CIIDT 2021

NEW NORMAL IN INSTRUCTION AND LEARNING IN DIGITAL AGE

2nd INTERNATIONAL CONFERENCE ON CREATIVITY AND INNOVATION IN INSTRUCTIONAL DIGITAL TECHNOLOGY

PROGRAMME & ABSTRACT E-BOOK

13th October 2021

STRATEGIC PARTNERS :

https://ciidt.usm.my/

INTERNATIONAL CONFERENCE ON CREATIVITY, INNOVATION, AND INSTRUCTIONAL IN DIGITAL TECHNOLOGY

NEW NORMAL IN INSTRUCTION AND LEARNING IN DIGITAL AGE

Programme and Abstract E-Book

DATE | 13 OCTOBER 2021

TIME | 9:00 AM TO 5:30 PM

(LOCAL TIME)

CONFERENCE ORGANISER

Pusat Teknologi Pengajaran dan Multimedia (PTPM)

Universiti Sains Malaysia,

11800 USM Penang,

Malaysia

Website: www.ptpm.usm.my

STRATEGIC PARTNERS

Kagawa College
www.kagawa-nct.ac.jp/

Silpakorn University
Department of Curriculum and Instruction
www.su.ac.th/th/index.php

Multimedia University
https://www.mmu.edu.my/

Prince Songkla Universiti
https://en.psu.ac.th/

TECH CAPACITY SDN BHD
https://tech-capacity.com/

VIRTAREAL
https://virtareal.asia/

Editors

Ts. Dr. Jeya Amantha Kumar

Ts. Dr. Nur Azlina Mohamed Mokmin

Prof. Dr. Mona Masood

Publisher

Pusat Teknologi Pengajaran dan Multimedia (PTPM), Universiti Sains Malaysia, 11800 Gelugor, Pulau Pinang, Malaysia

Tel: +604-653 3222 / 3224 / 3226

Fax: +604-653 2375

©Copyright PTPM 2021.

All right reserved. No part of this publication may be stored in a retrieval system, or transmitted in any form or by means, electronic, mechanical, photocopy, recording, or otherwise, without the prior permission in writing from the Director of Pusat Teknologi Pengajaran dan Multimedia (PTPM), Universiti Sains Malaysia, 11800 Gelugor, Pulau Pinang, Malaysia. The individual work remains the intellectual properties of the contributors

CONFERENCE CHAIR WELCOME

Dear Colleagues and Friends,

Assalamualaikum and greetings from the Centre for Instructional Technology and Multimedia, Universiti Sains Malaysia. It is with great pleasure that we welcome you to the 2nd International Conference on Creativity and Innovation in Instructional Digital Technology (CIIDT 2021). The aim of CIIDT2021 is to promote research and facilitate the exchange of new ideas in Instructional Digital Technology through oral presentations and distinguished keynote speeches by experts in the field such as Prof. Ts. Dr. Neo Mai (Multimedia University) and Prof. Dr. Wan Mohd Fauzy Wan Ismail (Sultan Qaboos University, Oman).

This year, we have participants from local and international researchers, experts, and practitioners to share their ideas, findings, and research outcomes in various aspects related to Instructional Digital Technology. We are also hosting an avenue for postgraduate students from Prince of Songkla University, Thailand, and our own postgraduate students to share their research work as a postgraduate colloquium. Such opportunity is imperative in articulating their research topic while practicing their presentation skills, and this has been possible due to the virtual nature of CIIDT 2021 due to the pandemic. While the COVID-19 pandemic is, first and foremost, a health crisis impacting higher education, we must use this experience to become better educational providers. To support this aim, CIIDT offers the opportunity for us to discuss and share our practice and strategies in this new normal. Therefore, this year, the theme “New Normal in Instruction and Learning in Digital Age” was chosen, and we would like to thank all participants at this conference for sharing your research that has made the goal of this conference achievable.

Following, this conference would not have taken place without the support of Professor Dato’ Dr. Faisal Rafiq Mahamd Adikan (Vice-Chancellor of USM) and Professor Wan Ahmad Jaafar Wan Yahaya (Director of PTPM). I would also like to take this opportunity

to thank all committee members of CIIDT 2021 for their commitments and dedication. Without the endless effort and hard work of the conference secretary, publication team, promotion and publicity team, website, technical and digital documentation team, reviewers, treasurer, and secretariat CIIDT 2021 could not be a reality. Therefore, my sincere thanks to each and every one of you who have helped throughout the preparation of this conference and making it a success.

Please have a fruitful and valuable experience and enjoy the presentations.

Thank you.

Prof. Dr. Mona Masood
CIIDT 2021 Conference Chair

Deputy Director (Academic, Career & International),

Centre for Instructional Technology and Multimedia

COMMITTEE MEMBERS

ADVISOR

Prof. Dr. Wan Ahmad Jaafar Wan Yahaya

Conference Chair

Prof. Dr. Mona Masood

Secretary

Dr. Nurullizam Jamiat

Assistant Secretary

Mdm. Nur Haziqah Zulkipli

Treasurer

Dr. Siti Nazleen Abdul Rabu

Mdm. Awalia Hanif Burhanuddin

Publication

Prof. Dr. Mona Masood (Head)

Prof. Dr. Irfan Naufal Umar

Dr. Reem Baragash

Ts. Dr. Jeya Amantha Kumar

Ts. Dr. Nur Azlina Mohamed Mokmin

Promotion and Publicity

Dr. Mariam Mohamad

Ts. Dr. Irwan Mahazir Ismail

Mr. Abd Haris Harun

Website, Technical and Digital Documentation

Mdm. Zunairah Mokhtar

Ms. Ayda Fatahiyah Abd Malek

Mr. Ridzawan Abdullah

Mr. Mohammad Faiz Isahak

Mr. Mohd Faizal Ishak

Mdm. Faizah Atan

Creative Media Production

AV Technical

Secretariat

Mdm. Mu'azzah Ismail

Master of ceremonies

Mr. Afiq Fahim Md Yusof

Scientific Committee

Prof. Dr. Wan Ahmad Jaafar Wan Yahaya

Prof. Dr. Mona Masood

Dr. Chau Kien Tsong

Prof. Dr. Irfan Naufal Umar

Dr. Mariam Mohamad

Dr. Siti Nazleen Abdul Rabu

Dr. Tan Yun Yi

Dr. Nurullizam Jamiat

Ts. Dr. Jeya Amantha A/P David P. Kumar

Ts. Dr. Nur Azlina Mohamed Mokmin

Ts. Dr. Mageswaran A/L Sanmugam

Ts. Dr. Irwan Mahazir Ismail

Dr. Reem Sulaiman Baragash

Table of Contents

CIIDT2021 SCHEDULE

CIIDT 2021
INTERNATIONAL CONFERENCE ON CREATIVITY, INNOVATION, AND INSTRUCTIONAL IN DIGITAL TECHNOLOGY

13 October 2021 | 8.30 AM – 5.30 PM

Tentative Program

Opening Ceremony | 8.30 AM – 9.00 AM

Keynote Speaker | 9.00 AM – 10.00 AM

Prof. Ts. Dr. Neo Mai
Multimedia University

Education in the New Normal: Redesigning Learning Environments and Learning Experiences

Moderator
Prof. Dr. Wan Ahmad Jaafar Wan Yahaya
Director
Centre for Instructional Technology and Multimedia
Universiti Sains Malaysia

President
Malaysian Educational Technology Association (META) 2020 - 2022

Parallel Sessions

Parallel Session 1

Moderator: Ts. Dr. Nur Azlina Mohamed Mokmin

No.	Time	Authors	Title	ID
1	10.00 AM – 10:30 AM	Norazlinda Saad and Surendran Sankaran	Kemahiran Dan Kesediaan Terhadap Topik E-Keusahawanan Dalam Kalangan Pelajar Sarjana Muda	22
2	10:30 AM – 11.00 AM	Surendran Sankaran and Norazlinda Saad	Isi Kandungan LMS Dengan Pengurusan Pembelajaran Berasaskan Blended Learning Dalam Kalangan Pelajar Sarjana	23
3	11:00 AM – 11:30 AM	Siti Sarah Ismail and Muhammad Helmi Norman	Pembelajaran Berpusatkan Pelajar Berasaskan Penggunaan Filem Dan Kesan Terhadap Sahsiah Pelajar	4
4	11:30 AM – 12:00 PM	Nurullizam Jamiat, Norazila Azmi and Chau Kien Tsong	Investigating Students' Performance from Their Behavior on Learning Management Systems Using Learning Analytics	3
5	12:00 PM – 12:30 PM	J-Ho Siew Ching, Goh Eg Su and Wong Seng Yue	Learning Mathematics: Online or Face-To-Face?	10

Parallel Session 2

Moderator: Dr. Mariam Mohamad

No.	Time	Authors	Title	ID
1	10.00 AM – 10:30 AM	Khadija Abuzagia	The Future of Blockchain Technology in Education	27
2	10:30 AM – 11.00 AM	Fathmath Nishan and Aminath Shafiya Adam	Approaches and Techniques for Using Digital Technology in Inclusive Education: A Content Analysis Review of Artifacts	16
3	11:00 AM – 11:30 AM	Azidah Abu Ziden, Ifedayo Adu and Aziah Binti Ismail	Podcast Piracy: A Critical Discourse from The Human and Media Perspectives	6
4	11:30 AM – 12:00 PM	Wan Nor Ashiqin Wan Ali and Wan Ahmad Jaafar Wan Yahaya	A Validity and Reliability Study of Algorithmic Thinking Self-Efficacy for Progressive Learning in Malaysia Technical University Network (MTUN) Context	1
5	12:00 PM – 12:30 PM	Omar Altamimi, Mona Masood and Chau Kien Tsong	The Effect of Using Electronic Error Logs to Reduce the Writing Anxiety of EFL Yemeni Students	9
6	12.30 PM – 1.00 PM	Ting Jie Zhang, Chau Kien Tsong and Wan Ahmad Jaafar Wan Yahaya	Investigation on the Educational Values of Female Superhero Movies: Counter Gender-Stereotype Issues in the Movie	18

