outcomes which apply critical thinking and psychomotor tests in the fashion research class.*

Originality/value - *The result of this study is an evaluation to measure the critical thinking skills of learners to elaborate problems, discover solutions, and generate ideas leading fashion design concepts.*

Keywords : Critical thinking, Psychomotor, Fashion Research.

The Development of Cross-Faculty / University Integrated Social Science Learning Model in The Faculty of Social Science, Universitas Negeri Medan

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Abstract

Background - *The development of the Industrial Revolution 4.0 has implications for all fields, including education. In line with that, the government set several indicators as a form of response to the adaptation of RI 4.0. One of indicators that has emerged is the application of an independent learning curriculum. Conceptually, the application of the independent learning curriculum is synonymous with the freedom of everyone to learn from several sources without being limited by time and space. Therefore, many learning models that prioritize the use of literacy from various learning sources*

Purpose - *This research aims to conduct the development related to social science learning models integrated between faculties / universities which will later be used to make successful the independent learning curriculum at the Faculty of Social Sciences, Universitas Negeri Medan.*

Design/methodology/approach - *The study is a Research and Development in the field of education that used data collection techniques using documentation studies, interviews, and workshops*

Findings - *The results of the analysis showed that each study program at the Faculty of Social Sciences, Universitas Negeri Medan has determined a model course as part of an integrated social science learning model across faculties / universities in preparation for independent learning at the FIS UNIMED. Determination of courses is based on 4 criteria for learning models, namely 1) field-based learning 2) practice-based learning 3) seminar-based learning and 4) attitude-based learning. The Anthropology Study Program establishes a model subject whose learning is field-based.*

The Geography Education Study Program establishes a model subject whose learning is practice-based. The History Education Study Program establishes a model subject whose learning is seminar-based and the Civics Education Study Program establishes a model subject whose learning is attitude-based. Model development is carried out by workshop syllabus preparation for model courses, integration of learning tools in the Learning Management System (LMS), simulation and testing, evaluation, and model implementation

Research limitations - *Research is still limited to one model course in each study program, so that in the future it can be developed into an overall curriculum adjustment*

Originality/value - *The novelty of research is the formation of integrated models between faculties / universities which will later be used to make the independent learning curriculum in the Faculty of Social Sciences a success.*

Keywords : Keywords: Integrated, Social Science, Learning Model

Development of Learning Model Among System in Independent Learning Based on Multiculture to Improve Student Competence in History Education Program

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Abstract

Background - *Historical education is seen as the most potential to instill values of togetherness, rapidness, and closeness among ethnic, racial, religious, and cultural diversity, thus developing a model of learning "among" systems through a multicultural-based independent learning approach capable of instilling good character and competence in students.*

Purpose - *The purpose of the research to be the development of the "among" system learning model through a multicultural-based independent learning approach to historical education, to know if the "among" system learning model through a multicultural-based free learning approach is feasible, to improve the quality of historical education learning and to know whether the "among" system learning model through a free multicultural-based learning approach can improve learning outcomes.*

Design/methodology/approach - *This study using R and D. Product trial subjects were students of the Department of Historical Education, UNIMED, conducted a study of teaching design experts, and materials experts with individual, small, and primary group trials as well as testing the effectiveness of learning models by comparing the results of experiment and control groups. Used descriptive analysis at every stage of development, and continued statistical analysis of t-tests.*

Findings - *The results showed that the "among" system learning model through a multicultural-based independent learning approach developed worthy of review of learning, materials, and media aspects, the "among" system learning model through a multicultural-based independent learning approach developed to provide improved scientific mastery competencies and learning outcomes in the field of history.*

Research limitations - *Development research is conducted there are students majoring in history education, with the application of the learning model of the system "among" through a multicultural-based independent learning approach to improve student competence in historical education.*

Originality/value - *Uniqueness in the development of the "among" system learning model through a multicultural-based independent learning approach is that mamu improves students' competence in historical education and instills values of togetherness, ethnicity, race, religion, and culture.*

Keywords : learning model, among system, independent learning, multicultural, student competence; history education

Development of Experiential Learning Model Based on The Integrative Learning Design Framework (ILDF) in The Course of Planning for Learning and Development

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Abstract

Background - *In the learning process, the teacher's role is not only limited to providing material to students, but also as a facilitator. The experiential learning model is the process of creating knowledge through a combination of gaining experience and transforming experience, so that students can think and design their learning experience activities such as what should happen to them, both individually and in groups.*

Purpose - *This study aims to find out the feasibility and effectiveness of the experiential learning model based on ILDF in the course of planning for learning and development.*

Design/methodology/approach - *This research and development consists of three stages, namely pre-model development, model development and model implementation, where the research refers to the Borg & Gall's R & D cycle. The research subjects were students of the Department of Mechanical Engineering Education, Universitas Negeri Medan. Development research was carried out by collecting current condition data for needs analysis, data analysis, developing, selecting alternative actions, testing new models, analyzing and revising, collecting new revised data, repeating the development analysis, and revising the model. To determine the effectiveness of the learning model, an analysis of the differences in student learning outcomes was used to use the t test.*

Findings - *The results showed that the experiential learning model based on ILDF could be declared worthy of its level of applicability and excellence in terms of the aspects of learning, material, and media; the experiential learning model based on ILDF effectively to improve learning student outcomes in the course of planning for learning and development*

Research limitations - *This research will be limited to the feasibility and effectiveness of the experiential learning model based on ILDF in the course of planning for learning and development.*

Originality/value - *The novelty in this research and development is to develop the experiential learning model based on ILDF in the course of planning for learning and development, to know the feasibility and effectiveness of innovative learning models based on E-Learning.*

Keywords : learning model, experiential learning, integrative learning, design framework, planning for learning and development

The Context Role and Lecturer's Questioning to Enhance Students' Logical Reasoning at Indonesian Higher Education

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Abstract

Background - *Current learning requires students not only to acquire content knowledge but also relies on how they implement their thinking to deal with situated problems, including higher education. At university, the teaching and learning process should eliminate the gap between what the students have learned and how they deal with their reality. In this case, there is a need to support the students in classroom practices. Thus, this paper highlights the results from a developmental research with the enactment of problematic context-based learning at Indonesian Higher Education classes.*

Purpose - *This study is expected to give a brief overview for the lecturers towards the studentsTM thinking so they could design learning activities based on the studentsTM standpoint.*

Design/methodology/approach - *The research methodology involves everyday design cycles, classroom activities and retrospective analysis were enacted in three-day implementation about logics in discrete mathematics course. The data of this study were collected through video fragments and studentsTM interview towards classroom discussions and several samples of studentsTM written works. The classroom discussions and analyses emphasize on the function of context and the lecturerTM performance to ask questions in order to provoke studentsTM logical reasoning.*

Findings - *In our findings, students will come up with rich mathematical ideas during the discussions when they recognize and understand the situated context.*

Research limitations - *This study limits on the classroom implementation at discrete mathematics course.*

Originality/value - *The meaningful context combined with the lecturer™ questioning skills will let the students use distinctive strategies and approaches at different stages of formal mathematical algorithms.*

Keywords : Context role, Lecturer's questioning, Logical Reasoning, Higher Education

On Developing Differential Equation Course Material in Improving Students Mathematical Higher Order Thinking Skill

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Abstract

Background - *Based on author's own experiences, it revealed that students mathematical higher order thinking skill is very inadequate. It also emerged that they are accustomed to doing mathematics in low order thinking, that is to say procedural in almost every course at their tertiary level education. Considering the fact, it is important and crucial to develop an ambiance leading the students to grasp the skill mentioned.*

Purpose - *The study intended to develop course material to facilitate students achieve the competence they must grasp in learning differential equation. The device developed should fulfil three criteria, i.e. valid, practical, and effective. Besides, it is also intended to disseminate the result of the study to a broader community and publish it in a reputed journal.*

Design/methodology/approach - *The four-D of Thiagarajan, Semmel, and Semmel method is used in developing the course material. While designing and developing the materials, student previous knowledge and the ability to solve problems are taking into account. The work of Nieveen and Folmer is used to judge either the material developed is practical or not.*

Findings - *The semester lesson plan is produced via focus group discussion as the guidance for the lecturer to conduct the course. The students are considered ready to engaged in the course. They are able doing integration and differentiation. The study is still on going, but up to the fourth meeting, the students reported that the course materials distributed help them to easier comprehend the course.*

Research limitations - *It is a new constraint teaching mathematics virtually. The internet network is not always available and it surely disturb the lecture. In consequence, the lecturer come across many difficulties in*

motivating and controlling the students activities during the process of teaching and learning conducted.

Originality/value - *Finally, the work is an attempt to produce a mathematics course material which is delivered virtually. In addition, either the course materials or the students work make use of software especially Mathematica and this is unique. The using of the software is intended to help students not only make graphics of the solutions but also the direction field that enable them sketching the solutions without solving first the equations.*

Keywords : Developing, Course Material, Improving, Higher order thinking skill

Analysis of The Solution Chemistry-HOTS-Tawheed Multiple Choice Instruments

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Abstract

Background - *Analysis of Solution Chemistry-HOTS-Tawheed Multiple Choice Instrument had been done. This instrument is designed to improve high-level thinking skill and expected as a tool of introduction to Greatness of God as the creator by phenomena in chemistry*

Purpose - *The purpose of the research is to find out valid test item of the Solution Chemistry-HOTS-Tawheed multiple choices instruments.*

Design/methodology/approach - *This research was started by inventory of solution chemistry concepts, determining indicators and designing 40 multiple choice item with five options. 129 chemistry students were involved in instrument pilot tested. Rasch model approach with Win step software is used to analyse the test items*

Findings - *The results show : (1). The index of reliability is 0,96, showing that the reliability of test item is very good; (2) 38 of 40 test items showing fit based on test of item fit; (3) proportion of test item difficulty level, easy: medium: difficult = 20% : 67.5% :12.5%; (4) distractor work well for 29 of 40 test items. The conclusion of this research, there are 25 of 40 valid test items based on pilot tested results.*

Research limitations - *This research integrates the value of tawheed in solution chemistry. The value of tawheed is the most important spiritual value which means believing that God is the Creator, including those who determine the laws that exist in chemistry topics. Although efforts have been made so that the study of the value of tawheed is general in nature and does not take sides with certain religious beliefs, it seems that it is inevitable that there is a tendency towards a certain religion, namely Islam.*

Originality/value - *This research produces an instrument that can measure not only higher-order thinking skills but also to measure spiritual*

attitudes through chemistry concepts. Therefore this research is very important for education in Indonesia which stated that spiritual attitudes and cognitive abilities as an important aspect in the goals of national education

Keywords : Solution chemistry; HOTS; Tawheed; Rasch model; Multiple choices

Development of Virtual Science Laboratory Based On M-Application for Elementary School Teacher Education Students

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Abstract

Background - *The research of M-Application based on virtual science laboratory has developed to facilitating students in science learning. Practice has been obtained through virtual practicum activities so that they are able to develop student competencies and skills in science learning.*

Purpose - *The aim of research was to develop mobile application based virtual science laboratory in science concepts learning for elementary school teacher education students*

Design/methodology/approach - *The virtual science laboratory is arranged based on a study of material in the science concepts learning that the eligibility standards in terms of content, effectiveness and practicality in learning. The procedure in research development uses the four D model which consists of the stages of define, design, develop, and disseminate. The subjects in this study were first semester students who were taking the science concept courses in the elementary school teacher education program. Based on analysis in learning, practicum material available in the virtual science laboratory includes force, light, electricity, and magnetism. The data analysis technique used data validity analysis conducted by material experts and practical data analysis and media effectiveness test analysis.*

Findings - *The results of the data analysis obtained show that the m-application based virtual science laboratory is feasible for use in learning science concepts with a validity test value of 87% in the valid category and based on the results of the questionnaire it is also found that learning participation experienced by students is increasing through learning using virtual science laboratory based on M-Application. The effectiveness of result is in the practical category with a value of 89%, which means that the media*

is very practical to use in learning. The use of a virtual science laboratory designed in an application on a smartphone makes it very easy for students to access and study available practicums. Good procedures and instructions are the main guidelines for students.

