

The 3rd UPY International Conference on Applied Science and Education (UPINCASE) 2021

Yogyakarta, Indonesia • 14–15 July 2021

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CONFERENCE DAY

14-15 July 2021

Virtual Conference

**THE 3rd UPY INTERNATIONAL
CONFERENCE ON APPLIED
SCIENCE AND EDUCATION
(UPINCASE) 2021**

“Digital Transformation Strategies in The Science and Technology Innovation” PROGRAM BOOK

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PREFACE

Dear distinguished Authors and Guests,

The organizing committee warmly welcome you to The 3rd UPY International Conference on Applied Science and Education (UPINCASE), held on 14 – 15 July 2021 in Yogyakarta, Indonesia virtually.

Hardly a day goes by without the traditional or social media highlighting how digitally driven scientific or technological breakthroughs might transform daily life. Much computer speech and image recognition has attained human-like levels of performance, while self-driving cars are gradually improving their safety record. Media attention to such breakthroughs is provoking a deeper reflection among policy makers concerned with science, technology and innovation. The public's exposure to the accumulation of anecdotal evidence on the digital transformation of science and innovation builds views of change shaped by how close they are to specific developments. But how widespread are those specific developments? Which practices have fully broken into the mainstream? Which practices remain the preserve of relatively small communities at the leading edge? Do different facets of digitalization complement or offset each other? Is debate excessively focused on practices that are no longer at the forefront, and are incipient signals about the direction of change being missed?

Addressing these questions, requires a comprehensive view of how science and innovation are “going digital”. The digital revolution is based on the growing possibilities to create and use data, information and knowledge, and ultimately to support decision making, science and innovation policy. As such, it requires data and measurement that help map the ongoing transformations, their causes and their effects. Based on this trends, it is necessary to conduct research or studies that discuss the importance of digital transformation in the science and technology innovation, and be widely publicized. To support this, Universitas PGRI Yogyakarta hold an international conference and Call for Papers of The 3rd UPY International Conference on Science and Education (UPINCASE), with theme "Digital Transformation Strategies in The Science and Technology Innovation" on 14 – 15 July 2021.

On behalf of The 3rd UPINCASE 2021, we would like to thank all the authors that contributed to this conference. We would like to extend our special gratitude to the Keynote Speakers who support this conference.

- 1) Prof. Dato' Dr. Wan Ramli Wan Daud (Universitas Kebangsaan Malaysia)
- 2) Prof. Dewi Liesnoor Setyowati (Universitas Negeri Semarang, Indonesia), theme: Transformation of Disaster Mitigation Development
- 3) Assoc. Prof. Dr. Rachel Sheffield (Curtin University, Australia), theme Science Technology Engineering and Mathematics (STEM)
- 4) Assoc. Prof. Dr. Dekeng Setyo Budiarto (Universitas PGRI Yogyakarta, Indonesia), theme: E-Commerce Implementation for SMEs Sustainability at COVID-19 Pandemic
- 5) Prof. Chang, Te-Sheng (National Dong Hwa University, Taiwan), theme: The Effect of a Social Engineering Design Course on Undergraduates Design Thinking Attributes and Engineering Creativity in Taiwan
- 6) Assoc. Prof. Dr. Samaneh Shalgaldi (University of Quebec à Trois-Rivières, Canada), theme: Bio-electrochemical System Innovation
- 7) Assoc. Mohamed Nor Azhari bin Azman, (Universiti Pendidikan Sultan Idris, Malaysia) theme How to engage with Entrepreneur Online Traits

And for your information, that the number of papers that will be presented by presenters at this conference are 110 papers, which is divided in two days. After the peer review process, the submitted papers were selected on the basis of originality, significance and clarity for the purpose of the conference.

Distinguished visitors, let me express, in the name of the Organizing Committee, our most sincere wish that the conference results constituted significant contribution to the knowledge in these up to date scientific field. And We will commit ourselves to make this conference more and more professional with fully and enjoyable academic research and discussion platform for authors and attendees. Sincerely as always, we look forward to your attention and support to the next UPINCASE.

Thank you.

Yogyakarta, 14 July 2021

Chairperson of the Committee

A handwritten signature in black ink, appearing to read 'Marti Widya Sari', with a stylized, flowing script.

Marti Widya Sari

RECTOR'S REMARK

International Conference UPY – Online (3rd UPINCASE, July 14th-15th 2021)

Assalamualaikum warahmatullahi wabarakatuh

Peace be upon all of us.

1. The excellencies keynote speakers;
 - 1) Prof. Dato' Dr. Wan Ramli Wan Daud (Universitas Kebangsaan Malaysia), we are sorry that Prof. Wan Ramli could not join with us this morning because of health concern.
 - 2) Assoc. Prof. Dr. Rachel Sheffield (Curtin University, Australia)
 - 3) Prof. Dewi Liesnoor Setyowati (Universitas Negeri Semarang, Indonesia)
 - 4) Prof. Chang, Te-Sheng (National Dong Hwa University, Taiwan)
 - 5) Assoc. Prof. Dr. Samaneh Shalgaldi (University of Quebec à Trois-Rivières, Canada)
 - 6) Assoc. Mohamed Nor Azhari bin Azman (Universiti Pendidikan Sultan Idris, Malaysia)
 - 7) Assoc. Prof. Dr. Dekeng Setyo Budiarto (Universitas PGRI Yogyakarta, Indonesia)
2. The honourable conference participants we are proud of
3. The honourable, The Head Foundation of Universitas PGRI Yogyakarta, Armansyah Prasakti, M.Kn.
4. Respected leaders and staff in Universitas PGRI Yogyakarta
5. Respected chair person and also members of the organizer in this international conference .

Praise our gratitude for the presence of God, the Almighty who always give us mercy and guidance. Good morning, ladies and gentlemen. Thank you to each and every one of you for joining here today at this wonderful virtual seminar. My name is Paiman. It is such an honor for me to speak on behalf of the University. Let me begin by giving you a warm welcome to the the 3rd UPY International Conference On Applied Science And Education 2021.

Today, we can participate in this international conference with the theme ***Digital Transformation Strategies in The Science and Technology Innovation*** in Universitas PGRI Yogyakarta, Indonesia, virtually. This international conference is held for two days, July 14th and 15th 2021. And I would like to deliver my gratitude to all keynote speakers who have taken the time and are willing to share the ideas. To all of the conference participants, I congratulate you on attending the conference. Hopefully, this conference activity will give benefit to all of us.

Finally, By pronouncing Bismilahirrahirrohim, today's conference is declared... open. Thank you,

Wassalamualaikum warahmatullahi wabarakatu

Yogyakarta, July 14th 2021

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KEYNOTE

CURRICULUM VITAE



PROF. DATO' IR. DR. WAN RAMLI WAN DAUD FASc

**UKM-Petronas Chair Professor of Sustainable Hydrogen Energy, Fuel Cell Institute
Professor of Chemical Engineering, Department of Chemical Engineering,
Faculty of Engineering & Built Environment
Universiti Kebangsaan Malaysia**

Prof. Dato' Ir. Dr. Wan Ramli Wan Daud FASc is the UKM-Petronas Chair Professor of Sustainable Hydrogen Energy at the Fuel Cell Institute, Universiti Kebangsaan Malaysia (December 2019- 2021), Professor of Chemical Engineering at Department of Chemical & Process Engineering, Faculty of Engineering & Built Environment, Universiti Kebangsaan Malaysia (1996-2021) and Principal Research Fellow at the Fuel Cell Institute, Universiti Kebangsaan Malaysia (2007-2021).

He was born on 27 December 1955 in Bukit Mertajam, Pulau Pinang, Malaysia. He went to school at Sekolah Kebangsaan Jalan Conolly, Ipoh (1962-1964), Sekolah Kebangsaan Taiping (1965-1967), Sekolah Dato' Abdul Razak, Tanjong Malim and Seremban (1968-1973) and Leederville Technical College, Perth, Western Australia (1974). He obtained the BEng degree (First Class Hon.) from the University of Monash, Victoria, Australia in 1978 and the PhD degree from the University of Cambridge, United Kingdom in 1984, both in chemical engineering.

He is the Founding Director of the Fuel Cell Institute, Universiti Kebangsaan Malaysia (2007-2013) and the Founding President of the Malaysian Association of Hydrogen Energy (MAHE) (2018-2020). He was Chairman of Malaysia Board, Institution of Chemical Engineers, 2009. He was elected a Fellow of the Academy of Science Malaysia (ASM) in 2012 for his World leading role in scientific work on hydrogen

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energy and fuel cells.

He promoted the Hydrogen Economy by spearheading the development of the first Malaysian Roadmap for Solar Energy, Hydrogen Energy and Fuel Cells in 2006. He updated the Roadmap in the Blueprint of Fuel Cells Industry in Malaysia published by ASM in 2017. He had also written a position paper on the Hydrogen Economy in Malaysia for ASM to be presented to the Malaysian Government in 2020.

He was honored with the Merdeka Award 2016 for Outstanding Scholastic Achievement, which is Malaysia's top award for Malaysian scientists, on 23 September 2016 for outstanding scholarly research and development in advancing the technology of fuel cells and hydrogen energy in Malaysia, the region, and the world.

His main research areas are green hydrogen energy (Photoelectrochemical (PEC), electrolytic and microbial electrolytic water splitting), fuel cells technology (proton exchange membrane fuel cells (PEMFC), solid oxide fuel cells (SOFC), microbial fuel cells (MFC) and direct fuel cells (DFC)); and sustainable industrial drying technology (solar, spray, drum and fluidized bed dryers).

He published 410 articles in international journals, 400 articles in proceedings of international conferences and 235 articles in proceedings of national conferences. He is cited in WOS Publion (formerly WOS ISI) 9,545 times with H-index 51; in SCOPUS 10,579 times with H-index 53, and in Google Scholar 16,027 times with H-index 64.

He was listed as one of the World's Most Influential Scientific Minds in engineering five times in 2015 and 2016 by Thomson Reuters, 2017, 2018, 2019, and 2020 by Clarivate Analytics for the highest number of highly cited papers.

He was invited to present 21 keynote and 10 invited papers on hydrogen energy and fuel cells in China, Iceland, India, Indonesia, Iran, Japan, Malaysia, Netherlands, Philippines, Russia, Singapore and Thailand.



Prof. Dr. Dewi Liesnoor Setyowati

1	Nama Lengkap	Prof. Dr. Dewi Liesnoor Setyowati, M.Si
2	Jabatan Fungsional	Profesor
3	Jabatan Struktural	Koordinator Program Doktor Pendidikan IPS
4	NIP	19620811 198803 2 001
5	NIDN	0011086208
6	Tempat dan Tanggal Lahir	Yogyakarta / 11-8-1962
7	Alamat Rumah	Jl. Candi Tembaga Selatan II/761 Semarang
8	Nomor Telepon/Faks/HP	(024) 7620622 - HP. 08122500361
9	Alamat Kantor	Jurusan Geografi Gd. C1 Lantai 2 Kampus Sekaran Gunungpati
10	Nomor Telepon/Faks	(024) 8508011
11	Alamat e-mail	liesnoor@yahoo.co.id
12	Lulusan yang Telah Dihasilkan	S1 = 143 orang; S2= 71 orang; S3= 18 orang
13	Mata Kuliah yang Diampu	<ol style="list-style-type: none"> 1. Pendidikan Kebencanaan 2. Pengelolaan DAS 3. Pendidikan Lingkungan Sosial 4. Manajemen Bencana 5. Metodologi Penelitian [ntuk S1, S2, S3] 6. Rancangan Penelitian Disertasi 7. Geohidrologi

Riwayat Pendidikan

Program :	S-1	S-2	S-3
Nama PT	UGM	UGM	UGM
Bidang Ilmu	Geografi/Kartografi	Geografi Fisik	Geografi Fisik
Tahun Masuk	1981	1993	2005
Tahun Lulus	1986	1996	2009
Judul Skripsi/ Tesis/Disertasi	Pemetaan Data Iuran Pembangunan Daerah (Ipeda)	Analisis Ketersediaan Air untuk Perencanaan	Hubungan hujan dan Limpanan Pada Berbagai Dinamika

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	Kota Yogyakarta	Penggunaan Lahan DAS Ngunut Bengawan Solo	Spasial Penggunaan Lahan di DAS Kreo Jawa Tengah
Nama Pembimbing/ Promotor	Prof. Drs. Basuki Sudihardjo	Prof.Dr. Sudarmadji, M.Eng.Sc.	Prof.Dr. Sudarmadji, M.Eng.Sc.

Pengalaman Penelitian dalam 5 Tahun Terakhir

No	Tahun	Judul Penelitian	Pendanaan	
			Sumber*	Jml (Juta Rp)
	2020	Konservasi Lingkungan Berbasis Kearifan Lokal untuk Antisipasi Perubahan Iklim (Ketua)	Tesis Magister DRPM Kemenristekdikti	35.148
	2020	Etnoecotourisme untuk Pelestarian Telaga Mangunan (Ketua)	Tesis Magister DRPM Kemenristekdikti	38.660
	2020	Kesiapsiagaan Masyarakat Di Sekitar Gunung Api Gamalama Dalam Menghadapi Bencana Erupsi (Ketua)	Tesis Magister DRPM Kemenristekdikti	40,00
	2020	Edu Conservation Sebagai Strategi Penguatan Komunitas Peduli Sungai (Ketua)	Hibah Disertasi Doktor DRPM DIKTI	52,600
	2020	Literasi Peduli dan Hemat Energi Warga Kampus UNNES melalui Teknologi Sel Surya dan Otomatisasi Lampu Ruangan untuk Pengurangan Emisi Karbon (Ketua)_tahun ke 3	PUPT DRPM Kemenristek dikti	114,684
	2020	Pemetaan Potensi Konflik Sosial di Jawa Tengah Melalui Kerjasama Dengan Dinas Sosial	DIPA Pascasarjana UNNES	25,00
	2020	Revitalisasi Modal Sosial Untuk Meningkatkan Kualitas Layanan Pendidikan Daerah Perbatasan di Sei Menggaris, Kalimantan Utara	DIPA PNB UNNES	30,00
	2020	Dinamika Penduduk dan Penghidupan Keluarga di Daerah Pusat Kegiatan Industri Kabupaten Semarang (Anggota)	DIPA UNNES	8,5
	2020	Inovasi dan Hilirisasi Hasil Riset Dosen FIS UNNES (Ketua)	DIPA UNNES	10,00
	2019	Literasi Peduli dan Hemat Energi Warga Kampus UNNES melalui Teknologi Sel Surya dan Otomatisasi Lampu Ruangan untuk Pengurangan Emisi Karbon (Ketua)_tahun ke 2	PUPT DRPM Kemenristek dikti	114,684
	2019	Pengembangan Model Karakter Kebhinekaan Berbasis Wisata Toleransi Pada Masyarakat Multikultur (Anggota)	PUPT DRPM Kemenristek dikti	179,5915
	2019	Pengembangan Model Laboratorium Pendidikan Mitigasi Bencana untuk Membangun Gerakan	DIPA PNB UNNES	80,00

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		Masyarakat Sadar Bencana di Universitas Negeri Semarang		
2019		Pengembangan Media Pembelajaran Video Dan Komik Kebencanaan Berbasis Macromedia Flash (Vikomafa) Android Bagi Mahasiswa Prodi Pgsd Universitas Peradaban	PKAPT DRPM Kemenristek dikti	78.50
2019		Strategi Penguatan Program Studi S2/S3 Pendidikan IPS untuk Mencapai Keunggulan	DIPA PNPB Pascasarjana UNNES	25,00
2018		Literasi Peduli dan Hemat Energi Warga Kampus Unnes Melalui Teknologi Sel Surya Dan Otomatisasi Lampu Ruangan Untuk Pengurangan Emisi Karbon (Ketua)	PUPT DRPM Kemenristek dikti	70.5
2018		Pengembangan Model Karakter Kebhinekaan Berbasis Wisata Toleransi Pada Masyarakat Multikultur (Anggota)	PUPT DRPM Kemenristek dikti	140
2018		Konservasi Sungai Melalui Pendidikan Untuk Mewujudkan Komunitas Tangguh Bencana (Ketua)	Hibah Keilmuan DIPA UNNES	100
2018		Pengembangan Perangkat Pembelajaran Bencana Untuk Meningkatkan Pemahaman Bencana Mata Kuliah Pendidikan Ips Mahasiswa Prodi PGSD Universitas Peradaban 2017/2018. (sebagai Mitra pendamping)	PKPT DRPM Kemenristek dikti	85
2018		Model Estimasi Stok Karbon Ideal Mangrove Untuk Antisipasi Perubahan Iklim di Pesisir Kota Semarang	Penelitian Terapan Unggulan Perguruan Tinggi	81
2018		Strategi Peningkatan Publikasi Mahasiswa Program Studi Pendidikan IPS Pascasarjana Universitas Negeri Semarang	Penelitian Kelembagaan Pascasarjana DIPA UNNES	12
2018		Strategi Pengelolaan Program Studi S2/S3 Pendidikan IPS dalam Menindaklanjuti Temuan Akreditasi Program Studi	Penelitian Kelembagaan Pascasarjana DIPA UNNES	15
2017		Model Estimasi Stok Karbon Ideal Mangrove Untuk Antisipasi Perubahan Iklim di Pesisir Kota Semarang (Anggota)	PUPT DRPM Kemenristek dikti	103,5
2017		Analisis Penyerapan Emisi Carbon oleh Pohon-Pohon dari Transportasi dan Konsumsi Listrik di Kampus UNNES (Ketua)	PUPT DIPA PNPB UNNES	30
2017		Penguatan Nilai Konservasi Tenaga Kependidikan Pada Lingkungan Kampus Pascasarjana UNNES (Ketua)	DIPA PNPB Pascasarjana	20
2017		Analisis Kualitas Perkuliahan dan Wawasan Konservasi di FIS UNNES (Anggota)	DIPA PNPB FIS	15
2017		Model Pendidikan Kebencanaan Sebagai Upaya Adaptasi Terhadap Bencana Tanah Longsor di Kecamatan Karangobar	DIPA PNPB FIS	6,5

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		Kabupaten Banjarnegara Jawa Tengah (Anggota)		
2016		Model Pendidikan Kebencanaan Berbasis Masyarakat sebagai Upaya Mitigasi dan Adaptasi Terhadap Bencana (ketua)	Hibah Pascasarjana Tahun ke 2	100
2016		Strategi Pemerataan Pendidikan Dan Penguatan Ekonomi Sektor Pariwisata Dan Pertanian Melalui Program Sarjana Mendidik Di Daerah Terdepan, Terluar, Tertinggal (SM-3T). MP3EI (Anggota).	Hibah MP3EI DP2M Dikti Tahun ke 3	150
2015		Pengembangan Perangkat Pembelajaran Pendidikan Konservasi untuk Melatih Sadar Konservasi bagi Mahasiswa di Jurusan Biologi FMIPA UNESA	Hibah Pekerti Tahun ke-2	50
2015		Model Pendidikan Kebencanaan Berbasis Masyarakat sebagai Upaya Mitigasi dan Adaptasi Terhadap Bencana	Hibah Pascasarjana Tahun ke-1	100
2015		Strategi Pemerataan Pendidikan Dan Penguatan Ekonomi Sektor Pariwisata Dan Pertanian Melalui Program Sarjana Mendidik Di Daerah Terdepan, Terluar, Tertinggal (SM-3T). MP3EI (Anggota).	Hibah MP3EI DP2M Dikti Tahun ke-2	150
2015		Pengembangan Perangkat Pembelajaran Pendidikan Konservasi untuk Melatih Sadar Konservasi bagi Mahasiswa di Jurusan Biologi FMIPA UNESA	Hibah Pekerti Tahun ke-1	50
2015		River management model based on local wisdom for climate change anticipation	Penelitian kerjasama LN dan publikasi ilmiah	150
2014		Pengembangan Model Kota Hijau Untuk Meredam Cemar Udara Sebagai Upaya Antisipasi Perubahan Iklim Kota Semarang. Hibah Stragnas Tahun ke-2 (Ketua)	Hibah Stragnas DP2M Dikti	75
2014		Strategi Pemerataan Pendidikan Dan Penguatan Ekonomi Sektor Pariwisata Dan Pertanian Melalui Program Sarjana Mendidik Di Daerah Terdepan, Terluar, Tertinggal (SM-3T). MP3EI (Anggota).	Hibah MP3EI DP2M Dikti Tahun ke-1	197,5
2013		Pengembangan Model Kota Hijau Untuk Meredam Cemar Udara Sebagai Upaya Antisipasi Perubahan Iklim Kota Semarang (Ketua)	Hibah Stragnas DP2M Dikti	77
2013		Model Pembelajaran Kebencanaan Berbasis Masyarakat Untuk Ketahanan Dan Pengurangan Resiko Bencana Di Jawa Tengah	Hibah Bersaing DP2M Dikti	64
2013		Kajian Logam Berat Cu Pada Ekosistem Mangrove Untuk Perbaikan Kualitas Lingkungan Tambak Bandeng	Hibah Bersaing DP2M Dikti	50

Pengalaman Pengabdian Kepada Masyarakat dalam 5 Tahun Terakhir

No.	Tahun	Judul Pengabdian Kepada Masyarakat	Pendanaan	
			Sumber*	Jml (Juta)

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				Rp)
1	2020	Pendampingan Kelurahan Siaga Bencana Melalui Edukasi Bencana Longsor dan Banjir di Kota Semarang	DIPA PNPB UNNES	8
	2020	Sosialisasi dan Jalinan Kemitraan Program Doktor Pendidikan IPS Pascasarjana UNNES	DIPA PNPB Pascasarjana	8,5
	2020	Pendampingan Pelopor Perdamaian dalam Menghadapi Konflik Sosial (Anggota)	DIPA UNNES	3,00
	2019	Literasi Spasial Wilayah Indonesia Untuk Meningkatkan Cinta Tanah Air	DIPA PNPB FIS	3,5
	2018	IbM PEDULI SUNGAI (Pendampingan Komunitas Peduli Sungai Melalui Pendidikan dan Kearifan Lokal)	DIPA PNPB FIS	10
	2017	IbM Sekolah Adiwiyata (Pendampingan Konservasi Tanah Dan Air Pada Sekolah Binaan Adiwiyata Mandiri)	DIPA PNPB FIS	15
2	2017	Pendampingan Sistem Akreditasi pendidikan Tinggi Online (SAPTO) Program Studi Sarjana di FIS UNNES	DIPA PNPB FIS	3
3	2016	IbM Kelompok Peduli Air Kecamatan Wirosari Kabupaten Grobogan	Kemenristekdikti	37,5
4	2015	Budidaya Tanaman Pekarangan 'Kebun Rumah Sehat' sebagai Upaya Antisipasi Perubahan Iklim	DIPA Unnes	6
5	2015	Revitalisasi Tandon Rain Water Harvesting Deliksari, Kelurahan Sukorejo, Semarang	DIPA Unnes	6
6	2014	Sosialisai Model Kesiapsiagaan Bencana Gempa Dan Tsunami Sebagai Upaya Antisipasi Bencana Di Desa Widarapayung Wetan Kecamatan Binangun Kabupaten Cilacap. (Ketua 2014).	DIPA Unnes	6
7	2014	IbM Kelurahan Sukorejo Untuk Mengatasi Kekurangan Air Pada Musim Kemarau. (Anggota 2014).	DP2M Dikti	47,5
8	2013	Memasyarakatkan Pembuatan Biopori Sebagai Upaya Konservasi Air Di Kecamatan Toroh Kabupaten Grobogan	DIPA Unnes	6

Pengalaman Penulisan Artikel Ilmiah Dalam Jurnal dalam 5 Tahun Terakhir

No .	Tahun	Judul Artikel Ilmiah	Volume/ Nomor	Nama Jurnal
1	2020	Spatial Information Learning To Improve Consciousness And Attitude Towards Disasters. <i>Dewi Liesnoor Setyowati, Juhadi, Mochamad Aryono Adhi, Wahid Akhsin Budi Nur Sidiq, Elok Surya Pratiwi, Edy Trihatmoko.</i> https://www.geomatejournal.com/sites/default/files/articles/162-167-ICGeo6-Dewi-March-2020-67.pdf	Vol.18, Issue 67, pp. 162-167 March, 2020	International Journal of GEOMATE, ISSN: 2186-2982 (P), 2186-2990

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2020	Can Online Transportation Applications Improve Driver Professionalism. <i>Mahmud Yunus, Ety Soesilowati, Dewi Liesnoor Setyowati, Thriwaty Arsal</i> http://www.ijstr.org/paper-references.php?ref=IJSTR-0120-30102	Volume 9 - Issue 2, February 2020 Edition ISSN 2277-8616	International Journal of Scientific & Technology Research (IJSTR)
2020	Social Capital Contribution and Community-Based Waste Management in the City of Cirebon <i>Eko Handoyo, Dewi Liesnoor S., Dewi Nurkomalasari</i> https://www.ijicc.net/images/vol11iss2/11206_Handoyo_2020_E_R.pdf	Vol 11, No 2 Hal (93-113) 2020	International Journal of Innovation, Creativity and Change ISSN: 2201-1323
2020	Teaching Multiculturalism based on Islamic Historical Relics in Northern Java. <i>R. Suharso, Wasino, Dewi Liesnoor Setyowati, Cahyo Budi Utomo</i> https://www.ijicc.net/images/vol11iss10/111041_Suharso_2020_E_R.pdf	Volume 11, Issue 10, 2020	International Journal of Innovation, Creativity and Change. ISSN: 2201-1323
2020	The Ability Of Tree In Absorbing Carbon Dioxide Emissions In The Campus Of Universitas Negeri Semarang. <i>Dewi Liesnoor Setyowati, Tri Marhaeni Puji Astuti, Puji Hardati, Subiyanto, Muhamad Amin</i> http://serisc.org/journals/index.php/IJAST/article/view/12612	Vol. 29, No. 8s, (2020), pp. 1675-1681	International Journal of Advanced Science and Technology
2020	Communal Awareness of Diversity to Enforce Tolerance Tourism in Singkawang City. Setyowati, D.L., Astuti, T.M.P., Kurniawan, E. https://journals.aserspublishing.eu/jemt/article/view/4756	Vol 11 No 2 (2020): JEMT Volume Xi Issue 2(42) Spring 2020	Journal of Environmental Management and Tourism
2020	Modern Education and Change in Mindset and Behavior of Saminist. (Historical Perspectives of Saminist Community in Jepang Hamlet, Margomulyo Village, Margomulyo District, Bojonegoro Regency) <i>YYFR.Sunarjan, Dewi Liesnoor Setyowati, Berlian Surya Rimbani Sudirman</i> https://www.psychosocial.com/article/PR260889/20928/	, Vol. 24, Issue 06, 2020	International Journal of Psychosocial Rehabilitation. ISSN: 1475-7192
2020	Eco-Edutainment Model on Water Environment Pollution Case for Social Science Learning Junior High School in Semarang http://serisc.org/journals/index.php/IJAST/article/view/20877	Vol. 29, No 10S, 2020	International Journal of Advanced Science and Technology 2005-4238
2020	How is the Professionalism of Online Transportation Drivers in Complying with Traffic Regulations?	Vol. 24, Issue 08, 2020	International Journal of Psychosocial

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		<i>1Mahmud Yunus, 2Etty Soesilowati, 3Dewi Liesnoor Setyowati, 4Thriwaty Aarsal, 5Rusdarti</i> https://www.psychosocial.com/article/PR280523/24082/		Rehabilitation ISSN: 1475-7192
2020		The Strategy of Lerep Village Community in Anticipating Climate Change in the Context of Food Security https://www.ijrrjournal.com/IJRR_Vol.7_Issue.9_Sep2020/IJRR006.pdf	Vol. 7 No 9: hal 35-38	International Journal of Research and Review; ISSN: 2349-9788
2020		The Inheritance of Local Wisdom Value as an Effort of Environmental Preservation of Telaga Mangunan. URL artikel: https://www.ijrrjournal.com/IJRR_Vol.7_Issue.9_Sep2020/IJRR004.pdf	Vol. 7 no : 9 hal: 14 - 24	International Journal of Research and Review; ISSN: 2349-9788
2020		Ternate's People Readiness in Facing the Eruption of Mount Gamalama Fitri Annisa Djafar, Dewi Liesnoor Setyowati, Erni Suharini http://ijern.com/journal/2020/May-2020/13.pdf	Vol. 8 No. 5 May 2020	International Journal of Education and Research ISSN: 2411-5681
2020		Conflict Resolution of Javanese Transmigrants and Indigenous Peoples in Melawi Regency, West Kalimantan Deki Wibowo, Suyahmo, Hamdan Tri Atmaja, Dewi Liesnoor Setyowati https://www.ijrrjournal.com/IJRR_Vol.7_Issue.5_May2020/IJRR0045.pdf	Vol.7; Issue: 5; May 2020	International Journal of Research and Review; ISSN: 2349-9788
2020		Demands for 3R Waste Dealers towards Waste Bank Service Facilities in Semarang District Region Siti Rahati, Maman Rachman, Dewi Liesnoor Setyowati, Suwito Eko Pramono https://www.ijrrjournal.com/IJRR_Vol.7_Issue.5_May2020/IJRR0048.pdf	Vol.7; Issue: 5; May 2020	International Journal of Research and Review; ISSN: 2349-9788
2019		Living Tourism and Tolerance Tourism of a Multicultural Society in Lasem, Rembang, Central Java. Tri Marhaeni Pudji Astuti, Edi Kurniawan, Dewi Liesnoor Setyowati, Mohammad Syifauddin, Amir Machmud. https://pdfs.semanticscholar.org/68dd/6082c0756e298c459bf77ab8cdeffe547389.pdf?_ga=2.83143762.514718470.1594463819-33192197.1594463819	Volume 8, Issue 6, 2019 ISSN: 2201-1323	International Journal of Innovation, Creativity and Change
2019		Energy Consumption, Emission Absorption and Carbon Emission Reduction on Semarang State University Campus DL.Setyowati, P.Hardati, TMP.Astuti, M.Amin https://waset.org/publications/10010583/energy-consumption-emission-absorption-and-carbon-emission-reduction-on-semarang-state-university-campus	Vol:13, No:7, 2019	International Journal of Energy and Environmental Engineering (WASET)

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	2019	Farmer's Local Wisdom in Agricultural Land Conservation of Dieng Area https://journal.unnes.ac.id/nju/index.php/komunitas/article/view/20269 DOI: https://doi.org/10.15294/komunitas.v11i2.20269	Vol 11, No 2 (2019) ISSN: 2460-7320	Jurnal Komunitas UNNES Sinta 2
	2019	Improving the Innovation of Appropriate Technology in the Home Industry of Pemindangan in Coastal Communities of Tambaksari Village OA.Suciptaningsih, SDW.Prajanti, DL.Setyowati, AS.Priyanto, YA.Maretta. https://journals.aserspublishing.eu/jemt/article/view/3188	Volume X, Issue 1(33) Spring 2019	Journal of Environmental Management and Tourism ASERS Publishing
	2018	Higher-Order Thinking Skills Of Junior High School Students https://www.tojned.net/journals/tojned/articles/v08i03/v08i03-07.pdf	8/edisi 1/ Nomor 3/ hal 61-67	The Online Journal of New Horizons in Education
	2018	The Obstacles and Strategy of Project Based Learning Implementation In Elementary School http://journal.uad.ac.id/index.php/EduLearn/article/view/7045	Vol 12 No.1 Halaman: ISSN 2089-9823	Journal of Education and Learning (EduLearn) (Nasional Terakreditasi)
	2018	Enhancement of disaster understanding through disaster learning media of PGSD students in Peradaban University academic year 2017/2018 http://ttem.ba/wp-content/uploads/2018/11/ttem_13_3_web.pdf	Vol.13/ Nomor 3/ Hal 129-135 1840-1503	technics technologies education management (Terindeks SCOPUS)
	2017	Community Efforts For Adaptation And Anticipate To Flood Tide (ROB) In Bedono Village, District Sayung Demak, Central Java, Indonesia https://serialsjournals.com/abstract/29539_15.pdf	97 (5) 2017 Hal: 241-252 Serials Publications	Man in India (terindeks SCOPUS) ISSN: 0025-1569
2	2017	The Role of the Participants of the Undergraduates Educating in the Region of Frontier Outermost and Disadvantaged (SM3T) Program in Creating Educational Innovation and Maximizing the Natural Resources Potentials of Ende Regency, East Nusa Tenggara Province http://serialsjournals.com/serialjournalmanager/pdf/1499496633.pdf	97(5): 19-30 Hal:272-288 Serials Publications	Man in India (terindeks SCOPUS)
3	2017	Society Management in Manage Economic After Merapi Disaster http://www.serialsjournals.com/serialjournalmanager/pdf/1499337053.pdf ISSN: 0972-7302	Volume 15 Number 6 2017 Hal: 1-10 ISSN: 0972-7302	International Journal of Applied Business and Economic Research

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				(terindeks SCOPUS)
4	2017	Role of Community Activities PKK District in the West City Tegal Indonesia http://www.serialsjournals.com/serialjournalmanager/pdf/1499336978.pdf ISSN: 0972-7302	Volume 15 Number 7 2017 Hal: 71-80 ISSN: 0972-7302	International Journal of Applied Business and Economic Research (terindeks SCOPUS)
	2017	Carbon stock potency of mangrove ecosystem at Tapak Sub-village, Semarang, Indonesia http://www.bioflux.com.ro/docs/2017.1524-1533.pdf	Volume 10 (6) hal: 1524-1533 ISSN: 1844-9166	Bioflux (Romania) (terindeks SCOPUS)
	2017	Analysis of extent and spatial pattern change of mangrove ecosystem in Mangunharjo Sub-district from 2007 to 2017 http://iopscience.iop.org/article/10.1088/1742-6596/983/1/012175/pdf	Vol. 983, No-1, hal 1-6 ISSN:1742-6596	Journal of Physics IOP Publishing_ SCOPUS
5	2017	Community Rituals in Facing Volcanic Eruption Threat in Java https://media.neliti.com/media/publications/168892-EN-community-rituals-in-facing-volcanic-eru.pdf ISSN:2086-5465	Vol 9 (1) 2017 ISSN:2086-5465 DOI:10.15294/komunitas.v9i1.7069	Komunitas: International Journal of Indonesian Society and Culture (Nasional terakreditasi)
6	2016	JCT Management in Disaster Information System (DOI:10.21506/j.ponte.2016.12.51)	Vol.72, issue 12 Des 2016	Ponte Academic Journal (Thomson Reuters index)
7	2016	Green City Parks Model To Reduce Air Pollution as Anticipation to the Climate Change. DOI: 10.15341/mese (2333-2581)/ 01.02.2016 http://www.academicstar.us/UploadFile/Picture/2016-6/201661412653141.pdf	Vol 2/no,1, Januari 2016 (562-568)	Modern Environmental Science and Engineering (MESE)
13	2015	Kajian Genangan Air Hujan Pada Outlet Embung dan Partisipasi Masyarakat di Sekitar KampusUnnes.	Vol 4 (1), 2015.	Indonesian Journal of Conservation
14	2014	Public Perception of Disaster Landslides and Efforts to Overcome in Subdistrict Kaloran Central Java Indonesia.. DOI: 10.13189/ujg.2014.020702	2 (7): 195-199, 2014	Universal Journal of Geoscience