Parallel Session 3

Moderator: Dr. Chau Kien Tsong

No.	Time	Authors	Title	ID
1	10.00 AM – 10:30 AM	Parameshvaran Varaman, Jeya Amantha Kumar and Siti Nazleen Abdul Rabu	The Use of Robotics for Learning Mathematics Among Primary School Students in Malaysia	17
2	10:30 AM – 11.00 AM	Saidatul Ainoor Shaharim, Nor Asniza Ishak, Rozniza Zaharudin and Wan Nasriha Wan Mohamed Salleh	The Development of Integrated Mobile Game Based Learning in Psycho-Bae GREAT Module: A Need Analysis	19
3	11:00 AM – 11:30 AM	Ling Wu, Chau Kien Tsong and Wan Ahmad Jaafar Wan Yahaya	A Review on The Application of Virtual Reality Technology in Basic Education	21
4	11:30 AM – 12:00 PM	Nur Yasmin Khairani Zakaria, Siti Nazleen Abdul Rabu and Amelia Abdullah	Mobile Game-Based Learning for ESL Learners in Higher Institution	5
5	12:00 PM – 12:30 PM	Chun Cao, Chau Kien Tsong and Mona Masood	The Effect of Using Fluent User Interface Design System on Virtual Reality Applications	26

Parallel Session 4

Moderator: Ts. Dr. Mageswaran Sanmugam

No.	Time	Authors	Title	ID
1	10.00 AM – 10:30 AM	Christine Jalleh and Omer Hassan Ali Mahfoodh	Malaysian University Students' Communication Apprehension in Online and Off-Line Oral Communication Activities	24
2	10:30 AM – 11.00 AM	Liang Hong and Siti Rohaida Mohamed Zainal	Exploring E-Teaching And E-Learning to Develop Students' Digital Literacy During COVID-19 In Higher Education of Malaysia: A Systemic Review	20
3	11:00 AM – 11:30 AM	Fakhitah Ridzuan and Norehan Mokhtar	Impact of COVID-19 on Clinical Teaching and Learning: Challenges, Solutions and Opportunities	12
4	11:30 AM – 12:00 PM	Fauziyah Md Aris and Zoraini Wati M Abas	Interactive Modules for Self-Regulated Learning Among Distance Learners: Perception and Readiness	13
5	12:00 PM – 12:30 PM	Tan Siok Inn and Tam Kok Chian	Opportunities and Challenges of Responsive Blended Learning in Heriot-Watt University Malaysia: The Perspectives of Academicians	2

Break

12.30 PM – 2.00 PM

INTERNATIONAL CONFERENCE ON CREATIVITY, INNOVATION, AND INSTRUCTIONAL IN DIGITAL TECHNOLOGY

13 October 2021 | 8.30 AM – 5.30 PM

Tentative Program

Keynote Speaker | 2.00 PM – 3.00 PM

Prof. Dr. Wan Mohd Fauzy Wan Ismail
Sultan Qaboos University

Adversity/Opportunity: The New Normal in Digital Age Learning and Instruction

Moderator

Prof. Dr. Irfan Naufal Umar
Director
University Academic Quality Centre

Professor
Centre for Instructional Technology and Multimedia
Universiti Sains Malaysia

Graduate Students | Special Session 1

Moderator: Ts. Dr. Irwan Mahazir Ismail

No.	Time	Authors	Title	ID
1	3:00 – 3:20 pm	Ismaal Pooyang, Ophat Kaosaiyaporn, Wasant Atisabda and Afifi Lateh	Development of Virtual Learning Environment based on Constructivist to Enhance the Computational Thinking on Computing Science 1 course for Grade 10 Students	GSSS1-01
2	3:20 – 3:40 pm	Nisakorn Nimnuan, Ophat Kaosaiyaporn, Wasant Atisabda and Narongsak Rorbkrob	Development of Massive Open Online Course on Muslim Way of Life in Food Consumption to Promote Multicultural Knowledge for Undergraduate Students	GSSS1-02
3	3:40 – 4:00 pm	Supanida Duangjinda, Ophat Kaosaiyaporn, Wasant Atisabda and Narongsak Rorbkorb	Development of Massive Open Online Course on Coexistence in Multicultural Society to Enhance Knowledge Construction and Awareness of Cultural Values for Undergraduate Students	GSSS1-03
4	4:00 – 4:20 pm	Krittaphat Ochaampawan,Ophat Kaosaiyaporn, Wasant Atisabda and Charuwan Kritpracha	Development of Massive Open Online Course integrating With Podcasts on Nursing Patients with Arrhythmia and Reading Electrocardiogram to Enhance Nursing Students Learning Achievement	GSSS1-04
5	4:20 – 4:40 pm	Teerapat Kraikaew , Ophat Kaosaiyaporn, Wasant Atisabda, Watcharawalee Tangkuptanon	Development of a learning environment based on constructivist through cloud learning for enhancing python programing skill of 8th grade students.	GSSS1-05
6	4:40 – 5:00 pm	Mimi Malini Mohmad Fuzi	Effects of Integration of Pedagogical Agent with Computational Thinking Algorithm Technique in Stoichiometry Learning on the Achievement, Emotion, and Cognitive Load of the Matriculation Programme Students	GSSS1-06
7	5:00 – 5:20 pm	Mimi Zairul Mohmad Fuzi	Effects of Computational Thinking Decomposition and Pre-Training Principles in Multimedia	GSSS1-07

No.	Time	Authors	Title	ID
			Applications on Achievement, Engagement and Knowledge Retention of Different Students' Courses of Study for Programming Problem Analysis Learning	

Graduate Students | Special Session 2

Moderator: Dr. Reem Sulaiman Baragash

No.	Time	Authors	Title	ID
1	3:00 – 3:20 pm	Phongampai Thammaariyasakun, Wichai Napapongs, Jirawat Tunsakul, Chamaibhorn Inkaew	Synthesis of Virtual Learning Environment with Engineering Design Processes Framework	GSSS2-01
2	3:20 – 3:40 pm	Wiboon Aekpiriyapaiboon, Wichai Napapongs, Jirawat Tunsakul, and Chamaibhorn Inkaew	Designing Framework of Board Game on Game Based Learning Concept to Enhance Digital Quotient for Grade 6	GSSS2-02
3	3:40 – 4:00 pm	Tuanhusna Tokkubaha, Wasant Atisabda, Wichai Napapongs, Jirawat Tunsakul	Designing Framework of Phonics Learning Materials with Augmented Reality to Enhance English Reading Pronunciation and Word Spelling for 5th Grade Students.	GSSS2-03
4	4:00 – 4:20 pm	Kwannate Poonyatavon, Ophat Kaosaiyaporn, Wasant Atisabda and Charuwan Kritpracha	Designing Framework of a Massive Open Online Course integrated with Podcasts Regarding Nursing Care for Patients with Pacemaker based on Self-Directed Learning to Enhance Nursing Student's Learning Achievement	GSSS2-04
5	4:20 – 4:40 pm	Pattama Malakul, Wasant Atisabda, Ophat Kaosaiyaporn, Charuwan Kritpracha, and Jomkwan Sudhinont	Development of a Massive Open Online Course integrated with Podcasts Regarding Nursing Care for Patients with Pacemaker based on Self-Directed Learning to Enhance Nursing Student's Learning Achievement	GSSS2-05

No.	Time	Authors	Title	ID
6	4:40 – 5:00 pm	Juliana Binti Saarani	Keberkesanan Letakan Perkataan dan Susunan Visual dalam Persembahan Multimedia terhadap Pemikiran Kritis, Bebanan Kognitif dan Motivasi dalam Pembelajaran Matematik bagi Guru Pra Perkhidmatan	GSSS2-06

PARALLEL SESSION 1

Submission ID: 22

KEMAHIRAN DAN KESEDIAAN TERHADAP TOPIK E-KEUSAHAWANAN DALAM KALANGAN PELAJAR SARJANA MUDA

Norazlinda Saad[1] and Surendran Sankaran[1]

[1]*Pusat Pengajian Pendidikan, Universiti Utara Malaysia*

Abstract

Graduan yang dilahirkan di institusi pendidikan tinggi perlu dibentuk dan dididik sebagai job creator serta bertindak lebih entrepreneurial terhadap sumber pendanaan pendidikan tinggi untuk mengurangkan kebergantungan kepada sumber kerajaan. Kajian ini bertujuan untuk mengenal pasti Kemahiran dan Kesediaan terhadap Topik e-Keusahawanan dalam kalangan pelajar Sarjana Muda. Kajian ini menggunakan pendekatan kuantitatif berbentuk korelasi. Populasi kajian ini adalah pelajar Ijazah Sarjana Muda Pendidikan. Teknik persampelan bertujuan digunakan untuk memilih 148 orang pelajar sebagai sampel kajian. Soal selidik digunakan sebagai instrumen utama dalam kajian ini. Instrumen Kemahiran dan Kesediaan terhadap Topik e-Keusahawanan mempunyai nilai pekali Cronbach alpha yang tinggi iaitu masing-masing 0.89 dan 0.91. Data yang dikumpul dianalisis dengan menggunakan statistik deskriptif (peratus & min) dan korelasi. Dapatan kajian menunjukkan tahap Kesediaan terhadap Topik e-Keusahawanan dalam kalangan pelajar Ijazah Sarjana Muda Pendidikan adalah tinggi. Dapatan kajian juga menunjukkan terdapat hubungan yang signifikan dan positif antara Kemahiran dan Kesediaan terhadap Topik e-Keusahawanan dalam kalangan pelajar Ijazah Sarjana Muda Pendidikan serta koefisien korelasi adalah tinggi. Dengan itu, pelajar perlu diberi pendedahan kepada aspek e-Keusahawanan supaya dapat meningkatkan kemahiran pelajar seterusnya bersedia menceburi bidang e-Keusahawanan.