Research limitations - *This study is limited to research the effectiveness of using virtual science laboratory for elementary school teacher education students*

Originality/value - *The value of research originality is the using of mobile application, virtual laboratory can be applied more effectively and practically for use by elementary school teacher education students*

Keywords : Virtual Science Laboratory, M-Application

Analysis Usability Google Classroom as a Platform E-Learning of Study Program PG PAUD Faculty of Education, Universitas Negeri Medan 2020

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Abstract

Background - *Google Classroom is one of The Google service web form that can be used as a forum for online learning in Pendidikan Guru Pendidikan Anak Usia Dini (PG PAUD), Universitas Negeri Medan. This input was been used but it is not known how useful this platform is for student learning.*

Purpose - *his study aims to determine the Usability of Google Classroom. Usability concerning the use of the system.*

Design/methodology/approach - *This research was a descriptive studied that aims to created a systematic picture of the PG PAUD student population class of 2017,2018,2019 with a random sampling sample. Usability can be measured through parameters and measurement instruments using the USE Questionnaire. This tool used three parameters, namely, Usefulness, Satisfaction, Easy of Use with 32 questions. This instrument is filled in by PG PAUD students using the google classroom application in their lectures via the google form.*

Findings - *The results showed that this system as a whole has quite a good usability and was successful in facilitating and helping used carry out their duties efficiently. Some of the weaknesses lie in the storage element, especially in files that are too large, in addition to using Google Classroom you cannot use Voice notes. Users also expect several additional facilities, such as unlimited storage in Google Classroom. This input expected to improve the usability of Google Classroom in the future*

Research limitations - *This research cannot only saw how widespread the use of google classroom is and to see how much use, satisfaction, ease of use it is in online learning.*

Originality/value - *The novelty in research is explaining Google Classroom as the platform used during this pandemic*

Keywords : Usability, E-learning, Google classroom

Female Perception on The Physical Education in Higher School

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Abstract

Background - *Physical education is one of the lessons given in any level of education in Indonesia. It is taught from the primary to the higher school. Just like other lessons, the students also have their likes and dislikes on this subject.*

Purpose - *Therefore, this study focused on the female senior high school students' perception on physical education lesson*

Design/methodology/approach - *This is a qualitative research using interview to gain the data. There are fifty female students from five senior high schools in Medan were given questionnaire and semi-structures interview.*

Findings - *The results showed that around three fourth of the participants do not like the physical education lesson at school. The uniform changing on physical education lesson, feeling tired, getting sweat, and the activities during the lesson become the motives for them to dislike this lesson. On the other hand, the one fourth participants said they like this lesson because they can have lesson outside the class since they get bored of studying inside the class and can move their bodies instead of sitting during the lessons in the class.*

Research limitations - *this study focused on the female senior high school students*

Originality/value - *this research was performed in female students of senior high schools in Medan, Sumatera Utara, Indonesia*

Keywords : Female students, higher school, perception, physical education,

Problem Based Learning Based E-Module Development

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Abstract

Background - *E-module is instructional material that will help students individually understand the subject matter using interactive devices. It is quite important to use learning in an issue-based learning paradigm to support learners in the learning process. Problem-based learning e-module, capable of generating student behavior in the learning process, improving thought capabilities, and problem-solving abilities.*

Purpose - *The whole research attempts to develop an economic mathematics e-module problem-based learning that is valid, effective, and practical.*

Design/methodology/approach - *This study is a method of research and development specific to the ADDIE model, involving analysis, design, development, implementation, and evaluation. Participants of this study include media specialists, content experts, and academics of economics. The methods used to determine the eligibility of the e-module include a feasibility assessment sheet by a content expert, media specialists, and a student answer survey for the use of the e-module.*

Findings - *The results showed (1) the e-module of economic mathematics learning developed based on of Problem Based Learning for economics learners, (2) The e-module developed has been declared practicable with an average score of 3.50 content experts, 3.50 media specialists, and 3.60 academic comments, so that the validity of the e-module being developed is included in the "Very Nice" range and is valid for use, (3) The outcomes of the student learning assessment have been attained by a proportion of 86.20 percent in the category of strong performance criteria so that the e-module can be classified as effective and practical for use in learning.*

Research limitations - *In the e-module, to improve comprehension of the subject, learning videos are added. Besides, the video embedded in the e-*

module also lacks the layout and design of the learning file, so validated learning videos should be used for further study.

Originality/value - *The e-Module in this research uses the KKNi curriculum based on problem-based learning which is easy to use for independent learning and these e-modules developed are suggested for use by educators and students in mathematical economics courses.*

Keywords : Development, E-Module, Problem Based Learning

The Development of Augmented Reality (AR) in Anatomy Courses

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Muhammad Chairad⁴

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Abstract

Background - *Background of the research due to the lack of instructional media in the Anatomy subject which suits the needs of students*

Purpose - *The process of developing Augmented Reality (AR) media and student responses to Augmented Reality (AR) media in the Anatomy course in the Department of Physical Education, Health and Recreation, FIK UNIMED is the aim of this research.*

Design/methodology/approach - *The implementation of this research activity is carried out using the research method used is the development research of Borg and Gall which has been modified by Sugiono. This method is carried out in nine steps, namely looking for potentials and problems, collecting data, designing products, validating product designs, testing product usage, revising, testing the product again after revision, revising the design and revising the last product. The research data were collected through interviews, observations and questionnaires. The instrument used to measure the quality of teaching materials was an assessment questionnaire from material and media experts, as well as a student response questionnaire.*

Findings - *Based on the results of the validation of the instructional media experts and material experts, it was obtained that the categories were "Good" or 79.05% and "Very Good" or 87.67%. In the small-scale trial which was attended by 10 students and the large group test followed by 30 students, the percentage was 81.60%. Student responses also show satisfaction with the Augmented Reality (AR) media that has been developed, namely "very interesting" criteria.*

Research limitations - *This research is limited to revisions product and for further research, can be mass produced.*

Originality/value - *This research has novelty in learning media, namely Augmented Reality (AR) in the Anatomy course.*

Keywords : Augmented Reality (AR), Learning Media, Research Development

The Effectiveness of Group Guidance Service Implementation Using Reality Counseling Approach to Improve Social Cohesion in Preventing Student Brawls

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Abstract

Background - *The Indonesian Child Protection Commission (KPAI) in September 2018 said that the conditions for brawls at the national level in 2017-2018 continued to increase from 12.9% to 14%. KPAI also noted that in the last two years, around 202 children were dealing with the law due to brawl. The increase of brawl cases also occurred at the provincial scale, particularly in the province of West Sumatra as stated by the deputy governor of West Sumatra that brawls in Padang were indeed rife even the Padang police on 8 May 2019 succeeded in securing 27 teenagers whom six of them are female involved in the brawl. Several factors that cause student brawls are ranging from economic factors, race, religion to self-existence in which they feel life is in vain because his presence is not considered meaningful by others. However, all of these factors stem from the weakness of social cohesion.*

Purpose - *The study aimed to uncover the effectiveness of the implementation of group guidance services using a reality counseling approach in improving social cohesion to prevent student brawls.*

Design/methodology/approach - *The type of study was experimental research with the control group Quasy-Experiment design. The sample of this research was Vocational High School (SMK) students and selected using random cluster sampling. The used instrument was a social cohesion Likert-scale questionnaire in preventing brawls. The data were analyzed using the Wilcoxon Signed Ranks Test and the Statistical Product and Service Solution (SPSS) version 20.00.*

Findings - *The results showed that in the experimental group before being given group guidance services using the reality counseling approach,*

the average pre-test score was 138,6, and after being given group guidance services, the average post-test score increased to be 187,33. However, in the control group, the pre-test score was 134,4, and after being given guidance services, the group's average post-test score increased to 136,4. Thus, the study results could be stated that "there are significant differences in students' social cohesion between the experimental and control groups.

Research limitations - *This research was conducted at SMK Negeri 8 Kota Padang with 30 students as the research subject. The obtained data were the results of the pre-test and post-test relating to social cohesion in preventing brawls.*

Originality/value - *Based on the results of this study, it could be concluded that group guidance services using the reality counseling approach effectively improve students' social cohesion in preventing student brawls. The results of the research on the experimental group and the control group showed that there was an increase in students' social cohesion in the experimental group significantly. Before treatment, the experimental group and the control group had equivalent results in increasing social cohesion, which was showed by the results of both groups' pre-test scores. After being given treatment in the form of group guidance services using a reality counseling approach in increasing social cohesion for brawl prevention in the experimental group, the students' social cohesion was significantly increased.*

Keywords : Group counseling; Reality Counseling; Social Cohesion; Student Brawl

The Effectiveness of Group Guidance with Modeling Techniques to Increased Meaningfulness of Life in Preventing Traffic Violations Towards Smart City

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Abstract

Background - West Sumatra is one of the provinces in Indonesia which has a high mortality rate. The West Sumatra Regional Police said the number of traffic accidents in 2018 was 2,912 cases, up 17% compared to 2017 which were 2,862 cases. Meanwhile, the number of traffic violations increased by 22.23%, namely in 2018 as many as 123,256 cases, greater than in 2017 as many as 101,003 cases. Besides increasing, traffic violations in the city of Padang are still dominated by the millennial generation or those aged 17-35 years.

Purpose - This study aims to uncover the efficiency of groups through modeling techniques to improve the meaningfulness of life in the renewal of traffic to smart cities. There are two groups of students in class XI Muhammadiyah 1 Padang City who are selected using purposive sampling. Each group consists of twenty-five students.

Design/methodology/approach - This type of experimental research with the Quasy-Experiment design. The research sample is students of Vocational High School (SMK). Sampling using cluster random sampling. The instrument used was a questionnaire of meaningfulness of life in cross-traffic. Then analyzed using the Wilcoxon Signed Rankings test and Kolmogorov-Smirnov Two independent samples with the help of the Product Statistics and Service Solutions (SPSS) version 22

Findings - This study found how survival in cross-streams increased through the provision of group guidance using modeling techniques; Increasing the meaningfulness of life of students on cross-trips is very significant after receiving group guidance services.

Research limitations - *This research can be used to reduce the level of traffic on the highway among teenagers, especially in the city of Padang. Research on improving the sustainability of life in the dispute of traffic through the development of modeling technique groups can be an alternative in the world of education for the prevention of traffic obstructions. Then this research can also be used by police units in helping adolescents who have been approved by traffic.*

Originality/value - *There is a significant difference in the increase in the meaning of life between the experimental group and the control group. Group guidance services can significantly increase the meaningfulness of life against traffic violations. The experimental group experienced a significant increase in the meaningfulness of life towards the prevention of traffic violations, while the control group did not experience a significant increase in the meaningfulness of life in the prevention of traffic violations.*

Keywords : Group Counseling, Modeling Techniques, Life Meanings, Traffic Violations, Smart Cities.

The Effectiveness of Group Guidance Using The Gestalt Approach in Reducing Youth Aggressiveness

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Abstract

Background - *The high level of student aggressiveness encourages the provision of guidance and counseling services to help overcome these problems, one of which is group guidance services with a gestalt approach.*

Purpose - *This study aims to reveal the effectiveness of group guidance with the Gestalt approach in reducing student aggressiveness.*

Design/methodology/approach - *This study uses a quantitative approach. The method used is a quasi-experimental research design with an unequal control group design. The data was collected using a validated aggressiveness questionnaire. The research sample was SMA Kartika 1-5 students who had high aggressiveness with purposive sampling technique. The data were then analyzed using Wilcoxon to sign the Kolmogorov-Smirnov Ranking Test and Two Samples.*

Findings - *Based on these findings, it can be concluded that aggressiveness can be reduced through group guidance with the Gestalt approach.*

Research limitations - *Based on facts in the field, researchers tried to use group guidance services to help reduce student aggressiveness. This is the core of the problem examined in this study, so the researcher took the title "The effectiveness of group guidance services with the Gestalt approach in reducing the aggressiveness of students of SMA Kartika 1-5 Padang.*

Originality/value - *The results of research conducted in the experimental group and the control group regarding student aggressiveness showed a significant decrease in student aggressiveness in the experimental group. In the experimental group and the control group before the treatment had the same aggressiveness. This is evidenced by looking at the pretest results in*

both groups. After being given treatment in the form of group guidance services, the aggressiveness and experimental group conditions significantly changed for the better or decreased the aggressiveness.

Keywords : Aggressiveness, group guidance, Gestalt approaches.

Development of Nationalist Character Instruments Based on History Learning

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Abstract

Background - *This research follows up on the Presidential Regulation of the Republic of Indonesia (PerPres) number 87 of 2017 concerning Strengthening Character Education. Strengthening Character Education is a policy in education whose main purpose is to implement mental changes, namely changes in ways of thinking, behaving, and acting for the better. The main characters of Strengthening Character Education are religious, nationalist, independent, mutual cooperation, integrity. These values are to be instilled and practiced through the national education system so that they are known, understood, lived and applied at all levels of education. In the framework of this Strengthening Character Education, history learning is a means to instill values to build the character of the nation.*

Purpose - *This study aims to develop and standardize the character instrument of Strengthening Character Education, namely the Nationalist Character. This instrument is to fulfill the need to measure learning outcomes in the affective aspects of history learning.*

Design/methodology/approach - *This type of research is development research (research and development), namely developing the Nationalist character instrument. The development model used refers to the model developed by Bord and Gall, its application is tailored to the needs of the research. The subjects involved in validating the design of the nationalist character instrument in this study either rationally or theoretically or empirically consisted of experts, practitioners and students.*

Findings - *The result first order by using factor analysis of confirmatory with method of ML (Maximum Likelihood) indicates that all items have factor loading > 0.32 and the result of test according to the model with level of significance 0.0001. Also the result by Structural Equation Modeling (SEM) with second order construct support has estimated with enough theory assure. Reliabilities by Construct Reliability (CR) and Variance Extracted*

(VE) indicate that instrument developed have fulfilled limit acceptance of reliabilities coefficient ≥ 0.70 for CR and $\geq 0,50$ for VE. Thereby, the obtained of instrument assessment in affective competence in of history which consist of 5 dimension by 14 indicators and 84 items of valid and reliable item as the development result.