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Pengalaman Penyampaian Makalah Secara Oral pada Pertemuan/ Seminar Ilmiah dalam 5 Tahun Terakhir (TERBIT)

No	Nama Pertemuan Ilmiah/ Seminar (TERBIT)	Judul Artikel Ilmiah	Waktu dan Tempat
	Fourth International Conference on Social Sciences and Education (4th ICSSE 2020)	Spatial Distribution of Trees to Absorb Energy use as The Energy Conservation at Semarang State University Campus, Central Java	Virtual Platform 18 – 19 April 2020
	ICEGE 2019 IOP Conf. Series: Earth and Environmental Science 485 (2020)	Simulating water efficiency management at UNNES Campus, Semarang, Indonesia using EDGE application. https://iopscience.iop.org/article/10.1088/1755-1315/485/1/012038/pdf	Jember UNEJ Sept 2019 485 012038 IOP Publishing Ltd.
	The 5th International Conference on Science, Education, and Technology (ISET). 08 Januari 2020	Application of Conservation Value for Character Developing of Universitas Negeri Semarang Students file:///D:/Downloads/1588527811_ISET2020DewiliesnoorSaddam%20(1).pdf	Pascasarjana UNNES 29 Juni 2019 2290416
	The 5th International Conference on Science, Education, and Technology (ISET). 08 Januari 2020	Local Wisdom of Repong Damar for Landslide Mitigation in Way Krui Sub-district Pesisir Barat Regency Lampung. (Meri Herlina, Dewi Liesnoor Setyowati, Juhadi) file:///D:/Downloads/1588528384_ISET2020MeriHerlina.pdf	Pascasarjana UNNES 29 Juni 2019 2290416
	The 5th International Conference on Science, Education, and Technology (ISET). 08 Januari 2020	Motif Become Drivers of Online Transportation in The City of Semarang. (Mahmud Yunus1 , Ety Soesilowati2 , Dewi Liesnoor Setyowati3 , Thriwaty Aarsal4) file:///D:/Downloads/1582382951_ARTIKELISET2020ANGGOTA.pdf	Pascasarjana UNNES 29 Juni 2019 ISSN: 2593-7650
	The 5th International Conference on Science, Education, and Technology (ISET). 08 Januari 2020	Cultural Acculturation Values in The Minaret of Kudus to Foster Harmony Through Social Studies Education. (R. Suharso, Wasino, Dewi Liesnoor Setyowati, Cahyo Budi Utomo). file:///D:/Downloads/1588528188_ISET2020DLSHarso.pdf	Pascasarjana UNNES 29 Juni 2019
	The 5th International Conference on Science, Education, and Technology (ISET). 08 Januari 2020	Community Based Entrepreneurship in Coastal Communities: The Impact on the Environment and Economic Empowerment (Oktaviani Adhi Suciptaningsih, Sucihatiningsih Dian Wisika Prajanti, Dewi Liesnoor Setyowati, Agustinus Sugeng Priyanto). file:///D:/Downloads/1588528573_ISET2020Oktavia.pdf	Pascasarjana UNNES 29 Juni 2019
	The 5th International	The government's perception of the	Pascasarjana

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Conference on Science, Education, and Technology (ISET). 08 Januari 2020	conflict at the cement plant in Rembang. (Suyahmo, Sidik Puryanto , Dewi Liesnoor Setyowati, Aries Nugrahen). file:///D:/Downloads/1588528660_ISET_2020sidiksuyahmo.pdf	UNNES 29 Juni 2019
ICEGE, IOP Conf. Series 243 (2019) Earth and Environmental Science 243 012007	Morphoconservation analysis on Kali Garang as a river conservation effort. (DL. Setyowati, T.Arsal, P.Hardati, Sunarjan, Suroso) https://iopscience.iop.org/article/10.1088/1755-1315/243/1/012007	17 – 18 Nopember 2018 Universitas Jember IOP Publishing Ltd.
IOP Conf. Series: Earth and Environmental Science 256 (2019) 012046_ ICERM, International Conference on Environmental Resources Management in Global Region	Awareness of Electrical Energy as Realization A Conservation In Universitas Negeri Semarang Campus D L Setyowati, P Hardati, T M P Astuti, M Amin https://www.researchgate.net/publication/333758746_Awareness_of_Electrical_Energy_as_Realization_A_Conservation_In_Universitas_Negeri_Semarang_Campus/fulltext/5d0284c8299bf13a3853c62c	22-23 Oktober 2018 UC – UGM IOP Publishing Ltd.
UICRIC UNNES International Conference on Research Innovation and Commercialization 2018 Volume 2019	Perception and Local Initiation of Communities in Maintaining the Traditional Acehnese Houses. Dewi Liesnoor Setyowati, Hairumini, Tjaturahono Budi Sanjoto, Muhammad Rais https://www.knepublishing.com/index.php/Kne-Social/article/view/4699/9448	10 Oktober 2018 KnE Social Sciences Open Access
IOP Conf. Series: Earth and Environmental Science 256 (2019) 012046_ ICERM, International Conference on Environmental Resources Management in Global Region	Population Growth in the Upper Garang Watershed Semarang Regency, Central Java Province, Indonesia. Puji Hardati, Dewi Liesnoor Setyowati https://www.researchgate.net/publication/333772769_Population_Growth_in_the_Upper_Garang_Watershed_Semarang_Regency_Central_Java_Province_Indonesia	22-23 Oktober 2018 UC_ UGM IOP Publishing Ltd.
Proceedings of the International Conference on Science and Education and Technology 2018 (ISET 2018) ISSN: 2352-5398	The Educational Values of Oral Tradition as an Attempt to Preserve Customary Land in Ketapang District West Kalimantan Basuki Wibowo1, Dewi Liesnoor S, Wasino, Hermanu Joebagio	Publication date: 1 September 2018 Atlantis Press: Advances in Social Science, Education and Humanities Research

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		https://www.researchgate.net/publication/330921131_The_Educational_Values_of_Oral_Tradition_as_an_Attempt_to_Preserve_Customary_Land_in_Ketapang_District_West_Kalimantan	(ASSEHR), volume 247
	Proceedings of the International Conference on Science and Education and Technology 2018 (ISSN: 2352-5398)	Characteristic Analysis of Essay Test Instruments for Measuring Higher-Order Thinking Skills Penulis: E Susilaningih; D L Setyowati; A M Diputera. https://www.atlantispress.com/proceedings/iset-18/55910607	Publication date: 1 September 2018 Atlantis Press: Advances in Social Science, Education and Humanities Research (ASSEHR), volume 247
	SEMINAR NASIONAL GEOGRAFI UMS ke-9, 2018	Konservasi Sungai Melalui Pendidikan untuk Mewujudkan Komunitas Tangguh Bencana https://publikasiilmiah.ums.ac.id/bitstream/handle/11617/10380/D-9-Dewi%20Liesnoor-Konservasi%20Sungai.pdf?sequence=1&isAllowed=y	30 Juni 2018, Hotel Pramesti Surakarta
	International Conference on Education and Social Sciences (ICISS) 2017	Emission Literation And Electrical Consumption In Semarang State University Campus	26-27 Juli 2017 Hotel Pandanaran Semarang
	International Confrence on Business, Economic, Social Science & Humanities (BESSH 2016)	Education Model Disaster Flood Based Community to Improve Attitude Care for Flood in the Around Channel West, Semarang Indonesia http://academicfora.com/wp-content/uploads/2016/04/Full-Paper-Proceeding-SUS-146-110.pdf	4-5 April 2016 Seoul_South Korea
	1 st International Confrence On Geography and Education	Disaster Education of Rob based social wisdom, in Village Bedono Sayung District of Demak	29 October 2016 UM Malang
	The 1 st International Confrence on the Dynamic and Empowerment	<i>Titen</i> Knowledge For Warning Disaster Eruption Mount Merapi	29 April 2016 Semarang
	Seminar nasional serentak se-Indonesia	Akselerasi Inovasi Pendidikan dalam Membentuk Karakter Bangsa	30 Maret 2016
	International Confrence on Research in Education and Science (ICRES)	Extension On Economic Development Of Ende District Through Teaching Program By Graduate In Outermost And Left Behind Region (Sm3t)	23-26 April 2015 Antalya Turkey
	International Confrence on Conservation fot Better Life	The realisation of Conservation in Campus Semarang State University	11-13 September 2015

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	(ICCBL)		Indonesia, Patrajasa
	Seminar Nasional dan PIT IGI XVIII – Paradigma Geomaritim	Konservasi Kawasan Rawan Banjir melalui Pendidikan Kebencanaan Di Kecamatan Tugu Kota Semarang	24 Oktober 2015 Indonesia Jakarta (UNJ Bakosurtanal)
	5th International Conference on Sustainable Future for Human Security, Sustain 2014 – (Proceeding Terindeks Scopus)	Green City Model To Reduce Air Pollution as to anticipate climate change	19-21 Nov 2014 Sanur Paradise Plaza Hotel & Suites, Bali, INDONESIA
	Seminar Nasional tema: ‘Potensi Geografi Indonesia Menuju Kejayaan Abad 21 Asia’	Strategi Penguatan Ekonomi Daerah Tertinggal Di Kabupaten Ende Berbasis Kekuatan Lokal Melalui Program SM3T	15-16 Nov 2014 Universitas Negeri Yogyakarta- UNY PIT IGI ke-XVII
	International Conference on Social Sciences-ICOSS 2014	Public Perception of Disaster Landslides and Efforts to Overcome in Subdistrict Kaloran Central Java Indonesia	25-26 March 2014 Colombo Sri Langka
	Seminar Nasional : Konservasi dan Peningkatan Kualitas Pendidikan	Konservasi Kawasan Rawan Banjir melalui Pendidikan Kebencanaan Di Kecamatan Tugu Kota Semarang	22 Maret 2014 Unnes

Pengalaman menulis HAKI

No	Judul /Tema HAKI	Tahun	Jenis	Nomor P/ID
	Ruang Terbuka Hijau: Potensi Ruang Terbuka Hijau Dalam Meredam Cemaran Udara	2018	Buku	000100196
	Pendidikan Kebencanaan (Bencana Banjir, Longsor, Gempa Dan Tsunami)	2018	Buku	000100199
	Kearifan Lokal Dalam Menjaga Lingkungan Perairan, Kepulauan, dan Pegunungan	2018	Buku	000100200
	Buku DAS Garang Hulu (tata Air, Erosi, dan Konservasi)	2018	Buku	000105844
	Komik Vikomafa Komik Bencana Alam Tanah Longsor dan Banjir	2018	Komik	000120332
	Ekosistem Mangrove (Perannya di Pesisir)	2018	Buku	000122218
	Simulasi Bencana Gempa Bumi Untuk Anak Autis	2019	Rekaman video	000135249
	Kartografi Dasar	2019	Buku	
	Konservasi Tiga Pilar	2019	Buku	000140556
	Pendidikan Konservasi	2019	Buku	000141259
	Konservasi Sungai (Kajian Pengelolaan, Perilaku, Kearifan dalam menjaga sungai)	2019	Buku	000147672
	VIKOMAFA	2019	Program	000149037

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			Komputer	
	Judul Ciptaan : Kesiapsiagaan Masyarakat Menghadapi Bencana Gunung Gamalama Link HKI 2020: https://drive.google.com/drive/folders/1SMiEsy_ajUvooGteqbrOTYmI0UIIzkCO?usp=sharing	2020	Rekaman Video	000202579
	Bahan Ajar Video: Konservasi Lingkungan Berbasis Kearifan Lokal Untuk Antisipasi Perubahan Iklim Link video: https://youtu.be/0h7yLLca7tA	2020	Karya Rekaman Video	000214831
	Bahan Ajar Video Etnoecotourism untuk Pelestarian Telaga Mangunan Petungkriyono Link video: https://www.youtube.com/watch?v=8jlljfDF5Mk	2020	Karya Rekaman Video	000204047
	Kesiapsiagaan Masyarakat Menghadapi Bencana Gunung Gamalama	2020	Karya Rekaman Video	000202579
	Profesionalisme Driver Transportasi Online	2020	Buku	000203357
	Pendidikan Resolusi Konflik: Berbasis Budaya Bangsa Indonesia	2020	Buku	000203354
	Penggunaan Energi di Universitas Negeri Semarang	2020	Buku	000218883
	Animated Booklet Media Pembelajaran Mengenal Tanah Longsor dan Mitigasinya	2020	Booklet	000220220
	Artikel Ilmiah Dalam Buku Bunga Rampai Dengan Judul "Edukasi Konservasi Peduli Sungai Sebagai Salah Satu Alternatif Pengelolaan DAS"	2020	Karya Tulis (Artikel)	000227498

Pengalaman Penulisan Buku

No.	Tahun	Judul Buku	Jumlah Halaman	Penerbit
	2021	Buku monograf: Etnoecotourisme untuk Pelestarian Telaga Mangunan ISBN: 978-623-6967-14-0	65	LPPM UNNES
	2021	Buku Monograf : Kearifan Lokal Untuk Antisipasi Perubahan Iklim ISBN: 978-623-6967-13-3		LPPM UNNES
	2020	Konservasi Sungai Garang (Kajian Pengelolaan, Perilaku, dan Kearifan Dalam Menjaga Sungai) ISBN: 978-623-90096-8-7	340	LPPM UNNES
	2020	Penggunaan Energi di Universitas Negeri Semarang ISBN: 978-602-14696-9-9	116	FIS UNNES
	2020	Profesionalisme Driver Transportasi Online ISBN: 978-623-6504-97-0	136	CV. PENA PERSADA
	2020	Book Chapter: DINAMIKA PEMBANGUNAN BERKELANJUTAN Judul: Edukasi Konservasi Peduli Sungai sebagai Salah Satu Alternatif Pengelolaan DAS ISBN: 978-623-6879-01-6	Halalam 363- 381	Beta Offset Kavling Madukismo 28
	2019	Konservasi Sungai (Kajian Pengelolaan, Perilaku,	252	LPPM UNNES

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		dan Kearifan dalam Menjaga Sungai) ISBN: 978-623-90096-8-7		
	2018	Pengelolaan DAS (Tata Air dan Karakteristik Limpasan Berbagai Penggunaan Lahan) - <i>Buku Referensi</i> – ISBN- 978-602-285-1448 http://geografi.unnes.ac.id/2019/05/13/buku-pengelolaan-daerah-alirah-sungai-das-tata-air-dan-karakteristik/	166	UNNES PRESS
	2018	Ekosistem Mangrove (Perannya di Pesisir)_Buku Referensi-ISBN: 978-602-52868-5-8 http://geografi.unnes.ac.id/2019/05/13/buku-ekosistem-mangrove-perannya-di-pesisir/	97	LPPM UNNES
	2017	Pendidikan Kebencanaan (Bencana Banjir, Longsor, Gempa dan Tsunami) _ <i>Buku Referensi</i> - ISBN - 978-602-61878-0-2 http://geografi.unnes.ac.id/2019/05/13/buku-pendidikan-kebencanaan-bencana-banjir-longsor-gempa-dan-tsunami/	292	CV. Sanggar Krida Aditama
1.	2017	Panduan Pendidikan Kebencanaan Berbasis Petuah Merapi ISBN – 978-602-6576-24-8	111	Calpulis Yogyakarta
2.	2016	Pendidikan Bencana Banjir (Kesiapan Masyarakat dalam Menghadapi Banjir di Kali Beringin Indonesia dan Sungai Uthapao Thailand) – <i>Monograf</i> _ ISBN – 978-979-16302-0-7	160	CV. Sanggar Krida Aditama
3.	2016	Panduan Pengurangan Risiko Bencana (PRB) di Sekolah ISBN – 978-602-1034-24-8	135	CV Swadaya Manunggal
4.	2015	Ruang Terbuka Hijau (Potensi RTH dalam Meredam Cemaran Udara) ISBN - 978-602-1034-13-2	125	FMIPA Unnes
5.	2014	Kartografi Dasar ISBN: 978-602-258-203-8	132	Penerbit Ombak
6.	2013	Kearifan Lokal dalam Menjaga Lingkungan. ISBN: 978-602-17954-0-8	178	CV.Sanggar Krida Adhitama

A. Penghargaan yang Pernah Diraih dalam 10 Tahun Terakhir (dari pemerintah, asosiasi atau institusi lainnya)

No	Jenis Penghargaan	Institusi Pemberi Penghargaan	Tahun
1.	Peringkat Dosen Kinerja Tridharma Terbaik 1	Rektor UNNES	29 Des 2020
2.	Peringkat Korprodi S3 Kinerja Tridharma Terbaik 1	Rektor UNNES	29 Des 2020
3.	The Most Productive Lecture 2020	BEM UNNES	29 Des 2020
4.	Editorial Board		
5.	Asesor BAN-PT 1 Januari sd 1 Januari 2024	Direktur Dewan Eksekutif BAN PT	2019-2024
6.	Invited Speaker ISET 2020	Director	9 Sep 2020

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7.	Visiting Profesor	Prodi Pendidikan IPS Pascasarjana UPI	21 Febuari 2020
8.	Reviewer Jurnal Geografi Edukasi dan Lingkungan (JGEL)	Dewan Redaksi JGEL	2017- sekarang
9.	Certificate of Reviewing ELKAWNIE	Editor in Chief ELKAWINE Islamic Science and Technology	Oktober 2020
10.	Satya Lencana 30 tahun	Presiden RI	16 April 2019
11.	Asesor BAN PT	Kemenristekdikti	2017
12.	Evaluator Usulan Prodi Baru	Kemenristekdikti	2011 - sekarang
13.	Reviewer Jurnal 'Modern Environmental Science and Engineering (MESE)'	Jurnal internasional	2014 - sekarang
14.	Reviewer usulan penelitian	LP2M UNNES	2012 - sekarang
15.	Satyalencana Karya Satya 20 Tahun	Presiden RI	2011
16.	Dosen Berprestasi Tingkat Unnes Tahun 2010	Rektor Unnes	2010
17.	Dosen Terbaik I Kategori Golongan IV	Dekan FIS Unnes	2008
18.	Dosen Terbaik I Bidang Penelitian dan Karya Ilmiah	Dekan FIS Unnes	2007
19.	Dosen Berprestasi II UNNES Tahun 2004	Rektor Unnes	2004
20.	Dosen Teladan I UNNES Tahun 2003	Rektor Unnes	2003



Assoc. Prof. Dr Rachel Sheffield

- 2004 **Doctor of Philosophy** Edith Cowan University
Facilitating teacher professional learning: Analysing the impact of an Australian professional learning model. Assessment of science teachers' experiences, beliefs and classroom practice during the implantation of a model to change teachers practice using a case study approach.
- 1996 **Master of Education** Edith Cowan University
- 1990 **Graduate Diploma of Education** Edith Cowan University
- 1989 **Bachelor of Science (Microbiology)** The University of Western Australia

Employment

- 2018 **Associate Professor (Science Education)** School of Education, Curtin University

Dr Rachel Sheffield
Mobile: +61407999995
Email: rachel.sheffield@curtin.edu.au

Qualifications

- 2015–2018 **Senior Lecturer (Science Education)** School of Education, Faculty of Humanities
Curtin University
- 2012–2015 **Lecturer (Science Education)** Lecturer, School of Education, Faculty of Humanities
Curtin University
- 2005–2011 **Lecturer (Science Education)** Sessional Lecturer, Faculty of Arts and Education
Edith Cowan University
- 2006–2008 **Research Fellow** Australian Research Council (ARC) Grant DP0451818
Science and Mathematics Education Centre (SMEC), Curtin University
Teaching and learning science, mathematics and technology in integrated middle school contexts.
Principal investigators: Professor John Wallace, Professor Leonie Rennie, Professor John Malone and

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2005–2007	Professor Grady Venville Lecturer (Science Education) Sessional Lecturer Murdoch University and Edith Cowan University
1996–1998	Secondary Teacher (Science and Mathematics) Presbyterian Ladies College, Perth
1993–1995	Secondary Teacher (Science and Mathematics) John Wollaston Anglican Community School, Perth Year Coordinator (1994), First Aid Officer (1994–1995)
1991–1992	Secondary Teacher (Science) Western Australian Department of Education Craigie Senior High School, Ocean Reef Senior High School

Teaching Awards and Fellowships

2020	2020 UNESCO Prize for Girls’ and Women’s Education. These application can only be nominated by a Permanent Delegation to UNESCO (in Paris) in our case the Australian Permanent Delegation. Our STEMinist Program represented Australia (https://steminists.weebly.com/represented).
2019	Chair of Curtin Academy
2019	Homeward Bound HB4 Participant STEM
2019- Present	Curtin Academy Fellow Executive
2017–Present	Curtin Academy Fellow Curtin University
2017	Senior Fellow of the Higher Education Academy Higher Education Academy, United Kingdom
2016	International Society for Technology in Education (ISTE®) STEM Award Promoting science, technology, engineering and mathematics in tertiary education
2016	Office of Learning and Teaching National Citation Australian awards for university teaching presented for: <i>approaches to teaching and the support of learning that influence, motivate and inspire students to learn</i>
2016	Australian Executive Endeavour Fellow Fellowship awarded to: <i>collect, curate and digitise teaching artefacts in Lao People's Democratic Republic and develop connections between Laotian teachers and Australian teachers focusing on science</i>
2015	Curtin University First Year Program Award Common First Year Team
2015	HERDSA Fellow Fellowship of the Higher Education Research and Development Society of Australasia (HERDSA)
2014	Curtin University Excellence and Innovation in Teaching Individual Teaching Award
2014	Curtin University Humanities, Teaching and Learning Individual Teaching Award
2014	Curtin University Humanities, First Year Program Award Common First Year Team

Grants

2020	Scholarship Internship Maya Hayden Evans Curtin Student No: 17060059 to the project. Develop a MOOC for tertiary educators to support Students mental health <i>Impact of COVID-19 on teachers in schools and universities</i> ; RISP funded \$6,000. Collaboration between Susan Beltman and Rachel Sheffield (Curtin), Caroline Mansfield (Uni of Notre Dame) and Tina Hascher (Uni of Bern, Switzerland – visiting academic in 2019-20) <i>In What Ways have COVID-19-Related Changes to Tuition Modes Impacted Face-to-Face Initial Teacher Education Students ?</i> RISP \$6101 Susan Blackley, Kok-Sing Tang, Martin Cooper, Paul Brown, Karen Murcia, Rachel Sheffield & P John Williams
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- 2018 **Rotary Grant** (\$6,400) Inspire with STEMinist Ambassadors in Primary Schools Program (Sheffield, Koul)
- 2018 **Australia–India Council Grant** (\$112,000) (Koul, Sheffield & Rohl)
Developing a Digital STEM Professional Learning Platform for Indian Teachers
- 2017 **Australian Technology Network Grant** (\$120,600)
(O’Halloran, Tan, Sheffield, Aubussen, Mallet, Berry, & O’Keefee)
Encouraging and mapping student engagement through 360 degree video annotation and data analytics
- 2017 **Australian National Commission for UNESCO 2016–2017 Grants Round** (\$14,000)
(Koul, Sheffield, Blackley, & Balzer)
Cross-nation capacity building in science, technology, engineering, mathematics (STEM) education
- 2017 **Linking Science Educators Program (LSEP) Grant** (\$5,000)
(Koul, Sheffield, & Blackley)
Using a makerspace approach to create a science community of practice (COP) for teachers and pre-service teachers in India
National Association for Research in Science Teaching
- 2016–2017 **Australia–Indonesia Institute Grant** (\$19,000)
(Sheffield, Koul, & Blackley)
Awarded to take the makerspace in STEM experience to the Universitas Negeri Jakarta, Indonesia
- 2015 **Curtin University Teaching Excellence Development Fund (TEDF)** (\$12,832.60)
(Sheffield, Blackley, Maynard, Koul, & Walker)
Creating communities in STEM makerspace
- 2015 **Curtin University Teaching Excellence Development Fund (TEDF)** (\$19,962)
(Bennett, Blackley, & Sheffield)
Developing pre-service teacher identity
- 2014 **Curtin University Teaching Excellence Development Fund (TEDF)** (\$9,400)
(Dobozy, Sheffield, & Walker)
TPACK implementation for collegial peer review in common first unit of unit learning design
- 2013 **Curtin University eScholar Program** (\$10,000)
(Sheffield & McIlvenny)
Transforming learning with technology, pedagogy and sustainability

Awards for Research

- 2005 **Postgraduate Award**
Western Australian Institute for Educational Research (WAIER)

Professional Service and Leadership

Internal (Curtin University) Professional Service and Leadership

- 2020 **Chair of Curtin Academy**
Reviewer and Mentor for Curtin University HEA (Higher Education Academy) Fellowship,
Reviewer and Mentor for HERDSA Fellowship
PREP Reviewer (2020)
Panel MC for Illumination Event Curtin Academy
Assessor for the Curtin University teaching Awards
Assessor for ANULT
- 2019 **Chair of Curtin Academy**
- 2019 **Reviewer and Mentor** for Curtin University HEA (Higher Education Academy) Fellowship,
Reviewer and Mentor for HERDSA Fellowship
- 2018 **Executive Curtin Academy**
- 2018 **Reviewer and Mentor** for Curtin University HEA (Higher Education Academy) Fellowship
- 2018 **Panel Member** for the Curtin University Academy Fellows
- 2018 ‘Inspiration before Perspiration’ - Showcasing innovative scholarship of learning and

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	teaching (iSoLT) An academic conversation facilitated by the Curtin Academy
2017–2018	Summative Peer Review
2014–2018	Peer Teaching Review and reflection of teaching with a focus on technology
2014–2018	Open Door Teaching Collaborating with colleagues to showcase teaching pedagogy
2014–2018	Workshop Presenter Curtin Learning and Teaching, Festival of Learning
2017	Athena SWAN Program (addressing gender equity) Curtin University
2015	Workshop Presenter Teaching Staff Retreat, Faculty of Health Science <i>Creation of a teaching philosophy and digital portfolio presentation</i> (Sheffield & Flavell)
2015	Workshop Presenter Faculty of Health Science <i>Demonstration of the creation of a digital portfolio</i> (Sheffield & Flavell) Modelling key skills and supporting creation of personal digital portfolio
2014	Teaching and Learning Presenter Miri, Sarawak, Malaysia <i>Technological tools in the classroom space</i> (Sheffield)
2014	Teaching and Learning Presenter Bentley Campus, Open Your Mind Series <i>Teaching large classes in collaborative learning spaces, self-directed learning in groups in the classroom</i> (Sheffield)
2014	Teaching and Learning Committee Advisory Role School of Education Issues relating to teaching and learning
2014	Presenter SELT Day <i>Providing support for new assessment technology to promote effective assessment</i> (Howell & Sheffield)

External Professional Service and Leadership

2020	Invited Speaker ‘Stem Education in Blended Mode: The Challenges and Strategies’ Lovely Professional University, Punjab, India on 5 th June 2020
	Invited Speaker ‘Women in STEM’ at Gentrat University Of Haryana Mahendergarh, India on 23 rd May 2020
	Invited Speaker ‘What is STEM Education and why is it important?’ Universitas Negeri Jakarta, Jakarta, Indonesia on 16 th May 2020
2018	Keynote “Cross-disciplines thinking: 0-9 STEAM Education present and future” at the Pingtung National University in Taiwan on 28-29 th October.
2018	Judge of International Imagination Education Awards
2015–2018	Co-convenor of Significant Interest Groups (SIGs) in STEM Higher Education Research and Development Society of Australasia (HERDSA)
2015–2018	Formation of Significant Interest Groups (SIGs) in STEM Australian Association for Research in Education (AARE)
2007–2018	Board Member (Primary Science Committee) Science Teachers’ Association of Western Australia (STAWA)
2014–2018	Editorial Advisory Committee, <i>Teaching Science Journal</i> Australian Science Teachers’ Association (ASTA)
2014–2018	Reviewer International Journal of Innovation in Science and Mathematics Education (IJISME)
2017	International Webinar International Society of Technology Education (ISTE) Science, Technology, Engineering and Mathematics (STEM) Professional Learning Network

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- 2017 **Invited Keynote Speaker**
The Digital Curriculum Conference, The University Western Australia
Let's DREAM: Delivering a sustainable approach to building a digital technologies story through a long term, action research approach to professional learning (Sheffield & Moro)
- 2017 **Reviewer**
Educational Media International
- 2017 **Reviewer**
Journal of Research on Technology in Education (JRTE)
- 2017 **Mentor, Alumni Professional Development Program (APDP)**
Supported the Alumni Engagement Strategy of the Australian Department of Foreign Affairs and Trade (DFAT) and Australia Awards in Indonesia (AAI); Mentee: Dr Yuli Rahmawatiunj
- 2017 **Panel Member, Delphi Panel, Technology in Teacher Education Competencies (TETCs) Development Project**
Research supported by SITE, ISTE, CAEP, NTLC, and promoted by the Department of Education Office of Educational Technology (USA); participated in six rounds of feedback. Research team: Teresa S. Foulger, Kevin Graziano, Denise Schmidt-Crawford, and David Slykhuis
- 2017 **Invited Speaker**
West Australia Network of Dissemination (WAND), Western Australian Teaching Awards Workshop
Developing your teaching award nomination with a focus on evidence and impact
- 2017 **Co-convenor of the International Science, Mathematics, Technology, Education (SMTE) Conference**
Co-convened with the Universiti Malaysia, Sabah
- 2016 **HERDSA Fellowship Assessor**
Higher Education Research and Development Society of Australasia (HERDSA)
- 2016 **Chairperson**
International Conference on Advanced Learning Technologies (ICALT) 17th Maker Projects Research Strand
- 2015 **Nominated for Australian of the Year**
South Perth
- 2015 **Invited Keynote Speaker**
Future Science conference of the Science Teachers' Association of Western Australia (STAWA)
What could E in STEM be?
- 2015 **Co-convenor of the International Science, Mathematics, Technology, Education (SMTE) Conference**
Co-convened with the Universitas Negeri, Jakarta
- 2015 **Conference Panel Member**
Australian Conference on Science and Mathematics Education (ACSME)
- 2015 **Conference Reviewer**
Conference of the International Academic Forum (IAFOR)
- 2015 **Guest Editor, Special STEM Edition**
International Journal of Innovation in Science and Mathematics Education (IJISME)
- 2007–2010 **Board Member**
Science Teachers' Association Western Australian (STAWA)
- 2005–2010 **Editor, SCIOS Journal**
Science Teachers' Association of Western Australia (STAWA)
- 2007–2010 **Editorial Board, SCIOS Journal**
Science Teachers' Association of Western Australian (STAWA)
- 2007 **Convenor**
Australian Association of Research in Education (AARE) Conference
- 2007 **Convenor**
Australasian Science Educational Research Association (ASERA) Conference

Community Service, Leadership and Volunteering

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2020	SCSA CAC Curriculum Advisory Committee (Primary) School Curriculum and Standards Authority Rotary President Belmont Rotary Club Inductee in 2020 Women’s Hall of Fame for service to STEM education
2018	Teacher Reference Group UNESCO WA
2018	District Simplified Grant (\$1000 US) Literacy in Laos http://www.luangprabanglibrary.com/tuk-tuk-library.html
2018	Board Member and Chair Campbell Primary School, Canning Vale, Perth
2017	District Simplified Grant (\$1000US) Rotary Laos Tuk Tuk Library http://www.luangprabanglibrary.com/tuk-tuk-library.html
2016-present	Member Belmont Rotary Club
2018	Teacher Reference Group UNAWA United Nations Association WA
2018	Board Member Campbell Primary School, Canning Vale, Perth
2017	District Simplified Grant (\$10,00.00 US) Rotary Laos Tuk Tuk Library http://www.luangprabanglibrary.com/tuk-tuk-library.html
2016-present	Member Belmont Rotary Club
2003–2016	Member Mill Point Rotary Club
2013	Secretary Mill Point Rotary Club
2009–2011	International Director Mill Point Rotary Club
2010–2011	Board Member Rotary Australia World Community Service (RAWCS) Western Region
2009–2016	Chairperson Global Hand Charity Inc.
2011–2012	Board Member Lab without Walls Inc.
2010	Federal Government Award for International Volunteer Service
2008	Project Participant Volunteer Interplast™

Publications

Books/Book Chapters

- Koul, R., Sheffield, R., & McIlvenny, L. (2021). *Teaching 21st Century Skills - Using STEM Makerspace*. Springer.
- Forbes, Chandra, Pfeiffer, Sheffield (in press) STEM Education in the Primary School. A Teacher’s Toolkit. Australia: Cambridge.
- Beltman, S., Sheffield, R., & Hascher, T. (in preparation). ‘COVID fatigue’ and the wellbeing of university teachers. In S. Gonçalves (Ed.). *Higher education in transition || Ensino superior em transição*. CINEP (proposal accepted; forthcoming in 2021).
- Venville & Sheffield Enhancing Student Learning Through STEM. In Dawson & Venville (in press) *The Art of Teaching Primary School Science*. Australia. Routledge.
- Sheffield, R. & De Kok, M. (2019). Steam Focused Problem-Based Learning. *Building Trust*. In Taylor, P and Taylor L (Eds.), *Transformative STEAM Education for Sustainable Futures*.UK: Routledge.
- Sheffield, R., Kurisunkal, J., Koul, R., & Blackley, S. (2019). Learning to teach and teaching to learn STEM through a Makerspace Approach. In R. Kohl, G. Verma, & V. Nargund-Joshi (Eds.), *Science Education in India: Philosophical, historical, and contemporary conversations* New York: Springer.
- O’Halloran, K. L., Tan, S., Wiebrands, M., Sheffield, R., Wignell, P., & Turner, P. (2018).The Multimodal Classroom in the Digital Age: The Use of 360 degree Videos for Online Teaching and Learning. In H. de Silva Joyce & S. Feez (Eds.), *The Multimodal Classroom*. London & New York: Routledge.