Keywords: Kemahiran, Kesediaan, e-Keusahawanan, Ijazah Sarjana Muda Pendidikan

Corresponding author: Norazlinda Saad, email: azlinda@uum.edu.my

SUBMISSION ID: 23

ISI KANDUNGAN LMS DENGAN PENGURUSAN PEMBELAJARAN BERASASKAN BLENDED LEARNING DALAM KALANGAN PELAJAR SARJANA

Surendran Sankaran[1] and Norazlinda Saad[1]

[1]*Pusat Pengajian Pendidikan, Universiti Utara Malaysia*

Abstract

Agenda Teknologi Maklumat Kebangsaan (NITA) telah dilancarkan dengan memberi penekanan terhadap penggunaan e-pembelajaran. Blended Learning menjadi alternatif terbaik setelah penggunaan e-pembelajaran sepenuhnya yang telah membangkitkan beberapa isu termasuklah pelajar merasa keseorangan dan kurang kemahiran. Kajian ini bertujuan untuk mengenal pasti hubungan antara Isi Kandungan Learning Management System (LMS) dengan Pengurusan Pembelajaran Berasaskan Blended Learning dalam kalangan pelajar Sarjana. Kajian ini menggunakan pendekatan kuantitatif yang mengaplikasikan kaedah tinjauan. Populasi kajian ini adalah pelajar Sarjana Pendidikan dan persampelan bertujuan telah digunakan untuk memilih 105 orang pelajar Sarjana sebagai sampel kajian. Soal selidik merupakan instrumen utama kajian ini. Item soal selidik mempunyai tahap kebolehpercayaan yang tinggi iaitu 0.85. Data yang dikumpul dianalisis dengan menggunakan statistik deskriptif dan korelasi. Dapatan kajian menunjukkan tahap Pengurusan Pembelajaran Berasaskan Blended Learning berada pada tahap tinggi dan mempunyai hubungan yang signifikan dan positif antara Isi Kandungan LMS dengan Pengurusan Pembelajaran Berasaskan Blended Learning. Dengan itu, usaha yang berterusan perlu dilakukan bagi menggalakkan lagi pembangunan modul pembelajaran yang berasaskan Blended Learning dengan memberi penekanan kepada kualiti Isi Kandungan.

Keywords: Isi Kandungan, LMS, Blended Learning, Pengurusan Pembelajaran

Corresponding author: Surendran Sankaran, email: surendran@uum.edu.my

SUBMISSION ID: 4

PEMBELAJARAN BERPUSATKAN PELAJAR BERASASKAN PENGGUNAAN FILEM DAN KESAN TERHADAP SAHSIAH PELAJAR

Siti Sarah Ismail[1] and Muhammad Helmi Norman[1]

[1]*Fakulti Pendidikan, Universiti Kebangsaan Malaysia*

Abstract

Penggunaan teknologi media dalam proses pengajaran dan pembelajaran dapat meransang minda kreatif pelajar dan memberikan pemahaman yang lebih mendalam terhadap pembelajaran mereka berbanding penggunaan kaedah "chalk and talk" semata-mata. Kaedah pengajaran yang interaktif dan kreatif merangkumi penerokaan teknologi multimedia telah mendominasi kaedah pengajaran dan pembelajaran dalam tempoh pandemik yang sedang menular kini. Model pembelajaran multimedia yang menggunakan media seperti filem dan video merupakan salah satu pendekatan teknologi pembelajaran telah banyak mempengaruhi corak pendidikan pada hari ini. Oleh itu, kajian ini bertujuan untuk mengenal pasti pembelajaran berpusatkan pelajar berasaskan penggunaan filem dan kesan terhadap sahsiah pelajar. Kajian ini adalah berbentuk tinjauan menggunakan kaedah kuantitatif. Tatacara kutipan data adalah secara dalam talian menggunakan borang soal selidik. Populasi kajian adalah seramai 72 orang pelajar Kolej Giat Mara Sungai Petani dan seramai 60 orang responden telah terlibat dalam kaji selidik yang dijalankan. Instrumen kajian yang digunakan ialah set soalan soal selidik yang dibahagikan kepada dua bahagian iaitu maklumat demografi responden dari aspek jantina, umur, dan tahap pengajian seterusnya item-item yang dibina untuk menjawab persoalan kajian. Item-item soal selidik diukur dengan menggunakan skala Likert 5 tahap. Data yang diperolehi dianalisis secara deskriptif dan inferensi menggunakan perisian Statistical Package for Social Science (SPSS) untuk menentukan min, sisihan piawai, kekerapan, peratus dan ujian-t. Dapatan kajian menunjukkan bahawa unsur pendidikan dalam filem memberikan kesan terhadap sahsiah pelajar pada tahap tinggi. Analisis yang dijalankan menunjukkan pelajar lelaki cenderung untuk meningkatkan kefahaman mereka tentang perkara yang melibatkan pengajaran dan pembelajaran berbanding dengan pelajar perempuan. Kajian ini memberikan implikasi penting ke atas kesan terhadap sahsiah pelajar dalam strategi pembelajaran kendiri berdasarkan pembelajaran berasaskan filem yang mempunyai nilai-nilai

murni dan kesannya dalam proses pengajaran dan pembelajaran di pelbagai peringkat, seterusnya memberikan impak yang positif terhadap sahsiah pelajar itu sendiri.

Keywords: Pendidikan, Pembelajaran Berpusatkan Pelajar, Sahsiah Pelajar, Media Filem, Teknologi Pendidikan

Corresponding author: Siti Sarah Ismail, email: sarah.hj.ismail@gmail.com

SUBMISSION ID: 3

INVESTIGATING STUDENTS' PERFORMANCE FROM THEIR BEHAVIOR ON LEARNING MANAGEMENT SYSTEMS USING LEARNING ANALYTICS

Nurullizam Jamiat[1], Norazila Azmi[1] and Chau Kien Tsong[1]

[1]*Centre for Instructional Technology and Multimedia, Universiti Sains Malaysia*

Abstract

Learning Management Systems (LMS) is not new and was introduced in the late 1990s. However, the implementation of LMS in higher education is on demand and boosted due to the Covid-19 pandemic. In the early stages of LMS implementation, research was mostly conducted to investigate users' perceptions and acceptance towards LMS. With the rapid evolving research discipline of learning analytics, the insights generated on LMS and data analysis are useful to optimize the implementation of LMS and improve learning outcomes. Therefore, the purpose of this study is to investigate the relationship between students' behavior and performance on LMS using learning analytics. The research objectives of this study are to identify students' online learning behavior on LMS, to investigate the relationships between students' online learning behavior and performance on LMS, and to identify which students' online learning behavior predict students' performance. In this study, students' online behavior on LMS are defined based on the literature review, which include login time on LMS, number of downloads, and interaction with peers. On the other hand, students' performance is their time spent in the system, number of exercise that students performed, number of forums posted, and their final course score. Data were collected from 122 undergraduate students (36 male and 86 female) who took a 14-week course in a public university located at the north of Malaysia. The results showed that there is positive relationship between students online behavior on LMS (login time on LMS, number of downloads, and interaction with peers) and their performance (time spent in the system, number of exercise that students performed, number of forums posted). However, the relationship between students' online behavior on LMS was insignificant on their final course score. Furthermore, students' online behavior on LMS (login time on LMS, number of downloads, and interaction with peers) significantly predicted

students' performance (number of exercise that students performed, and number of forums posted). Several implications of these findings are discussed.

Keywords: Learning Management Systems, Learning Analytics, Students Online Behavior, Students Performance

Corresponding author: Nurullizam Jamiat, email: nurullizamj@usm.my

SUBMISSION ID: 10

LEARNING MATHEMATICS: ONLINE OR FACE-TO-FACE?

J-Ho Siew Ching[1], Goh Eg Su[2] and Wong Seng Yue[3]

[1]*Department of Mathematics, Science and Computers, Politeknik Balik Pulau, Malaysia*

[2]*School of Computing, Faculty of Engineering, Universiti Teknologi Malaysia*

[3]*Centre for Internship Training and Academic Enrichment, Universiti Malaya*

Abstract

Education plays a vital role in the development of any country. The effect of COVID-19 leads a paradigm shift from face-to-face learning towards online learning. The purpose of this study included to (i) determine the influence of interactive strategies based on the students learning style, (ii) identify student attitudes of online learning, and (iii) identify the challenges of online learning towards the subject of Mathematics Computing. Online survey was done as case study towards two groups of polytechnic students in Malaysia, after attending the course of Mathematical Computing. Group 1 is the controlled group, where the students fully involved in conventional face-to-face learning class for 14 weeks of learning session; while group 2 is the case study group, where the students have gone through two type of learning methods during the learning session, which were conventional face-to-face class during weeks 1 - 7, and online learning during weeks 8 – 14. Through descriptive analysis, research findings showed that the implementation of interactive strategies by educator towards group 2 students leads to higher scores of grades for examination results for the subject of Mathematical Computing. Most of the students agreed that mathematics can be learn effectively by watching video. In contrast, 67% of the students agreed that there is difference between online and conventional learning, as 73% of the students felt that online learning is less motivating if compared to conventional learning. Only 10% of the students agreed that this subject can be completed effectively by online class. Face-to-face contact with lecturer still necessary for learning mathematics (M=4.47, SD=0.937), as explanation mathematical problem solving easier to understand by face-to-face interaction method, especially towards those poor in mathematic.

Meanwhile, signal availability and strength are the main challenges of online learning class. The outstanding interference of the COVID-19 pandemic allows us to re-evaluate how online learning had pushed technology in the educational settings as a “new normal”, and aspects that needs to be improved in the years to come, providing support from both educators and educational institutions function and a responsibility.