Research limitations - *developing instruments that have been tested for their validity and reliability or their feasibility will be socialized among the Implementers of the Character Education Strengthening Movement and can be used at every level of education*

Originality/value - *Validation at the theoretical stage is carried out by material experts, measurement linguists and historical practitioners (teachers). The results of expert validation were analyzed qualitatively. The results of the practitioner's validation were analyzed quantitatively with the inter-rater formula. This instrument examination involve 300 students at Senior High School of class XI level in Medan with random and sampling quota technique by considering to the characteristic of population*

Keywords : Development, Instruments, Nationalist Charater

Designing Statistical Method Learning Tools with a Blended Learning System During the Covid 19 Pandemic Era

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Abstract

Background - *The Covid 19 pandemic has changed the order in various fields of life, including in education. Face-to-face learning is no longer the only learning space that can be optimized as a vehicle for learning to achieve learning objectives. The main challenge is to make the right mix of learning settings, models, and teaching strategies relevant to meet learning outcomes.*

Purpose - *This paper aims to develop statistical method learning tools with a blended learning system as an effort to develop students' academic abilities and collaborative character. The learning tools developed is consist of six components, namely: syllabus, lesson plans, statistical methods textbooks, group discussion worksheets, learning media, and learning outcomes tests that are integrated with life skills in era 4.0.*

Design/methodology/approach - *This research is development research with limited trials. It refers to the blended learning system design model by Uwes Anis Chaeruman includes three stages, namely Exploration (needs analysis, literature survey, student characteristics, formulating learning outcomes, mapping and organizing learning materials to design learning activities); Validation and Evaluation; and Analyze data*

Findings - *The Exploration Stage has been carried out to produce a prototype product draft of the Statistical Method learning device with a blended learning system. Based on trials with small groups of students to determine student responses to learning tools designed to obtain good results.*

Research limitations - *The next phase, namely the Validation and Evaluation stage of the learning device design model by testing it on expert*

trials and small groups that are used as information for improvement and deficiency analysis of the products produced.

Originality/value - *From the results of the overall analysis at the exploration stage, the researcher found three learning contexts during the Covid-19 pandemic. First, many factors were influenced from the perspective of space and time in the context of e-learning; Second, there is a shift in learning that prioritizes online learning as one of the main learning spaces; Third, the independence of students in the learning process is the main thing, the lecturer is only a facilitator in the learning activity.*

Keywords : design, learning tools, blended learning

The Effect of Organizational Culture and Job Satisfaction On Lecturers' Commitment Organization In Guidance and Counseling Program At Medan State University

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Abstract

Background - Lecturers as an important part of the implementation of education must have a high commitment. Lecturer commitment to the department is basically a condition felt by the lecturer which can lead to strong positive behavior towards the department. The decreasing of commitment organization is influenced by many factors, such as: job satisfaction and organizational culture. Therefore, to find out whether these two factors influence the commitment organization of lecturers empirically, a scientific study is needed.

Purpose - The aims of this study are to determine the effect of organizational culture and job satisfaction on commitment organization of lecturers at guidance and counseling program in Medan State University.

Design/methodology/approach - This research is a quantitative study using a path analysis approach (path analysis) which began at April until December 2020. The population and sample are all lecturers at guidance and counseling program in Medan State University both civil servant and PHL as many as 23 lecturers.

Findings - The research showed a direct effect of organization culture on job satisfaction, a direct effect of organization culture on commitment organization and a direct effect of job satisfaction on commitment organization.

Research limitations - In order to produce quality results, the limitation of the problem in this study focuses on the job satisfaction of the lecturers,

the organizational culture of the department and the commitment organization of the lecturers.

Originality/value - *It is true that this research is conducted by researchers who have a novelty nature to measure the variables of organizational culture and job satisfaction affect organizational commitment*

Keywords : Organizational culture, job satisfaction, commitment organization

Effective Efforts of Learning Indonesian Bridal Make-Up Through the Development of Bridal Make Up Dictate Standart North Sumatera Series

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Abstract

Background - *This research is motivated by the absence of a learning dictate of Bridal Make Up Dictate Standart North Sumatera Series study program Medan State University.*

Purpose - *This study aims to: (1) produce appropriate learning dictates, easy for students to learn and can be used for individual learning, (2) to determine the effectiveness of learning dictates of the Standart North Sumatera Bridal series Makeup.*

Design/methodology/approach - *This type of research is development research using the Borg & Gall model combined with the Dick & Carey learning development model. The data collected were analyzed using qualitative descriptive analysis techniques.*

Findings - *The results of hypothesis testing prove that: (1) The teaching dictates of Baku North Sumatra Bridal Series Makeup are suitable for use in learning, (2) there is a significant difference between the learning outcomes of students who are taught using the Learning dictates of Standart North Sumatra Bridal Series Make-Up with students who using the learning module.*

Research limitations - *This research is limited only to seeing the effectiveness of the development of learning indonesian bridal make-up through the development of bridal make up dictate standart north sumatera series*

Originality/value - *This research produces a product in the form of a learning dictate of Bridal Make Up Dictate Standart North Sumatera Series that does not yet exist in study program Medan State University.*

Keywords : Learning dictates, Bridal Makeup, North Sumatra

Developing i-Referee App to Maximize Refereeing Learning Outcomes in Basketball

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Abstract

Background - In general, this research aimed to build a new powerful resource for college students which can be accessed by them whenever they want and wherever are using their android based smartphone

Purpose - Furthermore, this research was also made to encourage and sharpen lecturer's creativity in order to make a learning media like downloadable application where can be easily found on play store and install that program on their android based smartphone, so there would be no more excuses for lecturers to be out of date from the latest technologies and information.

Design/methodology/approach - This application was made using Research and Development method and contains tutorials of whole basic technique related to basketball, and complete guidance of basketball regulations along with signs and codes of the referee. The making of this application, which can be found and downloaded on "Play store" by everybody, involved a number of lecturers in Faculty of Sport, Medan State University, to be instructors in the videos for delivering lessons of basketball technique.

Findings - Based on the first test results of 30 students who have downloaded the application and learned from it there were 28 students (> 80%) who categorized as excellent both in motoric skills and referee regulations comprehension and merely 2 students with good category. On the other hand, another class of 30 students who have not been introduced with the application gained lower score from those who have been by as many as 19 students in excellent category and 11 students in good category both in basketball basic techniques and arbitration

Research limitations - Update service for this app on play store

Originality/value - *reviewed and plagiarism checker*

Keywords : Android, iReferee, App, Basketball

Developing Cybercounseling Guide Book for Guidance and Counseling Teacher to Solve Learning Saturation of Students in Pandemic Era

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Abstract

Background - *Cybercounseling as a alternative counseling in pandemic era must be trained to guidance and counseling teachers especially in district area.*

Purpose - *This study aimed to develop cybercounseling guide book solving the learning saturation of students in SMP N 1 Patumbak who studied from home.*

Design/methodology/approach - *This study was case study. Subject of this study are teachers and students of SMP N 1 Patumbak. Subject method used purposive sampling. Data collect method used questioner and focus group discussion.*

Findings - *Motivation of guidance and counseling teachers is low so that it has an impact on how to provide online counseling services to reduce student learning saturation during covid -19. The lack of knowledge of guidance and counseling teachers in preparing plans for implementing guidance and counseling services in the covid -19 period. Guidelines for the implementation of cybercounseling services are not yet available during the Covid-19 period and the students experience learning burnout during the covid-19 period*

Research limitations - *This study is limited to guidance and counseling teachers and students in junior high school in Deli Serdang District*

Originality/value - *Based on study, It can be concluded that cybercounseling guide book is feasible to use as learning media of guidance and counseling to solve student's learning saturation*

Keywords : Cybercounseling, Guide Book, Learning Saturation.

Development of Learning Module in The Culinary and Tourism Industry courses in Unimed Catering Study Program

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Abstract

Background - *his research is motivated by the absence of a learning module in the Culinary and Tourism Industry courses in the culinary study program, Medan State University.*

Purpose - *The purpose of this study was to see the process of developing modules for the Culinary and Tourism Industry subject matter, to determine the validity of the Culinary and Tourism Industry modules, to determine the practicality of the Culinary and Tourism Industry modules.*

Design/methodology/approach - *The research method used in this research is the development method. The stages carried out in the development method are define, design, develop, and disseminate. The research instrument was in the form of a questionnaire that was distributed to research respondents, namely students and lecturers.*

Findings - *The results of the study the validity of the learning module were declared valid from three aspects, namely format, content and language. The practicality of the culinary and tourism industry modules can be seen from the implementation of the use of learning modules. The result of module effectiveness assessment is very practical with a percentage of 84.06% of student responses and 77.083% with practical categories of lecturer responses. The effectiveness of the module is seen from the acquisition of students' pretest and posttest scores. Then analyzed the value of the increase through analysis of the gain score data. The gain score is 0.64 in the medium category.*

Research limitations - *. This research is limited to define, design and development*

Originality/value - *This research produces a product in the form of a learning module that does not yet exist in culinary courses and the tourism industry*

Keywords : This research produces a product in the form of a learning module that does not yet exist in culinary courses and the tourism industry

Track: Engineering and technology

Behavioral Architecture Approach to Concept of Housing for the Face of Pandemic

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Abstract

Background - *One of the impact caused by a disaster is the psychological impact on society. In December 2019, the COVID-19 virus spread many countries, including Indonesia, which later changed its status to a pandemic which caused serious problems because there was still no vaccine to prevent transmission of the virus.*

Purpose - *This condition requires every community to obey government regulations such as quarantine, PSBB, WFH and social distancing. So that the psychological impact that is often encountered in society is stress, fear, panic and so on. Psychology is closely related to behavior this study will discuss the architecture of behavior that plays a role in the relationship between space and humans as occupants of space.*

Design/methodology/approach - *This research will explain what behavior occurs in a family during pandemic conditions and how architects can solve these problems by emphasizing psychological problems through the application of architectural designs to a residential room.*

Findings - *This approach emphasizes the need to understand the behavior and needs of the people who live in a house in utilizing space.*

Research limitations - *This research activity was carried out with a sample of a housing in Medan City with different types of houses and various user characters*

Originality/value - *The result of this research is a design product that has been analyzed based on user behavior so that it can become a new alternative in designing a safe and comfortable residential in the face of a pandemic.*

Keywords : Architecture, behavior, house



The Relation between Temperature and Time on the Application of Coconut Fiber Cement Panels as Potential for Wall Cover

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^{1,2} Universitas Negeri Medan, ³ Universitas Negeri Padang

Abstract

Background - *The wall, as one of the building envelopes, endures high sun radiation. It needs the wall material that can reduce temperature to ensure thermal comfort inside the building. Lowering temperature in the room can be done through wall modifications so that it can lessen the use of air-con. Thus, research on the use of natural materials such as coconut fiber for walls is needed.*

Purpose - *The purpose of the research, to obtain the potential of coconut fiber material as wall cover and the relationship between temperature and time of coconut fiber material in reducing temperature.*

Design/methodology/approach - *In this study using an experimental approach. The coconut fiber was tested to measure the temperature reduction and study its linear equations from the relation between temperature and time given. The tests' procedures are applying heat temperature on one side and measuring the temperature on the other side of both materials. Measurements were made using sensors.*

Findings - *The test shows different results between the temperature of material with coconut fiber and material without coconut fiber. The coconut fiber material has a lower temperature than the material without coconut fiber. The linear equation of the coconut fiber material related to the time and temperature shows the longer time, the lower temperature.*

Research limitations - *The analysis is comparing two materials: (1) the mix of cement and sand without coconut fiber such as wall plaster material; (2) The mix of cement and coconut fiber material.*

Originality/value - *It indicates the potential of coconut fiber material to be used as cover for building walls.*

Keywords : temperature reduction, coconut fiber, time , relation

Determination Typology Areas Prone Disaster in Berastagi Sub-District, Merdeka Sub-District, Dolat Rakyat Sub-District and Barusjahe Sub-District

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Abstract

Background - Earthquake vibrations in the earth that occurs as a result of the release of energy accumulated suddenly in rocks and the energy accumulation that occurs in the area around the boundary between two tectonic plates with a very large mass moving towards / colliding / shifting with a certain speed of motion with the strength or stress of the rock has been exceeded. Almost all earthquake events are related to a fault. Most of the Karo district is in the fault zone (fault). The earthquake that was felt around the Karo district was estimated to have originated from an earthquake caused by a volcano and faults around Berastagi sub-district, Merdeka sub-district, Dolat Rakyat sub-district and Barusjahe sub-district. The fault is a fault inactive (lineament). Based on this condition, it is necessary to conduct a study regarding the readiness to respond to natural geological disasters, especially areas located in fault zones as one of the sources of earthquake disasters in order to reduce the risk that will occur by determining the typology of earthquake-prone areas.