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Sheffield, R. & Quinton, G. (2015). *Teaching Science Concepts in Primary Schools*. Perth, Australia: Lancaster Media.

Sheffield, R. & Quinton, G. (2015). Technology and Inquiry in a Science Context: Case studies of Scaffolded On-line Inquiry in Primary and Secondary classrooms. In J. Howell, N. Ostashewski, & M. Cleveland-Innes (Eds.), *Handbook of Research on Optimizing K–12 Education through Online and Blended Learning*. Canada: IGI Global.

Sheffield, R. (2012). *Focus on Teacher Support: Considering Access for the Disabled at Gosport Community School*. In L. Rennie, G. Venville, & J. Wallace (Eds.), *Integrating Science, Technology, Engineering and Mathematics. Issues, Reflections and Ways Forward*. New York: Routledge.

Sheffield, R. (2012). *Focus on Leadership: Constructing a Model House at Mossburn*. In L. Rennie, G. Venville, & J. Wallace (Eds.), *Integrating Science, Technology, Engineering and Mathematics. Issues, Reflections and Ways Forward*. New York: Routledge.

Edited Journals

International Journal of Innovation in Science and Mathematics Education (IJISME), Special Issue: STEM Revisited (2019), 26, No 8 (2018). Guest Editors: **Rachel Sheffield**, Rekha Koul, Alexandra Yeung, & Susan Blackley. <https://openjournals.library.sydney.edu.au/index.php/CAL/issue/view/938>

International Journal of Science and Mathematics Education (IJSME) (2018), Special Issue Maker-Centred Science and Mathematics Education: Learning, Teaching and Environment Design (in press). Guest Editors: Tzu-Hua Wang, Jari Lavonen, Alison Clark-Wilson, **Rachel Sheffield**, & Kenneth Lim.

International Journal of Innovation in Science and Mathematics Education (IJISME), 23, No 3 (2015). Editors: Susan Blackley & **Rachel Sheffield**. <http://openjournals.library.usyd.edu.au/index.php/CAL/issue/view/791>

Reports

O'Halloran, K. L., Tan, S., Sheffield, R., Mallet, D., Aubusson, P., Berry, A., O'Keeffe, L. (2018). *Encouraging and mapping student engagement through 360-degree video annotation and data analytics*. Australian Technology Network Learning and Teaching Grant Final Report: School of Education, Curtin University.

Sheffield, R., Blackley, S., & Koul, R. (2017). *Implementation and evaluation of a state-wide immersive professional learning model to support teachers to integrate digital technologies into teaching and learning*. Perth, WA: School of Education, Curtin University.

Sheffield, R., Smith, J., Quinton, G., & Treagust, D. (2017). *A New Way Forward for Teaching Science. Report on the Future of Teaching Science Journal*. Perth, WA: School of Education, Curtin University.

Peer Reviewed Journal Articles

Sheffield R, Koul R, Blackley S, Fitriani E, Rahmawati Y, Creativity in Science (in press) *International Journal of Innovation in Science and Mathematics Education*.

Sheffield, R., Blackley, S. & Bennett, D. (2020). How future educators view themselves and their profession: A study of pre-service science educators. *Issues in Educational Research*, 30(1), 302-322. <http://www.iier.org.au/iier30/sheffield.pdf> Sheffield

Sheffield, R., Koul, R., (2019) *Using a Makerspace Approach to Develop STEM Knowledge and 21st Century Competencies in Indian Classrooms*. Educational Technology Research and Development Submission ID: ETRD-D-19-00252

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McIlvenny, L & Sheffield, R (2019) Are transversal competencies the new black. *Professional Educator* Australia College of Educators (ACE).

Sheffield, R., Koul, R., Kurisunkal, J., & Arya, R. (2019). Using the Makerspace Approach to Develop STEM Knowledge and 21st Century Competencies in Indian Classrooms. *IJSME International Journal Science Mathematics Education*.

Sheffield, R., Koul, R., Blackley, S., Fitriani, E., Rahmawatiunj, Y., Resek, D. (2018). Transnational Examination of STEM Education. *International Journal of Innovation in Science and Mathematics Education (IJSME)*, 26, No 8 (2018)

Sheffield, R., Blackley, S., & Moro, P. (2018). A professional learning model supporting teachers to integrate digital technologies. *Issues in Educational Research* 28(2).

Blackley, S., Rahmawati, Y., Fitriani, E., Sheffield, R., & Koul, R. (2018). Using a *Makerspace* approach to engage Indonesian primary students with STEM. *Issues in Educational Research*, 28(1), 18–42.

<http://www.iier.org.au/iier28/blackley.pdf>

Blackley, S. and Bennett, D. and Sheffield, R. 2018. Pre-service teachers' articulation of their future selves. *Issues in Educational Research*. 28 (4): pp. 849-869. <http://www.iier.org.au/iier28/blackley2.pdf>

Sheffield, R., Moro, P. (2017). Outsourcing of Transformational Change; Implementing the Digital Technology Curriculum. *Professional Educator* Australia College of Educators (ACE).

Sheffield, R., Blackley, S., & Moro, P. (2018). A professional learning model supporting teachers to integrate digital technologies. *Issues in Educational Research (IIER)*.

Sheffield, R., Koul, R., Blackley, S., & Maynard, N. (2017). Makerspace in STEM for girls: A physical space to develop 21st century skills. *Educational Media International Journal (EMI)*.

Blackley, S., Bennett, D., & Sheffield, R. (2017). Purpose-built, web-based professional portfolios: Reflective, developmental and showcase. *Australian Journal of Teacher Education*.

Blackley, S., Sheffield, R., Maynard, N., Walker, R., & Koul, R. (2017). Makerspace and Reflective Practice: Advancing Pre-service Teachers in STEM Education. *Australian Journal of Teacher Education*.

Blackley, S. & Sheffield, R. (2016). ENVIRONMENT: RE-NEGOTIATING THE E IN STEM EDUCATION. *Eco-thinking*, 1(1). <http://www.eco-thinking.org/index.php/journal/article/view/16>.

Blackley, S. & Sheffield, R. (2015). Digital andragogy: A richer blend of initial teacher education in the 21st century. *Issues in Educational Research*, 25(4).

Sheffield, R. & Blackley, S. (2015). Appraising the E in STEM: Creative alternatives to “engineering”. *International Journal of Innovation in Science and Mathematics Education (IJSME)*, Special Issue STEM 23(3).

Sheffield, R., Debozy, E., Gibson, D., Mullaney, J., & Campbell, C. (2015). Teacher education students using TPACK in science: A case study. *Educational Media International Special Issue, Special Edition* 53(3), 227–238.

Sheffield, R. & McIlvenny, L. (2014). *Using Technology to Teach Scientific Inquiry In a Teacher Education Programme: Why Do Whales Beach Themselves?* *International Journal of Innovation in Science and Mathematics Education*, 22(6), 48–60.

Murcia, K., Sheffield, R., & Hackling, M. (2010). Talking about Science in Interactive Whiteboard Classrooms. *Australasian Journal of Educational Technology, Special Edition* 4, 417–431.

Wallace, J., Sheffield, R., Venville, G., & Rennie, L. (2007). Looking back, looking forward: Re-search for integration in

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the middle years of schooling. *Australian Educational Researcher, Special Edition*, 29–49.

Venville, G., Sheffield, R., Rennie, L., & Wallace, J. (2007) The Writing on the Wall: The Effect of Classroom Context on the Implementation of, and Learning within Integrated, Community-based Science Projects. *Journal of Research in Science Teaching*.

Conference Presentations

Keynote

Keynote. Developing 21st Century Skills: Makerspace in STEM Teaching. Indian Institute of Science Education and Research and Royal Society of Chemistry

Keynote. The STEMInists: The Story of Some Woman in STEM The 1st South East Asia – Science, Technology, Engineering and Mathematics International Conference 2020, STEM Research Center, Universitas Syiah Kuala, Banda Aceh, Indonesia

Sheffield, R. & Moro, P. (2017). *Lets DREAM: Delivering a sustainable approach to building a Digital Technologies story through a long term, action research approach to professional learning*. Paper presented at the The Digital Curriculum Conference, The University Western Australia, Perth, Western Australia, 28 October 2017.

Sheffield R., Blackley, S., Koul, R., Rahmawati, Y., & Fitriani, E. (2017). *Engaging Students in a Makerspace Approach: Analysing Australian and Indonesian Primary Students' Engagement and the Application of STEM Knowledge*. Eighth International Conference on Science, Mathematics and Technology Education (9th SMTE), Kota Kinabulu, Sabah, Malaysia, 7–11 November 2017.

Conference Proceedings

Sheffield, R., Beltman, S., & Hascher, T. (2021). 'Tired and worn down. Still love our students': COVID-19 and the wellbeing of university teachers. Paper presented at the Teaching & Learning Forum, Perth [online], January 28th 2021.

Koul, R. & Sheffield, R. (2020) Bridging A Cultural Gap By Transformative Stem Learning In Rural India pp. 247-254 ISBN: 978-81-941567-9-6 January 3-6, 2020 Mashood, K, Sengupta, T., Ursekar C., Raval, H & Dutta, (Eds.). (2020). epiSTEME 8 International Conference to Review Research on Science, Technology and Mathematics Education, Conference Proceedings. India: Cinnamon Teal.

Sheffield, R. & Koul, R. & (2020) Developing 21st Century Skills and Stem Knowledge in Pre-Service Teachers Using 83 - 90 Makerspace pp. 87-95 ISBN: 978-81-941567-9-6 January 3-6, 2020 Mashood, K, Sengupta, T., Ursekar C., Raval, H & Dutta, (Eds.). (2020). epiSTEME 8 International Conference to Review Research on Science, Technology and Mathematics Education, Conference Proceedings. India: Cinnamon Teal.

Sheffield, R & Koul, R (2020) Investigating Learning in a STEM Makerspace: India Case Study The 1st South East Asia – Science, Technology, Engineering and Mathematics International Conference 2020, STEM Research Center, Universitas Syiah Kuala, Banda Aceh, Indonesia.

Conferences

De Kok, M & Sheffield, R. (2019). *Creating a STEM-focused problem-based unit of work based on the United Nations Sustainable Development Goals*. Tenth International Conference on Science, Mathematics and Technology Education (10th SMTE), Mauritius, 6-9th November 2019.

Koul, R., Sheffield, R. (2019). TRANSNATIONAL STEM MAKERSPACES: A NEW APPROACH TO LEARNING. Paper presented at the European Science Education Research Association (ESERA) 13th Conference, Bologna, Italy. 26–29 August 2019

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Sheffield, R., Quinton, G & Turnow, N. (2019). STEMX: More than just good fun. Paper presented at the Conference Australian Science Teachers Association (CONASTA), Darwin, 8–11 July 2019

Sheffield, R., Koul, R. (2019). Evaluating the Impact of a Distributed Approach on Teachers Professional Learning Paper presented at the Australasian Science Education Research Association (ASERA), Queenstown, New Zealand. 3–6 July 2019

Koul, R., Sheffield, R. (2019). One Science Programme for All: Diversity within Cultures. Paper presented at the Australasian Science Education Research Association (ASERA), Queenstown, New Zealand. 3–6 July 2019

Sheffield, R., De Kok, M & McIlvenny, L. (2019). *Creating a STEM-focused problem-based unit of work based on the United Nations Sustainable Development Goals*. Conference of Science Teachers Association of Western Australia (CONSTAWA), Perth, 18th May 2019.

2018

Sheffield, R., Blackley, S., & Moro, P. (2017). *Leading the DREAM: Creating and Sustaining STEM in the Classroom*. Eighth International Conference on Science, Mathematics and Technology Education (9th SMTE), Kota Kinabulu, Sabah, Malaysia, 7–11 November 2017.

Sheffield, R., Blackley, S., Bennett, D., (2017). *Who are we? Identity of STEM educators*. Paper presented at the Australia Conference Science and Mathematics Education, Monash University, Melbourne, Victoria, 5–7 October 2017.

Sheffield, R., Blackburn, B., McBeath, F., Moro, P., & Blackley, S. (2017). *Let's DREAM: The Future of STEM*. 2017 STEM Education Conference. MAWA STAWA, Curtin University, Perth, Western Australia, 7–8 October 2017.

Moro, P. & Sheffield, R. (2017). *Let's DREAM: The Future of STEM through a distributed professional network*. Future Focused Learning Inspiring students in STEM and beyond, Penrhos College, Perth, Western Australia, 18 August 2017.

Sheffield, R., Moro, P., & Blackley, S. (2017). *Art of DREAMING*. Department of Education STEM Expo, Perth, Western Australia, 14 August 2017.

Sheffield, R., Moro, P., & Blackley, S. (2017). *A Professional Learning Model supporting Teachers to integrate Digital Technologies*. International Society of Technology Education, San Antonio, Texas, USA, 25–28 June 2017.

Blackley, S., Bennett, D., & Sheffield, R. (2017). *Developing workforce capacity in pre-service teachers: Examining present and possible future selves*. Higher Education Research and Development Society of Australasia, Sydney, New South Wales, 1–3 July 2017.

Blackley, S., Bennett, D., & Sheffield, R. (2017). *Using a Makerspace Approach: An Opportunity for Developing Undergraduate Students' Reflective Practice and Professional Identity*. Higher Education Research and Development Society of Australasia, Sydney, New South Wales, 1–3 July 2017.

Koul, R., Sheffield, R., Blackley, S., & Maynard, N. (2017). *Makerspace in STEM for girls: A physical space to develop 21st century skills*. National Association Research in Science Teaching, San Antonio, Texas, USA, 22–25 April 2017.

Maynard, N., Sheffield, R., Bennett, D., Blackley, S. & Koul, R. (2017). *STEM Makerspace—an opportunity for developing students' reflective practice and professional identity*. Paper presented at the Annual Teaching and Learning Forum, Curtin University, Perth, Western Australia.

Blackley, S., Sheffield, R., Koul, R., & Maynard, N. (2016). *Engaging girls in STEM: Primary school students, pre-service teachers and engineering students working together using Makerspaces*. Research in Education (AARE) Conference,

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Melbourne Cricket Ground, Melbourne, Victoria, 28 November–2 December 2016 (conference proceedings).

Bennett, D., Blackley, S., & Sheffield, R. (2016). *Assembling identity: Digital portfolios, photographs, drawings and textual narratives in pre-service teacher development*. Presented at BIBAC 2016 International Conference: 'Building Interdisciplinary Bridges Across Cultures', Cambridge University, Cambridge, England.

Sheffield, R., Blackley, S., Koul, R., Maynard, N., Fairhurst, N., Rowe, D., Murachami, M., De Souza, S. & Forman, R. (2016). *Self-authorship to Create and Shape the Identity of Women in STEM*. Paper presented at the Australia Conference Science & Mathematics Education, University of Queensland, Brisbane, Queensland, 1–3 October 2017.

Blackley, S., Sheffield, R., Koul, R., Maynard, N., Fairhurst, N., Rowe, D., Murachami, M., De Souza, S. & Forman, R. (2016). *Using Makerspaces to foster authentic stem engagement*. Paper presented at the Australia Conference Science and Mathematics Education, University of Queensland, Brisbane, Queensland, 1–3 October 2016.

Blackley, S., Sheffield, R., Koul, R., Maynard, N. (2016). *Understanding the essence(s) of port-folio-based learning: Evidence-based digital portfolios to enhance employability and support developing professional identity*. Paper presented at the AAEEBL Association for Authentic, Experiential and Evidence-Based Learning, Edinburgh, Scotland.

Sheffield, R., & Blackley, S. (2016). *Makerspace in STEM (MIS) for girls: An Exploratory Study*. Proceedings of the International Society for Technology in Education (ISTE) Conference and Expo, Denver, Colorado, USA (conference proceedings).

Sheffield, R., Blackley, S., & Bennett, D. (2016). *Enhancing work readiness and developing professional identity through personalised, standards-based digital portfolios*. In M. Davis & A. Goody (Eds.), *Research and Development in Higher Education: The Shape of Higher Education*, 39 (pp 300–306). Fremantle, Western Australia, 4–7 July 2016 (conference proceedings).

Sheffield, R., Blackley, S., Koul, R., Maynard, N. (2016). *The Makerspace: linking Science, Mathematics, Engineering and Technology to improve pre-service teachers' work readiness and create communities of practice*. Paper presented at the Annual Teaching and Learning Forum, Curtin University, Perth, Western Australia.

Sheffield, R., Blackley, S., Koul, R., & Maynard, N. (2016). *STEM in Makerspace: The Final Frontier*. Paper presented at the Primary Science Conference, East Perth, Western Australia.

Bennett, D., Blackley, S., & Sheffield, R. (2015). *Rethinking employability: Enhancing learning and work readiness through individual, customised and lifelong digital portfolios*. Australian Association for Research in Education (AARE) Conference, University of Notre Dame Australia, Fremantle, Western Australia, 29 November–3 December 2015.

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Artikel yang telah ditulis	:	<ol style="list-style-type: none"> 1. Accounting Information System (AIS) Alignment And Non-Financial Performance In Small Firms, <i>International Journal Of Computer Networks (IJCN)</i>, Volume (6) Issue (2): 2014 2. Accounting Information Systems Alignment And SMEs Performance: A Literature Review <i>International Journal Of Management, Economics And Social Sciences</i> Vol. 4(2): 2015 3. Level Of AIS Alignment And Non-Financial Performance In Indonesian Small Firm, <i>International Conference Of Business And Social Science</i>, UNS (2016) 4. Hubungan antara Love of Money, Machiavellian dengan Persepsi Etis: Analisis Berdasarkan Perspektif Gender, <i>Akuntabilitas: Jurnal Ilmu Akuntansi</i>, Volume 10 (2) (2017) https://doi.org/10.15408/akt.v10i2.6137 5. Hubungan antara religiusitas dan machiavellian dengan tax evasion: riset berdasarkan Perspektif gender, <i>Jurnal Telaah Bisnis</i>, Vol 18 no 1 (2017) 6. An Integrated Information System To Support Supply Chain Management & Performance In SMEs, <i>Journal Of Industrial Engineering And Management</i>, Vol. 10 (1): 2017 https://doi.org/10.3926/jiem.2180 7. Implementation of Indonesia National Qualification Framework to Improve Higher Education Students: Technology Acceptance Model Approach, <i>ICCSA</i>, (2018) Monash University, Melbourne, Springer, https://doi.org/10.1007/978-3-319-95165-2_21

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Hibah yang pernah diperoleh	:	<p>1. Pengaruh <i>Job Enrichment</i> dan <i>Employee Recognition</i> Terhadap Kepuasan Kerja dan Komitmen Organisasi Karyawan (Dosen pemula, Kopertis V, 2008)</p> <p>2. Pengaruh persepsi keadilan dan <i>net perceived Benefit</i> terhadap <i>outcome satisfaction</i> dan <i>commitment to perform</i> (Dosen Pemula, Kopertis V, 2009)</p> <p>3. Pengaruh karakteristik pimpinan karakteristik organisasi karakteristik teknologi terhadap pengadopsian teknologi informasi (Dosen Muda, Dikti, 2010) 10jt</p> <p>4. Accounting information system (AIS) alignment & Non-financial performance on small And medium enterprises (SMEs) (Hibah disertasi, Dikti, 2013) 30jt</p> <p>5. Meningkatkan daya saing UKM dengan teknologi informasi (Hibah Penelitian Produk Terapan, Ristek Dikti, 2017) 57 jt</p> <p>6. An Integrated Information System To Support Supply Chain Management & Performance In SMEs (Insentif publikasi internasional, Dikti, 2017) 22jt</p> <p>7. Meningkatkan daya saing UKM dengan teknologi informasi (Hibah Penelitian Strategi Nasional- lanjutan, 2018) 70jt</p>
Editorial board	:	<p>1. Journal of business and information Systems (Editor in Chief)</p> <p>2. Jurnal Akuntansi Dewantara (editorial board)</p> <p>3. Jurnal Akuntansi Bisnis (editorial board)</p> <p>4. Jurnal Wahana Akuntansi (editorial board)</p> <p>5. Jurnal Infestasi (editorial board)</p> <p>6. Jurnal keuangan & Bisnis (editorial board)</p>
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Makalah Simposium
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Chang, T. *, Wang, H., Hsieh, S., Song, M., Lai, S., "Pengembangan skala kreativitas teknik.," pertemuan tahunan Konferensi Pendidikan Teknik Masyarakat Eropa , Pulau Terceira, Portugal, 18-21 September 2017.

Chang, T. *, Wang, T., Hwang, Y, "Dampak kurikulum pendidikan transgender pada keyakinan mahasiswa di Taiwan.," pertemuan tahunan Asosiasi Internasional untuk Studi Seksualitas, Budaya dan Masyarakat , Bangkok, Thailand , 12-15 Juli 2017.

Chen Qi, Zhang Desheng , "Studi tentang Perilaku Kasar Kelas Mahasiswa" "Seminar Penelitian Akademik Pengajaran Pendidikan Tinggi 2017", Yilan, Taiwan, 28 April 2017.

Zhang Desheng *, "Studi tentang Pengaruh Kursus Keluarga Gay terhadap Keyakinan Mahasiswa", "Seminar Penelitian Akademik Pengajaran Pendidikan Tinggi 2017", Yilan, Taiwan, 28 April 2017.



Assoc. Prof. Dr. SAMANEH SHAHGALDI

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<https://www.linkedin.com/pub/samaneh-shahgaldi/9/408/b58>

EDUCATION

- Post doctorate in Mechanical Engineering, University of Waterloo, Canada 2014
- Post doctorate in Chemistry, Hydrogen Institute, Quebec University, Canada 2013
- Ph.D. in Chemical Engineering, Fuel Cell Institute of National University of Malaysia 2012
- MSc in Organic Chemistry, Physic Plasma Institute, Azad University of Tehran, Iran 2008
- BSc in Chemistry, Azad University of Tehran Iran 2002

RELATED PROFESSIONAL EXPERIENCES

- a. Associate Professor and Canada Research Chair Tier II 2021-Present
- b. Chemistry, Bio-Chemistry and Physics department at the University of Quebec à Trois-Rivières.
- c. Senior Research Scientist, MEA Development and Design Engineer 2019-2020
- d. Cummins/Hydrogenic, R&D, Mississauga, Canada

Research Associate, 2017-2019

Energy Research Center, University of Waterloo, Canada

Lab Manager & Postdoc fellow 2014-2017

Energy Research Center, University of Waterloo, Canada

Awards & Grants

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- Hydro Quebec 2013
- Hydro Quebec 2012
- NSERC Discovery Grant
- Mitacs-Accelerate Fellowship

MAJOR FIELDS OF SCHOLARLY AND RESEARCH INTERESTS

Organic chemistry, Electrochemistry, Proton exchange membrane fuel cell, Proton exchange membrane electrolyser, Novel nanomaterials, Catalysts, Renewable energy, Bio-Materials

SERVICE AND LEADERSHIP EXPERIENCE

- Supervise grad and undergrad students,
- Manage chemical, physical, and mechanical labs,
- Lab safety coordinator,
- Active reviewer for reputable international journals

PUBLICATIONS

(Over 1090 Citations, h index 20)

PEM Fuel Cells (MEA Manufacturing Methods & Design)

- Ibrahim Alaefour, Samaneh Shahgaldi, Xianguo Li, Synthesis and Ex-Situ characterizations of diamond-like carbon coatings for metallic bipolar plates in PEM fuel cells,
- Samaneh Shahgaldi, Adnan Ozden, Xianguo Li, Feridun Hamdullahpur, A scaled-up proton exchange membrane fuel cell with enhanced performance and durability, *Applied Energy*, 2020, 268, 114956
- Adnan Ozden, Samaneh Shahgaldi, Xianguo Li, Feridun Hamdullahpur, Degradations in porous components of a proton exchange membrane fuel cell under freeze-thaw cycles: Morphology and microstructure effects, *International Journal of Hydrogen Energy*, 2020, 45, 5, 3618-3631.
- Samaneh Shahgaldi, Adnan Ozden, Xianguo Li, Feridun Hamdullahpur, A novel membrane electrode assembly design for proton exchange membrane fuel cells: Characterization and performance evaluation, Submitted in *International Journal of Hydrogen Energy*. (Impact; 4.9)
- Samaneh Shahgaldi, Ibrahim Alaefour, Xianguo Li, Impact of manufacturing processes on proton exchange membrane fuel cell performance, *Applied Energy*, 2018, 225, 1022-1032. (Impact; 7.9)
- Samaneh Shahgaldi, Adnan Ozden, Xianguo Li, Feridun Hamdullahpur, Cathode catalyst layer design with gradients of ionomer distribution for proton exchange membrane fuel cells, *Energy Conversion Management*, 2018, 117, 1476-1486. (Impact; 5.9)
- Samaneh Shahgaldi, Ibrahim Alaefour, Grant Unsworth, Xianguo Li, Development of a Low Temperature Decal Transfer Method for the Fabrication of Proton Exchange Membrane Fuel Cells, *International Journal of Hydrogen Energy* 2017, 42, 11813–11822. (Impact; 4.2)

PEM Fuel Cells (Catalyst Layers & Ionomer)

- Samaneh Shahgaldi, Ibrahim Alaefour, Xianguo Li, Impact of ionomer in the catalyst layers on proton exchange membrane fuel cell performance under different reactant flows and pressures, *Fuel*, Accepted 2018, 227, 35-41. (Impact; 4.6)
- Jian Zhao, Samaneh Shahgaldi, Xianguo Li, and Zhongsheng (Simon) Liu, Experimental Observations of Microstructure Changes in the Catalyst Layers of Proton Exchange Membrane Fuel Cells under Wet-dry Cycles, *Electrochemical, Journal of The Electrochemical Society*, 2018, 165,6, F3337-3345. (Impact; 3.6)
- Samaneh Shahgaldi, Ibrahim Alaefour, Xianguo Li, The impact of short side chain ionomer on polymer electrolyte membrane fuel cell performance and durability, *Applied Energy*, 2018, 217,295-302. (Impact; 7.9)
- Jian Zhao, Adnan Ozden, Samaneh Shahgaldi, Ibrahim Alaefour, Xianguo Li, Effect of Pt Loading and Catalyst Type on the Pore Structure of Porous Electrodes in Polymer Electrolyte Membrane (PEM) Fuel Cells, *Energy*, 2018, 150, 69-73. (Impact; 4.9)
- Jian Zhao, Samaneh Shahgaldi, Ibrahim Alaefour, SongYang, Xianguo Li, Pore structure and effective diffusion coefficient of catalyzed electrodes in polymer electrolyte membrane fuel cells, *International Journal of Hydrogen Energy*, 2018, 43 ,73, 776-3785. (Impact; 4.2)
- Samaneh Shahgaldi, Ibrahim Alaefour, Xianguo Li, Influence of Ionomer Structures and Ratios on Performance and Degradation of PEM Fuel Cells, *ECS Transactions*, 2018, (Impact; 3.6)
- Jian Zhao, Samaneh Shahgaldi, Ibrahim Alaefour, Xianguo Li, Gas Permeability of Catalyzed Electrodes in Polymer Electrolyte Membrane Fuel Cells Applied Energy, *Applied Energy*, 2018 209,203-210.(Impact; 7.9)
- Samaneh Shahgaldi, Ibrahim Alaefour, Jian Zhao, Xianguo Li, Investigation of Catalytic vs Reactant Transport Effect of Catalyst Layers on PEM Fuel Cell Performance, *Fuel*, 2017, 208-321-328. (Impact; 4.9)
- Samaneh Shahgaldi, Ibrahim Alaefour, Grant Unsworth, Xianguo Li, Development of a Low Temperature Decal Transfer Method for the Fabrication of Proton Exchange Membrane Fuel Cells, *International Journal of Hydrogen Energy* 2017, 42, 11813–11822. (Impact; 4.2)
- Ibrahim Alaefour, Samaneh Shahgaldi Xianguo Li The role of flow-field layout on the conditioning of a proton exchange membrane fuel cell, *Fuel*, 2018, 230,93-103. (Impact; 4.6)
- Reza B Moghaddam, Samaneh Shahgaldi, A facile synthesis of high activity cube-like Pt/carbon composites for fuel cell application, *Frontiers in Energy* 2017,11-3-245-253.
- Samaneh Shahgaldi, Jean Hamelin .Comparison of low Pt loading supported on TiO₂-Nb, and SnO₂-Nb as an active and stable electro-catalysts in PEMFC. *Journal of Energy conversion and management* ,2015,103,680-698. (Impact; 4.5)
- Samaneh Shahgaldi, Jean Hamelin. Stability study of ultra- low Pt thin film on TiO₂-C core-shell structure as cathode catalyst in PEMFC, *Fuel* (2015) 150- 645-655. (Impact; 4.1)

PEM Fuel Cells (Microporous Layer)

- Adnan Ozden, Samaneh Shahgaldi, , Xianguo Li, A graphene-based microporous layer for proton exchange membrane fuel cells: Characterization and performance comparison, *Renewable Energy*, 2018, 126, 485-494.(Impact; 4.9)
- Adnan Ozden, Samaneh Shahgaldi, Jian Zhao, Xianguo Li, Feridun Hamdullahpur, Assessment

of graphene as an alternative microporous layer material for proton exchange membrane fuel cells, *Fuel*, 2018, 215, 726-734. (Impact; 4.9)

Microbial Fuel Cells

- Samaneh Shahgaldi, Mostafa Ghasemi, Zahira Yaakob, Wan Ramli Wan Daud, Performance enhancement of microbial fuel cell by PVDF (polymer)/Nafion nanofibre composite proton exchange membrane, *Fuel Processing Technology*, 2014, 290-295. (Impact; 4.1)
 - Ghasemi. Mostafa, Samaneh Shahgaldi, Ismail. Manal, Zahira Yaakob, New generation of carbon nanocomposite proton exchange membranes in microbial fuel cell systems, *Chemical Engineering Journal*, 2012, 184-182-89. (Impact; 4.6)
 - Ghasemi. Mostafa, Samaneh Shahgaldi, Ismail. Manal, Zahira Yaakob, Activated carbon nanofibers as an alternative cathode catalyst to platinum in a two-chamber microbial fuel cell, *International Journal of Hydrogen Energy*, 2011, 36, 21, Pages 13746-13752. (Impact 4.2)
- #### Synthesis of Nano Materials & Hydrogen Storage
- Samaneh Shahgaldi, Dariush Khadem, Zahira Yaakob, Wan Ramli Wan Daud, Characterization and the Hydrogen Storage Capacity of Titania-coated Electrospun Boron Nitride Nanofibers. *International Journal of Hydrogen energy*, 2013, 37, 15, 11237-11243. (Impact; 3.6)
 - Samaneh Shahgaldi, Zahira Yaakob, Azrina Mat Jalil, Wan Ramli Wan Daud, Synthesis of high-surface area hexagonal LaNi_5 nanofibers via electrospinning, *Journal of Alloys and compounds* (2012)-541, 15335-337. (Impact; 2.8)
 - Zahira Yaakob, Dariush Khadem, Samaneh Shahgaldi, Wan Ramli Wan Daud, The Role of Al and Mg in the Hydrogen Storage of Electrospun ZnO Nanofibers, *International Journal of Hydrogen energy*, 2012, 37, 10, 8388-8394. (Impact; 3.6)
 - Samaneh Shahgaldi, Dariush Khadem, Zahira Yaakob, Wan Ramli Wan Daud, Synthesis and characterization of cobalt-free $\text{Ba}_{0.5}\text{Sr}_{0.5}\text{Fe}_{0.8}\text{Cu}_{0.2}\text{O}_{3-\delta}$ perovskite oxide cathode nanofibers, *Journal of Alloys and Compounds* 2011, 509, 37, 15 Pages 9005-9009. (Impact; 2.8)
 - Samaneh Shahgaldi, Mostafa Ghasemi, Zahira Yaakob, Wan Ramli Wan Daud, Investigation of the Effect of Electrospun Polyethersulfone Nanofibers in Membrane, Defect and Diffusion Forum, 2011, 312-315, p 607-612.
 - Samaneh Shahgaldi, Zahira Yaakob, Azrina Mat Jalil, Wan Ramli Wan Daud, Doping of palladium in silica nanofibers via electrospinning and sol-gel synthesis as hydrogen storage material, *Key Engineering Materials* 2011; 471-472 ; 1040-1045.
 - Samaneh Shahgaldi, Zahira Yaakob, Mostafa Ghasemi, Wan Ramli Wan Daud, Influence of Iron oxide nano particles on electrospun poly (vinylidene fluoride)-based Carbon nanofibers on Hydrogen storage, *Key Engineering Materials*; 2011. 471-472; 1184-1189.
 - Samaneh Shahgaldi, Zahira Yaakob, Wan Ramli Wan Daud The size and Evaluation of Electrospun Perovskite ($\text{Ba}_{0.5}\text{Sr}_{0.5}\text{Co}_{0.2}\text{Fe}_{0.8}\text{O}_{3-\delta}$) Nanofibers for Intermediate Temperature Solid oxide fuel cell, *Applied Mechanics and Materials*, 2011, 52-54 1544-1550.
 - Dariush Jafar Khadem., Zahira Yaakob, Samaneh Shahgaldi, Wan Ramli W. D., 2010, Investigation of phase transformation and structure evolution of electrospun copper oxide nanofibers during thermal annealing. *Key Engineering Materials*, 471-472 792-797.
 - Dariush Jafar Khadem., Zahira Yaakob, Samaneh Shahgaldi, Fabrication

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and Characterization of Ba_{0.2}Sr_{0.8}Co_{0.8}Fe_{0.2}O_{3-δ}. Perovskite Nanofiber-Cathodes, for Intermediate-Temperature Solid-Oxide Fuel Cells, (2013), J Rare Metal.