Keywords: Online Learning, Mathematic, Challenges, Learning Style, Face-To-Face

Corresponding author: J-Ho Siew Ching, email: jhosc2015@gmail.com

PARALLEL SESSION 2

SUBMISSION ID: 27

THE FUTURE OF BLOCKCHAIN TECHNOLOGY IN EDUCATION

Khadija Abuzagia

Faculty of Science, Elmergib University, Libya

Abstract

The digital technology and innovation sector is rapidly developing in the world, offering new opportunities to develop the performance of various economic fields and overcoming a number of challenges and problems that threaten the global economy and give it broad margins for growth. One of the most advanced technologies in this field is the Blockchain technology, which is considered by many experts in the field of new technologies as a major pillar that can contribute to the digital economy through seamless and efficient means to encrypt digital transaction systems and face the growing threats facing the world at the security level. The paper focuses on the term Blockchain which emerged recently and revolutionized the world of economy, information and technology. - Demonstrate the challenges and reasons for which Blockchain technology is designed, applications of this technology. What is the amount of their use and use in the service of education? In this research, we seek to answer the following questions: What is blockchain technology? what are its characteristics? What is its mechanism of action and its most prominent features? What are the implications for which blockchain technology was designed? How can blockchain technology be used in education? The most important problems that blockchain can solve in education? What is the role of the blockchain in foreseeing the future? What are the challenges and obstacles to using blockchain technology? The research aims to: - Determine the nature of this technology, its mechanism of action and its characteristics. - Knowing the reality of the adoption of blockchain technology and the extent of its entry and integration into institutions. Verify the degree of safety and effectiveness of this technology in performing the tasks that it promises to perform more efficiently. Monitoring possible future changes due to the adoption of this technology.

Keywords: Blockchain, Economy, Education, Digital

Corresponding author: Khadija Abuzagia, email: khadijabuzgia@gmail.com

SUBMISSION ID: 16

APPROACHES AND TECHNIQUES FOR USING ASSISTIVE TECHNOLOGIES IN INCLUSIVE EDUCATION: A CONTENT ANALYSIS REVIEW OF ARTEFACTS

Fathmath Nishan[1] and Aminath Shafiya Adam[1]

[1]*The Maldives National University*

Abstract

The use of digital technologies for inclusive and accessible education is an important focus of the education system today. The literature discusses principles and considerations that need to be addressed and adhered to when designing learning with a range of different assistive technologies (ATs). The literature also highlights a variety of ATs that support inclusive education, both inside the classrooms and home settings. Some of these ATs are specifically developed for functional use while also having the capacity to adapt and adjust student learning needs. This paper discusses approaches to teachers' use of ATs to accommodate individual student's special learning needs linking with a range of factors that need to be considered. The research adopts a qualitative approach linked with content analysis of artefacts such as teachers' blogs, websites, and YouTube clips to identify ways and principles that teachers follow when designing learning for inclusive education. The data were drawn from 10 blogs of teachers on their use of ATs, five websites that guide teachers for their appropriate use of specific digital tools and devices, and 10 YouTube clips instructed on helping teachers to effectively use digital tools for inclusive practices. The findings reveal that teachers divide types of ATs with a range of factors such as unique personal needs, specific functional-use-based areas, learning capacity-building aspects, social interaction and communication needs, and everyday life-managing needs. The findings also notify important principles to be taken into consideration linking with the internet security issues when choosing specific digital platforms and AT devices for children with special needs. Some artefacts also identify teachers' attitudes towards accepting ATs and their perspectives on the practicality and usability of available ATs. Finally, the paper concludes that some contextual factors such as students' culture and background would need to be considered when using specific ATs. Such findings provide useful insights and practical implications for teachers to implement inclusive education with the digital revolutionary changes of the 21st century. The paper has the potential to shed

light on many ways that can enhance special children's life not only for their learning needs but also for their future careers.

Keywords: Inclusive Education, Digital Technologies, Approaches, Assistive Technologies

Corresponding author: Fathmath Nishan, email: fathimath.nishan@mnu.edu.mv

SUBMISSION ID: 6

PODCAST PIRACY: A CRITICAL DISCOURSE FROM THE HUMAN AND MEDIA PERSPECTIVES

Azidah Abu Ziden[1], Ifedayo Adu[1] and Aziah Binti Ismail[1]

[1]*School of Educational Studies, Universiti Sains Malaysia*

Abstract

This study investigated problems associated with podcast and media piracy. In this research the podcast was addressed as ubiquitous internet audio and audio-visual media. However, critiquing the concept of piracy with its sea pirate counterpart in menace was imminent in this research. Also, this research employed both theoretical and practical discourse in explaining the piracy concept in this study. For instance, the theoretical approach entailed literature review while visual illustration was the practical aspect in this research. This theoretical and practical approaches gave this enquiry a more critical stand when brainstorming on piracy related issues. The act of attacking ships and taking hostage for ransom at sea is known as piracy. Also, the act of illegally stealing video and audio media for profit is likewise called piracy. Besides, the perpetrators of hostage taking at sea for ransom are human beings referred to as pirates while media thieves are known as pirates too. Hence, the concept of piracy presents a two-face scenario. There are several opportunities like teaching and learning, which are provided by podcast resources within the educational context. For example, teaching and learning opportunities are morally acceptable within a society. Notwithstanding, podcast piracy is a menace that is unacceptable by law and for this reason it must be investigated to have possible solution. Thus, this research adopted visual methodology, which entails the use of pictures and illustration as a form of research evidence. Visual methodology is a qualitative research methodology. There exist a gap in the availability of research addressing issues pertinent towards podcast and piracy from the human and media perspectives. This study exposed the anatomy of podcast piracy in the light of scarcity of literature in this area. This research analysed the mode of operation of the podcast pirates to curtail the havoc they inflict in societies. Nowadays, podcast piracy is a smart way of stealing audio and video media from the internet without being detected. Finally, the relevant conclusions were made in this research.

Keywords: Podcast, Media, Piracy, Discourse

Corresponding author: Azidah Abu Ziden, email: azidah@usm.my

SUBMISSION ID: 1

A VALIDITY AND RELIABILITY STUDY OF ALGORITHMIC THINKING SELF-EFFICACY FOR PROGRESSIVE LEARNING IN MALAYSIA TECHNICAL UNIVERSITY NETWORK (MTUN) CONTEXT

Wan Nor Ashiqin Wan Ali[1] and Wan Ahmad Jaafar Wan Yahaya[1]

[1]*Centre for Instructional Technology and Multimedia, Universiti Sains Malaysia*

Abstract

Prior studies on the development of computational thinking skills have been very limited to primary and secondary schools. Since computational thinking skills are massively debated by researchers as one of the important skills to be empowered in the 21st century higher education, this study was conducted to gather empirical data on the reliability and validity of Computational Thinking Self-Efficacy Survey (CTSe) in a university context. This study constructed a self-efficacy perception instrument in an attempt to assess university students' computational thinking level. The self-efficacy instrument was developed based on the algorithmic thinking of CT concepts. An online survey was administered to 127 university students. The reliability of the CTSe was tested using Exploratory Factor Analysis (EFA). The EFA resulted in three factors: algorithm concepts, computational thinking comprehension, and use of algorithms. The findings of this study offer insights into designing future computational thinking learning materials.

Keywords: Self-Efficacy, Exploratory Factor Analysis, Computational Thinking Self-Efficacy, Algorithmic Thinking

Corresponding author: Wan Nor Ashiqin Wan Ali, email: wannorashiqin@gmail.com

SUBMISSION ID: 9

THE EFFECT OF USING ELECTRONIC ERROR LOGS TO REDUCE THE WRITING ANXIETY OF EFL YEMENI STUDENTS

Omar Altamimi[1], Mona Masood[1] and Chau Kien Tsong[1]

[1]*Centre for Instructional Technology and Multimedia, Universiti Sains Malaysia*

Abstract

Writing Anxiety is an issue that affects the quality of writing of many English-As-Foreign-Learners (EFL) during the written assignments. Writing Anxiety is caused by several factors including as a byproduct of the Written Corrective Feedback (WCF) process. It leads to the students avoiding the situations in which WCF is provided. Several solutions have been proposed to reduce the negative effects of this phenomenon including utilizing different methods of providing corrective feedback. The current study attempts to extend these efforts by proposing a new method to reduce Writing Anxiety among EFL students. The proposed method involves using a combination of Electronic Indirect Corrective Feedback and Electronic Error Logs (EICF &EEL). The participants of the experiment were EFL University level students from the English department of a public university in Yemen. To test the effectiveness of the proposed method, all the students from the second and third levels were invited to participate. One-hundred and thirty-nine students were divided into three groups. The first group consisted of participants who did not receive any treatment (Control group) (N=43). The second group received feedback in the form of Electronic Indirect Corrective Feedback (EICF) (N= 50). The third group received EICF & EEL feedback (N= 46). The experiment was conducted over a period of five weeks. To measure the levels of Writing Anxiety among the participants of the three groups, the Second Language Writing Anxiety Inventory (SLWAI) was utilized before and after the experiment. The results of a t-test indicated that the EICF & EEL feedback showed an advantage in lowering the Writing Anxiety levels among the participants at the end of the experiment while the other two groups (the control group and EICF group) did not show a significant lowering of their Writing Anxiety levels. The results indicated that using EICF & EEL feedback has positive effects in lowering the Writing Anxiety levels of the participants. These results will have pedagogical implications on how future Writing practitioners deliver their feedback to their students.

Keywords: Writing Anxiety, Electronic Error Logs, Written Corrective Feedback

Corresponding author: Omar Altamimi, email: omaraltamimi@student.usm.my

SUBMISSION ID: 18

INVESTIGATION ON THE EDUCATIONAL VALUES OF FEMALE SUPERHERO MOVIES: COUNTER GENDER- STEREOTYPE ISSUES IN THE MOVIE

Zhang Ting Jie[1], Chau Kien Tsong[1] and Wan Ahmad Jaafar Wan Yahaya[1]

[1]*Centre for Instructional Technology and Multimedia, Universiti Sains Malaysia*

Abstract

This manuscript attempts to evaluate the perception of Malaysians on superhero genre movies pertaining to issues related to gender-stereotypes. In specific, the manuscript aims to gain insight as to whether Malaysians accept the female superhero and the message delivered in the female superhero movie. This manuscript will attempt to find out whether Malaysians view the female superhero movie as something positive, agree with the storyline and characters portrayed, and biased against female superheroes. This research will compare the survey data of Malaysian of different age who have different degrees of understanding of female superhero movies, then deploy quantitative methods and analysis to gauge the perceptions of Malaysians, so as to understand the influence of female superhero movies in countering gender stereotypes in movies. Overall, this manuscript attempts to understand the underlying meaning of the female superhero movie and its impact on the Malaysians in general.