Purpose - Determine the typology of earthquake-prone areas so that land use supervision can be carried out in order to reduce the impact of disasters in the long term

Design/methodology/approach - The method used in this research is a quantitative method using GIS and Image applications. The data needed is seismic hazard data which includes Peak Ground Acceleration (PGA), rock physical properties, slope, seismicity and fault zone information. The observation areas are Berastagi sub-district, Merdeka district, Dolat Rakyat sub-district and Barusjahe sub-district.

Findings - Determine the typology of earthquake-prone areas

Research limitations - *Determine the typology of earthquake-prone areas and The observation areas are Berastagi sub-district, Merdeka district, Dolat Rakyat sub-district and Barusjahe sub-district.*

Originality/value - *The earthquake source of this study was the lineament zone (not yet active fault)*

Keywords : earthquake, typologi-prone area, lineaments, spatial planning

Drainage Flood Risk Reduction Efforts at Medan City

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Abstract

Background - *This research is motivated by the magnitude of losses generated both material and non-material as well as drainage conditions that are no longer according to its purpose, due to the drainage capacity is smaller than the existing discharge, lack of maintenance, and garbage disposal systems that are not suitable for the environment, resulting in frequent flooding every around Medan city.*

Purpose - *The aim of this study is to monitor the need for careful planning of the drainage system for flood disaster mitigation so the community can provide comfort against flood hazards.*

Design/methodology/approach - *The stages of the research method were collecting primary data and secondary data. The flood risk index map is prepared based on the vulnerability index, hazard index and capacity index at the study area. Preparation of vulnerability and capacity indexes in the drainage area of Medan city is based on rainfall data from BMKG*

Findings - *The intensity of rainfall for the first 10 year return period is 40.0234 mm/hour. The design flood discharge for Q 10 Years is 4,228 m³/s. Drainage or rivers that have begun to shrink and silt due to the construction of houses around the riverbanks and the large amount of garbage that is deliberately disposed of by the local community every day.*

Research limitations - *The calculation of periodic flood discharge using the Rational Method for research.*

Originality/value - *The results targeted by the existence of this scientific work can be used by the relevant agencies.*

Keywords : Drainage, Flood Risk, Medan city.

Two-Wheeled Balancing Robot with Android Navigation System

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Abstract

Background - *The two-wheeled balancing robot is a robot that can move with two wheels on the left and the right. However, in order to maintain balance, the robot needs to use both wheels to move. We, therefore, need control to move the two-wheel robot so that it can stand in balance.*

Purpose - *This research's main objective is to apply precise control methods to keep the robot's body balanced in a perpendicular position to the earth's surface. Robot movements such as forward, backward, left, and right can be controlled via an Android smartphone with Bluetooth as the communication system.*

Design/methodology/approach - *This system has two inputs, namely accelerometers, used to measure angular acceleration (m/s²) and gyroscopes for measuring angular velocity (rad/s). The accelerometers and gyroscope values were calculated using the complementary filter method to obtain the angle values. The angle obtained is then compared with the setpoint, which is 0°.* *The difference between the setpoint and the complementary filter angle is processed using the Proportional Integral Derivative (PID) control method. The PID control process results are used to regulate the rotation of the wheel drive motor in the robot. The direction of the wheel drive motor rotation will go forward if the complementary filter angle is less than zero and reverse if it is more than zero.*

Findings - *Based on the tests that have been done, the balancing robot can withstand an angle range of -1.5° to 1.5°. While the PID constant value is $K_p = 1.49$, $K_i = 0.74$, and $K_d = 1.84$ and the coefficient value on the complementary filter algorithm is $\hat{I}_{\pm} = 0.96$.*

Research limitations - *In this study, before the robot was operated, the accelerometer sensor had to be calibrated manually. Calibration is done by*

manually making the robot perpendicular and making a $0 \hat{A}^\circ$ tilt angle. Therefore, experiments will be carried out for future work so that the accelerometer sensor is no longer calibrated when the robot is being operated.

Originality/value - *The two-wheeled balance robot can operate properly, even lift and move objects with a maximum weight of 40Kg without falling.*

Keywords : Balancing Robot, PID, Complementary Filter, Android Smartphone

Development of Small-Scale Electricity Generation Plant Based on Biomass Combustion: A Thermodynamic and Operating Parameters Study

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Abstract

Background - Biomass has long been known as a source of energy by burning it directly to produce heat energy and can be converted further into electricity, may replace the use of all or part of those fossil fuels. However, thermal energy losses still placed in the point number one as the drawback during process

Purpose - To overcome this drawback, a system based on Organic Rankine Cycle (ORC) was developed in order to capture and utilize the rest flow of the combustion flue gases to generate high temperature and pressure of steam in a heat exchanger.

Design/methodology/approach - ORC system includes evaporator, expander, condenser, and pump coupled with biomass combustion system is an appealing and promising technology for small-scale power systems. A parametric study review was conducted to better understand the factors lead to variability and uncertainty on this system.

Findings - Discussions have been special focused on the working fluid inlet state and pressure effect on the system performances. The ORC system with optimized parameters is thermodynamically feasible and attractive to generate electrical energy.

Research limitations - Recommendations have been made to the future development of micro-scale biomass-fuelled of power generation system.

Originality/value - Trough this analysis that the thermal losses of the biomass combustion can be theoretically recovered in the form of electricity by using ORC efficiently

Keywords : Biomass, Combustion, Stove, Clean flue gas, Micro power generator

Thermal Conductivity of Partition Board by Polymer Composite with Filler Empty Fruit Bunches Fiber

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Abstract

Background - Utilization and management of Empty Fruit Bunches (EFB) fibers continues to develop as the main and additional material used in various industries, technological breakthroughs targeted in this study are polymer composite partition board products with EFB fibers as a filler material used for heat retardant materials in interior building construction.

Purpose - The purpose of this study was to determine how much heat resistance of polymer composites with EFB fiber filler to reduce heat entering the room from outside propagating through the walls which are directly exposed to sunlight.

Design/methodology/approach - The test method used was adopted from ASTM C177-13, namely the measurement of heat propagation by modifying the heat source by 40 watts, the test specimens were based on the formation of a SHCP 2667 WNC polyester resin matrix partition board with a weight fraction of 25%, 30%, and 35% chopped strand mat / CSM.

Findings - The test results obtained that the highest thermal conductivity value was found in the fiber weight ratio of 25% of 0.151 W/m.oC at a mass density of 1.16 g/cm³. While the lowest thermal conductivity value is found in the fiber weight ratio of 35% of 0.147 W/m.oC at a mass density of 1.24 gr/cm³ and a water absorption capacity of 3.75%.

Research limitations - The partition board to be studied is a heat insulator with a thermal conductivity test which is influenced by mass density and porosity.

Originality/value - From the analysis, it is concluded that the thermal conductivity value of polymer composite partition board with EFB fibers

filler for the percentage variation of weight fraction does not show a significant change in the value of thermal conductivity to the difference in the length of time in each test and the smaller the value of thermal conductivity, the better the thermal resistance.

Keywords : Partition Board, EFB Fiber, and Thermal Conductivity

Implementation analysis of the Covid 19 Prevention Protocol in Construction Project

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Abstract

Background - Construction work projects that are currently underway during the Covid 19 pandemic must implement a protocol to prevent the spread of Covid 19.

Purpose - The objectives of this study are: (a) to analyze the implementation of the Covid 19 prevention protocol, (b) to take inventory of the availability of covid 19 prevention facilities, and (c) to analyze the consumption patterns of construction workers

Design/methodology/approach - This research uses a descriptive research model conducted through surveys. Research samples are: the Indrapura-Kisaran highway, the Kuala Tanjung-Tebing Tinggi-Parapat highway, and the construction of the RIS Maduma-Dairi University Flats. Collecting data through: (a) questionnaires using the google form application, (b) interviews via google meet or zoom, (c) observations to construction work project sites, and (d) 2x24 Hours Recall form method for consumption patterns of construction workers. Data analysis used quantitative and qualitative descriptive methods. The implementation of the covid prevention protocol for each indicator will be given a score (+1) if "yes" and a value (0) if "no"

Findings - The results showed that: (1) the contractor implementing construction work has implemented the Covid 19 prevention protocol in the construction project environment according to the PUPR minister's instruction number 02/IN/M/2020. Percentages of implementation carried out were: presence of an organizational structure for handling covid 19 (66.7%), SOP for inspection (66.7%), SOP for prevention of covid 19 (100%), and policies for handling covid 19 (66.7%); (2) The contractor provides health facilities in an effort to prevent Covid 19 in the form of: (a) hand washing area (100%), (b) body temperature check (100%), (c) covid handling post (66.7%), (d) supplementation (33.3%), (e) handsanitizer

(100%), (f) medical personnel (66.7%); and(3) The consumption pattern of construction workers (66.7%) has met the nutritional content according to their needs coupled with routine supplementation by the contractor as an effort to maintain immunity

Research limitations - The limitation of this study is that data collection is not optimal in the field related to limited access during the Covid 19 pandemic, especially in direct cross-check data in the field

Originality/value - The novelty of this study is that this research combines elements of the availability of the infrastructure for preventing Covid 19 with the readiness of construction workers in maintaining immunity and body health.

Keywords : construction, consumption, covid 19 pandemic, projects, workers

Digital Engineering Practicum Module Development Using ADDIE Model to Improve Higher-Order Thinking Skill

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Abstract

Background - *When attending digital engineering lectures and digital engineering internship courses, students often encounter difficulties because they need to have high logic skills when producing a series of works. Imperfect learning tools is one of the reasons for the above problems. However, some facilities and infrastructure do not support the practical and theoretical learning process. One of them is learning tools, especially practical modules that are not yet available.*

Purpose - *The purpose of this research is to develop a module and a Digital Engineering practicum jobsheet in accordance with the materials and competencies that students must achieve by utilizing the tools and materials available in the laboratory.*

Design/methodology/approach - *The design of this research is R&D. The product of this research will be validated by experts and tested on students after the product is revised. The development procedure adapted from the ADDIE model developed by Dick and Carry. There are two types of assessment instruments that will be used in this study. The data analysis technique used a simple qualitative descriptive analysis technique.*

Findings - *This research produces a practicum module that contains work procedures and job sheets. The results of the assessment obtained from 3 experts were 86% in the category of easy to understand, useful, interesting and worthy of being used as a practicum guide. The results of the assessment obtained from 3 media experts show that this module is valid and very good with an average value of 89%. Students using this module gave an average rating of 83% for ease of learning, attractiveness, design and benefits.*

Research limitations - *This study only develops a practicum module according to the RPS and syllabus that is used.*

Originality/value - *This research was conducted to complement the Digital Engineering practicum module specifically for Electrical Engineering students at Universitas Negeri Medan.*

Keywords : Digital, Practicum, Module, ADDIE, HOTS

Efforts to Improve The Power Quality of Unimed Electrical Engineering Workshop Using Double Tuned Filter

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Abstract

Background - *The Electrical Engineering Workshop at the Universitas Negeri Medan (UNIMED) is one of the facilities provided by the campus. Apart from being used for practicum activities, unimed electrical engineering workshops are also used as teaching and learning activities, industrial practical work seminars, student final project proposal seminars and so on. Most of the equipment used includes nonlinear equipment, namely equipment that can produce harmonic distortion such as TL lamps, projectors, computers, dispensers, power supplies, water pumps, air conditioners and so on. Based on the background of the problems described above, the researcher wants to do research in order to improve the quality of electrical energy in unimed electrical engineering workshops due to harmonic distortion that occurs due to nonlinear loads using a passive double tuned filter.*

Purpose - *The purpose of this study is to reduce harmonic distortion in UNIMED electrical engineering workshops in order to meet the harmonic standards based on IEEE 519 - 2014 standards.*

Design/methodology/approach - *The method used in this research is the simulation method using the MATLAB / Simulink computer program to see the components of harmonic currents in the electrical system in unimed electrical engineering workshops. The research starts with data collection, modeling simulation with matlab / simulink software before and after the filter is installed, then analyzing the results of the simulation data obtained.*

Findings - *The double-tuned filter succeeded in reducing harmonic currents of third and fifth order in the R phase, S phase, T phase by about 9%, and 12% respectively.*

Research limitations - *Measurements are carried out in the main panel at the electrical workshop building. Load modeling is not carried out based*

on the type of load available in the workshop. Harmonic analysis is based on harmonic currents flowing into the main panel, and the filter used is double-tuned.

Originality/value - *The harmonic value is obtained from direct measurements in the field at the time of the research. The measurement results and design of double-tuned filters have never been published in previous articles and research.*

Keywords : Power Quality, Double Tuned Filter, Harmonic.