➤ Samaneh Shahgaldi, Zahira Yaakob, Wan Ramli Wan Daud, Nader. Mokhtarian, Effects of Sputtering Gas and Metallic Thin Film on the Growth of Carbon Nanostructures. World Applied Sciences Journal, (2010); 9 (Special Issue of Carbon Nanotubes): 08-13.

Published Review Paper & Book Chapter

➤ Samaneh Shahgaldi, Jean Hamelin, Improved carbon nanostructures as a novel catalyst support in the cathode side of PEMFC: a critical review. Carbon, 2015, 94-705-728. (Impact 7.08)

➤ Adnan Ozdena, Ibrahim Alaefour, Samaneh Shahgaldi, Xianguo Li, C. Ozgur Colpanb, Feridun Hamdullahpur, A Brief Review of Gas Diffusion Layer for PEM Fuel Cells: Ex- and In-situ Characterizations, Book title : Exergetic, Energetic and Environmental Dimension, 2017 (Impact 15)

Conferences Proceeding

❖ Samaneh Shahgaldi, Adnan Ozden, Xianguo Li, Investigation of Short-Side-Chain Ionomer and Membrane for Proton Exchange Membrane Fuel Cells, CSME, 2018, York University, Canada.

❖ Samaneh Shahgaldi, Ibrahim Alaefour, Xianguo Li, Influence of Ionomer Structures and Ratios on Performance and Degradation of PEM Fuel Cells, Fuel Cell Seminar and Energy Exposition, November 2017-USA

❖ Jian Zhao, Samaneh Shahgaldi, Ibrahim Alaefour, Adnan Ozden, Xianguo Li, and Feridun Hamdullahpur, Pore Structure of Porous Electrodes in Polymer Electrolyte Membrane (PEM) Fuel Cells, Proceedings of the 12th International Green Energy Conference, IGEC-2017-China

❖ Samaneh Shahgaldi, Ibrahim Alaefour, Xianguo Li, Impact of MEA Manufacturing Technique on Cell Performance for a PEMFC, International Green Energy Conference, IGEC-2015-1480, Anchorage, USA.

❖ Samaneh Shahgaldi, Zahira Yaakob, Wan Ramli Wan Daud. Hydrogen uptake in Palladium doped Electrospun Boron Nitride Nanofibers at Room Temperature. Nano Québec international conference, 2012 Montreal (Poster present). Canada

❖ Samaneh Shahgaldi, Zahira Yaakob, Wan Ramli Wan Daud, Fabrication and Characterization of Electrospun LaNi₅ Nanofibers. Nano Québec International Conference 2012 Montreal (Poster present). Canada

❖ Samaneh Shahgaldi, Zahira Yaakob, Wan Ramli Wan Daud, Investigation of the Effect of Electrospun Polyethersulfone Nanofibers in Membrane. International Conference on Diffusion in Solids and Liquids (Poster present) 2010. France

❖ Samaneh Shahgaldi, Zahira Yaakob, Wan Ramli Wan Daud. Investigation on hydrogen storage on electrospun nanofibers with different polymers. (IWCN2010)(International workshop and conference on nano technology in energy materials and health (Oral present). 2009 Malaysia.

❖ Samaneh Shahgaldi, Zahira Yaakob, Wan Ramli Wan Daud. Synthesize as hydrogen storage material of palladium in silica nanofibers via electrospinning and sol-gel. 8 nd International Conference on composite science and technology (Oral present)2010 . Thailand

❖ Samaneh Shahgaldi, Zahira Yaakob, Wan Ramli Wan Daud. The size and Evaluation of Electrospun Perovskite (Ba_{0.5}Sr_{0.5}Co_{0.2}Fe_{0.8}O_{3-δ}) Nanofibers for Intermediate

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Temperature Solid oxide fuel cell (ICME First International Conference on Mechanical Engineering (Oral Present) 2010.Thailand

- ❖ Samaneh Shahgaldi, Zahira Yaakob, Wan Ramli Wan Daud, Growth of aligned carbon nanowalls and carbon nanotubes on glass substrate at atmospheric pressure through the thermal chemical vapordeposition method. (Proceeding: ONN;4D/3, RCESSST, 25th regional conference on solid state science and technology (Oral Present)2010. Malaysia 6

- ❖ Samaneh Shahgaldi, Zahira Yaakob, Wan Ramli Wan Daud Effect of two layers of metallic thin film on growth on CNTs on CNFs on CVD. A-SA-36-064, (International conference of Nanotech Malaysia, 2009, Malaysia (Oral Present). Malaysia
- ❖ Azrina Mat Jalil, Samaneh Shahgaldi, Zahira Yaakob, Wan Ramli Wan Daud, Synthesize and Characterization of Nickel Oxide and Iron Oxide doped Carbon Nanofibers via Electrospun PVDF Nanofibers, 3rd International Conference on Fuel Cell and Hydrogen Technology (ICFCHT 2011, Malaysia.
- ❖ Samaneh Shahgaldi, Zahira Yaakob, Wan Ramli Wan Daud, Palladium-doped Titania Nanofibers for Hydrogen Storage, 3rd International Conference on Fuel Cell and Hydrogen Technology (ICFCHT 2011),2011, 121.Malaysia
- ❖ Samaneh Shahgaldi, Zahira Yaakob, Wan Ramli Wan Daud, Influence of Iron oxide nano particles on electrospun poly (vinylidene fluride)-based Carbon nanofibers on Hydrogen storage, Eight International Conference on composite science and technology. 2010.279.Malaysia.
- ❖ Khadem Dariush, Samaneh Shahgaldi, Zahira Yaakob, Wan Ramli Wan Daud, Synthesis and Characterization of PES/TiO₂ Nanofibers Membrane, 6th International Conference on Diffusion in Solids and Liquids. 2010. 5-7 JULY Paris.page 83 DSL 464. France
- ❖ Jalil N, Samaneh Shahgaldi, Zahira Yaakob, Wan Ramli Wan Daud, Hydrogen storage evaluation based on investigation of carbon nanotubes and carbon nanofibers. The 2 nd ISESCO international work shop and conference on nano technology in energy materials and health (IWCN(BO14). 2010, Malaysia
- ❖ Khadem D , Samaneh Shahgaldi, Zahira Yaakob, Wan Ramli Wan Daud, Adsorption on electrospun zinc oxide nanofibers and nanospheres3rd. International Conference on Fuel Cell and Hydrogen Technology (ICFCHT 2011), 2011, 119.



Assoc. Mohamed Nor Azhari bin Azman

1. PERSONAL AND SERVICE PARTICULAR

Title : Name : Scopus ID : Assoc. Prof. Dr. Mohamed Nor Azhari bin Azman (36198028300)
Date & Place Of Birth : 07-01-1981 (38 years) - KUALA LUMPUR Wilayah Persekutuan Kuala Lumpur
Sex : Male
Nationality : Malaysia
Marital Status : Married
Telephone : 05-4506000 (O)
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05-4585893 (F)
mnazhari@ftv.upsi.edu.my (E)

Present Position : Associate Professor DS54

Department : Faculty of Technical and Vocasional

Bibliography : M.N.A. Azman. Senior Lecturer, PhD at the Faculty of Technical and Vocational, Universiti Pendidikan Sultan Idris. He is the author, co-author and editor of several books or book chapters on Industrialized Building System (IBS) as well as published more than 90 scientific papers. Research interests focus on the study of Industrialised Building System (IBS), Precast Manufacturing Plant, Spatial Site Selection and Technical and Vocational Education and Training (TVET).

2. ACADEMIC QUALIFICATION

Qualification | Major | Institution | Year

Doctor of Philosophy (PhD) (Geo-Information Sciences), Universiti Sains Malaysia, 2013

Master of Science (Civil Engineering), Universiti Sains Malaysia, 2007

Bachelor of Engineering (Honours) Civil, Universiti Teknologi Petronas, 2004

3. PROFESIONAL AFFILIATION

Organisation | Role | Year | Level

Concrete Society of Malaysia (CSM), AHLI / MEMBER, 2010, (National) Malaysian Institute of Engineers, Jurutera Siswazah, 2009

4. RESEARCH INTEREST

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Industrialized Building System (IBS) Well Being
Special Needs
Technical and Vocational Education and Training (TVET)

5. WORK EXPERIENCE AND CAREER HISTORY

Position | Department | Duration

I Academic Position

(Assoc. Professor) Faculty of Technical & Vocational, (07-2017) until present) (Senior lecturer)
Faculty of Technical & Vocational, (05-2013) until (06-2017)

II Administrative Position

(Deputy Dean (Research & Innovation) Fakulti Teknikal dan Vokasional, UPSI, (01-2017) until
(01-2019) (Deputy Director 1) UPSI Education Research Laboratory, UPSI, (07-2015) until (01-
2017)
(Research Assistant) USM, (01/07/2004) until (03/10/2005)

6. SUPERVISION OF STUDENT

Name of Student | Mod (if available) | Position | Title of Thesis | Start Date | End Date | Status

I MASTER

Zurainy Binti Rahman, (Mod A), Supervisor, (Pembangunan Modul Pengurusan Sisa Pepejal
dengan

Menggunakan Kaedah Pengkomposan di Kalangan Pelajar Tingkatan 4), 16-08-2018 until 21-01-
2019, (Presentation)

Muhammad Atif Bin Arifin, (Mod A), Co-Supervisor, (Plug and Play Soldering Kit), 08-11-2017
until 21-01-
2019, (In Progress)

Aziezatul Nezirah Binti Amri, (Mod A), Supervisor, (Pembangunan Kit (Smart Cot) Asas
Pembuatan Perabot

Sekolah Menengah Harian Tingkatan 1 Untuk Pendidikan Khas), 19-01-2017 until 21-01-2019,
(Submitted)

Mohamad Razi Bin Ahmad Suhaimi, (Mod A), Supervisor, (Study on The Adequacy of
Construction Industry Standard (CIS 18:2010) for Manual Calculation for Industrialised Building
System (IBS) Content), 25-08-2016 until 21-01-2019, (Submitted)

Farul Afendi Bin Bahari, (Mod A), Supervisor, (Aplikasi Pengurusan Kemudahan dalam
Pengurusan Ruang

Kilang Kerja Blok Sistem Binaan Berindustri), 31-03-2016 until 12-09-2018, (Completed)

Fatihah Anis Binti Saifuddin, (Mod A), Supervisor, (Keberkesanan Kit Simulasi ke Atas
Pencapaian Topik

Pautan

Reka Bentuk Mekanikal dalam Kalangan Murid Tingkatan Dua), 03-07-2013 until 21-01-2019,
(Completed)

Natasha binti Dzulkalnine, (Mod A), Supervisor, (An Analysis On Causes, Impact and Strategies
of Payment

Among Contractors in Malaysian Construction Industry), 07-01-2013 until 24-02-2015,
(Completed)

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II PHD

Rosidi Fahlid Bin Mohd Isa, Supervisor, (Faktor Kejayaan Amalan Keselamatan dan Kesihatan Pekerjaan di Institut Pendidikan Teknikal dan Vokasional di Malaysia), 03-05-2017 until 20-05-2018, (Presentation)

Natasha Binti Dzulkalnine, Supervisor, (Payment Process Comparison between Conventional and IBS Construction Procurement System), 22-10-2015 until 21-01-2019, (Submitted)

Chedi Jamilu Mustapha, Co-Supervisor, (Development of a New Curriculum of Ergonomics-Based Technology

Education in Nigerian Universities), 26-02-2015 until 12-09-2018, (Completed)

Mahani Binti Md. Hashim, Co-Supervisor, (Kemahiran Employability dalam Kalangan Pelajar Kolej Komuniti dari Perspektif Pensyarah dan Majikan), 30-09-2014 until 20-05-2018, (In Progress)

7. RESEARCH ACTIVITY

Title | Grantor | Amount | Duration | Co-researcher | Type

I Completed-LEADER (Total amount of grant: RM463,740/ 110,656 USD)

My Teacher TryScience Fasa 2, IBM Malaysia Sdn Bhd - RM125,000, 01-12-2016 to 01-06-2017

A Comparative Investigation of Government Project Procurement Structure Mechanism between Conventional and IBS Construction, Universiti Pendidikan Sultan Idris - RM28,638, 31-12-2015 to 31-12-2017 - Geran Universiti Preparation of Data Collection System and Classification

Information for IBS Manufacturers and Suppliers in Malaysia, Construction Industry

Development Board-RM97,332, 30-12-2016 to 30-04-2017

A study on Key Successful Factors for Poverty Eradication Programe Through Education and Skills

Training by Private Sector in Malaysia, Yayasan Basmi Kemiskinan (Poverty Eradication Foundation)

- RM7000, 21-12-2016 to 21-05-2017

Cultivating the Interest of STEM Among Preschool Children, National Commission UNESCO - RM10,000,

13-07- 2015 to 13-01-2016

Exploratory Study the Used of Machinery and Machine in IBS Precast Manufacturing, Ministry Of Higher

Education - RM33,000, 02-01-2013 to 02-04-2015

Application of Facility Management (FM) for IBS Blockwork Manufacturing in Malaysia, Universiti

Pendidikan Sultan Idris - RM12,770, 19-10-2016 to 19-10-2017

My Teachers TrySciences IBM Malaysia Sdn. Bhd - RM140,000, 21-12-2015 to 21-06-2016

Payment Scenario in the Malaysia Construction Industry Prior to Industrialised Building System, Universiti Pendidikan Sultan Idris - RM10,000, 01-02-2013 to 01-02-2014

MEMBER (Total amount of grant: RM3,936,373/ 939,288 USD)

Industrial Building System in Malaysian Disaster Management, Aston University - RM10,940, 01-04-2015 to 01-04-2016

Analysis on the Influence of Environmental Physical, and Socio-Economic (EPSE) Spatial

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Variables as

Applied in Spatial Decision Model for Landfill Site Selection, Universiti Sains Malaysia -
RM97500,

01-12-2013 to 01-12-2016

Lean Healthcare Performance Improvement (Lhpi) Tool For Malaysian Healthcare Industry,
Ministry of Higher

Education - RM48000, 01-08-2016 to 01-08-2018

The National Project for Children's Data Collection (National Child Data Centre-NCDC) Phase 2
& 3, Ministry of Education - RM2,762,933.76, 01-04-2015 to 01-01-2016

Development of Teacher Education Model for Preparing Quality Teacher for the Future -

Developing And Validating A Teaching And Learning Framework For Preparing Quality

Teachers For The Future, Ministry of Higher Education - RM980,000, 01-01-2014 to 01-01-2019

The Development and Effectiveness of the Black Sambal Machine for the Used of Small and
Medium

Industries, Universiti Pendidikan Sultan Idris - RM20,000, 16-08-2018 to 16-08-2019

Determination of Soil Erosion Factors Using Universal Soil Loss Equation (USLE) and
Geographic Information

System (GIS) Approach on Perak State, Malaysia, Universiti Pendidikan Sultan Idris - RM17,000,
16-10-2017 to 16-10-2018

8. CONSULTANCY AND ADVISORY WORK

Project | Organisation | Duration | Role

Workshop Activities

<https://plus.google.com/+MohamedNorAzharibinAzman>

Referee for Article/Journal

Journal of Engineering and Technological Sciences (Scopus)

Engineering and Applied Science Research (Scopus)

International Journal of Construction Education and Research (Scopus) Australasian Journal of

Construction Economics and Building (Scopus) Construction Materials (Scopus)

Journal of Engineering Science and Technology (Scopus) Production Planning and Control
(SCIE)

Studies in Higher Education (SSCI)

International Journal of Injury Control and Safety Promotion (SSCI) Journal of Civil Engineering
and Management (SCIE)

Habitat International (SSCI)

Mathematical Problems in Engineering (SSCI)

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Journal of Vocational Education Studies (ISSN 2614-7483)
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<http://jestec.taylors.edu.my/Special%20Issue%20ICEES2018.htm>

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Volume 2, No 2, 2017)
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Competitiveness and Sustainability of Asia Pacific Countries)
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Management
Vol.2)
<https://jurnalteknologi.utm.my/index.php/jurnalteknologi/issue/view/218>

9. PUBLICATION

Author | Title | Publish Date | Publisher

I Book

Balamuralithara Balakrishnan, Mohamed Nor Azhari Azman, Ramlee Mustapha: Journal Writing
and
Publishing: A Research's Guide. 01/2016; Penerbit UPSI., ISBN: 978-967-0924-38-0

Mohamed Nor Azhari Azman, Ramlee Mustapha: Pendidikan Teknikal dan Vokasional:
Pendekatan Penyelidikan, Analisis dan Interpretasi. 01/2014; Penerbit UPSI.

Zuhairi Abd Hamid, Mohamed Nor Azhari Azman, Kamarul Anuar Mohd Kamar, Zulkefle
Ismail, Ani Saifuza Abd Shukor, Mohammad Fadhil Mohammad, Taksiah A Majid, Faridah
Ismail: Industrialised Building System (IBS): Strategy, People and Process. 01/2011; Construction
Research Institute of Malaysia.

MNA Azman, MSS Ahamad, S Ahmad: Non-Point Source Pollution Modelling with GIS.

01/2011; Lambert Academic
Publishing.

Zuhairi Abd Hamid, Mohamed Nor Azhari Azman, Kamarul Anuar Mohd Kamar, Zulkefle Ismail, Ani Saifuza Abd Shukor, Mohammad Fadhil Mohammad, Taksiah A Majid, Faridah Ismail: Industrialised Building System (IBS): Industry Requirement and Application. 01/2011; Construction Research Institute of Malaysia.

Zuhairi Abd Hamid, Mohamed Nor Azhari Azman, Kamarul Anuar Mohd Kamar, Zulkefle Ismail, Ani Saifuza Abd Shukor, Mohammad Fadhil Mohammad, Taksiah A Majid, Faridah Ismail: Industrialised Building System (IBS): Definition, Concept and Issues. 01/2011; Construction Research Institute of Malaysia.

II Book Chapters

Mohamed Nor Azhari Azman, Taksiah A Majid, Mohd Sanusi S Ahamad, Mohd Hanizun Hanafi: IBS Towards Open Buildings System in Malaysia; The Setting Up of IBS Precast Manufacturing Factory in the Malaysian Construction Industry. IBS Towards Open Building System in Malaysia, Edited by Asiah Abdul Rahim; Zukefle Ismail, 01/2011: pages 147-176; IIUM Press., ISBN: 967-0225-51-7

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Azman, M.N.A, Sharif, A.M., Balakrishnan, B., Parmin, Yaacob, M.I.H., Baharom, S., Zain, H.H.M., Muthalib, F.H.A., Samar, N. (2018). Retooling Science Teaching on Stability Topic for STEM Education: Malaysian Case Study. *Journal of Engineering Science and Technology*, 13 (10), 3116-3128. (Scopus-Q2)

Balakrishnan, B., Azman, M.N.A, Sharif, A.M., Yaacob, M.I.H., Zain, H.H.M., Parmin. (2019). The Effectiveness of Hands-On Modules in Learning Science: A Case Study in Malaysia. *The International Journal of Science, Mathematics and Technology Learning*, 26(1), 21-29. (Scopus)

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- The Use Of IBS Components And The Setting UP Of IBS Manufacturing Factories In The Malaysian Construction Industry. *Malaysian Construction Research Journal*, 9(2), 18-30. (Scopus) Azman, M.N.A., Ahamad, M.S.S., Majid, T.A., Hanafi, M.H. (2011). Status of Industrialized Building System Manufacturing Plant in Malaysia. *UNIMAS eJournal of Civil Engineering*, 2(2). (Google Scholar) Kamar, K.A.M., Abd Hamid, Z., Azman, M.N.A., Ahamad, M.S.S. (2011). Industrialized Building System (IBS): Revisiting Issues of Definition and Classification. *International Journal of Emerging Sciences*, 1(2), 120-132. (Google Scholar) Azman, M.N.A., Ahamad, M.S.S., Majid, T.A., Hanafi, M.H. (2011). The Common Approach In Off-Site Construction Industry. *Australian Journal of Basic and Applied Sciences*, 4(9), 4478-4482. (Scopus) Shamshad, A., Azhari, M.N., Isa, M.H., Wan Hussin, W.M.A., Parida, B.P. (2008). Development of an Appropriate Procedure for Estimation of RUSLE EI30 Index and Preparation of Erosivity Maps for Pulau Penang in Peninsular Malaysia. *Catena*, 72(3), 423-432. DOI:10.1016/j.catena.2007.08.002 (Impact Factor 3.256)
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- R Mustapha, M N A Azman, N N Azmi: The Use of Idea Wheel in Teaching Technical Subjects. *9th Asian Academic Society for Vocational Education and Training; 01/2013*
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M N A Azman, M S S Ahamad, TA Majid, M H Hanafi: A Study on the Industrialized Building System (IBS) in Malaysia Towards the Globalizing Construction Industry. The Third International Conference on Engineering and Gaza Reconstruction; 01/2010

M. N. A. Azman, M. S. S. Ahamad, T. A. Majid, M. H. Hanafi: Perspective of Malaysian Industrialised Building System on the Modern Method of Construction. The 11th Asia Pacific Industrial Engineering and Management Systems Conference, Malacca, Malaysia; 01/2010

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Mohd Nasrun, Angela Lee, Kamarul Anuar, Mohamad Kamar, Mohamed Azhary Azman: CONSTRUCTABILITY CONCEPT: AN APPROACH TO ENHANCEMENT SUSTAINABILITY IN IBS MALAYSIA CONSTRUCTION INDUSTRY. Proceedings In Changing Roles; New Roles, New Challenges 2009, The TU Delf, Netherland; 01/2009

MNA Azman, MSS Ahamad, MH Hanafi: Conceptual Spatial Site Selection for One Stop Centre for Industrialized Building System Manufacturing Plant in Pulau Pinang. Fifth National Conference Civil Engineering (AWAM'09); 01/2009

A Shamshad, MN Azhari, MH Isa, WMA Wan Hussin, SAM Sanusi: Rainfall erosivity from limited pluviographic data in a part of peninsular Malaysia. International Symposium and Exhibition on Geoinformation (ISG 2005); 01/2005

V Technical Reports

Kamarul Anuar Mohamad Kamar, Zuhairi Abd Hamid, Mohamed Nor Azhari Azman, Mohd Nasrun Nawawi, Maria Zura Mohd Zain, Mohd Khairolden Ghani, Ani Saifuza Shukor, Ahmad Hazim Abd Rahim: Proceedings of 4th IBS Industry Roundtable Workshop (IRW04): Industrialised Building System (IBS) Towards Sustainable Implementation.

Zuhairi Abd Hamid, Kamarul Anuar Mohd Kamar, Christy P Gomez, Franky Ambon, Natasha Dzulkarnine, Mohd Rahimi Abd Rahman, Mohamed Nor Azhari Azman, Zulkefli Ismail: The 7th IBS Industry Roundtable Workshop (IRW07) Technology Foresight Report.

Zuhairi Abd Hamid, Mohd Sufian Hashim, Kamarul Anuar Mohd Kamar, Mohamed Nor Azhari Azman, Mohd Nasrun Nawawi, Maria Zura Mohd Zain, Mohd Khairolden Ghani, Ahmad Hazim Abdul Rahim, Ani Saifuza Shukor, Zulkefli Ismail: Proceedings of 6th IBS Roundtable Workshop (IRW6) Experiences and Lesson Learnt on Industrialised Building System (IBS) Construction in Malaysia.

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10. AWARD IN ACADEMIC AND PROFESSIONAL FIELD

Award Name | Award By | Level | Date

Keynote Speaker

International Conference on Research Innovation and Commercialization 2018, Universitas Negeri Semarang (UNNES), 10 November 2018.

International Conference on Language, Linguistics and Social Sciences 2019, Tamil Linguistics Association, 18-19 May 2019.

Visiting Professor

Universitas Negeri Yogyakarta, 15-30 July 2018

Universitas Ahmad Dahlan, 1-14 December 2018

Universitas PGRI Yogyakarta, 17-31 Mac 2019

Research & Innovation

My Teachers Tryscience, 27th International Invention & Innovation Exhibition (ITEX 2016) (INTERNATIONAL - GOLD), 12-05-2016

MyVQ Measuring Vocational Intelligence, 28th International Invention & Innovation Exhibition (ITEX 2017) (INTERNATIONAL - SILVER), 13-05-2017

Sanggar Sanjung Award Night under category Journal Publication (CATENA), UNIVERSITI SAINS MALAYSIA INTERNATIONAL - CONSOLATION), 24-03-2009

11. TEACHING (Couse Title Degree)

- Research Methodology
- Engineering Technology
- Final Year Project
- Engineering Materials
- Furniture Design and Manufacturing

CONFERENCE RUNDOWN

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Time and Duration	Activities	PIC
DAY 1 (Wednesday, 14 July 2021)		
07.00 – 08.00	Preparation and Attendance Registration	Committee
08.00 – 08.30	Opening session	Master of Ceremony
08.30 – 08.45	Greeting from Chairperson of the Committee	Chair of Committee
08.45 – 09.00	Greeting from Rector of Universitas PGRI Yogyakarta	Rector
09.00 – 10.00	Speech from Keynote Speaker 1: <i>Transformation of Disaster Mitigation Development</i>	Prof. Dr. Dewi Liesnoor Setyowati (Universitas Negeri Semarang, Indonesia)
10.00 – 11.00	Speech from Keynote Speaker 2: <i>Science Technology Engineering and Mathematics (STEM)</i>	Assoc. Prof. Dr. Rachel Sheffield (Curtin University, Australia)
11.00 – 12.00	Speech from Keynote Speaker 3: <i>E-Commerce Implementation for SMEs Sustainability at COVID-19 Pandemic</i>	Assoc. Prof. Dr. Dekeng Setyo Budiarto (Universitas PGRI Yogyakarta, Indonesia)
12.00 – 13.00	Preparation for Parallel Session	Committee
13.00 – 15.00	Parallel Session (Author presentation Session Day-1)	Committee
DAY 2 (Thursday, 15 July 2021)		
07.00 – 08.00	Preparation and Attendance Registration	Committee
08.00 – 09.00	Speech from Keynote Speaker 4: <i>The effect of a Social Engineering Design Course on Undergraduates' Design Thinking Attributes and Engineering Creativity in Taiwan</i>	Prof. Chang, Te-Sheng (National Dong Hwa University, Taiwan)
09.00 – 10.00	Speech from Keynote Speaker 5: <i>Bio-electrochemical System Innovation</i>	Assoc. Prof. Dr. Samaneh Shalgaldi (University of Quebec à Trois-Rivières, Canada)
10.00 – 11.00	Speech from Keynote Speaker 6: <i>Transformation on Digital Business</i>	Assoc. Prof. Dr. Edmar Natalio Franquera (Tarlac Agriculture University,
11.00 – 12.00	Preparation for Parallel Session	Committee
12.00 – 14.00	Parallel Session (Author presentation Session Day-2)	Committee

PARALLEL SESSION SCHEDULE DAY 1 (Wednesday, 14 July 2021)

ROOM 1

Moderator : Nendra Mursetyo SD, M.Sc

Time : 13.00 – 15.00 WIB

No	Paper ID	Author(s)	Paper Title
1	008	Nur Baiti Nasution, Padrul Jana, Dewi Azizah, Hanindya Restu Aulia, Amalia Fitri	Students' Mathematical Literacy in The Context of Financial Technology
2	013	Puguh Bintang Pamungkas, Lana Santika Nadia, Dewi Amrih	Study Of Microgreens Growth On Various Planting Medium
3	042	Suci Ratnadilla, Danuri, Padrul Jana	Flash Macromedia Based Interactive Animation Media to Enhance Mathematics Problem- solving Competence
4	110	M. Rifky Abu Zamroh, Nita Sulmayana, Dewi Liesnoor Setyowati	Effectiveness of Digital Interactive Book Technology for Flood Education
5	067	Padrul Jana, Dedi Rosadi	Portfolio Review Minimum Risk Two Constraints: Simulation Selection ro
6	087	Abdul Hoyyi, Dedi Rosadi, Abdurakhman	Daily Stock Prices Prediction Using Bivariate Variance Gamma Model
7	099	Hermawan Wahyu Setiadi, Haryanto	Interactive Learning Media "Direct Steps" To Facilitate Bilbul Concept Understanding Ability In Elementary School

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ROOM 2

Moderator : Ekha Rifki Fauzi, M.P.H

Time : 13.00 – 15.00 WIB

No	Paper ID	Author(s)	Paper Title
1	006	Drajat Edy Kurniawan, Makin	Student's Perception Of Online Learning Methods In Covid-19 Pandemic
2	007	Dekeng Setyo Budiarto, Arista Natia Afriany, Rani Eka Diansari	E-commerce implementation for SMEs performance at Covid 19 Pandemic
3	012	Syahria Anggita Sakti, Novianti Retno Utami	Digital Media-Based Family Education Patterns In Efforts to Implement Health Protocols in Early Childhood
4	014	Titik Mulat Widyastuti, Wibawa	Development of the Macromedia Flash Application Program as a Media to Overcome the Difficulties of Learning to Read Beginning of Children Ages 5-6 Years in KB, Kindergarten, Surya Marta Yogyakarta
5	017	Beny Dwi Lukitoaji, Faiz Noormiyanto, Setyo Eko Atmojo, Taufik Muhtarom	Improving covid-19 literacy in webinar-based science learning
6	098	Turini Erawati, Yusida Gloriani, Setiyani, Anggita Maharani, Siska Firmasari	Online Learning of Mathematics in Higher Education During Covid-19: Lecturer's Point of View in Indonesia
7	100	Abdul Aziz Syaefudin, Niken Wahyu Utami, Koryna Aviory	Teacher Training For Developing Mathematical Literacy Problems

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ROOM 3

Moderator : Dhananjaya Yama Hudha, M. Biotech

Time : 13.00 – 15.00 WIB

No	Paper ID	Author(s)	Paper Title
1	021	Yaning Tri Hapsari, Theofilus Bayu Dwinugroho, Guntur Samodro	Online Learning Quality Measuring using Kano Method
2	022	Anis Febri Nilansari, Puji Handayani Putri	Design of Information Systems of Drug Use as a Media for Pharmaceutical Communication to Patients During the Covid-19 Pandemic
3	023	Amalia C. Nur'aidha, Wahyu Sugianto, Dhananjaya Y.H Kumarajati, Mira Setiana, Bopi Y. Sapa	Development of a Non-contact Infrared Thermometer as a Prevention Covid-19
4	024	Mira Setiana, Wahyu Sugianto, Pankrasius Pionis	Modification of Polystyrene Surface Properties Using UV-Irradiation
5	033	Ahmad Agung Yuwono Putro, Bayu Ananto Wibowo	Internet and Education
6	036	Oktana Wahyu Perdana, Supri Hartanto	Asynchronous Media: Converting to Android
7	101	Muhammad Arib Alwansyah, Nur Hidayat, Darmawan Ikhlas Fadli, Dyah Setyo Rini, Padrul Jana	Spatial Zone Analysis of Earthquake in Sumatra

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ROOM 4

Moderator : Laela Sagita, M.Sc.

Time : 13.00 – 15.00 WIB

No	Paper ID	Author(s)	Paper Title
1	044	Suharman, Brevi Pambudi	Effect of Seaweed Addition (<i>Eucheuma cottonii</i>) and CMC On Organoleptic Assessment of Mocaf Noodles
2	047	Rifki Irawan, Urip Muhayat Wiji Wahyudi, Gunawan	The Effectiveness of Using Tsanawiyah English Grammar (TEG) Android-Based Application in Improving Grammar Accuracy and Building Islamic Character Value
3	053	Rian Nurizka, Gunawan	Identification of Online Learning in Embedding Character Values in Mathematics Learning in Elementary Schools
4	054	Dena Anugrah, Herenda Sella Wismaya	Manual Book Non-Contact Thermometer For Electromedical
5	055	Pebri Prihatmoko, Danang Widyawarman, Dena Anugrah, Herenda Sella Wismaya	Infrared Sensor Based Touchless Water Faucet Design Training for Public Facilities in Patangpuluhan Village in Order to Suppress the Spread of Covid 19
6	001	Mohamad Arief Budiana; Levyda; Safuan; Nafiah Ariyani; Hari Gursida	Customer Satisfaction Analysis: Case Study in Koja Container Terminal
7	102	Ahmad Riyadi, Yennisa, Sunggito Oyama	Development Of UPY Internal Control Decision Support System Based On Coso Framework

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ROOM 5

Moderator : Bintang Wicaksono, M.Pd.

Time : 13.00 – 15.00 WIB

No	Paper ID	Author(s)	Paper Title
1	058	Kintoko, Siti Suprihatiningsih, Bernadeta Ritawati, Muhammad Firman Annur	Student Mathematical Anxiety In Integral Calculus Courses Through Online Learning
2	059	Faiz Noormiyanto, Bahtiar Heru Susanto, Dwi Setianingsih	Adaptive Team Based Training And Video Tutorials For Disability Survival Swimming For PRSI Kulon Progo Swimming Trainers
3	061	Nurul Jannah, Astri Praba Shinta	Description of Adolescent Level of Knowledge About Effects Of Drug Consumption on Obesity
4	063	Dhananjaya YH Kumarajati, Bopi Y Sapa	Finite Element Analysis of a New Dual Locking Plate for Femoral Shaft Fracture
5	002	Rifdian H Famhas, Abd Qohar	Android based Travel Game media development on the topic of two-variables linear equation
6	025	Agus Amin Sulistiono, Lucia H. Winingsih	Analysis of Vocational Education Profile in Indonesia: A Literature Study
7	010	Imaniar Purbasari, Jayanti Putri Purwaningrum, Muhammad Sholikhan, Nur Fajrie	Analysis Of Need Collaborative Education Through A Creative Community Economy Of Bamboo Planting

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ROOM 6

Moderator : Rianto, M.T.