Keywords: Gender, Stereotype, Superhero, Movie

Corresponding author: Zhang Ting Jie , email: zhangtingjie@student.usm.my

PARALLEL SESSION 3

SUBMISSION ID:17

THE USE OF ROBOTICS FOR LEARNING MATHEMATICS AMONG PRIMARY SCHOOL STUDENTS IN MALAYSIA: INVESTIGATING ACHIEVEMENT AND INTEREST

Parameshvaran Varaman[1], Jeya Amantha Kumar[1] and Siti Nazleen Abdul Rabu[1]

[1]*Centre for Instructional Technology and Multimedia, Universiti Sains Malaysia*

Abstract

Educational robots (ER) have been used in numerous educational interventions as a mathematical teaching aid, especially in primary schools. There are many empirical findings indicating that primary school students have limited interest in learning mathematics using the traditional method. Furthermore, lack of participation and real-world application strategies in these traditional methods has caused students to view mathematics as a paper-based subject without practical application. This perception caused dropping of grades in examinations. Therefore, this study aims to identify how educational robots influence students' achievement and interest in learning mathematics. A total of 40 respondents from Year Five participated in this study for learning the mathematical topic lines and angles, and the ER used is Rero-Micro. The study used a quasi-experimental approach for duration of sixty minutes during extracurricular activity. Based on the findings analysed using SPSS Statistics 20 software, it was found that the ER aided learning (M=47.47, S. D=9.18) performed almost same as power-point aided learning (M=49.71, S. D=9.04) and the Mann-Whitney U test (U = 170, p = 0.42) for pre-test. Subsequently, ER aided learning (M=69.74, S. D=9.11) performed better than power-point aided learning (M=52.93, S. D=12.95), and the difference was significant based on Mann-Whitney test at U= 63.5, p=0.01 in the post-test. Concurrently, as for interest in learning mathematics, the ER group (M=3.53, S. D=0.59) showed more interest in learning the topic than the traditional PowerPoint method (M=2.97, S. D=0.94) and the difference was significant based on Mann-Whitney test at U= 3, p=0.02. The outcome of this study shows that ER can positively contribute to improving primary students' achievement and interest in learning mathematics.

Keywords: Educational Robots, Rero-Micro, Mathematics Education, Primary Mathematics, Interest, Achievement

Corresponding author: Parameshvaran Varaman, email: parameshvaranvaraman@gmail.com

SUBMISSION ID: 19

THE DEVELOPMENT OF INTEGRATED MOBILE GAME BASED LEARNING IN PSYCHO-B'GREAT MODULE: A NEED ANALYSIS

Saidatul Ainoor Shaharim[1], Nor Asniza Ishak[1], Rozniza Zaharudin[1] and Wan Nasriha Wan Mohamed Salleh[1]

[1]*Schools of Education Studies, Universiti Sains Malaysia*

Abstract

This study is conducted to identify the needs and requirements of the Psycho-B`GREAT module integrated game-based learning to teachers to teach biological basic themes for high school students. The analysis of the need is carried out on selected biological teachers from various schools in Penang, Malaysia. The data is collected through semi-structured interviews based on a sampling of four teachers. Qualitative data obtained from interviews with teachers were analysed to certain themes. Five main themes have been identified, namely: (1) the theme of interest in chemical composition in cells and metabolism and enzymes (2) Challenges of chemical composition topics in cells and metabolism and enzymes, (3) teaching strategies, (4) themes of improvement desire and (5) themes of technology. The need analysis shows that the Psycho-B`GREAT module integrates game-based learning has great potential to be developed for the use of biological teachers in making active and fun biological learning among high school students. Apart from the five identified themes, suggestions and details obtained from discussions with teachers will provide valuable inputs to build materials for the module. This discovery will be used to plan and build modules at the next level.

Keywords: Mobile Game-Based Learning, Basic Biology Theme, KSSM, Teacher

Corresponding author: Saidatul Ainoor Shaharim, email: ainoorshaharim@gmail.com

SUBMISSION ID: 21

A REVIEW ON THE APPLICATION OF VIRTUAL REALITY TECHNOLOGY IN BASIC EDUCATION

Ling Wu[1], Chau Kien Tsong[1] and Wan Ahmad Jaafar Wan Yahaya[1]

[1]*Centre for Instructional Technology and Multimedia, Universiti Sains Malaysia*

Abstract

In recent years, Virtual Reality technology (VR) has been widely used in the field of basic education. Therefore, we observe a large number of theoretical and empirical studies emerged. In order to summarize the research findings and development trends of VR in the field of basic education in the past 20 years (2000-2020), we adopted a systematic literature review method and selected 65 high-quality empirical studies indexed in the EBSCO database for review. We carried out in-depth reading and subsequently conducted intensive coding analysis based on four dimensions of research, namely research context, technical characteristics, teaching design and effect evaluation. Research shows that the application cycle of VR in basic education is relatively short, and it was mostly carried out in a semi-immersive VR learning environment. The use of head-mounted displays has increased significantly in the past ten years. In addition, the learning process in the VR environment lacks the necessary teaching guidance. Teaching evaluation still uses traditional evaluation methods. Teaching strategies are based on inquiry learning regardless of classes, and only limited amounts of documentations report the impact of teaching effects. Based on the results of the review, we put forward countermeasures and suggestions to the effective way of deploying Virtual Reality teaching in basic education.

Keywords: Virtual Reality, Basic Education, Empirical Research, Research Review, Technical Characteristics, Instructional Design

Corresponding author: Ling Wu, email: wuling123@student.usm.my

SUBMISSION ID: 5

MOBILE GAME-BASED LEARNING FOR ESL LEARNERS IN HIGHER INSTITUTION

Nur Yasmin Khairani Zakaria[1], Siti Nazleen Abdul Rabu[2] and Amelia Abdullah[1]

[1]*School of Educational Studies, Universiti Sains Malaysia*

[2]*Centre for Instructional Technology and Multimedia, Universiti Sains Malaysia*

Abstract

One of the shifts has been presented in the Fourth Industrial Revolution (4th IR) is to implement a more digitalised, automated and advancement of artificial intelligence or better known as Education 4.0. Education 4.0 refers to the use of technology-enhanced tool for learning. This implementation includes the use of gamification in classroom learning in the context of gamified learning situation. Mobile game-based learning has been widely implemented in classroom setting. In the context of language learning, mobile game-based learning has a great potential to improve students' motivation and attitude towards the learning process. Generally, writing skills are becoming one of the most difficult productive skills to be acquired by language learners. Despite of the growing interest on the implementation of game-based learning, little attention has been given to hone students' writing skills. In the current study, an online game application, Kahoot, was used as the primary source of students' assessment in an academic writing course participated by 33 ESL learners in a public university in Malaysia. Analysis of pre- and post-test scores was conducted from the single-group experiment after four months. After the implementation of game-based learning in the classroom, it is also noted that there were two types of learning performance which are declined learning performance and improved learning performance. From the analysis, the researchers also discovered three main levels of learning performance. Each student may have a slight, moderate or high improvement or decline after the implementation of game-based learning. Learners of this study have undergone both a decline in learning performance and an improved learning performance. The results implied students' unfamiliarity towards the use of games in classroom

setting despite of their highly acceptable scoresat the beginning of the course. On the other hand, results of the study also revealed that students who obtained lower scores in pretest; which referred to low achiever, also showed various types of learning performance. It is also noted that a number of students in low achiever category scored better in posttest and showed an improvement at the end of the course.

Keywords: Academic Writing Skills, English as a Second Language (ESL), Game-Based Learning, Gamification, Technology-Enhanced Language Learning

Corresponding author: Nur Yasmin Khairani Zakaria, email: yasminzakaria@student.usm.my

SUBMISSION ID: 26

THE EFFECT OF USING FLUENT USER INTERFACE DESIGN SYSTEM ON VIRTUAL REALITY APPLICATIONS

Chun Cao[1], Chau Kien Tsong[1] and Mona Masood[1]

[1]*Centre for Instructional Technology and Multimedia, Universiti Sains Malaysia*

Abstract

Microsoft Fluent Design System (FDS) and Virtual Reality Application (VR) are both emerging technology in digital era. FDS is a design language developed in 2017 by Microsoft. It is used to design user experiences and interactions for all Windows 10 devices and platforms. Five core design elements in FDS are Light, Depth, Motion, Material, and Scale. On the other hand, VR highly emphasizes Sensory Immersion and Interactivity as important factors affecting user experiences. In this regard, FDS potentially helps VR to turn the experience analogous to an experience called "single colour static rectangle" to experience of "break down the walls between person and equipment", and from 2D "Metro" design effects to 3D "Fluent" design effect. With richer animation, surface textures and dynamic layers, users can have a clearer sense of "spatial location", and thereby enhance the immersive effects in VR applications. In view of the importance of FDS in today's design world, we will compare the survey data of Metro Design System and Fluent Design System with different immersion degrees in VR application, subsequently deploy quantitative methods and analysis to measure user perception, so as to understand the influence of different Design styles on user experience in VR environment. Based on the four dimensions of development background, technical characteristics, user experience and effect evaluation, we carried out in-depth reading and refined analysis. The main data collected is secondary data. Sample size will be about 70 high-quality articles from Scopus Data. The data will be analysed using content analysis method and comparative analysis approach. The research shows that FDS significantly increases immersion in VR applications and expands multi-dimensional sensory experiences. Based on the results of the review, we put forward countermeasures and suggestions to the effective way of using FDS for improving Sensory Immersion and Interactivity in VR designing.