Performance of Mechanical Dodos and Egrek For Oil Palm Frond Cutting Using Motoyama Machine MPHE330

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Abstract

Background - *Harvesting oil palm by manual need energy human that great dan impact less good for health, i.e occurrence disorders muscle order or musculoskeletal disorders (MSDs). To overcome problem the have developed mechanical dodos and egrek that driven by machine.*

Purpose - *This research to evaluate performance mechanical dodos and egrek that driven by Motoyama MPHE330 to cutting oil palm frond. The cutting performance of mechanical dodos and egrek is indicated by the pattern and magnitude of the cutting force.*

Design/methodology/approach - *Pattern data and the magnitude of the cutting force were obtained through a set of data recording systems using a link transducer with four-strain gage sensor mounted on a cutter holder. Pattern data and the magnitude of the cutting force were obtained through a set of data recording systems using a transducer link with a four-strain gage sensor mounted on a knife holder. The maximum cutting force was analyzed descriptively by observing the curve of the cutting force pattern.*

Findings - *The maximum cutting force of palm fronds using egrek is 696.52 N, while with dodos is 480.70 N. The pattern of cutting forces and energy for the two types of cutter are relatively the same. Dodos require less cutting force and energy than egrek.*

Research limitations - *This research was conducted on oil palm trees in the field, therefore it is necessary to try it for laboratory experiments whose cutting experimental variables can be controlled accurately.*

Originality/value - *The novelty of this research is the field test for oil palm with palm harvesting field equipment.*

Keywords : cutting, oil palm, dados, egrek, mechanical

Utilization Of Biomass Stove Waste Heat As A Power Plant Using The Thermo Electric System

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Abstract

Background - *What if the waste heat can be used to produce electricity then at least two benefits will be obtained, namely: (1). The use of the furnace is more safe and comfortable because the heat disruption from the furnace wall is gone, (2) Electricity generated from the furnace wall heat can be used either for lighting or as a blower drive to supply air into the furnace.*

Purpose - *The purpose of this study is focused on Utilizing Waste heat from biomass stove as power plants using the Thermo Electric system. The electricity generated is expected to be used as a drive for the furnace fan and to charge the phone. In developing countries, including in Indonesia, most of the population lives in rural areas, some of these villages are remote areas where it is still difficult to get gas or oil fuel, even some have not yet been electrified. In rural areas, there is a lot of biomass form of agricultural waste, so they can use this stove for daily cooking and home industry.*

Design/methodology/approach - *After the furnace has been tested and produced a good flame, 12 units of Peltier are installed on the outer wall of the furnace. The hot side is attached to the wall of the stove, the cold side is installed heat sink as a medium to absorb heat. On the cold side and hot side thermocouples are installed to measure the temperature of both sides of the Peltier so that a difference in temperature (ΔT) is obtained on both sides of the Peltier. The 12 units of Peltier are arranged in series, both the positive and negative ends of the cable are connected to the AVO meter to measure the voltage and electric current generated by the peltier circuit. This test is carried out for various types of biomass, namely: wood waste from making door frame, coconut shells, candlenut shells and corncobs. For each biomass fuel, the voltage and current generated are measured. After the voltage data and the electric current generated in the analysis will be concluded whether the electric current can be used to drive the fan 5-12 Volt.*

Findings - *Each Biomass fuel has its own combustion characteristics, the heat on the wall of biomass stove can be used as an alternative source of electrical energy using a thermoelectric system, the increase in electric voltage produced is proportional to the increase in temperature difference between the hot side and the cold side of the peltier.*

Research limitations - *This test is carried out for various types of biomass, namely: wood waste from making door frame, coconut shells, candlenut shells and corncobs.*

Originality/value - *The biomass used is Indonesian local agricultural waste.*

Keywords : thermoelectric, biomass, stove.

Comparative Study on The Use Of S-Curve and Ms. Projects Pdm Method on Scheduling and Controlling Building Construction Project

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Abstract

Background - *Building construction projects have very complex activities, so they require precise and accurate methods of scheduling and control. Using the right method, the project executor can carry out the project according to plan and can be controlled if there is schedule deviations.*

Purpose - *This study aims to compare the effectiveness of using the Bar Chart-curve-S and Ms. Project-PDM methods on scheduling and controlling building construction projects.*

Design/methodology/approach - *The method used by contractors in scheduling and controlling a project is the Bar Chart-S curve and Ms. Project-PDM method.*

Findings - *The results found are: 1) The use of the Ms. Project-PDM method is significantly more effective than the S-Curve "Bar chart method in scheduling building construction projects (t count 15.516 > t table 2.660); 2) The use of the Ms. Project-PDM method is significantly more effective than the S-Curve-Bar chart method in controlling building construction projects (t count 17.233 > t table 2.660); 3) Using the Ms. Project-PDM. The project can find out the critical path quickly, so that it can overcome project delays that occur; and 4) Using the Ms. Project-PDM methods.*

Research limitations - *The project can change the schedule for the implementation of the work immediately, if there is a delay or deviation of work on a building construction project. The findings of this study are very useful information for construction service companies and the development of construction management science in the civil engineering study program.*

Originality/value - *originality value*

Keywords : S-curve, PDM, scheduling, controlling

SIMLab Model to Improve Laboratory Performance

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Abstract

Background - *Laboratory management requires proper management, especially if there are many types and quantities of inventory equipment. Without proper and proper management, laboratory performance will not be optimal. The initial study found the fact that laboratory management in educational institutions, especially the State University of Medan, is still carried out conventionally so that its performance is low.*

Purpose - *This study aims to build an integrated laboratory information system (SIMLab) program that can meet user needs. An integrated application program built on a web basis that can be accessed by multi users. With the application of the SIMLab program, it is hoped that it can improve laboratory performance.*

Design/methodology/approach - *This research uses the SLDC method for the SIMLab. Initial work was carried out based on localhost web server, MySQL Database, PosgreSQL and after compilation and new feasibility tests were installed web-based with online access. Input data is collected through document studies and program feasibility is tested by Testing (Stub, Unit, Black/White Box and Integration).*

Findings - *The system provides top-down and bottom-up menu access and is designed as an open source program for further development. This research is funded by the State University of Medan through the BOPTN / PNPB year 2020.*

Research limitations - *This research is limited to building and testing the feasibility of the program. Henceforth, the SIMLab application product research results can be applied in actual laboratory management to measure effectiveness and efficiency in order to measure laboratory performance.*

Originality/value - *This research is limited to building and testing the feasibility of the program. Henceforth, the SIMLab application product research results can be applied in actual laboratory management to measure effectiveness and efficiency in order to measure laboratory performance.*

Keywords : SIMLab, laboratory, performance

The Enormous Potency of Benchmarking

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Abstract

Background - *Benchmarking is comparing one's process and performance metric of the best practices from other companies. Benchmarking is a management tool for companies to seek the solutions referred to the best method, procedures, and best practices to conduct the organization to the top achievement.*

Purpose - *This paper aims to review the potency owned by benchmarking enriching the management to apply in the organization.*

Design/methodology/approach - *The data and ideas on this paper come essentially from review of articles relating to the benchmarking in the organization.*

Findings - *The grade of success to benchmark in assorted companies varies among them because of the different management cultures and desires. Benchmarking process doesn't only collect data on practices of a corporation attains against other companies but also the way to confess a replacement idea and a replacement method to enhance the method and to be better to satisfy the customer's satisfaction.*

Research limitations - *Method and procedures of organization only*

Originality/value - *This paper provides as a description for the practitioners to improve to be better organization.*

Keywords : best practices, customer's expectation, management tool

STEAM (Science, Technology, Engineering, Art, Mathematics) And Augmented Reality-Based Mobile Learning Innovation

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Abstract

Background - *STEAM (Science, Technology, Engineering, Art, Mathematics) is an integrated learning approach and is specially designed with classrooms to create an interactive and fun teaching-learning environment. With this method, students are honed to think critically by learning to solve and analyze problems using technological tools and creative collaborative learning strategies. Good learning is interactive and fun learning and provides opportunities for students to be able to develop creativity and independence. Interesting learning media are also very necessary for students. One of the developments in learning media that is currently still new is learning media using Augmented Reality. By using AR a student can learn more effectively, visually, and interactively with the virtual form of simulation teaching materials, or other forms.*

Purpose - *The purpose of this study is to innovate learning through the development of mobile learning-based applications which include iterative video-based learning and material virtualization with Augmented Reality technology and compiled with the STEAM learning model mechanism and structured and systematic learning design.*

Design/methodology/approach - *The steps of application's development are: Collection of User Requirements Specifications, System Architecture Planning, System Component Design, Interface Design Making, Program Development and Testing.*

Findings - *The final result of this research is a mobile learning application that contains learning content which includes interactive videos based on STEAM and Augmented Reality learning.*

Research limitations - *This research produces a mobile learning application product based on STEAM and AR with mathematics material.*

Originality/value - *The originality of this research is the development of a mobile learning innovation based on STEAM and Augmented Reality (AR).*

Keywords : Mobile Learning, STEAM, Augmented Reality

Track: Sport Science

Equity Teacher Education Physical Sports Health Public Middle School in Serdang Bedagai Regency

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Abstract

Background - *Based on observations, observations, initial interviews and dapodic data from the Serdang Bedagai District Education Office, the placement of teachers, especially sports teachers, is not evenly distributed. This study tries to examine the symptoms and facts of equality in the human sphere and / or teacher profession which then becomes the object of research in this study, hereinafter referred to as equity and teacher needs. The equality symptom studied in this study is the distribution pattern and the need for junior high school teachers in the Serdang Bedagai district, which directly affects the need for teachers in each of these schools. In order to improve the quality of the process and learning outcomes in Serdang Bedagai District. Through teacher and school data which become research facts and problems that will be studied further in this study.*

Purpose - *This paper aims to find out about the even distribution of teachers of Sports and Health Education in Public Middle School (SMP) in the Serdang Bedagai Regency, North Sumatra.*

Design/methodology/approach - *This research took place in the education environment of Serdang Bedagai Regency, North Sumatra. This study uses a descriptive method with a qualitative approach.*

Findings - *Equal distribution of Sports and Health Physical Education teachers in State Junior High Schools (SMP) in the Serdang Bedagai Regency, North Sumatra Province in 2019 has not been evenly distributed*

Research limitations - *This research is specifically for Physical Education teachers in Serdang Bedagai District*

Originality/value - *Research on this topic has never been conducted before*

Keywords : Equality, Sports Physical Education Teachers

Developing Learning Media Audio Visual Tutorial In Crawl Swimming Style For POK FIK Unimed Students 2020

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Abstract

Background - *This study aims to develop media learning audio visual tutorial in the form of learning video crawl swimming style PKO FIK Unimed students 2020. Video is an audio-visual media that able to deliver information with clear through picture and sound.*

Purpose - *Through the implementation of learning by developing audio visual requires students to be able to learn to crawl gradually, independently, structure and maximally by viewing and observing videos that have been developed, created and arranged systematically as demands in meeting the development of science and technology as well as based on the existing curriculum.*

Design/methodology/approach - *This study using Research and Development (R&D) that adopt 4D models. The instrument that used is in the form of a learning media assessment questionnaire assessment sheet for material experts, media experts, lecturers, and students. The analysis qualitative data formed ctitic and suggestion from the materials, lecturers, students, and media experts. The result of study showing four steps of 4D Define, Design, Development, and Disseminate.*

Findings - *The result of study is developing learning media tutorial with using learning video crawl swimming is in good category for using in online learning.*

Research limitations - *Re-reseach with larger samples.*

Originality/value - *Can make it easier for students to learn to crawl the network.*

Keywords : Audio Visual Tutorial crawl Swimming Style

Working Performance and Level of Fatigue of The Female Working with Computer: An Interview Study on University Female Workers

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Abstract

Background - *Female working in any field of job is always interesting to analyse. Fatigue experiencing by the workers can give bad impact in workers' working performance.*

Purpose - *Therefore, this study figured out the levels of fatigue and their impact on working performance of women working in the office with computer.*

Design/methodology/approach - *This is an interview study with twenty women investigated by a semi-structured interview.*

Findings - *The results revealed that there are three main motives of fatigue which influencing their working performances. The motives are doing house work, the working environment, and the social interaction at work. The social interaction at work became the main contribution to the fatigue. Other findings showed that the fatigue triggered the negative emotions like anger and helplessness. These emotions may impair the office climate, and be counterproductive to the workers' effectiveness*

Research limitations - *This study was performed in one of government universities in Sumatera Utara, Indonesia*

Originality/value - *There is not any research performed to find out the fatigue on female workers.*

Keywords : fatigue level, female workers, interview study, working performance, working with computer

Development of SIPDA-Based Learning Resource Design (Blended Learning) In The Course Of Rationing Learning Strategies

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Abstract

Background - *Responding to the problem of the less than optimal use of the SIPDA application by lecturers, it takes seriousness by the lecturers who teach the courses to use it. Furthermore, interviews were conducted with several lecturers from the three study programs, all of whom stated that they had not used them optimally, especially filling out the applications or features in the Unimed SIPDA media. Which demands the use of learning resources.*

Purpose - *The purpose of this research is to design a learning resource design based on SIPDA (Blended Learning) in the Physical Education Learning Strategy course. The products of this research consisted of: a) teaching materials, b) learning videos consisting of video tutorials and animated videos. This learning resource will add insight, student knowledge as provisions to become a Physical Education teacher*

Design/methodology/approach - *The research method used is a development research method with a qualitative approach. Development research is not to create theories or test theories but to develop effective products to be used in SIPDA Unimed. The development method used in this research is the ADDIE development model with 5 steps*

Findings - *The test in this study consisted of two stages, namely validation involving material experts, namely two lecturers and media validation consisting of one person. The feasibility of the design of SIPDA-based learning resources (blended learning) in the Physical Education teaching and learning strategy course is in accordance with the questionnaire scores filled out by expert lecturers during the validation process. The material expert validation consists of five chapters. The results of the material expert validation assessment showed that the first validator obtained a value after being converted by 2.7 with a very decent category,*

the second validator gave an assessment of 3.05 with a very feasible category, and the third validator gave an assessment of 3.25 with a very feasible category

Research limitations - *The limitation of this research is only up to the stage of expert validation of the product being developed.*

Originality/value - *The value contained in this research is the product of teaching materials through an animated video which is a reference in teaching physical education learning strategies*

Keywords : blended learning, learning resources, learning strategies

Regular Physical Exercise and Red Dragon Fruit Increased Total Antioxidant Capacity and Preventing Muscle Injury in Trained Men

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Abstract

Background - Reactive oxygen species (ROS) can be formed due to hypoxia during muscle contraction during physical exercise. They can lead to muscle damage marked by increased levels of C-Reactive Protein (CRP). Physical activity that is carried out regularly and measured causes the ROS that is formed to be eliminated, thereby increasing endogenous antioxidants

Purpose - To determine the effect of a combination of regular physical exercise and red dragon fruit on the marker of muscle injury and Total Antioxidant Capacity (TAC) in trained men.