Time : 13.00 – 15.00 WIB

No	Paper ID	Author(s)	Paper Title
1	066	Yanuar Bagas Arwansyah, Windi Wulandari Iman Utama	Improving the Ability to Write Scientific Papers with the Whole Language Approach through the Moodle-Based Learning Management System (LMS)
2	068	Cicilia Tri Kusumastuti, Ardiyanta, Anindita Imam Basri	Vegetative Growth of Soybean Plants (<i>Glycine max</i> L.) on the type and interval of PGPR watering
3	069	Radiaswari S., Danang Widyawarman, Rachmat Wahyu Prabowo	Mapping of Potential Evacuation Routes and Refugee Area for Disaster Mitigation Based on Moco Tremor Analysis in Building A and Building B, Campus I, Universitas PGRI Yogyakarta
4	073	Koryna Aviory, Abdul Aziz Saefudin, Gunawan	Construct Validity of Self- Regulated Learning in Pandemic Covid-19 Era: Exploratory Factor Analysis
5	074	Dhiniaty Gularso, Putri Indah Pratiwi, Juang Kurniawan Syahrurah	The Development of Ular Tangga Nusantara (Larganusa) Game as a Social Studies Learning Media for Class IV Elementary School during the Covid-19 Pandemic
6	038	Hesti Wiranota, Wang Xin	The Use of Tang Feng Classroom (唐风课程) e- Learning In Guangxi Normal University

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ROOM 7

Moderator : Theofillus Bayu, M.Sc.

Time : 13.00 – 15.00 WIB

No	Paper ID	Author(s)	Paper Title
1	052	Ika Ernawati, MM Endang Susetyawati, Rina Dyah Rahmawati	Pengembangan Instrumen Penilaian Self Assesment Untuk Penilaian Performance Character Guru Profesional Mata Kuliah Pembelajaran Microteaching FKIP UPY
2	088	Rina Dyah Rahmawati, Haryanto	Characteristics of Religious Elements in STREAM Learning in Elementary School
3	005	Ningrum Pramudiati, Anandita Zulia Putri	The Effect of Non-Financial Characteristics on the Effectiveness of Local Government Performance by using the Accrual-Based Government Accounting System
4	011	Fikri Farhan, Guruh Ghifar Zalzalalah	Relationship Marketing And Customer Loyalty On A Local Fast-Food Restaurant In Yogyakarta
5	015	T Heru Nurgiansah, Sigit Handoko	Political Participation Of Sleman People During The Covid-19 Pandemic In The Context Of Citizenship Education

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ROOM 8

Moderator : Palupi Sri W, M.Pd.

Time : 13.00 – 15.00 WIB

No	Paper ID	Author(s)	Paper Title
1	016	Sunarti, Diah Fatma Mernawati	The Effectivity of Directed Reading Thinking Activity (DRTA) Strategy in Reading Comprehension Learning at Grade IV of SD Islam Al Azhar 31 Yogyakarta in 2019/2020 Academic Year
2	020	Adhi Prakosa, Ahsan Sumantika	Why Do People Buy Virtual Items? An Assessment using Theory of Functional Value
3	026	Ninditya Nareswari, Nuraini Desty Nurmasari, Latifah Putranti	Determinants of Cash Waqf Giving: The role of Perceived Ihsan, Islamic Egalitarianism, Perception, and Awareness of Cash Waqf
4	027	R E Diansari, N Imama, L A Nusron	ISLAMIC SOCIAL REPORTING (ISR) ON ISLAMIC BANKING IN Indonesia
5	029	Faizal Ardiyanto, Hermala Kusumadewi	The Extension of Consumer Brand Engagement Framework: Indonesian Smartphone Brands Consumers
6	030	Saptaningsih Sumarmi, Tri Winarni, Murti Sumarni	Transformational leadership and Organizational citizenship behavior in the Covid-19 Pandemic era: mediating role of Job Satisfaction

PARALLEL SESSION SCHEDULE DAY 2 (THURSDAY, 15 JULY 2021)

ROOM 1

Moderator : Nendra Mursetyo SD, M.Sc

Time : 13.00 – 15.00 WIB

No	Paper ID	Author(s)	Paper Title
1	076	Didik Rohmantoro, Bayu Gilang Purnomo, Dwiki Muda Yulanto, Sapitri Januariyansah	Effectiveness of Problem Based Learning Training Method Towards Improving Motorcycle Mechanical Skills In Bantul City
2	077	Rachmaniah M. Hariastuti, Mega T. Budiarto, Manuharawati Manuharawati	Geometry Concept in Banyuwangi Traditional Dance Music
3	078	Sukadari, Mahilda Dea Komalasari, Arum Setiowati, Yulian Agus Suminar, Nadea Zulfa Khairunnisa	The Effectiveness Of "Ramayana" An Animation Film Integrated With Sexual Education Values To Improve Personal Safety Skills
4	079	Ari Kusuma Wardana, Rianto, Ekha Rifki Fauzi	Applying CodeIgniter Framework on JHS Website Development
5	082	Dwi Putri Fatmawati, Ramdhan Harjana	Implementation of Online Lectures for Students with Special Needs at Universitas PGRI Yogyakarta During the Pandemic
6	019	Dian Permatasari Kusuma Dayu, Liya Atika Anggrasari	Pop Up Animation Book To Increase The Reading Literacy
7	104	Paiman	Response of Growth and Yield of Salibu Rice on the Stem Cuttings Height of Parent Rice after Harvesting

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ROOM 2

Moderator : Ekha Rifki Fauzi, M.P.H

Time : 13.00 – 15.00 WIB

No	Paper ID	Author(s)	Paper Title
1	084	Pebri Prihatmoko, Riski Rizal Palino, Kristianus Lajang, Ekha Rifki Fauzi	Safety Enhancement of Health Workers with MIRA (Medical Interpersonal Robot Assistant)
2	085	Okti Purwaningsih, Puguh Bintang Pamungkas, C.Tri Kusumastuti, Redo Aryaka, Redo Ar	Soybean Agronomic Response To Biochar And Worm Castings At Coastal Sandy
3	086	Bayu Gilang Purnomo, Didik Rohmantoro, Dwiki Muda Yulanto, Sapitri Januariyansah	Analysis Of Online Learning Implementation In Practical Courses At PGRI University Yogyakarta
4	028	Rahmat A Hi Wahid, Hanifah Karimatulhaji, Rosmauli Jerimia Fitriani, Margala Juang Bertorio	Knowledge, Attitude, and Practice about Coronavirus Disease (COVID-19) on the First-Year Student in Universitas PGRI Yogyakarta
5	031	Rizki Nurhana Friantini, Rahmat Winata, Pradipta Annurwanda, Rosa	Developing Effective Statistics Module Based on Creative Problem Solving Integrated Probing-Prompting
6	105	Kintokoa, Waluya, M. Asikind	The Effect of Self-Efficacy on Students' Critical Thinking Skills in Mathematics Subjects

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ROOM 3

Moderator : Dhananjaya Yama Hudha, M. Biotech

Time : 13.00 – 15.00 WIB

No	Paper ID	Author(s)	Paper Title
1	089	Ganung Anggraini, Laela Sagita, Endang Susetyawati	A Study on Improving STEAM Knowledge and Skills for PLD-RSAN
2	090	Firdiyan Syah, Hasti Hasanati Marfuah	Detection of Work Protective Helmet Using Android-Based PCA Method
3	091	Drajat Edy Kurniawan, Arum Setiowati, Herwinda Putri Daniswari	Training for Making Counseling Service Material Videos Using the SNAGIT Application for Counseling Teachers
4	092	M Priyo Permana, R. Hafid Hardyanto	Assessing Lecturer Assessments as Part of Maintaining the Quality of Learning
5	093	Sri Widarti, R Hafid Hardyanto, Marti Widya Sari	Smart entrance access to the computer laboratory at SMP N 2 Godean
6	097	Dina Pratiwi, Sri Sumarwati, Ena Suhena, Setiyani, Mila Nuryah	Practicality of e-Module using Kvisoft Flipbook on Number Pattern Material on Mathematical Creative Thinking Ability of Junior High School Students
7	106	Dewi Liesnoor Setyowati	Technology-based Disaster Mitigation Transformation for Geo-Hazard Risk Reduction

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ROOM 4

Moderator : Laela Sagita, M.Sc.

Time : 13.00 – 15.00 WIB

No	Paper ID	Author(s)	Paper Title
1	048	Setia Wardani, Selly Rahmawati	Character Assesment Determination System for Elementary School Student
2	062	Gunawan Sridiyatmiko, Lilis Setya, Palupi Sri Wijayanti, Fitri Jamilah	Efforts To Increase Motivation And Results Of Ips Learning About Economic Activities Through The Implementation Of Cooperative Learning Model STAD
3	083	Luqman Hidayat, Khikmah Novitasari	Technology and Accessibility On Tirtonadi Bus Station For Disabilities
4	046	Adi Sutakwa, Atika Nur Syarifah, Ryan Rohmansyah	Consumer Preferences of Frozen Processed Meat Products
5	071	Siti Fatimah Sihotang, Rahmi Ramadhani, Rani Rahim, Rizka Fahuza Siregar, Rini Ramadhani	Flipped Classroom Model in Mathematics Learning: A Bibliometric Analysis Study
6	037	Supri Hartanto, Septian Aji Permana, Nurirwan Saputra	Development of Digital Laboratory- based Augmented Reality
7	107	Luthfia Dewi, Lara Ayu Lestari, M. Sulchan, Anang M Legowo	The effect of sago worm (<i>Rhynchophorus ferrugineus</i>) flour on Insulin-like growth factor 1 (IGF-1) level of Wistar rats with diet low protein

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ROOM 5

Moderator : Bintang Wicaksono, M.Pd.

Time : 13.00 – 15.00 WIB

No	Paper ID	Author(s)	Paper Title
1	080	Niken Wahyu Utami, Muhammad Iqbal Birsyada	How Can We Get the Surface Area on the Kentongan Artifact?
2	081	Ekha Rifki Fauzi, Ari Kusuma Wardana, R. Hafid Hardyanto	Safety Encouragement of Phototherapy with Internet of Medical Thing
3	043	Adinda Rafika Dani, Eka Widyaningsih, Aldrin Febriansyah	Study Of Carrying Capacity In The Rawa Kalibayem Tourism Area
4	037	Supri Hartanto, Septian Aji Permana, Nurirwan Saputra	Development of Digital Laboratory- based Augmented Reality
5	057	Urip Muhayat Wiji Wahyudi, Rifki Irawan	Developing Android Application Tsanawiyah English Grammar (TEG) Based Islamic Character for Junior High School Student
6	095	Siska Candra Ningsih, Sri Wiyanah	Developing “English for Mathematics” Learning Media Assisted with Macromedia Flash to Facilitate Students Online Learning
7	009	Muhammad Sholeh , Rr. Yuliana Rachmawati, Dina Andayati,Prita Haryanti	Migrating Data From A Relational Database to A Graph Database In The Management System of Cooperation Archives
8	109	Ary Susatyo Nugroho, Maria Ulfah, Endah Rita Sulistya Dewi	Design and Construction of Aquaponics Technology in Limited Water Sources Area Through The Development of Circulation and Bioremediation Subsystems

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ROOM 6

Moderator : Rianto, M.T.

Time : 13.00 – 15.00 WIB

No	Paper ID	Author(s)	Paper Title
1	003	Rizky Dwi Prasetyo, Abd Qohar	Development of Android based learning media on the topic of one-variable linear equation
2	064	Kristina Warniasih, Palupi Sri Wijayanti, Juang Kurniawan Syahruzah, Rianto	Online Microteaching Practices: Developing social competency instruments with the concept of netiquette
3	065	Arip Febrianto, Taufik Agung Pranowo, Norma Dewi Shalikhah	Utilization Of Camtasia Based On Screen Recorder And Video Editor As Interactive Learning Media
4	075	Muhamad Amiruddin, Yulia Venti Yoanita	Development of Video-Based Learning Media for Online Learning for Vernier Caliper Material in Engineering Tools & Measurement Course
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2	035	Siti Maisaroh, Nafisah Endahati, Budiharti	Development of "English Classroom Instruction" Module to Support Students' Ability in Bilingual Learning
3	039	Esti Setiawati, Rosalia Indriati Saptatiningsih	Humanis Learning Models In Strengthening Character Education In Culture-Based Schools
4	040	Esti Setiawati, Salamah, Tarto	Strengthening Psychological, Economic, And Social Resilience Of KUB Sendang Rejeki Members In Sribit, Sendangtirta, Berbah, Sleman
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Time : 13.00 – 15.00 WIB

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2	051	Bayu Ananto Wibowo, Windi Wulandari I. U, Yanuar Bagas A	The Relevance of Ki Hadjar Dewantara Thought to the Character Education in Curriculum 2013
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5	070	Herwinda Putri Daniswari, Iis Lathifah Nuryanto	The Effective of Coping Stress Techniques to Reduce Academic Bournout During the Pandemic Covid-19 Student Universitas PGRI Yogyakarta
6	072	Eko Perianto, Taufik Agung Pranowo, Yulian Agus Suminar	Factors Causing Academic Anxiety Students With Special Needs
7	096	Tarto, Bambang Susanto, Gunawan Sridiyatmiko	Character Building through Local Cultural Values Tradition of Jolenan in a Village Community of Purworejo, Indonesia



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LIST OF ABSTRACT (AIP)

001

CUSTOMER SATISFACTION ANALYSIS: CASE STUDY IN KOJA CONTAINER TERMINAL

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Abstract. The difference between customer expectations regarding the performance of the company and customer assessments of actual performance provides a customer perception of service quality. This difference occurs because of a gap between customer expectations and the reality of the service received, this gap exists as a result of not fulfilling customer expectations. The data used in this research is secondary data from the company, while the methods used are descriptive analysis and importance performance analysis. The results of the Importance performance analysis from Koja Container Terminal (TPK Koja) are known to be divided into 3 quadrants.

Keywords: Customers, Satisfaction, Importance Performance Analysis

002

**ANDROID BASED TRAVEL GAME MEDIA
DEVELOPMENT ON THE TOPIC OF TWO-VARIABLES
LINEAR EQUATION**R H Famhas¹, A Qohar^{1*}¹Mathematics Department, Universitas Negeri Malang, Jl Semarang 5 Malang 65145 Indonesia[*E-mail: abd.qohar.fmipa@um.ac.id](mailto:abd.qohar.fmipa@um.ac.id)

Abstract. Android-based applications are widely used in various fields of life, including in the field of education. One of the benefits in the field of education is to make learning games based on android. Innovation is needed to develop learning games so that students are interested in learning mathematics. This study aims to develop a "Travel Game" media with android-based programming. With the development of this learning game, it is hoped that the process and results of making travel game media based on android for mathematics learning in grade 8 junior high school is valid and practical in two-variable linear equation material. This research is a Research and Development (R&D) using the ADDIE development model. The stages in the ADDIE development model include Analysis, Design, Development, Implementation, and Evaluation. In the analysis stage, several aspects were analyzed, namely user analysis, topic analysis, presentation format analysis, and analysis of facilities and infrastructure. The design stage consists of several aspects, namely making flowcharts, display design, and rules of the game. At the development stage, Android-based learning media "Travel Game" was developed through several game maker applications on Android. At the implementation and evaluation stage, the researcher conducted a product trial that had been produced, then evaluated the performance of the "Travel Game" media product. Evaluation is used to find out existing weaknesses, so that it can be used for product improvement. Subjects for observation and testing in this study were 8th grade students of Islamic Junior High School 02 Pujon. Data collection was carried out using expert validation sheets, interviews, questionnaires, and observations. The data from the instrument were analyzed using a one-shot case study pattern. The results showed that the travel game media based on android is valid and practical to be used in mathematics learning in grade 8 junior high school with two-variable linear equation material.

003

DEVELOPMENT OF ANDROID BASED LEARNING MEDIA ON THE TOPIC OF ONE-VARIABLE LINEAR EQUATION

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Abstract. The current technological development is very rapid, including the development of applications on smartphones. This study aims to produce learning media based on android on the topic of one-variable linear equations. This learning media developed using Adobe Flash CS6 software and Action Script 3.0. The learning media format developed is an Application Package File (.apk), which is an EZ MATH.apk file, so that it can be used on smartphones or computers. The procedure of this research was carried out using a 4D model consisting of four stages, namely: 1) Define, (2) Design, (3) Develop, (4) Disseminate. The subjects of this study were 12 students of grade 5 at Mojolangu 2 State Elementary School Malang. Based on data analysis, the results obtained are (1) the validity test of the media obtained a value of 3.79, the validity of the material with a value of 3.54, and the validity of the student response questionnaire with a value of 3.4, so that the learning media developed meets valid criteria, (2) the practicality test of instructional media gets a value of 3.6 which is obtained from the student response questionnaire, so the learning media developed meets practical criteria, (3) the effectiveness test is obtained 83% of students get a minimum score of 80 which indicates that the learning media developed meets effective criteria. Based on these results, the learning media developed were declared valid, practical, and effective.

006

STUDENT'S PERCEPTION OF ONLINE LEARNING METHODS IN COVID-19 PANDEMIC

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Abstract

This research is qualitative research that aims to determine the perceptions or responses of students to online learning methods that have been implemented during lecture activities during the Covid-19 pandemic. The place of this research is the Guidance and Counseling Study Program FKIP PGRI University Yogyakarta. The subjects of this study were 8 Guidance and Counseling Students with details of 4 male students and 4 female students. Each pair of students represented each class, namely 2017, 2018, 2019, and 2020. The instrument used in this study was an online structured interview using interview guidelines. The procedure for conducting interviews is by distributing the questionnaire form to research respondents via a google form. Furthermore, the data analysis technique used is descriptive qualitative analysis. The results showed that 1) Students do not like online learning methods, 2) Students think that online learning methods are boring, 3) Delivery of material by lecturers through online learning is difficult to understand, and 4) Online learning methods have many obstacles such as a lack of internet connection and the absence of adequate communication tools to support online learning.

Keywords: Student Perception, Online Learning Methods, Pandemic, Covid-19

007

E-COMMERCE IMPLEMENTATION FOR SMES PERFORMANCE AT COVID 19 PANDEMIC

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Abstract

It has become a consensus in research that MSMEs significantly contribute to economic growth, especially in developing countries. This study aims to examine the effect of e-commerce and information technology on the performance of MSMEs. The research sample was 180 MSME owners in the province of Yogyakarta. The sampling technique used purposive sampling with criteria following Law No. 20 of 2008. The results showed that e-commerce and information technology affected the performance of MSMEs. This research has implications for MSME owners to develop an understanding of information technology to survive in competitive business competition.

Keywords: e-commerce, information technology, performance, MSMEs

008

STUDENTS' MATHEMATICAL LITERACY IN THE CONTEXT OF FINANCIAL TECHNOLOGY

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Abstract. In the last five years, the number of people using financial technology (fintech) has increased significantly. Moreover, by looking at the type of merchants using fintech as payment method, it can be seen that most of the users are at young age such as students and college students. The aim of this article is to describe the college students literacy about promotion offered by fintech providers. There were 80 respondents participated in the study. The data was collected using test via Google form. The test consisted of 2 parts. The first part was meant to measure about students's literacy in reading the information written in the ad promotion. The second part was meant to measure mathematical literacy written in the promotion and how they use them to solve a problem. The results shows that the mathematical literacy can be considered low using the indicators 1) understanding the minimum transaction, 2) finding the cashback, 3) understanding the maximum cashback, 4) using information for solving problems.

009

Migrating Data From A Relational Database to A Graph Database In The Management System of Cooperation Archives

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Abstract. This study aimed to perform conversion or migration of data from a relational database to a graph database. The data were cooperation archives in a university. Cooperation archives are much needed especially for accreditation purposes. Moreover, cooperation archives facilitate the self-evaluation process of a cooperation activity. The study was conducted by observing database system development life cycle that consisted of four phases that were needs analysis, logical design, physical design, and implementation. The results showed that the migration process of the cooperative archives from a relational database to a graph database was done without losing the data. The data that was originally in text form in the relational database changed to a graph form in the graph database. The modification process in the graph database was done by making relations among nodes.

010

**ANALYSIS OF NEED COLLABORATIVE EDUCATION
THROUGH A CREATIVE COMMUNITY ECONOMY OF
BAMBOO PLANTING**Imaniar Purbasari¹, Jayanti Putri Purwaningrum², Muhammad Sholikhhan³, Nur Fajrie⁴^{1,4}*Elementary School Department, Muria Kudus University, Central Java, Indonesia*²*Math Education Department, Muria Kudus University, Central Java, Indonesia*³*Graphics Design Department, Unikom, Central Java, Indonesia*imaniar.purbasari@umk.ac.id¹, jayanti.putri.purwaningrum@umk.ac.id²,
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Abstract. Collaborative education is a solution of weakening identity in a cultural community. This study aims to analyze the need of students, schools and the community as source of education to construct collaborative education and preserve the culture or characteristics of the community that are the main features of an area. This research uses descriptive quantitative method to determine the need development of collaborative education based on community for bamboo weaving craftsmen. Data was collected through questionnaire on students' need, schools and communities in the reconstruction process of curriculum based on community. The statistical analysis used descriptive statistical analysis to describe the level of need in reconstruction process curriculum based on community. The result showed that 71.78% of students had the desire to work and to find out the production process of bamboo matting. The educational unit and the community are able to determine educational goals where the readiness to determine a collaborative curriculum reaches 75%. Meanwhile, the community's ability to pass down knowledge is still limited, 43.75%. It indicates that the community only explain cultural inheritance orally and observations. Therefore, collaboration between the educational unit and the community is necessity to answer the waning cultural knowledge of children.

Keywords: collaborative education, community, school, students



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012

Digital Media-Based Family Education Patterns In Efforts to Implement Health Protocols in Early Childhood

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Abstract. The purpose of this study is to describe the learning patterns of families based on digital media to implement health protocols in early childhood during the Covid-19 pandemic. This study was analyzed with descriptive quality. The study used 10 subjects consisting of parents. This research uses interviews to gather information with the analysis process through 3 stages, namely reduction, display, and data collection and verification. The results of interviews with research subjects concluded that digital media can provide science as a refresher on the learning process and can make children more active, build new habits related to healthy lifestyles, can attract children in learning, and create a comfortable and pleasant atmosphere for children at home

013

STUDY OF MICROGREENS GROWTH ON VARIOUS PLANTING MEDIUM

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Abstract. *Microgreens* is one of the *urban farming* models that can be harvested at the time of seedlings, in other words only 7-14 days after planting. *Microgreens* are believed to have higher levels of vitamins, minerals and beta-carotene than the same vegetables as adults. The leaves of this new plant still have a lot of vegetable oil and protein content that will be used by vegetables to grow. The aim of this study was to examine the effect of various planting medium on the growth of *microgreens*. This research was conducted in January to May 2021 in agrotechnology laboratory of PGRI University Yogyakarta and chemistry laboratory of Mercu Buana University Yogyakarta. Research using Complete Random Design 2 factors and 4 replications, the 1st factor is the treatment of *microgreens* seeds (B), B1 = radish seeds; B2 = green mustard seed; and the 2nd factor is various planting medium (M), M1 = soil planting medium; M2 = cocopeat planting medium; and M3 = rockwool planting medium. The results showed that in the variable moisture content showed the interaction between the two factors, on plant height variables showed significant differences in seed factor, whereas the leaf greenness variables didn't show any effect or interaction of these two factors treatment.

Keyword: *microgreens*, planting medium, *urban farming*

014

**DEVELOPMENT OF THE MACROMEDIA FLASH
APPLICATION PROGRAM AS A MEDIA TO OVERCOME
THE DIFFICULTIES OF LEARNING TO READ
BEGINNING OF CHILDREN AGES 5-6 YEARS IN KB,
KINDERGARTEN, SURYA MARTA YOGYAKARTA**

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Abstrac

This research is a development research, which aims 1). developing a product in the form of a flash macromedia application as a medium for overcoming learning difficulties to read 2) Providing a solution to help teachers, parents in the learning process of children's Beginning reading. The development model used in this research is the 4D model. [1] Which consists of 4 stages, namely 1). set; (2) design; (3) development; and (4) disseminate. The 4D development model can be adapted into 3P, namely; definition, design, development and development, so that only Macromedia flash based on android as a medium for overcoming the difficulties of learning to read children's beginning Indonesia, a media expert, and said that the application product is feasible to be implemented because it gets a score proportion of more than 75%. The results of a limited trial conducted on 27 students indicated that the product of this learning application was feasible to implement because it produced a value proportion of more than 85%.

017

IMPROVING COVID-19 LITERACY IN WEBINAR- BASED SCIENCE LEARNING

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Abstract. The purpose of this study is to analyze and improve Covid -19 literacy in webinar-based science learning. This research is a quantitative study carried out in the Elementary School Teacher Education Study Program at the Universitas PGRI Yogyakarta with a research subject of 100 students divided into two classes. Analysis of the data in this study used the average frequency test for the analysis of Covid-19 literacy mastery, t-test, and gain score test to analyze the increase in Covid-19 literacy before and after learning. The results of data analysis showed that > 80 percent of students had mastered aspects and indicators of Covid-19 literacy with an average mastery of 86.00. T-test results show the value of $t_{count} = 5.279 > t_{table} = 1.998$, which means that there are differences in Covid-19 literacy before and after learning webinar-based science. Based on the results of the gain score test, N values were obtained by 0.76 and 0.71, which means an increase in high Covid-19 literacy after learning webinar-based science.

018

“SRIKANDI HEALTH”. DEVELOPMENT OF A PROGRESSIVE WEB APPS BASED HEALTH INFORMATION SYSTEM AS A SOLUTION FOR EASE OF MONITORING AND MANAGEMENT OF ANEMIA

Puji Handayani Putri^{1, a)} and Laeli Nur Hasanah^{2, b)}

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Abstract. Write the correct recipe will have an important impact on the patient's recovery. Writing recipes by hand shows a fairly high error compared to using computers. Errors in prescribing will have undesired effects so that patients need longer treatment, greater costs, and even death. The purpose of developing this system is to facilitate the writing of patient prescriptions using a computer in the form of a patient prescription screening management information system in health center Kotagede I. The development of the design of this system model uses the waterfall method. The stages begin with requirements analysis, system design, implementation, integration & testing, operation & maintenance. Sample data taken from the health center in Yogyakarta consists of prescription data, drug data, doctor data, disease diagnosis data.

019

POP UP ANIMATION BOOK TO INCREASE THE READING LITERACY

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Abstract. The purpose of this study was to determine the effect of using pop-up animated book media on the reading literacy of students in elementary schools in the 3T area (underdeveloped regions). The population in this study was fifth-grade students, 10 students. Sampling was done by using simple random sampling. The data collection techniques used in this study were tests and observations. Data analysis technique using t-test. The calculation results show that the value of $T_{arithmic} > T_{table}$ with a score of $2,567 > 1,556$ indicates that there is an effect of using pop-up animation books on reading literacy in fifth-grade elementary school students.

Animated pop-up books are proven to increase the reading literacy interest of elementary school students. The problem that occurs in the reading literacy of elementary school students is that students are still not fluent in reading, and book facilities are still lacking, causing students' interest in reading to decrease. This study provides insight for teachers to use animated pop-up books for reading literacy activities for elementary school students. Further research is needed to explore more about reading literacy activities of elementary school students.

Keywords: Elementary School, Literasi, Pop Up, Reading.

021

ONLINE LEARNING QUALITY MEASURING USING KANO

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Abstract. The Covid 19 pandemic that began in Indonesia since March 2020 has had an impact in various fields, one of which is in the field of education. The education system, which initially took place face-to-face, has switched to online learning. Online learning has shortcomings, one of which is that the material is difficult for students to understand because it cannot meet face to face directly. This study aims to measure the quality of online learning using the Kano method based on student perceptions. The Kano method is a method that aims to categorize the attributes of a product or service, how well the product or service is able to satisfy consumer needs. This method can explain the attributes that affect online learning so that it can be used to improve further learning. The results of processing using the Kano method show 8 attributes which are categorized as must-be, 1 attribute is indifferent category, 1 attribute is one-dimensional category, and 7 attributes are attractive category. The category that needs to be improved first is must-be because must-be is a category that must exist, namely attributes 1, 2, 3, 4, 6, 7, 8, and 17.

022

DESIGN OF INFORMATION SYSTEMS OF DRUG USE AS A MEDIA FOR PHARMACEUTICAL COMMUNICATION TO PATIENTS DURING THE COVID-19 PANDEMIC

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Abstract. The coronavirus pandemic has increased and expanded, marked by an increase in the number of cases and the spread of Covid-19 and epidemiological transmission. The increase in cases is due to the high rate of droplet transmission which can occur due to physical contact and communication made by positive sufferers of Covid-19. The face-to-face relationship between North Sumatra personnel and patients is vulnerable to the spread of Covid-19. Therefore, through the Ministry of Health's appeal by utilizing information technology as a medium in communicating with patients, a Communication, Information, and Education information system was created. The purpose of this research is to produce a communication, information, and education information system as part of the duties and responsibilities of the pharmacy in the provision of drug information. The method of making information systems in this study using system development tools, namely Context Diagrams and Data Flow Diagrams (DFD), previously conducted system requirements analysis interviews with the PIECES method. The results of this study aim to create an information system that can make it easier for pharmaceuticals to convey complete information on drug use to patients and avoid the spread and transmission of Covid-19. The existence of this information system also makes it easier for patients to understand again the instructions for their treatment.

023

DEVELOPMENT OF A NON-CONTACT INFRARED THERMOMETER AS A PREVENTION COVID-19

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Abstract. Covid-19 is a contagious disease. Measurement of body temperature had defined by the WHO as a diagnosis parameter covid-19. Conventional temperature measurement is strongly discouraged because it can cause serious problems. The availability of innovative diagnostic devices is very much needed during the Covid-19 pandemic so that monitoring of body temperature can be done quickly and can help the screening process efficiently. Temperature detection using infrared allows it to be the best solution for measuring body temperature because it includes non-contact measurements. In this study, a non-contact temperature measurement system had developed using the MLX90614 sensor and Arduino nano. The MLX90614 sensor works based on the phenomenon of black body radiation, which can detect infrared waves of the human body ranging from 9 - 10 μm and had equipped with a sensitive thermopile. The advantage of the MLX90614 sensor is that it has an accuracy of ± 0.5 ° C and a resolution of 0.02 ° C. The design results can detect the human body's infrared emission at a distance of 10cm. Analysis of the comparison test results between non-contact IR thermometer and contact thermometer (RTD) shows the same trend. So that the non-contact IR thermometer measurement system had can use properly

024

MODIFICATION OF POLYSTYRENE SURFACE PROPERTIES USING UV-IRRADIATION

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Abstract. Polystyrene is a polymer material having the chemical formula $(C_8H_8)_n$. Untreated polystyrene has non-polar or hydrophobic properties. For liquid sensor applications, an active layer of the sensor that is hydrophilic is required. As the active layer of the sensor, the surface property of polystyrene must be modified to be applied as an active layer for liquid sensors. Modifications can be made with various techniques, one of which is exposure to UV rays. In this study, the UV exposure time was varied to determine changes in surface properties of polystyrene. Characterization of the polystyrene layer after UV treatment was carried out by analyzing changes in the value of the contact angle. Based on the experiments that have been carried out, the results show that the longer the polystyrene surface is exposed to UV, the lower the value of the contact angle will be.

028

**KNOWLEDGE, ATTITUDE, AND PRACTICE ABOUT
CORONAVIRUS DISEASE (COVID-19) ON THE FIRST-
YEAR STUDENT IN UNIVERSITAS PGRI YOGYAKARTA**

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Abstract. The Corona Virus Disease 2019 (COVID-19) pandemic has caused an increase in morbidity and mortality and has affected the lives of the global community. This research assessed first-year students' knowledge, attitudes, and practice at Universitas PGRI Yogyakarta (UPY) towards COVID-19. It is hoped that the increased knowledge, attitudes, practice, and awareness of students about COVID-19 are expected to break the chain of the spread of COVID-19 or social transmission. The research method used is a descriptive study with a cross-sectional design. The sampling technique was non-random sampling with a purposive sampling type. Data collection began in December to March 2021 using online questionnaires through social media networks which consisted of five main parts: socio-demographics, sources of information, knowledge, attitudes, and practice towards COVID-19 and then analyzed descriptively. 226 students consisted of women (n = 155) and men (n = 71) with an average age of 17-25 years. Most of the students' backgrounds are from non-health sciences (n = 198). The results showed that students had sufficient knowledge (41.6%), while good attitudes (99.6%) and practice (85.8%). Non-medical preventive measures are considered very effective through social media information technology (66.4%), as seen from students' good attitudes and practice. The level of knowledge of first-year students in UPY is sufficient so that it is necessary to increase understanding related to COVID-19 through online education that is a sustainable and intensive on-campus environment.

031

**DEVELOPING EFFECTIVE STATISTICS MODULE
BASED ON CREATIVE PROBLEM SOLVING
INTEGRATED PROBING-PROMPTING**

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Abstract. The purpose of the research was to develop a statistical module based on Creative Problem Solving Integrated Probing-Prompting on the material of Central Tendency, Dispersion, and Data Location Size for students of Mathematics Education Study Program Semester 2 STKIP Pamane Talino. The development of the Creative Problem Solving Integrated Probing-Prompting-based module is done so that students can better construct material understanding independently and improve learning activities so that they can be more creative when solving problems. This type of research is research and development. The models used to develop modules are 4D models consisting of 1) Define, 2) Design, 3) Develop, and 4) Disseminate. The population in this study is students of the Mathematics Education Study Program Semester 2 STKIP Pamane Talino. Data collection instruments using student response questionnaires to modules, and learning achievement tests. The result of this study is a product in the form of a statistics module based on Creative Problem Solving Integrated Probing-Prompting. From the results of the questionnaire student response to the module, it was obtained that for the interesting aspect of the module get the criteria good, the material aspect of the module get the criteria excellent, and the language aspect of the module get the criteria good. As for the effectiveness test module tested using SPSS-assisted t-test obtained a calculated t-result = 2,182 more than t-table 1,645 so that H_0 was rejected. From the results of the t-test it is known that the statistics module with the integrated Creative Problem Solving approach Probing-Prompting is more effectively used in learning.

Keywords: Module Development, Statistics, Creative Problem Solving, Probing-Prompting

032

**STUDENTS' ADAPTIVE REASONING SKILLS ON
ONLINE LEARNING VIEWED FROM GENDER**

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Abstract. Mathematics is given to all students without exception so that students are trained to think logically, analytically, systematically and creatively. Mathematical reasoning is a major component of thinking that involves the formation of generalizations and describes valid conclusions about ideas and how they are associated. Students will be able to determine the solution of a mathematical problem using their intuitive abilities and prove the solution using the right mathematical steps using adaptive reasoning. This study aims to describe students' adaptive reasoning skills in online learning reviewed from gender. This type of research is qualitative descriptive with the research subjects of students of semester 2 of the Mathematics Education Study Program STKIP Pamane Talino which amounts to 4 people out of 35 people. The method of taking the subject uses purposive sampling techniques so that the data obtained is in accordance with the purpose of the study. Data collection method using tests with instruments in the form of test questions and semi-structured interviews with instruments in the form of interview guidelines. Based on the results of the analysis and discussion can be concluded that, adaptive reasoning male and female students have differences in solving partial derivative problems.