Keywords: Virtual Reality, User Interface, Fluent Design System, Metro Design System, Sensory Immersion

Corresponding author: Chun Cao, email: caochun@student.usm.my

PARALLEL SESSION 4

SUBMISSION ID: 24

MALAYSIAN UNIVERSITY STUDENTS' COMMUNICATION APPREHENSION IN ONLINE AND OFF-LINE ORAL COMMUNICATION ACTIVITIES

Christine Mary Jalleh[1] and Omer Hassan Ali Mahfoodh[1]

[1]*School of Languages, Literacies & Translation, Universiti Sains Malaysia*

Abstract

Online learning is credited with facilitating students' collaborative learning processes and interactions, creating social interaction and developing a supportive learning community. However, many researchers have highlighted the limitations of using e-learning alone in the teaching and learning of soft-skills based courses such as communication skills. Blended learning, a combination of off-line activities and online learning platforms, has been suggested for the improvement of learning and teaching communication skills. How would students who are used to face-to-face classroom teaching and learning respond to a blended learning environment? This is a mixed-methods study which explored the choice of learning activities and oral communication apprehension (CA) levels of first-year and second-year university students in a Malaysian public university. The Personal Report of Communication Apprehension-24 (PRCA-24) survey was used to measure the levels of oral communication apprehension among Malaysian university students in four communication contexts (group discussions, meetings, conversations, and public speaking). A total of 270 students responded to the questionnaire. In addition to taking the PRCA-24, some students were interviewed and asked to describe learning difficulties they face in learning English communication skills. Data were analyzed using descriptive statistics and thematic analysis. The study revealed that most of the Malaysian university students exhibited a high level of oral communication apprehension in two communication contexts: public speaking and meetings. The analysis of the interviews revealed that students encounter varied difficulties that are associated with oral communication apprehension. Strategies for helping teachers in the selection of oral communication activities to help public university students in Malaysia improve their oral communication skills in public speaking and meetings for the workplace are suggested.

Keywords: Communication Apprehension, Oral Communication Skills, Workplace, Communication, Online Education, Blended Learning

Corresponding author: Christine Jalleh, email: christine@usm.my

SUBMISSION ID: 20

EXPLORING E-TEACHING AND E-LEARNING TO DEVELOP STUDENTS' DIGITAL LITERACY DURING COVID-19 IN HIGHER EDUCATION OF MALAYSIA: A SYSTEMIC REVIEW

Liang Hong[1] and Siti Rohaida Mohamed Zainal[1]

[1]*Universiti Sains Malaysia*

Abstract

When coronavirus disease is prevalent in 2019, the entire education system in Malaysia facing a challenging task in 2021, which using virtual teaching to provide education to students. This means the closure of higher learning institutions and a major shift from traditional classroom-based teaching and learning to virtual approach. In Malaysia, Teachers and students are now forced to learn digital technology and integrate various digital tools into teaching. While higher education may have transformed and moved to online due to Covid-19, it is unknown whether this transformation produces positive teaching and learning outcomes. Previous studies have shown that digital literacy skills have a positive impact on students' academic performance. However, the research on this issue is limited. This paper aims to discuss the E-learning and E-teaching as an opportunity to foster students' digital literacy in the time of pandemic in order to support the digital teaching and promote inclusive education in Malaysia. The results show that cultivating students' digital literacy skills and improving the teaching and learning strategies required in the digital environment to achieve inclusive education by improving interactive teaching through online. For example, teachers using an interactive whiteboard, or where teachers invite students to use laptop to undertake a classroom activity. Therefore, We had the opportunity to review 25 model journal articles on this topic to fill this gap in literature.

Keywords: Digital Literacy, E Learning, E Teaching, Malaysia, Covid19

Corresponding author: Liang Hong, email: Lianghong@student.usm.my

SUBMISSION ID: 12

IMPACT OF COVID-19 ON CLINICAL TEACHING AND LEARNING: CHALLENGES, SOLUTIONS AND OPPORTUNITIES

Fakhitah Ridzuan[1] and Norehan Mokhtar[1]

[1]*Advanced Medical and Dental Institute, Universiti Sains Malaysia*

Abstract

The education systems around the world are undergoing massive changes, as courses and programs are designed in new ways and with new educational content. Since COVID-19 hit the world the trend of the clinical education system has changed. The shift from face-to-face to online learning are facing difficulty, especially for dental and medical undergraduate programs. Despite there are already technologies available for online education, but it is limited due to the cost and usage. Simulation and clinical training are some of the components in education where it requires feedback from the lecturers. Since most of the recent publications only focus on the theoretical knowledge delivery during the pandemic, therefore this review aims to identify the challenges and steps taken by the universities from different countries to overcome these problems. The review was done on several established databases which are Scopus, Science Direct and PubMed. The data was extracted and analysed to identify the challenges, solutions and opportunities in clinical education. From the review, it was found that the main challenge faced by the students is they cannot enter the lab, thus their clinical training is disrupted. There are various approaches taken such as postponing the clinical year and replacing the clinical sessions with online training. Some of the countries allow clinical training to be conducted, provided the university follows the safety protocol. In this review, we also have analysed the opportunity of implementing virtual learning in education specifically for clinical simulation. Innovative technologies are needed to adhere to the challenge in delivering clinical training to the students and increase their knowledge and practical skills. Augmented reality and virtual reality are some of the technologies that have been widely used in clinical training even before the pandemic happened. The online teaching and learning and simulation-based tools are essential in ensuring continual clinical education however they may not completely replace the conventional clinical training.

Keywords: COVID-19, Clinical Education, Virtual Learning, Dental Education, Medical Education

Corresponding author: Fakhitah Ridzuan , email: fakhitah.ridzuan@gmail.com

SUBMISSION ID: 13

INTERACTIVE MODULES FOR SELF-REGULATED LEARNING AMONG DISTANCE LEARNERS: PERCEPTION AND READINESS

Fauziyah Md Aris[1] and Zoraini Wati M Abas[1]

[1]*School of Distance Education, Universiti Sains Malaysia*

Abstract

Interactive flipbooks or iModules are expected to provide distance learning students with a more attractive and enjoyable learning experience. Comprising text, visuals, audio, video, social media, and QR codes, iModules will be a new form of Self-Instructional Material that will be introduced to learners at the School of Distance Education in Universiti Sains Malaysia. Designed to potentially engage and motivate learners to learn in a more personal and interactive manner, the iModules will incorporate a variety of learning modes and online activities for learning within the same learning space. The iModules are designed to support self-regulated learning. Learners can have their iModules streamed across personal devices. Utilising lower Internet bandwidths they are downloadable, printable, and incorporate learning analytics. The paper describes the design of the iModules as a form of Self-Instructional Material for distance learners. It will also include findings from a survey on the perception and readiness among new distance learners as part of their onboarding experience.

Keywords: Interactive Flipbooks, Self-Instructional Material, Distance Learners Self-Regulated Learning, Onboarding Experience

Corresponding author: Fauziyah Md Aris, email: fauziyah@student.usm.my

SUBMISSION ID: 2

OPPORTUNITIES AND CHALLENGES OF RESPONSIVE BLENDED LEARNING IN HERIOT-WATT UNIVERSITY MALAYSIA: THE PERSPECTIVES OF ACADEMICIANS

Tan Siok Inn[1] and Tam Kok Chian[1]

[1] *Heriot-Watt University, Malaysia Campus*

Abstract

The purpose of this paper is to explore the opportunities and challenges of Responsive Blended Learning (RBL) from the perspectives of academicians in Heriot-Watt University Malaysia. The outbreak of the Covid-19 has disrupted the teaching and learning environment in universities worldwide including Malaysia. In response, the management of Heriot-Watt University introduced the RBL to all campuses including Malaysia to meet the operational needs as a global university. Besides responding to the pandemic lockdown, RBL also enables the teaching and learning activities for the future education technology in the digital era. It is designed as a response to any extraordinary situation, including the Covid-19 pandemic. However, a successful implementation of RBL emerged at delivery level. It is important to gather the experiences of academicians when the role of academics has transformed from knowledge initiator to knowledge facilitator. Hence, adopting qualitative case study methodology, rich data were collected through semi-structured interviews with academicians at Heriot-Watt University Malaysia. The data were analysed using thematic coding. There were five themes emerged as opportunities and four themes under challenges. The findings showed that RBL offers academicians flexibility in course management and administration, improving student's learning experience and student engagement. It also offers more comprehensive learning model. In addition, academicians had the opportunities to relook and redesign the assessments to suit the current learning environment. On the other hand, academicians experienced challenges during the class preparation. At the same time, student engagement is a challenge for academicians. Hence it is a steep learning curve when adopting RBL. The academicians also concerned with the assessment in the RBL environment. Overall, this paper concluded that despite the challenges, RBL offers better teaching and learning approach in a

dynamic environment, especially for a global university. This study suggested to include the perspectives of students as the end-users of RBL for future research.

Keywords: Responsive Blended Learning (RBL), Opportunities, Challenges, Academicians

Corresponding author: Tan Siok Inn , email: tansi200878@gmail.com

GRADUATE STUDENTS
SPECIAL SESSION 1

ID: GSSS1-01

DEVELOPMENT OF VIRTUAL LEARNING ENVIRONMENT BASED ON CONSTRUCTIVIST TO ENHANCE THE COMPUTATIONAL THINKING ON COMPUTING SCIENCE 1 COURSE FOR GRADE 10 STUDENTS

Ismaal Pooyang[1], Ophat Kaosaiyaporn[1], Wasant Atisabda[1] and Afifi Lateh[1]

[1]*Prince of Songkla University*

Abstract

This purpose of this study is (i) to develop virtual learning environment based on Constructivist to Enhance the computational thinking on computing science 1 course for grade 10 students, (ii) to compare computational thinking abilities of learners after learned by virtual learning environment at 70 percent criteria, and (iii) to compare positive reflections of students after learning with virtual learning environment based on constructivist at the 70 percent criteria. The target group was 35 grade 10 students of Khuan Kalong Wittayakhom Nikhomwattana School. The development and research was employed in this study based on the quantitative and qualitative approach. The result revealed that the virtual learning environment developed based on the constructivist approach enhances the computational thinking on Computing Science 1 course for grade 10 students. Furthermore, this reflects that a base design with that integrates problem-based learning, resources, scaffolding, coaching and collaborative learning are the major components for achieving these outcomes.