Design/methodology/approach - There were 20 subjects who were qualified as athletes, and subjects were assigned to training with the placebo group ($n = 10$) and training with the antioxidant group ($n = 10$). The exercise program is carried out for six weeks; the exercise frequency is three times a week; the activity duration is 30 minutes, the type of anaerobic exercise. Blood samples were collected just before and after the training program. Antioxidant status was evaluated by measuring the TAC level in plasma, and muscle injury marker was assessed by measuring CRP level.

Findings - Mean TAC level in the exercise and antioxidant group (before exercise $320.34 \hat{A} \pm 44.05 \hat{A} \mu\text{mol}$, after exercise $353.01 \hat{A} \pm 70.22 \hat{A} \mu\text{mol}$) and mean CRP level (before exercise $0.54 \hat{A} \pm 0.11 \text{ ng/ml}$, after exercise $0.49 \hat{A} \pm 0.04 \text{ ng/ml}$). Mean TAC level in the exercise and placebo groups (before exercise was $338.15 \hat{A} \pm 29.14 \hat{A} \mu\text{mol}$, after exercise $356.48 \hat{A} \pm 44.34 \hat{A} \mu\text{mol}$) and mean CRP level (before exercise $0.56 \hat{A} \pm 0.04 \text{ ng/ml}$, after exercise $0.53 \hat{A} \pm 0.09 \text{ ng/ml}$). There were no significantly increased TAC ($p > 0.05$) and decreased CRP ($p > 0.05$) after the exercise test compared to before. There were no significant changes in the two groups ($p > 0.05$).

Research limitations - *This study's limitation is that the subject is not in the training camp or not in a dormitory. When this research was conducted, there was still a COVID-19 pandemic in Indonesia, so that control of diet and food recall data was also limited.*

Originality/value - *The combination of a measured exercise program and red dragon fruit can prevent muscle damage from oxidative stress.*

Keywords : antioxidant, c-reactive protein, red dragon fruit

The Effect of Quick Strength Training on The Agility of Futsal Junior Athletes

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Abstract

Background - *Futsal is a sport that requires rapidly changing direction to gain passing and shooting space and avoid the reach of opponents. Futsal young players have a tendency to have difficulty increasing agility for a variety of reasons. Accurate training programs, the right number of sessions and quality training menus are an absolute part of helping to improve performance. The increase is also in line with physiological changes in the human body. These changes are heavily influenced by the right types and methods of strength training and one of them is quick strength*

Purpose - *This research aims to find changes in the agility influence of futsal junior athletes gradually through quick strength training on each cycle*

Design/methodology/approach - *The research method is a pretest-posttest experimental method with Equivalent time-series design. Quick strength exercise is performed for 8 weeks with frequency 1 week 3 times and divided into 4 cycles by measuring increased agility in each cycle This study was carried out through repeated intervals of research and measured at the 6th, 12th, 18th, and 24th treatments. Sampling technique using simple random sampling and the number of samples 22 people. The instrument used was the side step test. Data analysis techniques used the t-test with a significance level of 0.05*

Findings - *The study concluded that there was a rapid increase in the 1st and 2nd cycles. The increase also occurs in the 3rd cycle but is slower and the increase also occurs in the 4th cycle, but there has been an average decrease in the increase*

Research limitations - *The study was limited to a sample of just 22 people. The study was also conducted only on junior male athletes aged 17-19. Research sample is limited to 3 futsal clubs in Medan*

Originality/value - *This research is unique because it has 4 cycles of experiments that are controlled periodically and have 4 cycles. This is in contrast to previous studies*

Keywords : quick strength, agility, futsal

Development of the Unimed Sport Gym Stick (USGS) Fitness Tool for Self-Healing and Preventing COVID-19

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Abstract

Background - *The COVID-19 pandemic requires us to work from home and do social distancing. If learning or work can be done online, what about sports or activities to maintain fitness and maintain body immunity. On the other hand, maintaining fitness so as not to be infected for those who are healthy, and recovery for those who have been affected and in the healing stage are the main needs that must be met. The current fitness equipment is not only expensive but also less mobile and ergonomic. The team from UNIMED Sports Science and Biology tried to design a fitness device called the UNIMED Sport Gym Stick (USGS) to cover the shortcomings in the form of expensive, less mobile, and ergonomic prices. However, USGS is expected to provide many conveniences and benefits for maintaining fitness, even for self-healing during the COVID-19 pandemic.*

Purpose - *This study aims to develop a gym stick sports equipment that can be used for self-healing to increase vitality and immunity to prevent infection and recovery for people with COVID-19.*

Design/methodology/approach - *This gym stick tool is in the form of a swing gym stick which is designed ergonomically from a sturdy metal alloy and the weight can be adjusted so that it can be adjusted to the user's condition. In this research, USGS has been used for strength, resistance, balance training, and ideal flexibility which functions to strengthen endurance, stretch arms and legs, improve balance, and burn more calories. These parameters were tested on 15 volunteers for 10 days with measurements made on complete blood parameters before and after using USGS. The gymnastics movement using the USGS was also developed and standardized.*

Findings - *The results of this study indicate an increase in endurance. The results of this study indicate an increase in endurance as indicated by the results of measuring complete blood parameters. The measurement results showed an increase in the number of about 5% of neutrophils, lymphocytes, monocytes, eosinophils, and basophils after using the USGS tool. Meanwhile, hemoglobin, hematocrit, MCV (mean corpuscular volume), MCH (mean corpuscular hemoglobin), MCHC (mean corpuscular hemoglobin concentration), RDW (red cell distribution width), and platelets generically also increased by about 5-7.5%. This function is closely related to the need for self-healing to prevent COVID-19 infection which is now a pandemic. Strengthening endurance and stretching of organs, especially respiratory organs such as the chest and abdomen, are very important in self-healing for sufferers of COVID-19.*

Research limitations - *This research must be continued with a diffusion stage in the form of a certification stage and market development which is fully supported by the Indonesian Association of Physiologists.*

Originality/value - *This research is a research on the development of innovative Unimed Sport Gym Stick (USGS) products as self-healing for recovery and prevention of COVID-19.*

Keywords : Gym stick, COVID19, self-healing, ergonomic

Development of Sports Branch Test Norms

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Abstract

Background - *The assessment norms used in the sports test, both the physical, health and skills tests used so far are still low, where the test results that are converted to the reference norm are still not satisfactory. In every measurement of an athlete's ability, there is a value that becomes a limitation in measuring ability, and the procedure for carrying out the test must also be carried out correctly. Because every test has a limited scope, and the best score (usually the one that is considered good) is if the athlete in each part of the test gets the category "GOOD". In every test, both a physical condition test and a sports skill test, some norms must be obeyed and must be carried out in the implementation of the test. Usually, these norms are the basis for the assessment of tests carried out, to achieve perfect results and the validity of the reliability of the test is also good*

Purpose - *Produces a sports branching test norm that is up to date and validated and reliable*

Design/methodology/approach - *This study uses the Research and Development method. Research and Development is a process or steps to develop a new product or improve an existing product that can be accounted for. Development is carried out to obtain a new and validated sports branching test norm. Development research is an industry based on a development model. The findings from these studies are used to design new products and procedures which are then systematically field-tested, evaluated, and refined. So that the product meets the criteria for effectiveness, quality, or meets standards.*

Findings - *From the results of the validation of the sports branch tests carried out in this study, it is concluded that there is an increase in the quality of athletes, seen from the test scores from 2016 and 2018. Also, the validated test results create a new norm which is one level better than the reference*

norm which has been This is used in the selection process for North Sumatra athletes.

Research limitations - *The limitation in this study is the tests that have been carried out in 2016 and 2018, where each year there are 2 tests carried out. Also, the number of athletes who carry out the test is not large.*

Originality/value - *The data source used comes from the results of the 2016 and 2018 North Sumatra athlete tests, where each year there are 2 tests carried out, namely at the beginning of the year and towards the end of the year*

Keywords : Development Model, Norms, Sports Skills Test.

Differences in The Influence of Learning Methods and The Speed of Reaction to The Ability to Receive Sepaktakraw Services In Unimed PKO FIK Students In 2020

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Abstract

Background - *The service in addition to being the starting pitcher to start the game is also an early attack to find the winning numbers, Because this is an attack then tekong do with all the best abilities that have. In line with that the defender should be able to finish the ball and return as a counterattack. The fact that students are unable to return the service ball due to the ability to receive the ball and the speed of reaction to move the ball is not good, so no counterattack makes the game un attractive and losing. To make the game interesting, students must be trained to receive service balls and improved reaction speed. One way that can be done is to conduct research titled "Differences in The Influence of Learning Methods and Reaction Speed on The Ability to Receive Sepaktakraw Services in Unimed FIK PKO Students in 2020.*

Purpose - *The purpose of this study is to find out: 1). Knowing if there is a difference in the influence between the method of learning the ball is thrown with the ball hit the racket against the ability to receive service at the remaining PKO FIK Unimed in 2020. 2). Know if there is an influence difference between high reaction speed and low reaction speed on the ability to receive service in Unimed FIK PKO students in 2020. 3). Know if there is an interaction between the method of learning to throw a ball and use a racket and the reaction speed in Unimed FIK PKO students in 2020.*

Design/methodology/approach - *This research was conducted using experimental methods. Research design with Factorial 2 x 2. The population of this study is all students of PKO FIK Unimed who participated in advanced takraw football courses as many as 40 people. A sample of 30 people was taken with purposive sampling techniques. The research instrument uses a*

service receiving test and a reaction speed test. Data analysis techniques use statistical analysis while the calculation uses SPSS.