Keywords: Adaptive Reasoning Skills, Online Learning, Gender

033

INTERNET AND EDUCATION

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Abstract. This study aims to describe and explore information about the widespread phenomena of internet use and information technology that are implemented in learning in elementary schools in the city of Yogyakarta. The study used a qualitative method with a phenomenological approach where the researcher acted as a research instrument. Data were collected through interviews, observations, and document studies that were relevant to the research focus. The results of the study found that a) The majority of schools in Yogyakarta City (more than 80%) have not made computer labs as a learning resource in learning, b) All (100%) schools in Yogyakarta City have social media accounts as a means of school socialization, c) Only some small schools in the city of Yogyakarta (24%) have e-learning as a learning resource based on the Learning Management System (LMS).

Keywords: internet, education, elementary school

036

ASYNCHRONOUS MEDIA: CONVERTING TO ANDROID

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Abstract. Teachers need asynchronous learning media but do not know converting technology to make androids. Asynchronous learning media is needed to learn material optimally by combining material, visuals, video, and learning evaluation. The object of this research is the development of learning media based on android. The media developed are five sub-courses. This research was conducted at the Universitas PGRI Yogyakarta. The media development method uses the ADDIE model, namely Analysis, Design, Development, Implementation, and Evaluation. This research involved the Educational Development Institute as a reviewer. The results of the study state that making android for asynchronous learning media can be done by converting it using Ispring and Website 2 Apk Builder. The average score obtained is 84% , by the provisions of the established media instruments. The media is declared excellent and worthy of implementation. Recommendations that can be conveyed are the need to train and develop asynchronous media with converting techniques because the program is easy to apply.

037

DEVELOPMENT OF DIGITAL LABORATORY-BASED AUGMENTED REALITY

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Abstract. Media laboratories have limited space, so they cannot accommodate a lot of information. Manual learning media requires ample and static space so that it needs to be converted into a Digital-based Laboratory. This research was conducted at the Media Laboratory of the PPKn Study Program, Teaching and Education Faculty, PGRI Yogyakarta University. This research uses ADDIE stages, namely Analysis, Design, Development, Implementation, and Evaluation. The focus of this research is to develop media in the Digital Laboratory using Augmented Reality. This research involved material experts, media experts, and students in reviewing the media that had been made. Based on the research results, Augmented Reality is done by making a poster that is attached with a barcode connected to images, videos, materials, and evaluations—making Augmented Reality using the Zapworks program. This study has a feasibility of 82.13, with excellent and feasible criteria. Recommendations for further research, of course, need to be developed again for mockups and dioramas, and other media in the Laboratory.

038

THE USE OF TANG FENG CLASSROOM (唐风课程) E- LEARNING IN GUANGXI NORMAL UNIVERSITY

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Abstract. The purpose of this study was to determine the use of Tang Feng Classroom e-learning at Guangxi Normal University, Guilin, China. The research was conducted in a descriptive qualitative method by distributing questionnaires and followed by interviews. The student and the lecturer who have experiences using the tang feng classroom e-learning were invited to participate in this research. The responses of the student and the lecturer revealed that the use of tang feng e-learning is beneficial from 4 perspectives, namely content, ease of application, feedback and ratings, and personalization. Overall, both the student and the lecturer as participants agreed that the tang feng classroom application provided convenience in its operation, fulfills content-based needs, feedback and ratings among students and lecturers were connected each other, and tang feng classrooms could record teaching and learning progress. In this case, tang feng classroom has a positive impact as e-learning tool in Guangxi Normal University. To add information about the field of tang feng classroom e-learning, the results of the interview were also discussed.

Keywords; *tang feng classroom, e-learning, guangxi normal university*

042

**FLASH MACROMEDIA BASED INTERACTIVE
ANIMATION MEDIA TO ENHANCE MATHEMATICS
PROBLEM-SOLVING COMPETENCE**Suci Ratnadilla¹ Danuri^{2, a)}, Padrul Jana³^{1,2,3}*Universitas PGRI Yogyakarta, 55182, Yogyakarta, Indonesia.*^{a)}Corresponding author: danuri@upy.ac.id

Abstrak. This study aims to 1) Produce quality learning media development products based on interactive animation Macromedia flash for problem-solving abilities 2) To determine the effectiveness of learning media based on interactive animation Macromedia flash for problem-solving abilities of building materials. This research is a type of research and development that refers to the development model of Borg and Gall. This research was conducted at SD N Godean 2 Yogyakarta in May 2019. The research subjects were 25 grade V students of SD N Godean 2 Yogyakarta. The data collection instruments used were material expert assessment sheets, media expert assessment sheets, student response questionnaires, and learning achievement tests. The data analysis used to determine the effectiveness of the media was using the T-Test Paired Samples Correlations. The results of the study conclude 1) The quality of the product in the development of interactive animation learning media Macromedia flash that the product has "good" quality based on the results of media experts, material experts, and student response questionnaires, seen from the results of the material expert's assessment with a score of 43 or 82.6 % and is in the "Very Good" category, the results of the media expert's assessment with a score of 45 or 86.5% and in the "Good" category, as well as a student response questionnaire with a score of 89.77% in the "Very Good" category 2) Effectiveness Interactive animation media using Macromedia flash software to facilitate problem-solving abilities is also categorized as good, seen from the pretest results with an average of 5.68 and posttest of 7.72. Based on the T-test results using the paired sample T-test, it was found that the value of the before the group and after the group had sig. (2-tailed) value of 0,000. Because of the sig. (2-tailed) of 0.000 <005, it can be said to have good criterion validity. So it can be concluded that interactive learning media based on Macromedia flash can improve the mathematics learning outcomes of grade V SD Godean 2 Yogyakarta.

Keyword : Flash media, Interactive animation, Troubleshooting

043

STUDY OF CARRIING CAPACITY IN THE RAWA KALIBAYEM TOURISM AREA

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Abstract. Rawa Kalibayem is a tourist area located in Ngestiharjo Village, Bantul Regency. This swamp is a historical site as the origin of the first submarine test site in Indonesia in 1984. At this time, there are several tourism activities developed by Pokdarwis Rakamulya to enliven tourism in Rawa Kalibayem which are fishing tours, boat tours, selfie spots and culinary tours. As one of the areas that has the potential to develop ecotourism activities, it is necessary to carry out a study on carrying capacity to determine the ability of the area to receive a number of tourists while maintaining the environmental quality of Rawa Kalibayem. The data processing technique in this research is carried out by using the method of managing physical carrying capacity, real carrying capacity and effective carrying capacity. The results showed that the physical carrying capacity was 847 visitors/ day for picnicking activities, the effective area to support the ecological carrying capacity was 37,868 m², the real carrying capacity was 256 visitors/ day and the effective carrying capacity was 106 visitors/ day. The recommended strategy for developing the Rawa Kalibayem tourist area based on the calculation of the carrying capacity is the existence of micro-structuring, area expansion and optimization of the tourism area management system.
Key words: Rawa Kalibayem, carrying capacity, ecotourism

044

EFFECT OF SEAWEED ADDITION (*EUCHEUMA COTTONII*) AND CMC ON ORGANOLEPTIC ASSESSMENT OF MOCAF NOODLESSuharman^{1, a)}, Brevi Pambudi², dan Kintan Nuryantini¹¹*Departement of Agricultural Product Technolog, Universitas PGRI Yogyakarta,
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Abstract. Mocaf Flour (Modified Cassava Flour) is a flour product of yams dioses using the principle of modifying cassava cells by fermentation. This study aimed to determine the influence of seaweed and CMC additions on the organoleptic assessment of Mocaf noodles. The research design used is a Complete Randomized Design (RAL) with 6 treatments that are a combination of proportions between Mocaf flour, seaweed and CMC (Mocaf flour: wheat: seaweed : CMC) R1= 50% : 47% : 2% : 1%, R2= 50% : 45% : 4% : 1%, R3 = 50% : 43% : 6% : 1%, R4 = 50% : 41% : 8% : 1% , R5 = 60% : 29% : 10% : 1%, R6= 98% : 2%. The results of the hedonic organoleptic assessment showed the best treatment obtained in the composition R4 = (50 g Mocaf, 41 g wheat, 8 g seaweed, and 1 g CMC) with an organoleptic value of 3.98 colors (likes), aromas 3.80 (likes), flavors 3.67 (likes) and textures 4.71 (very likes). Descriptive test results of color, aroma, and texture showed the best assessment obtained on R4 treatment with the organoleptic assessment of color qualified (somewhat yellow), aroma (attractive), and texture (chewy). So it can be concluded that the addition of seaweed and CMC has a real effect on the organoleptic assessment of Mocaf wet noodle products.

Keywords: *Mocaf, seaweed, CMC, wet noodles.*

046

CONSUMER PREFERENCES OF FROZEN PROCESSED MEAT PRODUCTS

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Abstract. Consumer acceptability of novel technological development in frozen processed foods will continue to change over time. This study aims to determine consumer perception of frozen processed meat products in Indonesia. An internet-based survey (n = 145) was distributed to validate frozen processed meat products' perception with written descriptions. The respondents met these criteria: (1) they were familiar with the frozen foods in this survey, and (2) they recognized and had used frozen processed meat products in this survey at least once. Three types of products were described based on various meat and processed meat categories to gauge consumer perception of the following variables: practical, hygienic, packaging technology, nutritional information, taste, price, and brands. The results showed that the variable correlates to overall liking. Frozen processed meat products made from poultry are preferred, with the majority of respondents choosing nuggets as the most preferred processed meat product. In addition, the most crucial factor that influences consumer preferences in choosing frozen food products is the taste with a deeper consideration of the savory taste component. This study indicates that the frozen processed food industry has tremendous opportunities along with the interests and preferences of a consumer.

048

CHARACTER ASSESMENT DETERMINATION SYSTEM FOR ELEMENTARY SCHOOL STUDENT

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Abstract. The curriculum in 2013 requires an assessment of attitude or character, this confuses almost all teachers in Indonesia because they have to carry out this student assessments, To fulfill these demands, the teacher continues to carry out assessments by compiling assessment rubrics and simple observation sheets. This study aims to design a character assessment system using the Simple Additive Weighting (SAW) method and implement it in Elementary Schools in the Special Region of Yogyakarta. Five character values that become criteria, there are, religious, nationalism, integrity, independence and mutual cooperation. The method used in this study is development method. The study subjects were teachers and students in 1st, 2nd and 3rd grade in two elementary schools, namely Demangan Gondokusuman State Elementary School and the Rejosari Kotagede Yogyakarta State Elementary School. This study was conducted for one year including initial investigations, school mapping, system design and implementation in both schools. The results obtained from this study are the teacher can assess the character of students without a sense of injustice because it is according to the recommendations of the system, as well as facilitating the reporting results of the attitude or character assessment of each student.

054

MANUAL BOOK NON-CONTACT THERMOMETER FOR ELECTROMEDICAL

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Abstract. This study aims to produce a manual book as a guidebook for electromedicals in understanding non-contact thermometer medical instruments. This study adapts the Alessi and Trollip development model which consists of three stages, namely planning, design and development. The data analysis technique used descriptive analysis. This research produces a non-contact thermometer manual book that is ready to test product validation based on four assessment indicators, namely design, graphics, content, and usability. With the availability of the non-contact thermometer manual book, it is hoped that it can make electromedical work easier.

055

INFRARED SENSOR BASED TOUCHLESS WATER FAUCET DESIGN TRAINING FOR PUBLIC FACILITIES IN PATANGPULUHAN VILLAGE IN ORDER TO SUPPRESS THE SPREAD OF COVID 19

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Abstract. Mosques are public facilities used by many Muslims for worship. The use of manual water faucets alternately has the potential to be a medium for the spread of covid 19. This training aims to make touchless water faucets to suppress the spread of covid 19 in the Patangpuluhan mosque environment. The result of this training is that mosque youth are able to assemble water taps without touching it.

057

DEVELOPING ANDROID APPLICATION *TSANAWIYAH ENGLISH GRAMMAR (TEG)* BASED ISLAMIC CHARACTER FOR JUNIOR HIGH SCHOOL STUDENT

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ABSTRACT

This article illustrates an effort to create a learning media based on android application using adobe animate software to improve learning result of english grammar. English is the language of science and technology. This type of capability is important for student to to open a broader window of knowledge in the international arena. English is an important subject for junior high school students because it is used as a national exam. It has a strong influence in various fields, so the more people who use it the more benefits it will get for society. The lack of learning media in many schools caused the lack of student under-standing toward the topic. Especially during the Covid 19 pandemic, innovative media is needed that can solve students' problems in learning English. According to the problem above, this research employing Research & Development (R & D) approach to develop AR-based learning media to facilitate junior high student to learn English grammar more easily. The post-test has shown that there is an increased number of student learning result especially on English grammar topic. So, it can be concluded that TEG (Tsanawiyah English Grammar) based learning media has huge potential to facilitate student to learn English grammar in everytimes and everywhere.

058

STUDENT MATHEMATICAL ANXIETY IN INTEGRAL CALCULUS COURSES THROUGH ONLINE LEARNING

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Abstract. This study aims to determine students' level of mathematical anxiety in online learning in integral calculus courses. The type of research used in this study is descriptive quantitative. The research was conducted at STKIP Pamane Talino. Based on the results of the study we can conclude that most students (26 out of 30 students) have moderate anxiety levels. Although it is quite affecting the academic ability of students, but it can be said that the level of anxiety of students is not in a worrying condition, this can be seen in the absence of students who have high levels of anxiety.

059

ADAPTIVE TEAM BASED TRAINING AND VIDEO TUTORIALS FOR DISABILITY SURVIVAL SWIMMING FOR PRSI KULON PROGO SWIMMING TRAINERS

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ABSTRAC

The purpose of this service is to overcome the difficulties in coach PRSI in training pool for children with pandemic Covid19 disabilities in the era. The target to be achieved through these activities is to improve the understanding of the coach after being adaptive training related to pool safety for children with disabilities. In addition to understanding the coach, this activity is also expected to produce the video Tutorial on training pool safety for children with disabilities. The method of this activity is in the form of training for PRSI coaches in Kulon Progo Regency. After being given training material theory online, then the trainers will implement practices to train children with disabilities via online and video tutorials from Extraordinary watering vacuum school students in participating in swimming lessons at the pool association for Pandemic Covid 19. The training was held 2 times in the theory and practice, it is done so that participants not only understand the theory, but will receive guidance in training directly in the pool online and video tutorials.

Keywords: pool safety, children with disabilities

061

DESCRIPTION OF ADOLESCENT LEVEL OF KNOWLEDGE ABOUT EFFECTS OF DRUG CONSUMPTION ON OBESITY

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Abstract. The prevalence of obesity among adolescents in the world continues to increase. The same condition occurs in Indonesia, even in the Special Region of Yogyakarta (DIY) adolescents who are obese reached 8%. The condition of obesity can be triggered by various factors, one of which is the consumption of certain drugs. The purpose of this study was to obtain an overview of the level of knowledge of adolescents in DIY about the effects of drug consumption on the risk of obesity. This research is an observational study using purposive sampling technique with a questionnaire instrument. Respondents who are targeted are junior high school students, high school students and students who fall into the category of adolescents in DIY. Research shows as many as 74% of respondents do not know that the consumption of certain drugs can increase the risk of obesity. Antipsychotic drugs, antidepressants, antihyperglycemic agents, antihypertensives, and corticosteroids are known to increase body weight significantly but can be obtained easily on the internet. Purchasing drugs online can lead to a lack of knowledge of respondents about the risk of obesity which is triggered by consumption of certain drugs.

063

Finite Element Analysis of a New Dual Locking Plate for Femoral Shaft Fracture

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Abstract. Femur bone (thighbone) is a long and strong bone in the body [1]. Damage to the bone is usually caused by high energy collision [2], such as a motorcycle accident or blunt force impact. The elongated and straight part of the thighbone is called the femoral shaft [3]. When there is damage to this part is called femoral shaft fracture. In general femoral shaft fracture is divided into several types, namely transverse fracture, oblique fracture, spiral fracture, comminuted fracture, and open fracture [2].

In comminuted fractures, the bones break into three or more parts, so in some cases, this comminuted fracture creates a gap between the bones [4]. The treatment of comminuted fracture requires surgery and the help of fixation tools for its healing. This fixation tool serves to position the bones so that the bones heal perfectly. The types of fixation tools commonly used are external fixation [5], intramedullary nailing [6][3], as well as plates and screws [7][2]. Intramedullary nailing provides good bending resistance but is relatively less stable to rotation [8]. Plates and screws provide better rigidity and stability compared to intramedullary nailing, which is required in the handling of comminuted fractures. Dual locking plate is widely developed because it has superior stability, improves healing rate, and reduces the number of surgeries [9] compared to standard plate and screws [10].

Finite element analysis (FEA) is an effective method for evaluating and simulating the biomechanical properties of a plate model [11][12]. FEA is also used to provide valuable information to surgeons. FEA research related to bone plate has been done, including research on the comparison of PFNA, PFLP, and LISS using FEA [8], comparison of DHS and PFNA using FEA [14], as well as studies on dual locking plate [9].

The purpose of this study was to test the biomechanical properties of the new dual locking plate used in the handling of comminute fractures in femoral shafts using Finite element analysis (FEA).

064

**ONLINE MICROTEACHING PRACTICES: DEVELOPING
SOCIAL COMPETENCY INSTRUMENTS WITH THE
CONCEPT OF NETIQUETTE**

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Abstract. Online lectures during a pandemic require the implementation of online microteaching so that there is a need for adjustment of the assessment instrument during implementation, which is carried out online. This study aims to produce a student-teacher candidate social competence instrument with a valid and reliable netiquette concept approach. Trials were carried out three times, namely: initial trials in four schools with 12 student-teacher candidates as the trial subjects, then continued with operational field trials in 15 schools with 100 students as the trial subjects. The analysis used was confirmatory factor analysis and descriptive analysis. The results showed that social competence with the netiquette concept of prospective teacher students included three indicators: the ability to communicate that did not contain vulgar, rude, confrontational elements and contributed to the development of education through all forms of information. The confirmatory factor analysis results showed that all values $t_{count} > 1.48$, and the reliability is 0.72. The resulting model statistics show which model fit ($p = 0.12412$). The results of the descriptive analysis show that the indicators of communication skills do not contain vulgar, rude, confrontational elements and contribute to the development of education through all forms of information that are categorized as good.

Keywords: Microteaching, Social Competence, Preservice teacher, Netiquette

065

UTILIZATION OF CAMTASIA BASED ON SCREEN



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RECORDER AND VIDEO EDITOR AS INTERACTIVE LEARNING MEDIA

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Abstract. The rapid development of technology offers many applications that can be downloaded sacara free, especially applications for the creation of learning media. During the current covid 2019 pandemic, educators are forced to be able to deliver online learning with various media that can attract and easily understand students. Teachers must learn information technology, participate in trainings or workshops on the use of IT-based learning media so that online learning can be carried out to the maximum. The purpose of this research, introducing educators to the Camtasia application that can be used as an easy-to-use learning medium for beginners and make online learning more interactive and interesting for students. Camtasia is a software that can be used for screen recorders, making videos, video editing and video tutorials. Hopefully, it can help teachers in improving the quality of students' learning.

Keywords: Camtasia, Interactive Learning Media

066

IMPROVING THE ABILITY TO WRITE SCIENTIFIC PAPERS WITH THE WHOLE LANGUAGE APPROACH THROUGH THE MOODLE-BASED LEARNING MANAGEMENT SYSTEM (LMS)

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Abstract. Moodle-based Learning Management Systems have been widely used in learning during the Covid-19 pandemic, especially in Indonesia. In this regard, this study aims to identify and describe the implementation of the Whole Language Approach in improving the ability to write simple scientific papers for students at PGRI Yogyakarta University through the Moodle-based Learning Management System. The method in this research is descriptive qualitative with data in the form of descriptions of the results of research implementation supported by observations, interviews, theoretical studies, and relevant research. The results of this study indicate an increase in the ability to write student scientific papers in the experimental class after using the Whole Language Approach through Moodle-based LMS in learning to write. Several aspects that were assessed were structure, systematics, language use, content coherence, and references used. This increase is indicated by the test numbers before and after the use of the Whole Language Approach approach through the Moodle-based LMS LMS with mean values of 6.5 to 8.8 in the experimental class, and 6.7 to 7.1 in the control class. This shows that the use of the Whole Language Approach approach through Moodle-based LMS is proven to improve students' ability to write simple scientific papers.

Keywords: Learning Management Systems, Moodle, Whole Language Approach, Write Scientific Papers.

067

**REVIEW OF TWO-CONSTRAINT MINIMUM
PORTFOLIO RISK:A SIMULATION OF EXPECTED
RETURN SELECTION**Padrul Jana¹ and Dedi Rosadi^{2, a)}^{1,2}*Dept. of Mathematics, Universitas Gadjah Mada, Yogyakarta, Indonesia.*¹*Department of Mathematics Education, Faculty of Teacher Training and Education,
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Abstract. The process of selecting shares used to allocate investment funds must be carried out carefully and measurably. One of the steps in portfolio formation is to minimize the risk that may occur. This research revealed portfolio formation by using minimizing risk with two constraints. The preliminary step was to find each stock's weight that minimizes risk with constraints $w^T p = 1$ and $w^T r = r_0$. Furthermore, the simulation of the selection of r_0 varies was conducted and how the characteristics of λ , β , weight, and risk depended on the value of r_0 was seen. The results of portfolio formation showed that the highest return (mean) was in BAPB shares of 0.009538729 with a risk level (variance) of 0.006573788. In comparison, the lowest return was in LPGI shares of 0.000978691 with a risk level (variance) of 0.000411903. Then, a simulation was carried out with the selection of r_0 . The simulation that had been carried out showed that with the characteristic of r_0 closer to the maximum, the λ value decreased, and the β value increased. Meanwhile, the weight characteristics if r_0 was closer to the maximum for the six stocks would be 50% of the observed stocks tended to rise, 33% of the observed stocks tended to fall, and 17% of the observed stocks moved up but slowly. Finally, the measurement of the level of risk was directly proportional to the selection of r_0 . It meant that if you wanted the maximum return, you would get a high risk as well.

068

VEGETATIVE GROWTH OF SOYBEAN PLANTS (GLYCINE MARK L.) ON THE TYPE AND INTERVAL OF PGPR WATERING

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Abstract. This study aims to determine the type and watering interval of Plant Growth Promoting Rhizobacteria (PGPR) on the vegetative growth of soybean (*Glycine mark L.*). The design used in this study was a Randomized Completely Design (CRD) with two factors and 3 replications. The first factor is the type of PGPR which consists of 3 levels, namely without PGPR, bamboo roots, and corn roots. The second treatment was watering intervals with three levels, namely 1 day, 7 days and 14 days.

The results showed that there was an interaction between the type of PGPR and the watering interval on trifoliolate leaf area observation parameters. PGPR from maize roots and watering intervals of 7 days gave the best effect on the parameters of plant height, leaf area and number of productive branches.

Key word : PGPR, soybean, bamboo root, corn root.

069

MAPPING OF POTENTIAL EVACUATION ROUTES AND REFUGEE AREA FOR DISASTER MITIGATION BASED ON MICRO-TREMOR ANALYSIS IN BUILDING A AND BUILDING B, CAMPUS I, UNIVERSITAS PGRI YOGYAKARTA

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Abstract. This research is an initial study to map the level of vulnerability of buildings on the site of Campus I, Universitas PGRI Yogyakarta (UPY) as an effort to plan disaster mitigation accessibility, especially for earthquakes and fire hazard that often follow. The two main buildings were taken as research objects by considering the age of the buildings which are quite old (Building B) and the important functions they serve as the university administration area (Building A). The research method uses descriptive qualitative analysis method by means of measurement and direct observation of the object of observation. The level of fidelity is obtained from measurements using micro-tremor analysis of the FSR (*floor spectral ratio*). From the results of the vulnerability value obtained, and continued with the mapping of vulnerable and safety zoning.

This study aims to (1) determine the level of vulnerability of buildings to seismic vibrations in Building A and Building B as a reference for determining the path of movement in the building during disaster evacuation; and (2) mapping the indoor and outdoor safety zones in Building A and Building B, so that self-rescue efforts can be carried out quickly and safely in the event of a disaster.

071

**FLIPPED CLASSROOM MODEL IN MATHEMATICS
LEARNING: A BIBLIOMETRIC ANALYSIS STUDY**

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Abstract. The goal of this study was to detect and analyze research trends in the use of the flipped classroom model in mathematics education by publishing research findings from the years 2016 through 2021. The flipped classroom model is a mixed learning approach that incorporates two learning phases: outside the classroom learning and within the classroom learning. The flipped classroom learning model's technological execution varies, ranging from the use of technology and the use of learning films outside the classroom to the use of extra media integration inside the classroom. The adoption of the flipped classroom approach yielded a variety of benefits, particularly in mathematics instruction. However, a bibliometric review study is required to determine to what extent the research trend incorporates the flipped classroom approach. Four steps of systematic mapping were used in the research with the bibliometric kind of review analysis, namely: (1) Use the publish or perish program to look for papers in the Scopus.com database; clarifying the articles based on the research indicators used in the bibliometric analysis test; (3) validating and correcting any missing article information; and (4) conducting bibliometric analysis using the VosViewer program. The results of the bibliometric analysis indicated four findings, including (1) the trend of research using the flipped classroom model in mathematics learning continues to increase from 2016-2021, especially after the Covid-19 pandemic in 2020; (2) publications in the Journal of Physics: Conference Series became the most publications, that is 13 articles, for the category of publication in the type of international conference proceedings, and the International Journal of Mathematical Education in Science and Technology became the most publications, that is six articles for the publication category in reputable journals; (3) 2020 was the year that received the most publications, that is 15 articles in both journal publications and international conference proceedings; (4) In 5 months in 2021, there were five articles published in both journals and international conference proceedings. Based on these data, it can be stated that the flipped classroom approach is still popular today and will continue to evolve in the future among researchers.

073

CONSTRUCT VALIDITY OF SELF-REGULATED LEARNING IN THE COVID-19 PANDEMIC ERA: EXPLORATORY FACTOR ANALYSIS

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Abstract. This study aims to prove the construct validity of student self-regulated learning during the Covid-19 pandemic. Analyzes were performed using exploratory factor analysis to detect and assess latent sources of variation or covariation of the instrument. The research subjects were 108 students. The results of the analysis show that the construct of self-regulated learning during the Covid-19 pandemic consists of five factors, namely self-confidence, self-initiative, discipline and curiosity, learning time management, and self-control.

Keywords: self-regulated learning, construct validity, exploratory factor analysis

075

**DEVELOPMENT OF VIDEO-BASED LEARNING MEDIA
FOR ONLINE LEARNING OF VERNIER CALIPER
MATERIALS IN COURSE TOOLS & TECHNICAL
MEASUREMENT****Muhamad Amiruddin^{1, a)} and Yulia Venti Yoanita^{2, b)}****Author Affiliations**¹*Universitas PGRI Yogyakarta, Indonesia*²*Universitas PGRI Yogyakarta, Indonesia.***Author Emails**a) amiruddin@upy.ac.id

Abstract. Study habits at school and on campus must conform to the recommended health protocols set by the government to suppress the spread of Covid-19, namely by. There are many problems in online learning even though it is supported by the presence of communication technology, these problems include the lack of interaction between teachers and students. Teachers who interact with students are only 20%, the remaining 80% of teachers are limited to giving assignments without giving guidance or tutorials. For this reason, it is necessary to make video-based teaching materials on vernier caliper so that there are variations in learning models and resources that can be used by students in supporting teaching and learning activities in lectures. The purpose of this research is to produce and determine the feasibility level of video-based learning media for slide rule material. The research method used in this research activity is a research and development model. In this study, the development of video-based learning media based on the needs of the field will be carried out which results in 3 topics, namely 1) introduction and use of vernier caliper, 2) how to read vernier caliper, and 3) practice of reading vernier caliper. The data obtained will be presented in a qualitative descriptive form. The average result of research data validity test of teaching materials score 4 (good), learning design test score 4 (good), test media & learning communication score 4.25 (good), user response score 4.6 (good). The mean results of media trials in the small group got a score of 4.2 (good) and the large group got a score of 4.13 (good). From these results, it can be concluded that the video learning media of the slide rule material is suitable for use as a learning medium in the course of tools and measurement techniques.

076

EFFECTIVENESS OF PROBLEM BASED LEARNING TRAINING METHOD TOWARDS IMPROVING MOTORCYCLE MECHANICAL SKILLS IN BANTUL CITY

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Abstract. This research aims to find out the effectiveness of problem based learning methods in motorcycle mechanical training. The method used is quasi-experiment, the trainees are divided into two classes namely control class and experiment class. The training activity involved eight participants. The results showed that problem based learning methods have higher effectiveness. Experimental class that obtained problem based learning paltihan method resulted in effectiveness of 45%, sedangkan control class 30%. So it can be concluded that problem based learning is effective to be used as training.

077

GEOMETRY CONCEPT IN BANYUWANGI TRADITIONAL DANCE MUSIC

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Abstract. Music is a part of everyday life for every human being. Traditional music, especially music that accompanies traditional dances, is a part of a culture that has lost its closeness to student life. Whereas traditional music contains many interesting concepts of knowledge to be used as the basis for learning. Gandrung Jejer Jaran Dawuk (GJJJ) dance is one of the traditional dances from Indonesia which contains various concepts of knowledge. The accompanying music also contains many concepts of knowledge, particularly geometry. The concept of geometry that can be explored in the musical accompaniment of the GJJJ dance can then be used as a basis for learning geometry at elementary, secondary, and higher education levels.

079

APPLYING CODEIGNITER FRAMEWORK ON JHS WEBSITE DEVELOPMENT

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Abstract. The development of web-based programming languages is currently very fast. One of the developments of a web-based programming language is the discovery of CodeIgniter. CodeIgniter is a framework developed in the PHP programming language. CodeIgniter makes it quick and easy for a programmer to build an attractive and dynamic web application. CodeIgniter follows the Model View Controller (MVC) code pattern, so the code is divided into three parts. The model section contains calls related to database applications such as retrieving data, inserting, deleting and updating data. The view part is only related to the application view. The controller part is the bridge between the model and the view. The result of this research is that it is found that by using CodeIgniter the process of building a website application for a Junior High School profile (JHS) can be done in a more structured, easy and fast manner compared to using the native PHP programming language. This is because CodeIgniter provides a collection of procedures and classes that are ready to use, so a programmer does not have to create a procedure or class from scratch.

080

**HOW CAN WE GET THE SURFACE AREA ON THE
KENTONGAN ARTIFACT?**Niken Wahyu Utami^{1, a)} and Muhammad Iqbal Birsyada^{2, b)}

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Abstract. Kentongan is one of the cultural products of the people in Java. Kentongan is made from bamboo that is cut and perforated on one side. To finishing the look, *kentongan* can be painted with varnish. The amount of varnish needed to paint the *kentongan* can be calculated by estimating the surface area of the *kentongan*. The purpose of this study is to reveal the surface area of the *Kentongan* artifact. We made translation and elaboration problems and questions taken from the indigenous and the academic system. The results showed that the surface area is a double integral in calculus and the geometric area in school mathematics. Furthermore, the context of *Kentongan* has closeness to students in Java, so it is suitable for use in mathematics learning related to surface areas in schools.

081

SAFETY ENHANCEMENT WITH THE INTERNET OF MEDICAL THINGS OF PHOTOTHERAPY DEVICE DESIGN

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Abstract. *Babies suffering from hyperbilirubinemia should be treated with the help of phototherapy treatment. This research aims to design the development of therapeutic tools by implementing the internet of medical things technology to improve the safety of icterus patients who are being treated with blue light therapy. Implementation of this technology can affect the efficiency and effectiveness of health workers in monitoring and time setting. This research uses various components with cloud systems. This phototherapy system uses ESP as a microcontroller connecting IoT with an LM35 sensor that measures temperature while being treated. Then the LED is used to display the current temperature of the baby who is undergoing therapy. The buzzer sounds if the phototherapy temperature reaches 38C or more, because that temperature is the maximum limit in phototherapy treatment for jaundice. Monitoring of this system is done using the android system. This makes it easier for health workers to monitor temperature developments so that therapeutic accidents do not occur and increase the level of patient safety*

082

IMPLEMENTATION OF ONLINE LECTURES FOR STUDENTS WITH SPECIAL NEEDS AT UNIVERSITAS PGRI YOGYAKARTA DURING THE PANDEMIC

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***Abstract.** The COVID-19 pandemic has radically changed the world of education, both in terms of design, implementation, and evaluation. Face-to-face/offline learning adapts to being online to break the chain of transmission of COVID-19. Sudden and fundamental changes related to online learning during the pandemic, the author wants to dig deeper into how to implement online learning for students with needs at the university level, especially for students with special needs who are currently studying at PGRI Yogyakarta University. This study uses a qualitative approach using descriptive qualitative research methods with case study design. The steps taken in data analysis are through data reduction, data presentation or data display, and concluding (conclusions) and verification, with research participants being students with special needs at PGRI University Yogyakarta. The implementation of online learning at PGRI University, Yogyakarta, for students with special needs gets special attention due to different learning conditions, therefore various platforms are used to make it easier for students with special needs to learn. The platforms are Zoom Meeting, Google Meet, Wa Group, E-learning UPY, YouTube, Google Classroom. The platform has its strengths and weaknesses for students with special needs. The advantage of a conference-based learning platform is that learning can be done directly face to face so that the implementation of learning is not much different from face to face. conference platforms, among others, Zoom Meeting and Google Meet. Weaknesses of the conference platform include (1) it requires a strong and stable signal or network, whereas in some locations the situation is less supportive. (2) Adequate gadgets or PCs to access the platform*

083

TECHNOLOGY AND ACCESSIBILITY ON TIRTONADI BUS STATION FOR DISABILITIES

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Abstract. This research aims to describe and explore the phenomenon of the use of accessibility technology used for persons with disabilities at the tirtonadi bus station in Surakarta. Accessibility technology is needed to help people with disabilities access public facilities easily. The physical building and the function of facilities in public bus station must be friendly to persons with disabilities to ensure travel and the fulfillment of the rights of persons with disabilities. However, there are several reviews revealing that there are access and facilities that cannot be used. The results show that there must be minor improvements to the facilities that have been provided.