Keywords: Virtual Learning Environment, Constructivist Theory, Computational Thinking, Reflections

Corresponding author: Ismaal Pooyang. Email: 6320121510@psu.ac.th

ID: GSSS1-02

DEVELOPMENT OF MASSIVE OPEN ONLINE COURSE ON MUSLIM WAY OF LIFE IN FOOD CONSUMPTION TO PROMOTE MULTICULTURAL KNOWLEDGE FOR UNDERGRADUATE STUDENTS

Nisakorn Nimnuan[1], Ophat Kaosaiyaporn[1], Wasant Atisabda[1] and Narongsak Rorbkrob[1]

[1]*Prince of Songkla University*

Abstract

The purposes of this study is to (i) develop the massive open online course (MOOC) on Muslim way of life in food consumption to promote multicultural knowledge for undergraduate students (ii) measure learning achievement after studying with the MOOC on Muslim way of life, and (iii) measure satisfaction of students after studying of the MOOC on Muslim way of life. The samples consisted of 124 undergraduate students. The research instruments consisted of MOOC quality evaluation form and students learning achievement tests. The findings reflected that Muslim way of life MOOC was highly satisfying (μ= 4.65, S.D. = .54), and 2) and there was significantly higher learning achievement of the students in the posttest than in the pretest at p <.05.

Keywords: Massive Open Online Course (MOOC), Muslim Way of Life

Corresponding author: Nisakorn Nimnuan. Email: pangnisa.n@gmail.com

ID: GSSS1-03

DEVELOPMENT OF MASSIVE OPEN ONLINE COURSE ON COEXISTENCE IN MULTICULTURAL SOCIETY TO ENHANCE KNOWLEDGE CONSTRUCTION AND AWARENESS OF CULTURAL VALUES FOR UNDERGRADUATE STUDENTS

Supanida Duangjinda[1] , Ophat Kaosaiyaporn[1], Wasant Atisabda[1] and Narongsak Rorbkorb[1]

[1]*Prince of Songkla University*

Abstract

The purpose of this study is to (i) develop the massive open online course on coexistence in multicultural society to enhance knowledge construction and awareness of cultural values for undergraduate students, (ii) measure the awareness of cultural values of undergraduate students learners before and after studying with MOOC on coexistence in multicultural society, and (iii) measure students' satisfaction with MOOC on coexistence in multicultural society to enhance knowledge construction and awareness of cultural values for undergraduate students. The sample consisted of 60 students. The research instruments consisted of the *Cultural Value Awareness Inventory* and *Student Satisfaction with MOOC* scale. The findings revealed that there was significantly higher learning multicultural awareness of the students in the posttest than in the pretest at p <.05 level and the students' satisfaction with MOOC was ranked at high level (μ = 4.37, S.D. = 0.81).

Keywords : Massive Open Online Course , Awareness Of Cultural Values , Multicultural Society.

Corresponding author: Supanida Duangjinda. Email: 6320121509@psu.ac.th

ID: GSSS1-04

DEVELOPMENT OF MASSIVE OPEN ONLINE COURSE INTEGRATING WITH PODCASTS ON NURSING PATIENTS WITH ARRHYTHMIA AND READING ELECTROCARDIOGRAM TO ENHANCE NURSING STUDENTS LEARNING ACHIEVEMENT

Krittaphat Ochaampawan[1] ,Ophat Kaosaiyaporn[1], Wasant Atisabda[1] and Charuwan Kritpracha[1]

[1]*Prince of Songkla University*

Abstract

The purpose of this study is to (i) develop the massive open online course (MOOC) integrating with Podcasts on Nursing Patients with Arrhythmia and Reading Electrocardiogram to Enhance Nursing to enhance the academic achievement of nursing students, (ii) measure learning achievement before and after studying with the MOOC integrating with podcasts (iii) measure the students' satisfaction with the MOOC integrating with podcasts. The samples include 208 undergraduate nursing students recruited to investigate learning achievement before and after studying with the MOOC from the Faculty of Nursing, Prince of Songkla University whereas 133 undergraduate nursing students studying the students' satisfaction with the MOOC integrating with podcasts. The findings revealed that there was significantly higher learning achievement of the students in the posttest than in the pretest at .01 level. and the opinions of students' satisfaction with MOOC on integrating with podcasts unveiled the high level (μ = 4.201, S.D. = .790)

Keywords: Massive open online course (MOOC), Podcasts, Reading Electrocardiogram

Corresponding author: Krittaphat Ochaampawan. Email :6320121501@psu.ac.th

ID: GSSS1-05

DEVELOPMENT OF A LEARNING ENVIRONMENT BASED ON CONSTRUCTIVIST THROUGH CLOUD LEARNING FOR ENHANCING PYTHON PROGRAMING SKILL OF 8TH GRADE STUDENTS.

Teerapat Kraikaew[1], Ophat Kaosaiyaporn[1], Wasant Atisabda[1] and Watcharawalee Tangkuptanon[1]

[1]*Prince of Songkla University*

Abstract

The proposes of this study is to (i) develop a learning environment based on constructivist through cloud learning for enhancing python programming skills of Mattyomsiriwanwari 2 Songkhla school 8th grade students, and (ii) measure the effects of python programming skills of students studying in a constructivist learning environment through the cloud learning. The development of learning environment based on constructivist through cloud learning process consisted of the process has been divided into two phases; (i) to develop a constructivist learning environment through cloud learning using the principles of the ADDIE model (ii) to study the effects of python programming skills of students studying in a learning environment based on constructivist through the cloud learning. This research instrument consisted of a cloud learning website, a system evaluation form, and a lesson plan. The data gathering instrument consisted of python skill test, a student's satisfaction towards the system test questionnaires, and a student's python skill scoring rubric. The study has sample of 43 participants. These participants were 8th grade students of Mattayomsiriwanwari 2 Songkhla school who studied in computing science subject. The data were analysed by using mean, standard deviation and t-test dependent.

Keywords: Constructivist Learning Environment, Cloud Learning

Corresponding author: Teerapat Kraikaew. Email: 6320121504@psu.ac.th

ID: GSSS1-06

EFFECTS OF INTEGRATION OF PEDAGOGICAL AGENT WITH COMPUTATIONAL THINKING ALGORITHM TECHNIQUE IN STOICHIOMETRY LEARNING ON THE ACHIEVEMENT, EMOTION, AND COGNITIVE LOAD OF THE MATRICULATION PROGRAMME STUDENTS

Mimi Malini binti Mohmad Fuzi[1]

[1]*Centre for Instructional Technology and Multimedia, Universiti Sains Malaysia*

ABSTRACT

Computational Thinking (CT) is known as one of the required skills in problem solving. To overcome the problem in learning Stoichiometry, CT has integrated in the designing and developing of the teaching and learning multimedia apps. This study aims to investigate the effects of multimedia learning application with Pedagogical Agent (PA) in Stoichiometry learning on matriculation students' achievement, cognitive load, and emotion towards the learning material using 2 x 2 factorial quasi-experimental design. The independent variable for this study is the two modes of presentation: PA with CT-Algorithm (PACT) and PA with non-CT-Algorithm (PANCT). The dependent variables are students' achievement, cognitive load, and emotion towards the learning material. The moderator variable is students' programmes of studies, which are Two Semester System (SDS) and Four Semester System (SES). A total of 120 science matriculation students separated by 60 SDS students and 60 SES students from one of the Malaysian matriculation colleges participated in the study. The data gathered from the study will analysed using descriptive and inferential statistics, namely the ANOVA test. The development of PACT and PANCT applications in this study can contribute to the increase in the number of mobile applications to help improve student achievement performance. This mobile app is expected to encourage students to study difficult topics such as Stoichiometry in chemistry subjects.

Keywords: Computational Thinking, Pedagogical Agent, Mobile Application, Stoichiometry

Corresponding author: Mimi Malini binti Mohmad Fuzi. Email: mimimalini@gmail.com

ID: GSSS1-07

EFFECTS OF COMPUTATIONAL THINKING DECOMPOSITION AND PRE-TRAINING PRINCIPLES IN MULTIMEDIA APPLICATIONS ON ACHIEVEMENT, ENGAGEMENT AND KNOWLEDGE RETENTION OF DIFFERENT STUDENTS' COURSES OF STUDY FOR PROGRAMMING PROBLEM ANALYSIS LEARNING

Mimi Zairul Mohmad Fuzi[1]

[1]*Centre for Instructional Technology and Multimedia, Universiti Sains Malaysia*

Abstract

Computational Thinking (CT) has integrated into teaching and learning because it is one of the skills required for future work skills. The best design practices are essential to be embedded into designing and developing the strategies of any subject content to promote students' learning. The purpose of the study is to investigate the effects of multimedia learning application with pre-training principle (MAP) on matriculation students' performance, engagement, and knowledge retention towards the learning material using 2 x 2 factorial quasi-experimental design. The independent variable for this study is the two modes of presentation: MAP with a decomposition technique of CT (MAPCT) and MAP without decomposition technique of CT (MAP). The dependent variables are the students' performance, engagement, and knowledge retention towards the learning material. The moderator variable is the students' course of studies, which is from the physics and biology course. The study sample consists of 120 students from four semester system (SES) under the matriculation programme and the students will be divided into two treatment groups. The first group of students received treatment with MAPCT presentation mode while the second group received treatment with MAP presentation mode. Data obtained from this study will be analysed using an ANOVA test. The needs and concerns about the teaching and learning instructional design highlighted in the study is to improve the teaching and learning strategies that are used in computer programming courses in order to advance students' understanding.