Findings - Conclusion: *1). There is no difference in the influence of the method of learning the ball is thrown and the ball is hit by a racket on the ability to receive sepaktakraw services in Unimed FIK PKO students in 2020. 2). There is a difference in influence between high reaction speed and low reaction speed on the ability to receive sepaktaraw service in Unimed FIK PKO students in 2020. 3). There is an interaction between learning methods and reaction speed in Unimed PKO-FIK students in 2020.*

Research limitations - *Focus to Differences in The Influence of Learning Methods and Reaction Speed on The Ability to Receive Sepaktakraw Services in Unimed FIK PKO Students in 2020*

Originality/value - *-Not copying the writing styles of others -Not using the language of other without acknowledgement -Contributing new knowledge at the end of your writing -Being unique as much as possible*

Keywords : Learning Methods, Reaction Speed, Receiving Service

The Influence of Game Method and Interest Toward in Learning Outcome of The Basic Running Skills

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Abstract

Background - *From the results of observations made by researchers, it appears that there is a lack of interest in learning from public elementary school students in Medan. this is due to the weakness of the teacher in applying the teaching style*

Purpose - *The purpose of this study was to explore information through various aspects related to the influence of individual playing methods and textbooks on student interest attitudes and learning outcomes of basic movement skills. The following are specific objectives in this study: 1. Knowing the difference between individual game methods and group play methods on basic running motion skills 2. Know the interaction between game methods and learning interest on basic movement skills? 3. Know the difference between individual game methods and group play methods on basic running movement skills for students who have high interest? 4. Know the difference between the individual game method and the group play method on basic running motion skills for students who have low learning interest?*

Design/methodology/approach - *This study uses a quasi-experimental (quasi-experimental design) factorial of 2 x 2. Furthermore, the effect of learning treatment with the Individual Play Method and Group Play Method in terms of students who have personality characteristics will be compared. Individual Play Methods and Group Play Methods as independent variables required the experimental group and students' learning interest, namely high learning interest and low learning interest as the moderator variable. Acquisition of Learning Outcomes Skills running basic motion as the dependent variable.*

Findings - 1. *The group play method is better than the Individual play method for learning outcomes of basic running motion skills.* 2. *There is an interaction between playing methods and student interest in learning outcomes of basic motion skills in running.* 3. *The group play method is better than the Individual play method for learning outcomes of basic running motion skills for students who have high interest.* 4. *The individual play method is better than the group play method for learning outcomes of basic running motion skills for students who have low interest.*

Research limitations - *The limitation in this research is only up to the stage of testing the research hypothesis that has been designed by the researcher*

Originality/value - *Basic movements of running elementary school students by grouping with students who are taught with individual play methods and group play methods*

Keywords : the basic running skill

The Effect of Acceptance Commitment Therapy to Reduce Anxiety of Martial Art Athletes

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Abstract

Background - *Athlete's appearance in a competition is the result of training that involves comprehensive activities between physical and psychological aspects. The government's decision to postpone the implementation of the XX Papua PON in October 2020 because the Covid-19 pandemic has an impact on training programs and athlete preparation for competitions. The uncertainty of the match faced makes this situation trigger anxiety about the uncertain situation.*

Purpose - *The research objective was to determine the effect of Acceptance Commitment Therapy in reducing the anxiety level of martial arts athletes in preparation for competitions.*

Design/methodology/approach - *The design used in this study is one group pretest-posttest design. This design is in accordance with the research objectives, namely to determine the effect of Acceptance Commitment Therapy on the anxiety felt by athletes. The research subjects were 13 martial arts athletes from the sports of Pencak Silat, Taekwondo, and Wushu who had anxiety in facing a competition with less than optimal preparation, and were willing to participate in the intervention. The implementation of group intervention uses the six core processes of Acceptance Commitment Therapy. These six core processes equip athletes to have greater psychological flexibility in dealing with situations by being open to experience and acting on values.*

Findings - *The results of data processing showed that the athlete's anxiety level before getting the intervention had an average of 70.00 with a standard deviation of 16.48. The athlete's anxiety level after getting the intervention had an average of 53.77 with a standard deviation of 12.64. This shows that the athlete's previous level of anxiety was higher than after receiving the intervention. The results of the paired sample t test which shows that there is a decrease in the athlete's anxiety level by an average of 16.23.*

The test results with the paired two-sample t test obtained a significance value (p) of 0.009 (<0.05). This indicates a significant reduction in the athlete's anxiety level before and after the intervention.

Purpose - *Specifically, the purpose of research on the development of log book teaching materials is to see how much the effectiveness of the log book teaching materials is used in learning soccer subjects.*

Research limitations - *This study did not compare the Acceptance Commitment Therapy intervention with different interventions to obtain information regarding the effect of reducing anxiety levels in martial arts athletes.*

Originality/value - *This study did not compare the Acceptance Commitment Therapy intervention with different interventions to obtain information regarding the effect of reducing anxiety levels in martial arts athletes.*

Keywords : Acceptance Commitment Therapy, anxiety, martial art athletes.

Development of Major Ball Game Modifications With Play Approach in Order to Develop Basic Motion Skills in Elementary School Students

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Abstract

Background - *Improving the quality of movement in children must receive attention by the Sports and Recreation Physical Education (PJOK) teacher. It's just that in the implementation of learning big ball games in elementary schools, in general, they experience problems. This is based on the results of a questionnaire given to physical education teachers in Medan. The findings are 1). The lack of field infrastructure is an obstacle to the implementation of big ball learning. 2) In general, physical education learning in elementary schools teaches children actual skills by using actual equipment. So that students have difficulty mastering the big ball game in the learning process, 3) not all schools have adequate facilities and infrastructure. 4). With limited facilities and infrastructure, schools require teachers to be able to improve student skills in any Physical Education learning material. 5) basic motion learning carried out by the teacher still seems limited to the material by explaining it at the beginning of the lesson using the command method so that students follow more orders / cues from the teacher. 6) Lack of student motivation in participating in learning big balls games due to the limitations of the balls used. 7). Lack of student movement activity because movement activity is not optimal in developing cognitive, affective and psychomotor doma.*

Purpose - *As for the purpose of this study is to develop a modification of the big ball game with a playing approach in order to develop basic movement skills. The products produced are CDs and large ball game books that can be used by students and teachers of PJOK. Design/Methodology/Approach-* *The development method used in this research is the Borg and Gall development model with 7 steps*

Design/methodology/approach - *The development method used in this research is the Borg and Gall development model with 7 steps*

Findings - *The modified big ball game becomes a guide for teachers in developing basic movement skills and can increase students' excitement, because the playing approach allows students to continue to act well.*

Research limitations - *The development method used in this research is the Borg and Gall development model with 7 steps. This was done due to time and cost limitations and this was supported by Sukmadinata (2015) who stated that development research could be stopped until a final draft was produced, without testing the results. The results or impacts of implementing the development of mobile activities already exist in small group trials and large group trials. The 7 steps are described as follows: 1) Conducting preliminary research (pre-survey), 2) planning, 3) product draft, 4) initial testing, 5) revision of the product, 6) Conducting field trials, 7) Conducting revisions to the product.*

Originality/value - *Develop basic motion products for running using the big ball*

Keywords : Modifications, great ball game, basic motion skills.

Development of Web Based Sports Nutritional Science Module in The Faculty of Sport Science (FIK) Medan State University

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Abstract

Background - *The research background for producing a product in the form of a web application design, as a learning resource and alternative media, which can facilitate student learning, is designed according to student characteristics, with the hope that it can increase reading interest and knowledge of students in the sports nutrition science course majoring. Physical Education Health and Recreation*

Purpose - *This study aims to determine. (1) The process of developing web-based learning media on sports nutrition science course material, (2) information about the feasibility of media products for sports nutrition science teaching materials on web-based sports nutrition science material at the Faculty of Sports Science, State University of Medan.*

Design/methodology/approach - *This research method is Research and Development (R&D) with the ADDIE development method (Assessment / Analysis, Design, Development, Implementation, Evaluation). The research took place at the Department of Health and Recreation Physical Education. The data collection instruments were observation and questionnaires. The feasibility of learning media for this sports nutrition course was assessed by a team of media experts, material experts and students. Feasibility data analysis was performed using the Likert scale assistance.*

Findings - *The results showed that: Web-based learning media on sports nutrition science material in the Department of Physical Education State University of Medan, is suitable for use as a learning medium for sports nutrition science courses, seen from the results of the validation of media experts on the usability aspect, it is 84.19%, the functionality aspect was 92.76%, and the visual communication aspect was 89.25%, the results of the material expert's validation on the learning design aspect obtained a*

percentage of 83%, the content aspect of the material (content) was 84.46%, and the results of the assessment by students on the usability aspect obtained a percentage of 81.67%.

Research limitations - *This research was only limited to students in the sports science faculty of Medan State University*

Originality/value - *original*

Keywords : Module, Sports Nutrition Science, Web Based.

Development of Android-Based Test Data Processing Model for The Physical Condition of Karate Athletes

Suprayitno¹, Indra Kasih², Samsuddin Siregar³

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Abstract

Background - *Success in any arena is usually the result of planning, hard work, commitment and physical training is no exception. All successful athletes are trained individuals who excel at a specific physical activity and have typically followed a well-designed long-term training program for several years. In sports, training is the process of performing repetitive or progressive workouts that increase the potential for achieving optimal performance. For athletes, this means a long-term training program that conditions the body and mind for specific competition and leads to excellence in performance.*

Purpose - *The purpose of this research is to create a formula for presenting athletes' physical condition data in the form of application software on Android. The target to be achieved is to produce a standard application model for presenting physical condition data that is easy to use, model procedure manuals and work instructions that can be used as targets or references for each variable of karate sports development for all sport stakeholders.*

Design/methodology/approach - *This study uses a Research and Development approach (Borg and Gall: 1989) or development research which is grouped into 3 stages, namely (1) the pre-development stage includes; analysis of needs and preparation of model documents, (2) the development stage includes development of an Android-based physical condition test application model through FGD, followed by small sample trials, large group trials and (3) the implementation stage*

Findings - *Android-based physical condition test application model to the research object, namely North Sumatra PPLP athletes, students and fostered karate sports associations. The results of the research obtained from*

the validation results of expert tests and field expert tests (PPLP North Sumatra athletes and Faculty of Sport Science students) showed that the application software for the physical condition test for the sport of karate met the acceptability criteria in accordance with the aspects of usability, feasibility, accuracy and appropriateness. The scores obtained from the results of the media expert test validation (72.7%), the material expert test validation (81.5%) and the field expert test (79.8%) fall into the good category and do not need revision. Thus, the application of the physical condition test in the sport of karate can be used as a medium in service implementation instructions, information and evaluation of tests and measurement of the physical condition of athletes in the sport of karate.

Research limitations - *This research is only limited to the sport of student karate*

Originality/value - *original*

Keywords : Physical test, application, data, karate

The Development of A Far Learning Variation in Sport Training Education Students Unimed FIK in 2020

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Abstract

Background - *Develop athletic learning, especially long jump so as to improve learning outcomes*

Purpose - *This study aims to develop a long jump learning model in 2020. To contribute knowledge and thoughts which can also be used as a guideline for lecture guidance. In this study, there are eight variations of long jump learning to improve long jump learning outcomes.*

Design/methodology/approach - *The eight models that have been made in advance are validated by 5 experts in the field of sports, namely 2 people are long jump trainers and 3 people are sports academics. The small group test involved 25 students. In a large group trial involving 50 students (Taken at random). At the small group trial stage, the researcher collected data in the form of a questionnaire containing the sample responses to the use of research products. The results of the questionnaire were formulated together with 5 validators. Furthermore, the use of large group products was tested and the researchers collected the same questionnaire data as in small group trials. After analyzing the questionnaire from the sample, the researcher made the research output.*

Findings - *The output that will be generated from this research is in the form of a book that can be made into a continuous learning guide. By reviewing the results of the needs analysis, the researchers hope that the results of this study will be able to increase students' interest in learning in athletic subjects, especially in the basic long jump technique, which can automatically increase student achievement in the long jump athletic field.*

Research limitations - *Development of variations in Long Jump learning in the Sports Coaching Education Faculty of Sport Sciences, State University of Medan*

Originality/value - *Variations in Long Jump learning*

Keywords : Development, Learning, Long Jump

Development of Information Media for Volleyball Games Based on The Sisvoli Application (Volleyball Statistical Information System)

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Abstract

Background - *Entering the technological era, the industrial revolution 4.0 is very close to technological developments that are classified as so fast. Today, technology is one of the "offers" that is very tempting for young people. Globalization is a renewal process that includes all aspects of life, using technology as the main media. Technology as the main media, which can play an important role in every development, including in the fields of education and coaching.*

Purpose - *This study aims to 1) Develop information media based on Android applications. 2) Improve the competence of coaches and students in analyzing the course of a competition in volleyball. 3) Alternative evaluation process to athletes in performance coaching such as professional or amateur clubs.*

Design/methodology/approach - *The research method used in the development of the application of statistical information media for volleyball matches based on the Sisvoli application is a type of development research using the ADDIE method. The research subjects involved were media experts, academicians, and practitioners, namely Volleyball Trainers, and Volleyball club athletes in Medan City, namely TVRI VC Medan club, GAPERTA VC, and MULIA VC Medan. while the object under study is the feasibility of the application of Information Media for Volleyball Competition Based on Sisvoli Application which includes software engineering aspects, visual communication aspects, material aspects, question aspects, language aspects, implementation aspects, and application display design aspects.*

Findings - *Based on the results of research and discussion, it shows that 1) the development of information media for volleyball matches based on the SISVOLI application uses the ADDIE development model, namely analysis,*

design, development, implementation, and evaluation. 2) Assessment of athletes for the TVRI VC Medan, GAPERTA VC, and MULIA VC Medan which consists of 36 athletes with an average score of 2.99 in all aspects which is included in the Eligible category. 3) Based on all assessments from media experts, 3.9 assessments from academic experts were 3.7 assessments from practitioners, namely Volleyball Trainers of 3.3 and athletes from TVRI VC Medan, GAPERTA VC, and MULIA VC Medan athletes of 3, 0 then the Information Media for Volleyball Matches based on the Sisvoli application is appropriate to be used as a Media for Volleyball Match statistics information.

Research limitations - *The limitations of research in this activity are slightly hampered by the Covid 19 pandemic outbreak so that the implementation of large-scale tests is almost difficult to carry out.*

Originality/value - *the development of the application of the Sisvoli application-based volleyball statistics information media application uses the ADDIE development model, namely analysis, design, development, implementation, and evaluation. .*

Keywords : Application Media, Sisvoli, Android, and ADDIE.