Keywords: Accessibility, Persons with Disabilities, Bus Station

084

SAFETY ENHANCEMENT OF HEALTH WORKERS WITH MIRA (MEDICAL INTERPERSONAL ROBOT ASSISTANT)

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Abstract. The Covid-19 pandemic is one of the biological hazard factors that causes high morbidity and mortality in health workers in hospitals. The form of transmission is by direct physical contact between patients who are positive for the corona virus and health workers. Then, in reducing the transmission, it is necessary to use an intermediary media to help health workers to treat Covid patients. This study aims to design a MIRA (Medical Interpersonal Robot Assistant) robot liaison between health workers and Covid patients. MIRA is an autonomous robot that runs based on a line follower program by utilizing an infrared sensor embedded in its microcontroller. This robot is in charge of delivering all the necessities needed by Covid patients, such as logistics and medicines. So that this robot can minimize patient contact with health workers.

085

SOYBEAN AGRONOMIC RESPONSE TO BIOCHAR AND WORM CASTINGS AT COASTAL SANDY

Indonesia's coastal sandy soil has the opportunity to be used as an agricultural land but must be enforced by technological input to increase soil's fertility and to improve soil physical characteristics. This study aimed to analyze the effects of biochar and worm castings on the agronomic character of soybean (*Glycine max* L. Merrill) in coastal sandy soil. The study was conducted in Completely Randomized Design, consisting of two factors with three replications. The first was biochar application, consisting of two level, i.e. without biochar and with biochar. The second was worm castings dosage, consisting of four level, i.e. 0, 10, 20, and 30 ton/ha. Data were analyzed by using analysis of variance at 5% significance level and followed with DMRT (Duncan Multiple Range Test) to identify the significance difference of the treatments. Observations were done on root length, leaf area, dry crop weight, net assimilation rate, pod number, seed weight per crop, harvest index. The result showed that the interaction between biochar and worm castings did not provide significant effect on the agronomic character of *Glycine max*. Biochar application did not provide significant effect ($P>0.05$) on root length, dry root weight, leaf area, dry crop weight, net assimilation rate, pod number, seed weight per crop, harvest index. Worm castings did not provide significant effect on agronomic character of *Glycine max*. The interaction between biochar and worm castings significantly effect the increase of protein content of seeds.

Keywords: "Biochar", "coastal sandy soil", "worm casting", "soybean".

086

ANALYSIS OF ONLINE LEARNING IMPLEMENTATION IN PRACTICAL COURSES AT PGRI UNIVERSITY YOGYAKARTA

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Abstract. Pandemics forcing learning in universities must be implemented online. The process of learning activities has been running a quarter of a semester, so it can not be anticipated the courses presented in the semester that has been running. Although there are practical courses that must be done, because of the limitations and rules of the government that prohibit direct learning, practical learning must be conducted online. This research aims to analyze the implementation of practice defense conducted online. This study uses a quantitative research method using questioner instrument. The results show that overall student assessment of the learning process is done well. Based on the analysis of the elements contained in online practice learning, it was found that the capacity of lecturers supports the learning process of practice conducted.

087

**DAILY STOCK PRICES PREDICTION USING BIVARIATE
VARIANCE GAMMA MODEL**Abdul Hoyyi^{1,2}, Dedi Rosadi^{1,a)}, Abdurakhman¹, Nanang Susyanto¹¹*Departement of Mathematics, Gadjah Mada University, Yogyakarta, Indonesia*²*Departement of Statistics, Diponegoro University, Semarang, Indonesia*^{a)} Corresponding author: dedirosadi@ugm.ac.id

Abstract. The Variance Gamma (VG) model is used to model financial asset prices as an alternative to the Geometric Brownian Motion (GBM) model. The GBM model assumes that asset log returns are normally distributed. In fact, many asset log returns are found that are not normally distributed, therefore another model is needed, one of them is the VG model. A three-parameter stochastic process, called the VG process, which generalizes the Brownian motion was developed as a model for the price dynamics of asset log returns. This process is obtained by evaluating Brownian motion with drift at random time given by the Gamma process. Two additional parameters are the drift of the Brownian movement and time-varying volatility. These additional parameters provide control over Skewness and Kurtosis. As well as the GBM model, the VG model is widely applied in stock price modeling. Theoretically, the movement of the stock price of one company will be followed by the movement of the stock price of another company. Therefore, it would be more appropriate if the modeling was carried out together, namely using the Multivariate Variance Gamma (MVG) model. In this study, the Bivariate Variance Gamma (BVG) model was used. The data used is the daily closing price of stock of PT Bank Rakyat Indonesia (Persero) Tbk and PT Bank Negara Indonesia (Persero) Tbk. The parameter estimation was carried out using the maximum likelihood approach. Meanwhile, stock price prediction was carried out by using a Monte Carlo simulation approach. In this study, the prediction results using BVG obtained MAPE value less than 10% which concludes that forecasting accuracy is excellent.

Key words : *Geometric Brownian Motion, Variance Gamma, Multivariate Variance Gamma, Bivariate Variance Gamma.*

090

DETECTION OF WORK PROTECTIVE HELMET USING ANDROID-BASED PCA METHOD

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Abstract. The development of face detection can be utilized in various fields, one of which is to detect work safety tools such as protective helmets in a project that requires work security. The face area is a part of the human body that is the focus of attention because it is the basis for detection because the face plays an important role by showing identity and emotion. Detecting work safety equipment in the form of a helmet is a challenge because of how to know the difference between a face and a helmet and not. Therefore, the face is used as an organ of the human body which is used as an indication for detection and can even be developed into a person's recognition or face recognition. Face recognition technology is a method used for detecting the discovery of images and videos. This research is to create a design concept to detect the face area using an android-based safety helmet. In this system, the pca method is used. Pca method is used for feature extraction from training and test images. This study aims to detect faces using a helmet properly with the hope that the accuracy of this method reaches 90%.

091

TRAINING FOR MAKING COUNSELING SERVICE MATERIAL VIDEOS USING THE SNAGIT APPLICATION FOR COUNSELING TEACHERS

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Abstract

The purpose of this service is to, 1) increase the understanding of BK teachers about how the screen recording system works using the Snagit application, 2) improve the ability of BK teachers in making videos with the screen recording system using the Snagit application to deliver BK service materials, and 3) improve the ability of teachers BK to upload the screen recording video to youtube. The method of service activities is in the form of video-making training workshops with the Snagit application screen recording system to deliver BK service materials to BK teachers in the SMA/MA Bantul Regency. This training was carried out for 8 days starting on April 9-16, 2021. Service activities were carried out online using zoom. The results of this service are 1) BK teachers understand how the Snagit screen recording application works, 2) BK teachers can make BK service videos using the Snagit application, and 3) BK teachers can upload their service videos to YouTube. Through this capacity increase, it will have an impact on improving the quality of service delivery to Guidance and Counseling teachers during the COVID-19 pandemic.

Keywords : Training, Counseling Services, Guidance and Counseling, Teachers, Snagit

092

ASSESSING LECTURER ASSESSMENTS AS PART OF MAINTAINING THE QUALITY OF LEARNING

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Abstract. The existing education personnel need to be seen and analyzed for their performance as educational milestones that hone students to know better in learning. The task corridor is very complex considering that there are many things that can affect each individual student. Quality learning is not only limited to the implementation of learning in the classroom but also reporting and evaluation carried out by teachers or lecturers. This important role is one of the basic skills as a teacher or lecturer. This research is a research that combines data collection using qualitative methods and quantitative methods. The instruments used are Questionnaires, Interviews, and Documentation. Based on research and the Linkert scale, the level of ability of lecturers at PGRI Yogyakarta University is at the "enough" level or 41% - 60%. This is a note that one of the competencies of a lecturer regarding evaluation questions needs to be improved and followed up to make it better.

093

SMART ENTRANCE ACCESS TO THE COMPUTER LABORATORY

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Abstract. With the rapid development of technology, an effective and accurate design is needed to solve a problem. The use of the presence system conventional way by recording in the attendance book manual, time consuming and less accurate. System student attendance for computer-based laboratory access finger print and web case study of SMP Negeri 2 Godean, Yogyakarta is a system that aims produce an efficient attendance system design for students and facilitate data management in SMP Negeri 2 Godean. The making of this student attendance system uses ways of collecting data, supporting literature studies problem solving for designing hardware and software is accompanied by hardware and software testing. The results of testing this attendance system as an efficient tool and facilitate data management at SMP Negeri 2 Godean.

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DESIGNING A DIFFERENTIAL CALCULUS TEXTBOOK FOR MATHEMATICAL GUIDED INQUIRY

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Abstract. This study aimed to develop a high-quality textbook for Differential Calculus and evaluate its effectiveness. The textbook was designed to support students learning using guided inquiry and to improve their mathematics thinking ability. The indicators of the high-quality textbook referred to three criteria offered by Nieveen: validity, practicality and effectiveness. The stages of development referred to the Four-D model by Thiagrajan, Semmel & Semmel. A field trial for the textbook was carried out and 23 students of an undergraduate educational school became subjects for the trial. The study results show that the developed textbook is valid to be used as a learning resource for differential calculus.

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DEVELOPING “ENGLISH FOR MATHEMATICS” LEARNING MEDIA ASSISTED WITH MACROMEDIA FLASH TO FACILITATE STUDENTS ONLINE LEARNING

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Abstract. The integration of media technology in the learning classroom is the most innovative and suitable with the online learning as an impact of the Covid-19 pandemic to overcome students' lack of vocabulary mastery related to Mathematical terms. The study aims to develop an interactive learning media “English for Mathematics” assisted with Macromedia Flash for Mathematics Education Study Program students in online learning. The research implemented the ADDIE development model, i.e. Analysis, Design, Development, Implementation, and Evaluation. The media was evaluated from three criteria such as validity that has been assessed by material and media expert, practicality that was measured from students' response, and effectiveness that was obtained from the student test result. In conclusion, the “English for Mathematics” learning media was feasible to promote students in online learning

Keywords: English for Mathematics, Learning Media, Macromedia Flash

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PRACTICALITY OF E-MODULE USING KVISOFT FLIPBOOK ON NUMBER PATTERN MATERIAL ON MATHEMATICAL CREATIVE THINKING ABILITY OF JUNIOR HIGH SCHOOL STUDENTS

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Abstract. Mathematics learning innovations in teaching materials used in schools are still in the form of printed books from the government. In this 4.0 era, the use of technology can be used to make teaching materials in the form of e-modules or electronic modules using the Kvisoft Flipbook application. The purpose of this study was to determine the validity, practicality, and student responses to the design of the number pattern e-module based on mathematical creative thinking skills using the kvisoft flipbook application so that it can be used as a learning resource for students both in the classroom learning process and independent learning. The method used in this research is descriptive qualitative research method. The data collection technique used is through a validation questionnaire, user practicality questionnaire and student response questionnaire to e-modules. The results of the study show that this e-module is very feasible to use with the results of material expert validation of 95%, media expert validation of 87%, user practicality of 94%, and student responses to e-modules of 81%. Based on the results of this study, the e-module design using the kvisoft flipbook maker application based on mathematical creative thinking skills is appropriate for use in the learning process for class VIII number pattern material.

Keyword: Data Mining, K-Means, Clustering, Local tax, Land and Building Tax (PBB-P2), receivable

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**ONLINE LEARNING OF MATHEMATICS IN HIGHER
EDUCATION DURING COVID-19: LECTURER'S POINT
OF VIEW IN INDONESIA**Turini Erawati^{1, a)} Yusida Gloriani^{2, b)} Setiyani^{3, c)} Anggita Maharani^{4, d)} Siska Firmasari^{5, e)}

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Abstract. The Covid-19 pandemic has disrupted the face-to-face learning process in universities. Starting from mid-March 2020 until now in June 2021, lecturers conduct online learning at home. The purpose of the study was to obtain an overview of the implementation of online learning in universities throughout Indonesia. The aspects studied are planning, implementation, evaluation and challenges. The research instrument is the researcher, unstructured interview guidelines and questionnaires distributed via google form. Data analysis was carried out using the Miles & Huberman interactive analysis technique. Based on the research, it is found that lecturers prefer to use teleconferences such as zoom compared to LMS provided by their respective universities. Implementation during online learning is designed like face-to-face in class. Lecturers continue to provide material explanations, group discussion materials, group presentations and provide projects on a regular basis. The biggest challenges faced by lecturers are the learning atmosphere that is not conducive, students are less active, and the assessment can only measure cognitive aspects. This research can be a reference to explore what difficulties students face while carrying out online learning.

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INTERACTIVE LEARNING MEDIA “DIRECT STEPS” TO FACILITATE BILBUL CONCEPT UNDERSTANDING ABILITY IN ELEMENTARY SCHOOL

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Abstract. The aim of this research is to analyze interactive media-based Macromedia Authorware 7.0 Mathematics related to the quality and effectiveness of developed learning media. The populations in research were all fourth grade students of elementary school in Bibis academic year 2018/2019 with a sample amount of 56 students. The data understanding the concept of integers were collected using tes and media quality were collected using questionnaire. The data were analyzed by using descriptive statistic and t-test. The research result shows that: (1) the product quality of the media expert and the material expert indicates that the product developed including good criteria with an average of 85 (2) the average post test grade of the experimental class is 89.90 and the average post test grade of the control class is 81.78, and (3) t-test results to post test shows that the value of significance obtained $0.00 < 0.05$, which means there is a difference in the value of post test Mathematics between the experimental class and control class where the average value of post test experimental class is higher. Based on the results of this research can be concluded that learning using media-based learning authorware 7.0 proved more effective against understanding the concept of integers mathematics subjects class IV 3 Jarakan Elementary school.

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**TEACHER TRAINING FOR DEVELOPING
MATHEMATICAL LITERACY PROBLEMS**Abdul Aziz Syaefudin¹, Niken Wahyu Utami², Koryna Aviory³^{1,2,3}*Department of Mathematics Education, Faculty of Teacher Training and Education,*
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Abstract. Assessment is closely related to evaluation. Assessment in the world of education is important to do to determine the quality of education in schools. The quality of education and learning in schools will be seen with the assessment. The Independent Learning Policy focuses on assessing school quality, through three competencies, namely the Minimum Competency Assessment (AKM), Character Survey (SK), and Learning Environment Survey (SLB). The assessment carried out will be input for each school to improve its quality. Teachers must be prepared to face the Freedom of Learning policy. One of them is by training teachers in making assessment instruments. The instrument made focuses on AKM numeracy literacy. The purpose of the activity is how the results of developing numeracy literacy AKM questions for mathematics teachers at the SMP/MTs level are. The subject of the training was MGMP mathematics at the SMP/MTs level in Bantul Regency. The results of the activity showed: (1) about 28.57% of the workshop participants who submitted their assignments correctly in making the AKM numeracy literacy questions, both in terms of making grids and in developing questions; (2) as many as 6 people experienced errors in determining the context; (3) only three people were asked to revise related to the editorial.

Keywords: assessment, AKM, literacy, numeracy

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**SPATIAL ZONE ANALYSIS OF EARTHQUAKE IN
SUMATRA**

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Abstract. From the point of view of spatial statistics, there is a relationship between the occurrence of earthquakes between points of occurrence, where the results are statistically close to the occurrence of earthquakes between points of location. Statistically, the proximity and characteristics of these earthquake points can be grouped using a cluster analysis approach. Cluster analysis is a multivariate grouping method with the main objective of grouping subjects or objects based on their similar characteristics. Cluster analysis has high homogeneity (similarity) between members in one group, high heterogeneity (difference) between one group and another. This study will classify earthquake events, analyze the characteristics of earthquake events, create earthquake zones and mapping them using K-Medoids cluster analysis. The variables used in this study are *latitude, longitude, depth* and *magnitude* of the earthquake in Sumatra (1 January 1970 to 31 December 2020) obtained from the *United States Geological Survey* (USGS) website. The minimum magnitude scale used is Mw 5 with a depth of 0-50 km (shallow earthquake) and a depth of 50-300 km (medium earthquake). The results of data clustering using $k = 2, 3, 4, \dots, 6$ it is found that in general the earthquake zone is at two sources i.e. subduction zone and the Sumatran fault zone. So, Sumatran region located on the western edge frequent occurrence of earthquake, whether it's an earthquake with a magnitude of small or large magnitude earthquake.

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DEVELOPMENT OF UPY INTERNAL CONTROL DECISION SUPPORT SYSTEM BASED ON COSO FRAMEWORK

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Abstract. Development of UPY's internal control instruments based on the COSO framework that can be easily implemented in higher education governance, by making adjustments between COSO principles and higher education governance. The five COSO components can be described in several principles and then mapped to higher education governance and produce a partial portrait, then an analysis is carried out to determine improvements so that the control process functions.

Novelty or innovation found in this research is the implementation of COSO combined with the university's internal quality assurance system with qualitative data retrieval. This system is made web-based, making it easier to implement the system. The system that will be made consists of two entities, namely: user and admin. From the user side, all related units/bureaus are in UPY, while the admin will be held by the leadership. Reports from the admin side will automatically provide recommendations in the form of scores or scores in the form of graphs and recommendations in the form of strategies.

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THE EFFECT OF REGENERATOR'S RADII ON LOW HEATING TEMPERATURE OF 4-STAGE THERMOACOUSTIC ENGINE UTILIZING SOLAR AND WASTE HEAT

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Abstract. Handling thermal pollution due to industrial waste heat seems to be most promising field. Moreover the abandon solar heat is also essential to be utilized as a renewable energy source. Converting heat into useful power such as acoustic power for driving cooler or electric power generation has becoming attracting thermoacoustic topic for many researchers. To design a thermoacoustic system having low-grade heat, the effect of radii of the engine stacks was investigated because the radii are the heart of the thermoacoustic engines. It was found that the the best radii for obtaining low heating temperature on the engines are $r/\delta = 1.2$. We found that the lowest heating temperature is 43°C.

Keywords: Thermoacoustic Engine, Low Heating Temperature, waste heat, solar heat

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**RESPONSE OF GROWTH AND YIELD OF SALIBU RICE
ON THE STEM CUTTINGS HEIGHT OF PARENT RICE
AFTER HARVESTING**

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Abstract. Salibu rice is the cultivation of crops derived from the stem cuttings of parent rice after harvesting. The remaining stems provide non-structural carbohydrate reserves to support the emergence of new shoots as salibu rice. The stem cutting height would affect the response of growth and yield of salibu rice. This study aims to know the optimal height of stem cuttings to provide maximum growth and yield of salibu rice. This experiment is a pot experiment arranged in a completely randomized design (CRD) with 3 replications. Treatment of stem cuttings height consisted of six levels, namely: 0, 5, 10, 15, 20, and 25 cm. Observational data were analyzed by analysis of variance at 5% significance levels. To determine the difference between treatments was used Duncan's multiple distance test at 5% significance levels. The results showed that there were differences in the response of the growth and yield of salibu rice from the differences in stem cuttings of parent rice after harvesting. Stem cuttings higher lead to the time of flowering and harvesting faster, tillers number and shoot dry weight higher, and leaf greenness and yields lower. Stem cuttings lower resulted in the time of flowering and harvesting slower, tillers number fewer, shoots and grain dry weight lower. The highest grain dry weight of the Cakrabuana Agritan variety was produced by stem cuttings as high as 5 cm from the soil surface with a yield of 3.8 tons ha^{-1} or 54.5% of the parent rice. The stem cuttings as high as 5 cm after harvesting was the optimal treatment to get the maximum growth and yield of salibu rice. Further future research can be tested in the different rice varieties with stem cuttings as high as 5 cm.

Keywords: carbohydrates, salibu rice, stem cuttings, transplanting system, parent rice.

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**THE EFFECT OF SELF-EFFICACY ON STUDENTS'
CRITICAL THINKING SKILLS IN MATHEMATICS
SUBJECTS**Kintoko^{a*, b}, S. B. Waluya^c, and M. Asikin^d^aDoctoral Student of Graduate School Universitas Negeri Semarang, Indonesia, email: kintoko.unnes@students.unnes.ac.id^bLecturer of Mathematics Education, Universitas PGRI Yogyakarta, Indonesia^cUniversitas Negeri Semarang, Indonesia, email:^dUniversitas Negeri Semarang, Indonesia, email:

Abstract. *Critical Thinking Skills (CTS)* are one of the must-have skills for students in the 21st century. Research related to CTS students in Indonesia discusses how student CTS, including discussing the factors that affect student CTS, one of which is the influence of student self-efficacy. This study will review the literature using systematic literature review related to whether self-efficacy affects students' CTS. The criteria of literature used in this study are journal articles or conference proceedings indexed Scopus, Sinta, or Google Scholar with a maximum year of publication of the last 5 years (year 2017-2021). The purpose of this study is to identify, review, and make conclusions from literature relevant to the influence of self-efficacy on students' CTS on mathematics subjects. Based on the results of the analysis of data from the literature that became the research data, self-efficacy affects students' CTS in mathematics subjects. With this research can provide information related to the influence of self-efficacy on student CTS as well as opportunities to conduct research related to self-efficacy and CTS.

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**TECHNOLOGY-BASED DISASTER MITIGATION
TRANSFORMATION FOR GEO-HAZARD RISK
REDUCTION**Dewi Liesnoor Setyowati^{1, a)}

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Abstract. As disasters continue to occur, various efforts are made to deal with them. In this digital era, technology plays an essential role in disaster mitigation and management efforts. In addition, society is increasingly adapting to technology. This research aimed to 1) identify the technology of disaster mitigation from disaster management institutions in Indonesia and 2) analyze transformation disaster mitigation technology for GeoHazard disaster risk reduction. This study applies a literature study approach to explore disaster technology data in several disaster management agencies. Research objects from five non-departmental government institutions that manage disasters in Indonesia. Secondary data was collected from websites of disaster management agencies, journal articles, activity reports, and books related to technology and disasters. Data analysis was carried out by descriptive and comparative analysis. Each non-departmental agency that manages disaster data manages specific data that can support analysis, evaluation, and prediction of disasters in Indonesia. Disaster technology as a disaster mitigation effort is published to the wider community to reduce disaster risk. Technologies used for disaster mitigation in Indonesia include Web-MobileGIS and Data Sources (WebGIS) InaRisk, Tsunami Early Warning System (INATEWS) 4.0, Indonesia Tsunami Early Warning System (InaTEWS), Landslide Early Warning System (LEWS), MAGMA Indonesia, and Geospatial Technology (InaGeoportal). The transformation of disaster technology is continuously used for disaster risk reduction in Indonesia.

Keywords: Interactive Book, Flood, Disaster Education

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THE EFFECT OF SAGO WORM (RHYNCHOPHORUS FERRUGINEUS) FLOUR ON INSULIN-LIKE GROWTH FACTOR 1 (IGF-1) LEVEL OF WISTAR RATS WITH DIET LOW PROTEINLara Ayu Lestari¹, M. Sulchan¹, Anang M Legowo², Luthfia Dewi^{5,6}¹Departemen Ilmu Gizi, Fakultas Kedokteran, Universitas Diponegoro, Jl. Prof. Sudarto SH, Tembalang, Semarang, Jawa Tengah . Email: laraayu014@gmail.com.²Program studi Teknologi pangan, Fakultas Peternakan dan pertanian, Universitas Diponegoro, Jl. Prof. Sudarto SH, Tembalang, Semarang, Jawa Tengah. Email: anang_ml@yahoo.com.⁵Departemen Ilmu Gizi, Universitas Muhammadiyah Semarang, Email: luthfia@unimus.ac.id⁶Institute of Sports Science College of Kinesiology, University of Taipei, Taipei 11153, Taiwan**abstract**

Background: Kwashiorkor is a type of protein energy deficiency (KEP) caused by protein deficiency. Sago caterpillar flour (*Rhynchophorus ferrugineus*) can increase IGF-1 levels due to its high content of glycine, lysine, and phenylalanine amino acids. **Purpose:** Proving the effect of administering flour ulat sago (*Rhynchophorus ferrugineus*) increases igf-1 levels of Wistar rats with a low-protein diet. **Method** : True experimental research -pre post control group. Intervention was given for 28 days in 28 Wistar mice, divided into four groups with each group numbering seven mice. The dose of sago caterpillar flour was 0.36 g / 100 g of rat weight / day (P1), and a dose of 1.36 g / 100 g of rat weight / day (P2) against mice given a low-protein diet. The treatment group was compared to the group of mice given a low-protein diet (K+) and the healthy rat group (K-). Serum IGF-1 levels are measured by elisa method. Statistical analysis using *paired t-test/Wilcoxon* and one way ANOVA/*Kruskal Wallis*. **Results:** There was a significant increase in IGF-1 levels in the P1, and P2 (p=0,000) groups. There were significant differences in IGF-1 levels in the P1 and P2 groups compared to the K+ group (P=0.000). There is a meaningful difference in the increase in IGF-1 levels between P1 versus P2 (p=0.000). **Conclusion:** Sago caterpillar flour dose 0.36 g / 100 g rat body weight / day and dose 1,36 g / 100 g rat body weight / day can increase IGF-1 levels.

Keywords: Low Protein Diet, IGF-1, Sago Caterpillar Flour



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DESIGN AND CONSTRUCTION OF AQUAPONIC TECHNOLOGY IN LIMITED WATER SOURCES AREA THROUGH THE DEVELOPMENT OF A CIRCULATION AND BIOREMEDIATION SUBSYSTEM

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Abstract. One form of urban agriculture that is being promoted is aquaponic farming system. Aquaponics is a technology that combines fish and plants in one system. The purpose of this research is to produce appropriate technology in the form of aquaponics technology innovation, with modifications to the circulation subsystem and environmental-based bioremediation that can be used in areas with limited water sources. This study uses a Research Development design. The development of the aquaponics technology design is carried out on campus, while field trials are carried out at the Fisheries Laboratory. The results showed that the development of the circulation and bioremediation subsystem had a significant effect on increasing the growth and production of pakcoy, as well as increasing the survivor rate and growth of catfish. From the results of the study, it can be concluded that the development of the circulation and bioremediation subsystem can increase the effectiveness of the aquaponics technology.
Key words : Aquaponics, circulation, bioremediation, Pakcoy, Catfish

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EFFECTIVENESS OF DIGITAL INTERACTIVE BOOK TECHNOLOGY FOR FLOOD EDUCATION

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Abstract. Floods persistently hit Brangsong District (Kendal-Indonesia) in 2018–2021, making pre-flood education for students in the affected area paramount. The purpose of the research was to analyze the use of digital interactive book technology in providing flood disaster education to students. Thirty-five respondents were sampled purposively from the research population with these characteristics: students living in flood-prone areas in Brangsong District and having reliable internet connections. The research variables were the level of knowledge of floods and the effectiveness of the digital interactive book for flood education, with relevant data collected through observation, interviews, and questionnaire surveys. Two sets of questionnaires were used: disaster knowledge questionnaire delivered at pretest and posttest and media effectiveness questionnaire. Data analysis employed descriptive statistics, particularly percentage. The pretest result was 42%, meaning that the sampled students initially had moderate flood disaster and preparedness knowledge. These students were later given pertinent disaster education by using the designed digital interactive book technology available online. Their experience with the book was evaluated using the media effectiveness questionnaire, and the result showed 89% (strongly agree). After receiving the disaster education, the students were asked to fill the posttest disaster knowledge questionnaire. Based on the responses, the student's knowledge level substantially increased to 90% (very high). The digital interactive book positively affects students' knowledge of flood preparedness in the district, proving its effectiveness as a disaster education media.

Keywords: Interactive Book, Flood, Disaster Education



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LIST OF ABSTRACT (AP)

004

DOES ENVIRONMENTAL INFORMATION DISCLOSURE MEDIATES THE EFFECT OF ENVIRONMENTAL COST ON ENVIRONMENTAL PERFORMANCE?

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Abstract. Environmental performance is a measure created by the government to determine the company's concern for the environment. This research was conducted with the aim of knowing the effect of environmental costs on environmental performance through environmental information disclosure as a mediating variable. This research was conducted using manufacturing companies in Indonesia which were registered from 2015-2019 as a population with company annual reports as the data source. The sample selection in this study was carried out using certain criteria or purposive sampling method. The data obtained in this study were 12 companies. The results prove that 1) environmental costs have no effect on environmental performance, 2) environmental costs have a positive and significant effect on environmental information disclosure, 3) environmental information disclosure has a positive and significant effect on environmental performance, 4) environmental information disclosure mediates the effect of environmental costs on environmental performance. Based on these findings, manufacturing companies in Indonesia are expected to be able to improve the quality of information in disclosing environmental information.

Keywords: Environmental Cost, Environmental Information Disclosure, Environmental Performance

005

THE EFFECT OF NON-FINANCIAL CHARACTERISTICS ON THE EFFECTIVENESS OF LOCAL GOVERNMENT PERFORMANCE BY USING THE ACCRUAL-BASED GOVERNMENT ACCOUNTING SYSTEM

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Abstract. This study aims to test the effect of non-financial characteristics on the Effectiveness of Local Government Performance by using the Accrual-Based Government Accounting System. The number of samples used in this study was Audit Result Report (LHP) of Provincial / Regency / City Regional Government Financial Statements (LKPD) in Central Java for the 2016-2019 Fiscal Year, which has been compiled based on the Government Accounting Standards Statement (PSAP). The results prove that the complexity of local government has a positive effect on the effectiveness of local government performance, while the level of leadership education and audit opinion does not affect the effectiveness of local government performance.

Keywords: The level of leadership education, audit opinion, the complexity, the effectiveness, local government performance.

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RELATIONSHIP MARKETING AND CONSUMER LOYALTY ON LOCAL FAST-FOOD RESTAURANT IN YOGYAKARTA

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Abstract. This research aims to examine the effect of relationship marketing on consumer loyalty in local fast-food restaurants in Yogyakarta. Relationship marketing consists of trust, communication, commitment, and conflict handling. The method of this research is using a quantitative approach. The research's data are primary data collected through distributing questionnaires to consumers of local fast-food restaurants; 136 responses have been collected for further processing. The data in this research were processed using SEM analysis techniques using the Warp-PLS 7.0 analysis tool. The results showed that trust, communication, and commitment positively and significantly affect consumer loyalty. On the other hand, the conflict handling variable has a positive but insignificant effect on consumer loyalty.

Keywords: The Appropriate Technology, Mushrooms, Street Children and Hafara

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POLITICAL PARTICIPATION OF SLEMAN PEOPLE DURING THE COVID-19 PANDEMIC IN THE CONTEXT OF CITIZENSHIP EDUCATION

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ABSTRACT

Throughout 2020, Indonesia faces a Covid-19 pandemic that has made all living settings undergo significant changes including political and educational fields. The government insisted on carrying out the election of the Regional Head on December 9 when the Corona outbreak had not subsided which made the political participation of the people in Sleman Regency decreased. This is inversely proportional to the field of education, where the government issued a policy in the form of distance learning under the pretext of breaking the link of the spread of the virus. The purpose of this research is to find out the political participation of the people of the Sleman Regency in the general election during the Covid-19 Pandemic. This research uses qualitative methods with data collection techniques through observation, interview, documentation, and literacy. The results of this study showed that the political participation of the people of Sleman District was very low in the midst of the outbreak as well as the function and role of Citizenship Education as political education, tested its toughness in building community political participation in pandemic era.

Keywords: Political Participation, Covid-19, and Citizenship Education.

016

**THE EFFECTIVITY OF DIRECTED READING
THINKING ACTIVITY (DRTA) STRATEGY IN READING
COMPREHENSION LEARNING AT GRADE IV OF SD
ISLAM AL AZHAR 31 YOGYAKARTA IN 2019/2020
ACADEMIC YEAR**

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Abstract. This research aims to identify the effectiveness of the use of Directed Reading Thinking Activity (DRTA) Strategy in reading comprehension learning at grade IV. This research was conducted at SD Islam Al-Azhar 31 Yogyakarta in 2019/2020 academic year. This was a Quasi Experiment Research with Non-equivalent Control Group Design design. Test result on independent samples indicated t index = 3.118 at significance level of 0.003. It is, therefore, concluded that DRTA strategy is effective in reading comprehension learning at grade IV

020

WHY DO PEOPLE BUY VIRTUAL ITEMS? AN ASSESSMENT USING THEORY OF FUNCTIONAL VALUE

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Abstract. This study tries to investigate the intention to purchase virtual items in online games. In online games, players can buy virtual items that can be used to improve their character's abilities. Researchers use the theory of functional value to test the purchase intention of virtual items regarding what factors influence their purchase intention. Our respondents numbered 100 students, and data testing was carried out by multiple linear regression analysis. Our results indicate that the price utility is a factor that influences the purchase intention of virtual items. We found that character competence and functional quality did not affect purchase intention of virtual items, which was estimated to be related to social aspects in virtual communities.

Keywords: theory of functional value, character competency, price utility, functional quality, intention to buy, mobile game

025

ANALYSIS OF VOCATIONAL SCHOOL PROFILE IN INDONESIA: A LITERATURE STUDY

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Abstract

Recently, vocational education has become very strategic as one way to provide education, such as that high vocational high school (SMK) have more increasing role in the education sistem in Indonesia. Therefore, it is important to know more about the current SMK (Vocational High School) profiles in Indonesia. The objective of this study was to trace and analyze documents regarding the existence and condition of SMK at this time, regarding to the 4.0 industrial revolution context and the efforts should be made to maintain the relevance of the existence and policies taken by policymakers and stakeholders. This is necessary to maintain education in SMK so that it remains relevant to the context of 21st-century education as an effort to prepare the industrial generation 4.0. This study is a systematic literature review. As the World of Work's Need for High-Order Skills increases, new skills will be needed in this era of automation. These skills are not only about technical skills but also include higher social, emotional, and cognitive skills, such as creativity and complex problem-solving abilities.

Keywords: SMK, Literature Review, 21st century, Vocational Education

026

DETERMINANTS OF CASH WAQF GIVING: THE ROLE OF PERCEIVED IHSAN, ISLAMIC EGALITARIANISM, PERCEPTION, AND AWARENESS OF CASH WAQF.