Keywords: Computational Thinking, Pre-Traning Principle, Mobile Application, Basic Computer Programming

Corresponding author: Mimi Zairul Mohmad Fuzi. Email: mimizairul@gmail.com

GRADUATE STUDENTS
SPECIAL SESSION 2

ID: GSSS2-01

SYNTHESIS OF VIRTUAL LEARNING ENVIRONMENT WITH ENGINEERING DESIGN PROCESSES FRAMEWORK

Phongampai Thammaariyasakun[1], Wichai Napapongs[1], Jirawat Tunsakul[1] and Chamaibhorn Inkaew[1]

[1]*Prince of Songkla University*

Abstract

A virtual learning environment (VLE) is a learning space that has been systematically designed and developed. To help support learners' learning through technology tools and the Internet, including organizing learning processes and activities for learners to interact. Exchange and learn without time or place restrictions. This research aims to synthesize a virtual learning environment framework through the engineering design process. This research is document research. The steps are (i) studying theoretical principles (ii) reviewing related documents (iii) studying relevant contexts (iv) synthesis of a virtual learning environment framework by engineering design process. A virtual learning environment framework synthesis log form with the engineering design process. The professional assessment was done by analysing the data by summarizing, interpreting and analysing narratives. The results of the research revealed that (i) the virtual learning environment has five major components which are communication tools, collaboration tools, resource sharing tools, reflection tools and learner support tools. The engineering design process of the five steps are (i) steps to define problems and needs (define) (ii) design stage (design) (iii) development stage (develop) (iv) evaluation and improvement stage (evaluate) and (v) the presentation stage (publish). This is to be used as the basis for synthesizing a virtual learning environment framework with the synthetic engineering design process. Therefore, it will be used to develop a model and continue to experiment.

Keywords: Virtual Learning Environment, Engineering Design, VLE Framework, Model Development

Corresponding author: Phongampai Thammaariyasakun. Email : 6320121506@psu.ac.th

ID: GSSS2-02

DESIGNING FRAMEWORK OF BOARD GAME ON GAME BASED LEARNING CONCEPT TO ENHANCE DIGITAL QUOTIENT FOR GRADE 6 STUDENTS

Wiboon Aekpiriyapaiboon[1], Wichai Napapongs[1], Jirawat Tunsakul[1] and Chamaibhorn Inkaew[1]
Prince of Songkla University

Abstract

This research was documentary research, and the purpose of this research was to synthesize the theoretical framework of board game on game-based learning concept to enhance digital quotient for Grade 6 students. There are four stages for synthesizing (i) examining and analysing both principles and theories (ii) reviewing literature (iii) studying relevant contexts, and (iv) synthesizing the designing framework for board game on game-based learning. The research instruments consisted of a synthesis record of theoretical framework, a synthesis record of design framework, as well as data were analysed by using descriptive and analytical summary interpretation. The results of this synthesis have shown that the board game had eight compositions which are board game, cards, winner and loser, planning, risk-taking, data, treaty and determining the player. Next, the game-based learning should have four steps which are presenting the purposes of the game, clarifying the role and treaty, playing the game and discussion after playing.

Keywords: Board Game; Game Based Learning; Digital Quotient

Corresponding author: Wiboon Aekpiriyapaiboon. Email: 6320121508@psu.ac.th

ID: GSSS2-03

DESIGNING FRAMEWORK OF PHONICS LEARNING MATERIALS WITH AUGMENTED REALITY TO ENHANCE ENGLISH READING PRONUNCIATION AND WORD SPELLING FOR GRADE 5 STUDENTS

Tuanhusna Tokkubaha[1], Wasant Atisabda[1], Wichai Napapongs[1] and Jirawat Tunsakul[1]

[1]*Prince of Songkla University*

Abstract

The objective of this research was to study the documents of Phonic learning materials with Augmented Reality to enhance English reading pronunciation and word spelling for grade 5 students. The procedures of the study were to analyse principles and theories, review literature and study relevant contexts about Phonics, augmented reality, English pronunciation and spelling abilities. The research instruments consisted of Phonic teaching theories, the compositions of augmented reality, English pronunciation ability, and spelling ability. Descriptive and analytical summary interpretation were used to analyse the data. The research samples consisted of 30 of the grade 5 students from Tessaban 5 Pattani Municipal school, Pattani province by using cluster sampling. The results of documents studying revealed that as phonics is a method of learning to read, write and pronounce English by using the principle of decoding and mixing 26 letters and sounds of them, learners must understand the sounds of the letters and pronounce them correctly so that they can mix the sounds into words. Furthermore, the compositions of augmented reality are mainly synchronization between simulated and real images, responding immediately and rendering as 3D images by connecting through various connected devices such as tablet and smartphone. Next, English pronunciation ability is denoted to be derived from the use of eyes fixed on the letters and signs that have already been written, the brain must process them into words and then uttered the correct sound. Lastly, the students spelling ability which is the capability to convey ideas into words can be evaluated by being able to write consonants and vowels correctly in order of words.

Keywords: Phonics Learning, Augmented Reality, English Language Pronunciation, Spelling abilities

Corresponding author: Tuanhusna Tokkubaha. Email: 6320121503@psu.ac.th

ID: GSSS2-04

DESIGNING FRAMEWORK OF A MASSIVE OPEN ONLINE COURSE INTEGRATED WITH PODCASTS REGARDING NURSING CARE FOR PATIENTS WITH PACEMAKER BASED ON SELF-DIRECTED LEARNING TO ENHANCE NURSING STUDENTS LEARNING ACHIEVEMENT

Kwannate Poonyatavon[1], Ophat Kaosaiyaporn[1], Wasant Atisabda[1] and Charuwan Kritpracha[1]

[1]*Prince of Songkla University*

Abstract

The objective of this research was to synthesize the framework of a massive open online course (MOOC) integrated with podcasts regarding nursing care for patients with pacemaker based on self-directed learning to enhance nursing students' learning achievement. The step-in development has two phases which are examining and analysing the principles and theories and synthesizing the designing framework for a massive open online course integrated with podcasts based on self-directed learning. This study is based on documentary research. The results revealed that the massive open online course integrated with podcasts consisted of eight components which are course syllabus, video, sound, closed caption, document file, discussion, quiz and certification. Whereas producing a Podcast had four steps which are preparation, recording, editing and publishing. Lastly, the self-directed learning was composed of five components namely identifying the learning goals, planning to goals, learn according to the plan, reflect learning goals and evaluate learning.

Keywords: Massive Open Online Course, Podcast, Self-Directed Learning

Corresponding author: Kwannate Poonyatavon. Email:6320121502@psu.ac.th

ID: GSSS2-05

DESIGNING FRAMEWORK OF MASSIVE OPEN ONLINE COURSE WITH LEARNER-CENTERED ACTIVITY BASED ON THE CONSTRUCTIVIST TO ENHANCE THE THAI LANGUAGE ABILITY FOR INTERNATIONAL STUDENTS IN HIGHER EDUCATION

Pattama Malakul[1], Wasant Atisabda[1], Ophat Kaosaiyaporn[1], Charuwan Kritpracha[1], and Jomkwan Sudhinont[1]

[1]*Prince of Songkla University*

Abstract

The purpose of this study is to synthesize the theoretical framework of Massive Open Online Course (MOOC) with Learner-Centered Activity based on the Constructivist to Enhance the Thai Language Ability for International Students in Higher Education by collecting qualitative data. Therefore, this research was documentary research. The study processes consisted of four stages which are examining and analysing principles and theories, reviewing literature, studying relevant information, and synthesizing the design of framework for Massive Open Online Course (MOOC) with Learner-Centered Activity based on the Constructivist approach. The research instruments are composed of a synthesis record based on the theoretical framework and design framework. The results of this synthesis revealed that the MOOC had nine compositions as follows course syllabus, video, sound, closed caption, document file, discussion, project, quiz, and certificate. Furthermore, there are five compositions of MOOC environment based on constructivist which are problem based, resource, scaffolding, coaching, and collaboration. Conversely, for learner-centred activity, nine compositions were identified namely constructing of knowledge, interaction, positive motivation, technology for facilitation, practice, thinking skills, individual competency, application, and assessment. In addition, the steps of constructivist-based learning activities have the following steps prepare, learn, apply, and evaluate.

Keywords: Massive Open Online Course (MOOC); Learner-Centered Activity; Constructivist; Thai Language Ability; International Students

Corresponding author: Pattama Malakul. Email:6320121513@psu.ac.th

ID: GSSS2-06

KEBERKESANAN LETAKAN PERKATAAN DAN SUSUNAN VISUAL DALAM PERSEMBAHAN MULTIMEDIA TERHADAP PEMIKIRAN KRITIS, BEBANAN KOGNITIF DAN MOTIVASI DALAM PEMBELAJARAN MATEMATIK BAGI GURU PRA PERKHIDMATAN

Juliana Binti Saarani[1]

[1]*Centre for Instructional Technology and Multimedia, Universiti Sains Malaysia*

Abstact

Pembangunan bahan pengajaran dan pembelajaran yang berorientasikan reka bentuk multimedia penting bagi menjamin penguasaan pembelajaran Matematik dalam persembahan multimedia. Kajian dari aspek letakan perkataan dan susunan visual dalam persembahan multimedia perlu dititikberatkan dengan mengambil kira kesesuaian letakan perkataan dan susunan visual yang digunakan dengan membuktikan kesan yang positif ke atas perkembangan dari segi pemikiran kritis, bebanan kognitif dan motivasi. Reka bentuk kajian kuantitatif digunakan dalam kajian ini secara Quasi Experiment terhadap guru pra perkhidmatan program Matematik di Institut Pendidikan Guru Kampus Pulau Pinang sebagai responden kajian. Kajian ini juga menggunakan alat electroencephalogram (EEG) dan soalan ujian untuk mengukur gelombang otak semasa menjalankan aritmetik mental. Data dianalisis menggunakan statistik deskriptif dengan menggunakan perisian SPSS untuk mendapatkan keputusan. Melalui kajian ini diharapkan dapat mengenal pasti keberkesanan reka bentuk multimedia dalam usaha penyediaan bahan pengajaran dan pembelajaran yang efektif disamping dapat menggalakkan pensyarah untuk mengintegrasikan ICT demi meningkatkan kualiti pendidikan negara kita.

Keywords: Letakan Perkataan, Susunan Visual, Pemikiran Kritis, Bebanan Kognitif , Motivasi, Electroencephalogram (EEG)

Corresponding author: Juliana Binti Saarani. Email: ipgm-0412@moe-dl.edu.my

2ND INTERNATIONAL CONFERENCE ON CREATIVITY AND INNOVATION IN INSTRUCTIONAL DIGITAL TECHNOLOGY

NEW NORMAL IN INSTRUCTION AND LEARNING IN DIGITAL AGE

Centre for Instructional Technology and Multimedia (CITM)
Universiti Sains Malaysia, 11800 Penang, Malaysia