Development of learning media for refereeing Subjects for Volleyball Subjects Based on Satelite E-Learning

Onyas Widianingsih¹, Sinung Nugroho², Hardodi sihombing³,
Indar Kasih⁴

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Abstract

Background - *this research focus to see the extent of affectiveness and improvement in volley ball learning for student*

Purpose - *to know how to be interest between e-learning than conventional teaching*

Design/methodology/approach - *this research methods use qualititative research with use expert*

Findings - *mean while, the distribution of questionnaires distribution data to student on learning volleyball used e-learning*

Research limitations - *just only to student of physical of sport*

Originality/value - *the e-learning have more interesting than convensional teaching*

Keywords : E-Learning satelite based voley Ball referee

Development of Sanbon Kumite Engineering Learning Variations in Sport Training Education Students in 2020

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Abstract

Background - *Developing variations in learning the sanbon kumite technique*

Purpose - *This study aims to develop a variety of Sanbon Kumite in karate learning at the Faculty of Sports Science, Sports Coaching Education in 2020. This research is a follow-up to the observations of researchers in a number of competitions where the use of Sanbon Kumite is still very minimal.*

Design/methodology/approach - *The six Sanbon Kumite Learning Variations designed by the research team will first pass through the research development steps contained in the R&D research method. In this case, the variations offered will be validated by 5 validators related to sport and karate. In its implementation, small group trials (KK1) and large group trials (KK2) will be carried out gradually considering conditions and to meet health protocols. The number of samples of KK1 is 20 people involving PKO students and the number of KK2 samples of 40 people are also PKO students.*

Findings - *The output of this research will be stated in a Sanbon Kumite training manual which can be used by the general public who are active in karate so that this development is expected to help all athletes in karate kumite and use it in competitions, especially athletes in North Sumatra and students who active in karate.*

Research limitations - *Only Development of sanbon kumite technique at the Sports Coaching Education Faculty of Sport Science, State University of Medan*

Originality/value - *New variations of learning*

Keywords : Development, sanbon kumite technique, learning

Development Of Drill-Based Basketball Shoot Lay Up Learning Model For Students

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Abstract

Background - *Basketball is one of the famous sports in the world and there are many competition in basketball. The students in sport science faculty are prepared to be good basketball players in order they can join in any basketball competition.*

Purpose - *The research objective is to get an increase in learning outcomes drill-based layup shoot for PJKR students, then produce a lay up learning model, in the form of conceptual and procedural lay up learning and knowing how much the effectiveness of model efficiency.*

Design/methodology/approach - *The research method uses Research & Development Borg and Gall theory. The research was conducted in the Health and Recreation Physical Education Study Program. The subjects are PJKR students who took the Layup shoot material course which numbered 60 people.*

Findings - *Test the effectiveness of the learning model using research data analysis using t test with a significance level of 0.05. Layup learning model data analysis obtained an initial test mean value of 48.02 and final test 73.17 comparison t-count and t-table -167,667*

Research limitations - *This research was conducted on students of the Health and Recreation Education Study Program (PJKR). The research was focused on developing a lay-up shoot in basketball.*

Originality/value - *This research is conducted in Indonesian students with the background of different culture and performance.*

Keywords : Basketball, lay up shoot, learning model, university students

Interactive Multimedia As an Optimization of Tennis Court Learning In Pandemic Period

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Abstract

Background - *Tennis court is one of the sports that became a course in the Faculty of Sports Sciences Unimed. As we know in the delivery of tennis court learning materials that have been done all along that is with practice on the court and also indoors / classes in the form of theory. From this problem, there needs to be an innovation in learning where the development of IT is urgently needed and developed rapidly in the period of the Covid-19 pandemic. The process of learning during the pandemic is not carried out face-to-face, but rather through virtual so as to make it difficult for students in the understanding of tennis court learning.*

Purpose - *The purpose of this research is to utilize interactive multimedia as a way of improving students' understanding in the learning process in tennis court courses so that later the learning will be wrapped in a tennis court learning application.*

Design/methodology/approach - *This research uses research and development methods in which this research is divided into 3 stages starting from the first stage: (1). Analyze the needs of tennis field courses such as Designing course materials, formulating syllabuses, learning programs, teaching materials, and to design evaluations. The second stage: (1). Develop early products, such as compiling syllabuses, learning programs, teaching materials, (2). Develop vcd and HP interactive media models in the form of video, images, sound, and the third stage: (1). Product trials, (2). Product revisions (according to the results of the analysis), (3). Trials on PJKR FIK Unimed students. (4). Revise the product according to the test results. (5). Conduct operational trials to determine the effectiveness of the product. (6) assessment of the results of studying tennis courts.*

Findings - *This research can be concluded: (1) the results of the need analysis show that the learning of interactive multimedia tennis field is much needed shows 80%, saying it needs 15% and only 5% answering is not*

necessary. (2) The results of expert evaluation analysis are known that 90% of tennis learning interactive multimedia field is declared to be usable.

Research limitations - In this study, this research is only devoted to the tennis course of the court and it is hoped that this research will be developed in other courses to facilitate lecturers in the learning process.

Originality/value - The data analysis techniques in this study were collected through observations, interviews and study documents as well as tests and measurements. The analysis used uses quantitative and qualitative assessments.

Keywords : Interactive Media, Tennis Court Learning

Digital-Based Volleyball Basic Engineering Test Instrument Design

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Abstract

Background - *This research aims to design instruments testing the basic techniques of digital-based bolavoli by using the benefits of internet technology as its application. This research using research and development methods used in this study is a borg and gall development model with 7 steps of potential problems, data collection, product design, product validation, design revision, product trial, product revision, usage trial, product revision, and production. This learning product was developed in the design of a basic bolavoli-based technical test instrument. The product of this study is 1) produce a product application instrument test basic volleyball technique used in smartphones, 2) produce a product of the basic technical instruments of vili balls that are young in access via the internet, 3) produce a manual of assessment application assessment of the application of basic volleyball based techniques digital. Data analysis techniques used in this study through two ways are quantitative and qualitative.*

Purpose - *The purpose of the research was to produce a digital-based bolavoli basic engineering test instrument product and produce a digital-based volleyball basic engineering test instrument manual using the internet network.*

Design/methodology/approach - *The development method used in this study is a 7-step Borg and Gall development model. This is done due to time and cost limitations. This was supported by Sukmadinata (2015) which stated that development research can be stopped until the final draft is produced, without testing results. The results or impact of the implementation of motion activity development already exist in small group trials and large group trials. The 7 steps are explained as follows: 1) Conduct preliminary research (pre survey), 2) planning, 3) product draft, 4) early stage trials, 5) revision of the product, 6) Conducting field trials, 7) Revising the product.*

Findings - After the trial of the product can be spelled out the advantages and disadvantages of this research. The advantages of designing a basic digital-based volleyball engineering test instrument are (1) easy and practical use (2) delivering (2). Easy to use on android phone, (3). Simple technology can support ease in the assessment process of volleyball technique tests.

Research limitations - the lack of design of basic volleyball-based volleyball test instruments is as follows: (1). There are still few basic engineering components assessed, (2). Must use the internet network.

Originality/value - This research was conducted with the aim of providing a solution in conducting a volleyball game skills test. The stage of observing the tool being developed is named "Design of Volleyball Basic Technique Test Instruments".

Keywords : test instruments, basic techniques, bolavoli, digital.

Development Ebook Model Football Teaching Book

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Abstract

Background - *The learning process for basic soccer subjects so far has been carried out using the direct drill approach of Pratik in the field face-to-face by lecturers and students, where the learning process is only focused on mastering the basic technical skills of football alone, and is assisted by hard copy teaching materials. Apart from doing practical lectures in the field that are obtained directly from student lecturers, they must also be required to understand the concepts available in existing teaching materials. Where is the teaching material in the form of a hard copy book, which is of course a little troublesome and many students still don't understand how to learn soccer technique movements which are illustrated by the pictures contained in the teaching material. So that it is often found that students are wrong in carrying out the basic technical movements assigned by the lecturer. The soccer learning process when referring to the 2014 soccer curriculum, where learning has developed a holistic approach, where this approach is the implementation of learning or training combining all components in soccer games. The components that are combined in the learning / training process such as technique, physical, tactic, strategy and mental are taught / trained simultaneously. In other words, learning is carried out like in real games, so that students will get the experience of playing like real games*

Purpose - *Research and Development research as follows; 1). Identification of Potentials, Problems and Needs Researchers make preliminary observations at the Faculty of Sports Science to identify potentials and problems. Initial observations were made using the interview method for lecturers who are teaching basic soccer subjects, using the guidelines for identifying potentials, problems and needs. 2). Validation of the Log Book of soccer learning teaching materials with a tactical approach by material experts, media experts, and course lecturers. Revision of the Look Book for soccer learning teaching materials with a tactical approach. tactical by researchers, 5) Large-scale trials, 6) Revision of the Log Book of*

soccer learning teaching materials with a tactical approach, 7) The final product of the Log Book is soccer learning teaching materials with a tactical approach.

Findings - *The findings in this study are the development of e-book-based soccer teaching materials that are easy to understand and teach for students*

Research limitations - *Meanwhile, the deficiencies in the design of e-book based soccer teaching materials are as follows: (1). There are still few basic engineering components that are assessed, (2). The e-book that is produced must go through video recording and go through good editing stages.*

Originality/value - *The value contained in this research is the development of ebook-based soccer teaching materials*

Keywords : learning, electronic teaching materials, Football

Track: Culture

Folk Belief on Pancur Gading Site in Deli Tua Village, North Sumatra Province, Indonesia

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Abstract

Background - *The folk beliefs that surround the series of ceremonial rituals are an inherent part of the discussion about the Pancur Gading Site which is located in Deli Tua Village, North Sumatra, Indonesia. Through this belief, people come with their own goals and purposes.*

Purpose - *This study aims to reveal the folk belief in the Pancur Gading site by reviewing the supernatural figures who are worshiped in that place, and the meanings of the ritual objects that are believed to be accepted by the supernatural beings. Through folklore research studies, it is expected to reveal the purpose of this research.*

Design/methodology/approach - *The ethnographic research method is used in this research to reveal the folk beliefs and ceremonial rituals using a phenomenological approach in verstehen by strengthening the concepts of epoche and eidos. Data collection uses three data gathering techniques, namely participatory observation, in-depth interviews, and document studies. Folklore analysis is carried out by selecting, recording important data, controlling and selecting data, classifying data, and extracting meaning from the folklore results.*

Findings - *The religious behavior of people who believe in the efficacy of Pancur Gading is based on their folk belief in worshiped figures. The existence of the legend of Putri Hijau gave a conception of revered magical figures, including the princess known as Putri Hijau or Nini Biring, the first her brother (a dragon), the second (a canon), her commanders, and the ancestors who are worshiped according to their cultural backgrounds. The trust is transferred to the visitors by intermediaries with various suggestions with the aim of obtaining blessings, materialized requests, and gratitude for the achievement of their goals to the supernatural beings.*

Research limitations - *This research requires deepening the various forms of folk belief in objects around Pancur Gading, as well as disclosing data in other parts of folklore, such as folk language for intermediaries, and other groups in the implementation of magical practices in that place.*

Originality/value - *This research is an effort to take inventory of various folk beliefs and traditions related to the Pancur Gading Site and a deeper effort to document them in folklore research.*

Keywords : Folk belief, Pancur Gading Site, ancestors

Development of Multicultural Counseling Subject Modules for Guidance and Counseling Students, Faculty of Education, Universitas Negeri Medan

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Abstract

Background - *The learning process has not been optimal in the multicultural counseling course. There are many ways that lecturers can do so that the learning process can be optimal, one of which is by using learning media such as modules.*

Purpose - *The purpose of this research (1) to develop a module for multicultural counseling courses in the Guidance and Counseling Study Program, Faculty of Education, State University of Medan, and (2) to describe the feasibility level of the module for multicultural counseling courses by experts and students.*

Design/methodology/approach - *The research method used in this research, using the 4-D Model method, namely (1) Define, (2) Design, (3) Development, and (4) Disseminate.*

Findings - *The results showed that (1) a developed multicultural counseling course module is available, (2) a multicultural counseling module was deemed worthy of being used by the lecturers in providing the learning process to students.*

Research limitations - *The research trial subjects consisted of two material experts and two media experts, as well as 40 Semester V students of the Guidance and Counseling Study Program, Faculty of Education, Medan State University, Academic Year 2020/2021. The data analysis technique for the feasibility of the module used quantitative descriptive analysis.*

Originality/value - *Based on the results of these studies, in general, it can be concluded that the research products produced are declared feasible and can be used by lecturers and students in the Guidance and Counseling Study Program, Faculty of Education, State University of Medan.*

Keywords : Multicultural Counseling, Module

BOOK OF ABSTRACT

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