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Abstract. Cash waqf can support economic activity, especially in Indonesia, a country with the majority of the population is a Muslim. However, Muslim in Indonesia still have limited knowledge about waqf. In addition, The Charities Aid Foundation stated that Indonesia was the most generous country in the world in 2018, so cash waqf is one of the donation types that has the opportunity to be developed more comprehensively in Indonesia. This study aims to examine the role of perceived Ihsan, Islamic Egalitarianism, Perception, and Awareness of Cash Waqf on cash waqf giving. Used PLS-SEM to test the hypotheses, the result showed that perceived Ihsan, Islamic Egalitarianism, Perception, and awareness of waqf have positive impact on cash waqf giving. The results of this study are expected to contribute to the knowledge of waqf research.

027

ISLAMIC SOCIAL REPORTING (ISR) ON ISLAMIC BANKING IN INDONESIA

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Abstract. The objective of this study is to determine profitability, liquidity, company size, and leverage on the disclosure of Islamic Social Reporting (ISR) on Islamic Banking in Indonesia. The period of research is 2016-2019. The study uses a quantitative approach. The study population includes all Islamic banking in Indonesia registered with the Financial Services Authority for the period 2016-2019. The sample is determined by purposive sampling technique so that there are 32 financial reports from 8 Islamic commercial banks. The method of data analysis used is multiple linear regression. The results of the study concluded that (1) Profitability does not affect the disclosure of ISR. (2) Liquidity affects the disclosure of ISR. (3) The size of the company does not affect the disclosure of ISR. (4) Leverage affects the disclosure of ISR.

029

THE EXTENSION OF CONSUMER BRAND ENGAGEMENT FRAMEWORK : INDONESIAN SMARTPHONE BRANDS CONSUMERS

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Abstract. This research aimed to identify evidences regarding the nexus between the antecedents of CBE dimensions and consequences on smartphone brands in Indonesia. Data were collected by online questionnaire targeted to the total of 1251 smartphone users/consumers in Indonesia. AMOS SEM is used in processing the statistical tests of this research. Convergent validity and composite reliability also used to check the questionnaire items. Consumer involvement and self-expressive brand affects all the CBE dimensions (COG, AFF, ACT) while consumer participation only affects one of CBE dimensions (COG). Subsequently, CBE dimensions affect brand usage intent and self-brand connection. Therefore, we contribute to the body of work of Consumer Brand Engagement literature.

030

TRANSFORMATIONAL LEADERSHIP AND ORGANIZATIONAL CITIZENSHIP BEHAVIOR IN THE COVID-19 PANDEMIC ERA: MEDIATING ROLE OF JOB SATISFACTION

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Abstract

Purpose - This study examines the relationship between transformational leadership on organizational citizenship behavior mediated by job satisfaction.

Design/methodology/approach - Quantitative design is used to test models and hypotheses. It uses a sample of 116 professional-level employees representing team members from the marketing, accounting, human resources department, and operations departments of 35 WOs operating in DIY. Data were analyzed using least squares structural equation modeling (PLS-SEM).

Findings - The results show that transformational leadership has no effect on job satisfaction but positively affects organizational citizenship behavior. Job satisfaction also cannot mediate the effect of transformational leadership on organizational citizenship behavior.

Originality/value - This study contributes to the literature by providing empirical findings that transformational leadership is a significant predictor of organizational citizenship behavior.

Keywords transformational leadership, job satisfaction, organizational citizenship behavior

034

STUDENTS' PROBLEMS TO PARAPHRASE ACADEMIC JOURNAL TO AVOID PLAGIARISM

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ABSTRACT

Abstract. Writing academic research paper for undergraduate students becomes more challenging when they found that they do plagiarism, either intentionally or unintentionally. This research is intended to identify factors which make students' paper is scientifically proven to be the plagiarism. The research's framework would be on the grammatical and diction mistakes which were produced during paraphrasing the reference. The results would be used for English lecturers in designing the English teaching material from the first until fourth year. 21 students of English Education Study Program at the fourth semester would be used as the sources of research data; they are required to paraphrase the research paper they use as their research references. The products, written in English, would be analyzed in the frame of grammatical and diction errors and would be used as the central issues to have the better design of teaching syllabus. It is expected that the most student's problems on paraphrasing g would generate the most suit English teaching focus.

035

DEVELOPMENT OF “ENGLISH CLASSROOM INSTRUCTION” MODULE TO SUPPORT STUDENTS’ ABILITY IN BILINGUAL LEARNING

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Abstract. There are no teaching materials aided in teaching bilingual learning for students of Elementary School Teacher Training (PGSD). This module helps students to practice teaching using English as bilingual classroom instructions so as to build creativity in teaching techniques and introducing English in pupils’ daily interaction. This study aims at producing an English classroom instructions module to improve their ability in bilingual learning. The study was conducted in research and development method. It applied the Borg and Gall stages, namely 1) research and data collection, 2) planning, 3) developing initial products, 4) initial field testing, 5) major product revisions, 6) main field testing, and 7) operational product revision. Data was collected through observation, questionnaires, and tests. Data was analyzed by averages and Paired Sample T-Test. The result shows that the English classroom instructions module is feasible to use in bilingual learning, as indicated by the media expert validation obtaining an average score of 4.14 namely good criteria, the material expert validation obtaining an average score of 4 namely good criteria. The module is also effective in improving students’ abilities as shown by the acquisition of an average pre-test score of 77.32 increasing to 87.04 in the post-test. The t-test shows the significance level of 5%, the paired sample test table obtains a t-value of -12.458 with Sig. (2-tailed) value of 0.000. Because of the Sig. $0.000 < 0.05$, it indicates that there is difference between pre-test and post-test scores. It can be concluded that English classroom instruction module can improve students’ ability in bilingual learning.

Key words: module, English classroom instructions, students

039

HUMANIS LEARNING MODELS IN STRENGTHENING CHARACTER EDUCATION IN CULTURE-BASED SCHOOLS

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ABSTRACT

This study aimed to: 1) get a humanist learning model in strengthening character education in culture-based schools; 2) determine the effectiveness of the humanist learning model in strengthening character education in culture-based schools; and 3) knowing students' perceptions of the humanist learning model in strengthening character education in culture-based schools. This type of research is development research with four main steps, namely preliminary studies, model planning, model testing and revision, model implementation and dissemination. The research subjects were school supervisors, school principals, deputy principals, teachers, educational staff, students, and school committees. Data collection techniques using questionnaires, non-participant observation, in-depth interviews, and documentation. The data analysis model is carried out through two methods, namely quantitative and qualitative analysis. Four important stages in qualitative data analysis are data collection, data reduction, data presentation and conclusion / verification. The results showed that: 1) the humanist learning model in strengthening character education is a humanist learning model that is inclusive in the learning process supported by an adequate curriculum, school vision and mission, principal leadership, involvement of educational stakeholders, adequate infrastructure and school culture, as well as the active involvement of students; 2) the humanist learning model in strengthening character education that has been developed has proven to be effective in producing accurate information about the implementation of humanist learning at SMP Negeri 1 Jetis Bantul; and 3) students' perceptions of humanist learning in strengthening character education by 66.68% with a very good category

Keywords: *Humanist learning, strengthening character education, culture-based*

040

STRENGTHENING PSYCHOLOGICAL, ECONOMIC, AND SOCIAL RESILIENCE OF KUB SENDANG REJEKI MEMBERS IN SRIBIT, SENDANGTIRTO, BERBAH, SLEMAN

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ABSTRACT

This community service aims to improve psychological, economic and social resilience during the Covid 19 pandemic for members of KUB Sendang Rejeki, Sribit, Sendangtirto, Berbah, Sleman. The methods of implementation are: First, providing counseling and training in the management of psychological resistance; Second, provide counseling and training in physical health management. Third, provide counseling and training on social resilience management. Fourth, providing training on optimizing the local potential of the community from bananas to become crispy chips. The results of counseling and training show that: 1) understanding of psychological resilience during the Covid-19 pandemic has increased; 2) understanding and physical management skills during the Covid-19 pandemic increased, 3) understanding of the social resilience of the community during the Covid-19 pandemic increased; and 4) understanding and skills in cultivating the local potential of bananas increases along with the increase in family economic resilience. This can be seen from the results of interviews, observations, and representative supporting documents.

Keywords: Strengthening, psychological, economic, and social resilience.

041

PRISMA : A WAY FOR MEASURING HIGHER EDUCATIONAL INSTITUTION'S PERFORMANCE

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Abstract. Every institution keen on to know their performances. It is important for them to make an evaluation and to reach better performance in the future. The aim of this research is to know the readiness of the Faculty of Business Universitas PGRI Yogyakarta in facing industrial revolution 4.0 and also preparing for the accreditation due to PRISM aspects. This study uses questionnaires for data collection with a Likert scale which is splitted by Prisma's assessment level such as satisfaction, strategy, process, capability and contribution aspects, and then grouped into the criteria of High, Medium and Low levels according to the provisions of OMAX. The results shows that all of prism aspects of the Faculty of Business (FB) reached less than 100%. This is interpreted as inefficiency. The highest achievement was 99.18% in contribution aspect and the lowest was 84.28% in capability aspect. It can be concluded that Faculty of Business Universitas PGRI Yogyakarta must be even more active in increasing their performance in order for accreditation preparation and facing industrial revolution 4.0.

047

**THE EFFECTIVENESS OF USING *TSANAWIYAH*
ENGLISH GRAMMAR (TEG) ANDROID-BASED
APPLICATION IN IMPROVING GRAMMAR ACCURACY
AND BUILDING ISLAMIC CHARACTER VALUE**Rifki Irawan^{1 a)}, Urip Muhayat Wiji Wahyudi^{2 b)} and Gunawan^{3 c)}¹*Department of English Language Education, Faculty of Teacher Training and Education,*²*Department of Elementary School Teacher Education, Faculty of Teacher Training and Education,*³*Department of Mathematics Education, Faculty of Teacher Training and Education,**Universitas PGRI Yogyakarta**(Jl. PGRI I No. 117, Sonosewu, 55182, Yogyakarta)..*a) rifkizam@upy.ac.id

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Abstract. The aim of this study is to see how successful *Tsanawiyah* English Grammar (TEG) android-based mobile learning is at teaching grammar to seventh-grade students at Islamic Junior High School (MTs) Al-Muhsin II and building Islamic character value. One group pre-test post-test design was employed in the pre-experimental investigation and interview. The participants in this study were twenty seventh-grade students at MTs Al-Muhsin II, and the experimental class, class VII.1, was recruited via purposive sampling. The data analysis revealed that the mean post-test score (86.33) was higher than the mean pre-test score (46). The t-test result was 10,475, and the t-table was 2.093. The null hypothesis (H0) was rejected, whilst the alternative hypothesis (H1) was accepted. According to the effectiveness criteria, employing TEG learning app based on Android was beneficial in teaching grammar to MTs Al-Muhsin II seventh-graders. Moreover, the students said that TEG gives the examples how to behave based on the Islamic character values, which cannot be obtained during Covid-19 Pandemic.

049

BANK PERFORMANCE BASED ON CORE CAPITAL AMIND THE COVID 19 PANDEMIC IN INDONESIA

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ABSTRACT

This study aims to determine the bank performance in Indonesia amid the Covid-19 pandemic. Bank performance is categorized upon the characteristics of core capital ownership (BUKU 2, BUKU 3, and BUKU 4).

This research employed secondary data taken from the Indonesian Banking Statistics (SPI) published by the Financial Services Authority (OJK). Indicators of bank performance refer to the policies of the OJK, comprising: Capital Adequacy Ratio (CAR), Core Capital Ratio to Risk-Weighted Asset (RWA), Return on Assets Ratio (ROA), Operational Efficiency Ratio (OER), Net Interest Margin Ratio (NIMR), Loans to Deposits Ratio (LDR), and Liquid Assets Ratio (LAR). The performance index analysis will be divided into two periods; January 2017- February 2020 and March 2020 - February 2021. The period is divided to determine the quality of bank performance before and after the stipulation of policy number 11/POJK.03/2020. Index calculation was carried out by determining the weight based on the dimensions (bank performance indicators). The weight given to each of these indicators can be conformed to all indicators. The analysis of the bank performance used the Composite Index of Development calculation.

Given the composite index, it can be determined the quality of bank performance growth. The performance of BUKU 2 in general per January 2017-February 2020 period showed a value of 0.5038, higher than the performance of BUKU 2 in the January 2017-February 2021 period of 0.4797. It indicates that the implementation of POJK regulations in banks included in the BUKU 2 generally has not observed any improvement in the performance of BUKU 2. The performance of BUKU 3 in general for the January 2017-February 2020 period showed a value of 0.4264, lower than the performance of BUKU 3 in the January 2017-February 2021 period of 0.4727. It signifies that the POJK policy applied to banks in the BUKU 3 group is more optimal compared to the performance of BUKU 2. The general performance of BUKU 4 between January 2017-February 2020 showed a value of 0.4495, lower than the performance of BUKU 4 during the January 2017- February 2021 period of 0.4568. It implies that the POJK policy applied to banks listed in the BUKU 4 group is more optimal than the performance of BUKU 2.

Keywords: Core capital, CAR, CCR to RWA, ROA, OER, NIMR, LDR.

050

MANAGING PUBLIC ORGANIZATIONAL'S FUND : INSIGHT ON SPIRITUALITY VS NON SPIRITUALITY PERSPECTIVES

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Abstract. The purpose of this research is to examine factors that influence public organizational fund especially in village in the insight of spirituality and non spirituality aspect. Many previous research proved that both of them has impact to the management of village funds. The non spirituality aspects limited to organizational commitment and human resource competencies while the spirituality aspects focused on the spirituality itself. The number of samples used were 83 respondents who involved village officials who were directly involved in managing village funds. This study used a purposive sampling method with the specific criteria such as the degree of developing villages in Gunungkidul Regency and many more. The analysis technique used is multiple linear regression. The results of the study proved that only non spirituality aspects has positive impact to manage village funds while spirituality had no effect on village fund management.

Keywords: organizational commitment, human resource competence, spirituality, village fund management

051

THE RELEVANCE OF KI HADJAR DEWANTARA THOUGHT TO THE CHARACTER EDUCATION IN CURRICULUM 2013

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Abstract. Character education is the main focus in the curriculum 2013. This factually shows that morality and the character of the nation are currently collapsing. This phenomenon occurred during the Dutch colonial era when moral criticism hit the students. During the Dutch colonial era, Ki Hadjar Dewantara's thoughts were a starting point to restore the spirit of education in Indonesia that was just, regardless of the background where he came from, and upheld adab. The purpose of this study is to compare the thoughts of Ki Hadjar Dewantara and the Character Education Curriculum 2013. The method in this study uses a literature study method or approach. The results of this study are an understanding that character education in the 2013 curriculum and the thoughts of Ki Hadjar Dewantara are the starting points to return the spirit of education in Indonesia to a better and better quality. Print intellectually and morally intelligent students. Students who have high competence in the scientific field and uphold the values of ethics and morality.

Keywords: Character Education, Ki Hadjar Dewantara, Curriculum 2013

052

DEVELOPMENT OF SELF-ASSESSMENT ASSESSMENT INSTRUMENTS FOR PERFORMANCE ASSESSMENT OF PROFESSIONAL TEACHERS FOR MICROTEACHING LEARNING COURSES FKIP UPY

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The purpose of this study is to develop a self-assessment assessment instrument for assessing the performance of professional teachers in the Microteaching course FKIP UPY. This research is a development research (R&D), using the 4D development model developed by Thiagarajan, namely define, design, development and dissemination. The population in this study were FKIP students, participants of microteaching courses. The sampling technique used was purposive sampling. data collection method using student questionnaires. The DPL response questionnaire was used as data triangulation. The validity of the instrument uses the content validity of the measurement expert. Empirical validity and reliability were calculated by product moment with the help of SPSS 16.0 program. The results of this study are 1) t) the preparation of a self-assessment assessment instrument for assessing the performance of professional teachers for microteaching learning courses for FKIP UPY students, containing 42 items, which were developed through: determining material, determining instrument constructs, compiling grids, compiling questionnaires. 2) instrument content validation with good results, and a reliability index of 0.75; the percentage of responses from microteaching supervisors is 88.5%. These results indicate that the self-assessment assessment instrument for the performance character of professional teachers in microteaching learning courses for FKIP UPY students has good criteria and can be used..

053

**IDENTIFICATION OF ONLINE LEARNING IN
EMBEDDING CHARACTER VALUES IN MATHEMATICS
LEARNING IN ELEMENTARY SCHOOLS**Rian Nurizka¹, Gunawan²

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Abstract. The inculcation of character values is integrated into every subject in primary schools including mathematics learning which has different content from other subjects. In addition to assessing student knowledge and skills, the character of students is also assessed by the teacher in learning mathematics. The existence of the Covid-19 pandemic affects the learning procedures from face-to-face to online learning carried out by schools to students. The purpose of this study was to determine the identification of online learning in instilling character values in mathematics learning in elementary schools. The research method used is descriptive qualitative. The research location is in the Yogyakarta Special Region Elementary School. Researchers determine research subjects through a purposive mechanism. Research subjects selected by teachers in elementary schools. The data collection instruments used observation guidelines, interviews, and study documentation. The results obtained show that the identification of character values inculcation with online learning is prepared by the teacher by making learning tools such as syllabus, learning implementation plans, student worksheets, teaching materials, evaluations that integrate character values. The teacher also strives to instill character values in making instructional videos such as in the initial activities carried out by praying according to students' religious beliefs, core activities by observing student behavior in the learning process, discussion, and problem-solving in mathematics material, math problems, and discipline, responsibility, independence, honesty in completing mathematics assignments given to students. Learning using YouTube media for instructional videos and WhatsApp media for the discussion process and assignment collection is a new model of learning for teachers and students. Obstacles in the online learning process include not all students having access to gadgets, only relying on gadgets owned by parents, poor internet network constraints, and not having internet packages to access learning, teachers have not mastered technology optimally. Managing classrooms online is a challenging teachers must face in learning in the Covid-19 era. So the planting of character values in mathematics learning is still limited by the teacher.

056

DEVELOPING LEARNING MODEL "VARIOUS OF ORGANIZING STUDENT ACTIVITIES (VOSA)" TO IMPROVE THE CHARACTER OF PGSD STUDENTS OF PGRI UNIVERSITY YOGYAKARTA**Sukadari¹, Mahilda Dea Komalasari², & Nina Widyaningsih³**¹(Social Science Education Study Program, Postgraduate)

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e-mail: mahilda_dea@yahoo.com**ABSTRAK**

Character decadence attitude among students due to online lectures, occurs in PGSD students of PGRI University Yogyakarta, so it takes research to develop a learning model "various of organizing student activities (VOSA)" that aims to improve the character of PGSD students of PGRI University Yogyakarta. By using *the research and development* method of the 4-D model, this study aims to develop a learning model "various of organizing student activities (VOSA)" to improve the character of PGSD students of PGRI University Yogyakarta. The subject of the study was a student of class A3-18 of PGSD study program at PGRI University Yogyakarta. Data collection techniques using questionnaires, observations, and interviews. This study resulted in: 1) a new design of the learning model "various of organizing student activities (VOSA)"; 2) teaching materials used in VOSA learning models. Based on peer assessment and validation experts obtained skor assessment of material experts is 90 with the category of 'excellent', and the assessment score of media experts is 91 with a category of 'excellent' that shows that the learning model "various of organizing student activities (VOSA)" development results are worth using. After being implemented in a large class, the results of the character score analysis showed that the t-test score was 22,468 with $Gis. 0.000$. This shows that there is a significant increase in student character value between before and after learning using the learning model "various of organizing student activities (VOSA)", which shows that this "various of organizing student activities (VOSA)" learning model is effectively used for students because it can improve the character of PGSD students of PGRI University Yogyakarta.

Keywords: learning model "various of organizing student activities (VOSA)", character, PGSD students of PGRI University Yogyakarta

060

TRAINING AND ASSISTANCE TO OVERCOME THE STRESS PARENTS OF STUDENTS IN THE PANDEMIC PERIOD WITH A TRANSACTIONAL ANALYSIS APPROACH

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abstract. the purpose and target of this service is to recognize the stress of parents during the covid-19 pandemic, reduce stress for parents facing children's online learning during the pandemic, organize training and mentoring for parents of students in dealing with stress during the pandemic using a transactional analysis approach. the methods used in this community service are: the method of presentation, lectures and questions and answers, providing training and conducting clinical cases of parent stress using a transactional analysis approach. this service will be carried out 4 times in 2 months with details of 1 initial meeting used to provide an understanding of the concept of stress and how to reduce stress for parents during a pandemic. furthermore, the next one meeting was used to train parents to reduce stress during a pandemic with a transactional analysis approach. furthermore, 2 clinical meetings of parent stress cases during the pandemic with a transactional analysis approach. community service activities will be carried out in april-june 2021. with this assistance and training, it is hoped that it can increase the understanding of parents of students about stress, its characteristics and its effects and be able to reduce stress in assisting children in distance learning. it is hoped that the clinical activities of parents' cases will begin to change their mindset regarding the things that cause the source of stress during the pandemic to be changed into responses that can be accepted by him and his family. in addition, parents are also able to make transactions that can cause several responses and then make a contract with themselves that positive responses will be presented in dealing with situations that cause stress.

keywords: parental stress, transactional analysis.

062

**EFFORTS TO INCREASE MOTIVATION AND RESULTS
OF IPS LEARNING ABOUT ECONOMIC ACTIVITIES
THROUGH THE IMPLEMENTATION OF COOPERATIVE
LEARNING MODEL STAD**Gunawan Sridiyatmiko^{1,a)}, Lilis Setya^{1,b)}, Palupi Sri Wijayanti^{2,c)}, Fitri Jamilah^{3,d)}

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Abstract. The purpose of this study was to determine the increase in student learning outcomes in social studies learning about economic activities through the application of the STAD learning model, to find out the increase in student motivation in social studies learning about economic activities through the application of the STAD learning model, and to describe the application of the STAD learning model which could increase motivation and learning outcomes. Students in social studies lessons about economic activities. This research was conducted at SD Negeri 2 Aglik in the first semester of the 2016/2017 academic year with fourth-grade students. The classroom action research method consists of 2 learning cycles with the application of the STAD learning model. The data collection instruments were a test of student learning outcomes and an observation sheet to determine the increase in student motivation. This research includes four stages, namely planning, implementing, observing, and reflecting. The results of the study were an increase in student motivation and student learning outcomes. In the initial condition, 21 students who were motivated were only 11 to 13 in cycle I and 19 in cycle II. The increase in student learning outcomes who completed 52.38% in the initial conditions became 61.90% in cycle I, and in cycle II increased significantly by 100%. The average value increased from 64 in the initial conditions to 77.14 in the first cycle and significantly increased in the second cycle, namely 90.49. This research concludes that applying the STAD learning model can increase motivation and social studies learning outcomes about economic activities.

Keywords: Motivation, Learning Outcomes, STAD cooperative learning model

070

The Effectiveness of Coping Stress Techniques to Reduce Academic Burnout During the Pandemic Covid-19 Student Universitas PGRI Yogyakarta

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Abstract

The purpose of this study was to find the effectiveness of coping stress techniques to reduce academic burnout during the Covid-19 pandemic against students of the PGRI Yogyakarta University. This research method uses an experimental design. The research method used was Research and Development using the pre-post one group design. Treatment Coping Stress was given to respondents who experienced the highest Academic Burnout (a total of 5 students). Coping stress stages of 11 activities were carried out using Google Meet media for 3 weeks. While the results of the t test show that there is a significant difference between learning burnout in the pretest and posttest data, it is known that the Sig. (2-tailed) of $0.000 < 0.05$, it can be concluded that there is a significant difference in student academic burnout before and after being given treatment.

Keywords: coping stress techniques, academic burn out during the Covid-19 pandemic

072

FACTORS CAUSING ACADEMIC ANXIETY STUDENTS WITH SPECIAL NEEDS

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Abstract. This study aims to determine the factors that affect the academic anxiety of students with special needs at UPY FKIP. The research method in this research is to use qualitative research methods. The subjects in this study were 9 students with special needs from all FKIP UPY students with supporting data, namely lecturers of BK FKIP UPY and lecturers of PLB FKIP UPY. Data analysis in this research is using triangulation of data with the type of source triangulation. The results obtained in this study are the causative factors of Academic Anxiety in students with special needs come from themselves (personally), come from the surrounding environment, in the learning process, especially in doing assignments given by the lecturer, and the final results/grades that will be obtained.

Keywords: Academic Anxiety, Students With Special Needs, Students

074

THE DEVELOPMENT OF *ULAR TANGGA NUSANTARA (LARGANUSA)* AS SOCIAL STUDIES LEARNING MEDIA FOR CLASS IV ELEMENTARY SCHOOLS DURING THE COVID-19 PANDEMICDhiniaty Gularso^{1, a)}, Putri Indah Pratiwi^{2, b)}, and Juang Kurniawan Syahrurah^{3, c)}^{1,2,3} Universitas PGRI Yogyakarta

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Abstract. This study aims to (1) determine the development process of the *Ular tangga nusantara* (Larganusa) or Nusantara Ladder Snake learning media (2) to determine the appropriateness of the Nusantara Ladder Snake media (Larganusa) (3) to determine the teacher's response and student's response to the Nusantara Ladder Snake media (Larganusa) (4) Knowing the increase in student achievement using the Larganusa media (5) knowing the effectiveness of using the Nusantara Ladder Snake media (Larganusa). This type of research is research and development (R&D) using the Borg and Gall model. This research was conducted at SD N Pakunden 2 in the academic year 2021/2022. Based on the principal's certificate Number 421.1 / 209 / 04.4.8.SD / 2021 explains that face-to-face learning permits in the Covid-19 pandemic era were only approved by 9 out of 15 grade IV students of SD N Pakunden 2, so the research subjects were grade students. IV as many as 9 students. Data collection techniques in this study used interview guidelines, questionnaires, and tests. The data analysis technique used is descriptive statistics, namely the presentation of data through tables and diagrams and inferential statistics, namely through the calculation of data with a questionnaire instrument, material expert assessment, media expert assessment, teacher responses, student responses, pretest and posttest results. The results of the research conducted by researchers are as follows: (1) The *Ular Tangga Nusantara (Larganusa)* was developed from information gathering to field testing (2) The media developed was declared fit for use with very good criteria, indicated by the assessment of material experts with a percentage score of 88 % and media expert assessment with a percentage score of 90% (3) Student response and teacher response are very good, indicated by a percentage score of 96% on teacher responses and a percentage score of 88% on student responses (4) Student learning achievement increases, as indicated by the acquisition. Average pretest average 59.8 and posttest average acquisition after using media, namely 85 (5) Media Snakes and Ladders Nusantara (Larganusa) effectively used in learning, as indicated by the results of the calculation of the Paired Sample T-test obtained a significance value (2-tailed).) is 0.000 ($p < 0.05$).

Keyword: *Ular Tangga Nusantara (Larganusa) Game, Learning Media Development, Social Sciences, Elementary School*

078

**THE EFFECTIVENESS OF "RAMAYANA" AN
ANIMATION FILM INTEGRATED
WITH SEXUAL EDUCATION VALUES TO
IMPROVE PERSONAL SAFETY SKILLS**

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Abstract

The research is aimed to test the effectiveness of the film animation "Ramayana" that is integrated with the value- the value of education sexually to improve personal safety skills to the students of Elementary School (SD). The research design uses quasi-experimental. Data collected in this study used a personal safety questionnaire. Personal safety skill data of students was analyzed by an independent sample t-test. The results of the test t obtained n use-values sig 0.000 <0, 05 so that there is a difference is significant between personal safety skills in a group experiment and group control. The analysis showed that the level of personal safety skills of students from the experimental class was in the very good category and the control class was in a good category.

Keywords: *Ramayana, personal safety skills, education Sexual*

088

CHARACTERISTICS OF RELIGIOUS ELEMENTS IN STREAM LEARNING IN ELEMENTARY SCHOOL

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Abstract. Background: Entering today's global technology, many sectors must be prepared for all the changes that are happening so fast, including in the world of education. This civilization requires students to master 21st-century skills that refer to world developments, including Critical Thinking, Collaboration, Communication, and Creativity skills. This need in civilization is supported by using the learning concept design presented by UNESCO to balance student learning outcomes between competence, conscience, and compassion (social care) in facing the challenges of the times. One of the learning approaches that can help answer the challenges of today's development is the STREAM learning approach. In which there is a religious element that is an addition to the current STEAM approach. This STREAM learning approach has a spirit in line with using learning that can be implemented in elementary schools. **Objective:** This study examines the characteristics of the religious element in STREAM learning in elementary schools. **Methods:** The method used in this research is library research using literature studies derived from several theoretical sources based on searches from the Science Direct, ProQuest, Google Scholar, and Wiley Online databases related to STREAM learning in Elementary Schools with the keyword Religious. STEAM, STREAM, Elementary School Learning. **Result:** Literature-based studies through this database obtained 41 sources that matched the exclusion and inclusion criteria. Based on the literature review, information was obtained about the development of STREAM learning in elementary schools, religious characteristics of STREAM learning in elementary schools, the urgency of STREAM learning in elementary schools. **Conclusion:** The religious element is a crucial element to be integrated into STEAM learning to become STREAM learning. The religious element is related to the moral formation, behavior, and achievement of elementary school students. Therefore, the religious element is a crucial element to integrate STEAM learning to become STREAM learning. The religious element is related to the moral formation, behavior, and achievement of elementary school students. Therefore, the religious element is a crucial element to integrate STEAM learning to become STREAM learning. The religious element is related to the moral formation, behavior, and achievement of elementary school students.

Keywords: Religious, STEAM, STREAM, Elementary School Learning

089

A STUDY ON IMPROVING STEAM KNOWLEDGE AND SKILLS FOR PLD-RSAN

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Abstract. The term STEAM which is an acronym for Science, Technology, Engineering, Arts, and Mathematics is an approach to learning as an entry point to guide students in conducting research, discussion, and collaboration as well as critical thinking. The end result will be students who dare to take risks in their research, but still with careful consideration. Students or school-age children will be directly involved in shaping the learning experience, persistent in finding solutions to problems, active in collaborating, and working through creative processes.

Pelopor Literasi Desaku (PLD), are volunteers who provide assistance for school-age children at the State Children's Learning House, Bengkung Village, Retno Temple, Secang Magelang. There are ten (10) STEAM activities prepared to be implemented for PLDs.

This study uses a qualitative descriptive design. There were 10 PLD participants, determined by the purposive sampling technique. The results of the study divide on four part. **General** : (1) all participants stated that they had understood the concept of STEAM, (2) all participants were interested in STEAM activities, and (3) 90% of participants stated that they felt motivated by STEAM activities. **Implementation** of 10 STEAM activities: (1) 60% of the participants stated that the most interesting STEAM activity was the tie technique dye, (2) the most difficult activity was also the tie technique dye, (3) there were 90% of the participants who stated that the tie technique dye activity was the most difficult. have the opportunity to be developed into an activity that has a selling value, (4) the CBS Power Rocket activity was stated by 40% of the participants as an activity related to learning at school. **Relation to the Disciplines of Science**: (1). Simple thermometer related to science, stated by 80% of participants, (2), 100% of participants stated that String Art was related to mathematics, (3) while 50% of participants stated that String Art was related to arts. **Others**: Difficult to obtain tools and materials: String Art, stated by 100% of participants, Requires high creativity: is String Art, stated by 60% of participants.

Key words: STEAM, PLD, collaboration, critical thinking, creativity

096

**CHARACTER BUILDING THROUGH LOCAL
CULTURAL VALUES TRADITION OF *JOLENAN* IN A
VILLAGE COMMUNITY OF PURWOREJO, INDONESIA**

Tarto

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Gunawan Sridiyatmiko

ambarketawang26@gmail.com**Abstract**

This research is intended to explicate the formation of the character of the village community through the values of the local cultural wisdom (tradition) of *Jolenan* and describe those characters that formed through the local cultural values of the tradition of *Jolenan*, and to elucidate the process of inculcating local cultural values of the *Jolenan* tradition.


This study took place in Somongari Village, Purworejo, Central Java, Indonesia. The data were collected through interviews, observation, and documentation. The validity of the data is obtained through triangulation. Miles and Huberman's interactive method was applied to analyze the data.

The results of this study postulate that: (1) the tradition of *Jolenan* comprises local cultural values such as religious, entertainment, economical, communal work, manners, togetherness, harmony, unity, bravery, education, and environmental awareness. (2) The characters which are formed through the tradition of *Jolenan* include religious, honesty, responsibility, discipline, hard-working, politeness, communal work, patriotism, self-reliance, democratic. (3) The values of *Jolenan* were inculcated through an educational institution, family, religious, economic, and political aspects. In addition, the establishment of the tradition of *Jolenan* also touched tourism and social aspects.

Keywords: *character, culture, religious, tolerance, community*

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Online learning quality measuring using Kano

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Online Learning Quality Measuring Using Kano

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Abstract. The Covid 19 pandemic that began in Indonesia since March 2020 has had an impact in various fields, one of which is in the field of education. The education system, which initially took place face-to-face, has switched to online learning. Online learning has shortcomings, one of which is that the material is difficult for students to understand because it cannot meet face to face directly. This study aims to measure the quality of online learning using the Kano method based on student perceptions. The Kano method is a method that aims to categorize the attributes of a product or service, how well the product or service is able to satisfy consumer needs. The results of processing using the Kano method show 8 attributes which are categorized as must-be, 1 attribute is indifferent category, 1 attribute is one-dimensional category, and 7 attributes are attractive category. The category that needs to be improved first is the must-be, namely attributes are 1 (Use of interactive tools for online learning), 2 (Ease of access and connection of online learning platforms), 3 (Selection of varied online learning platforms), 4 (The consistency of lecturers in delivering lectures is good), 6 (Lecturers are reliable in using online learning platforms), 7 (Lecturers respond quickly and efficiently to student needs while studying online), 8 (Lecturers are able to adapt from conventional learning to online learning), and 17 (Lecturers instill a long-term interest in students to stay afloat in the online learning process).

Keywords: Online learning, Kano method, category, attribute, lecturer.

INTRODUCTION

Technological changes are changing the way of doing business, including education [5]. Facing many rapid changes and challenges brought by new technologies and competitive pressure, higher education institutions are trying to innovate their service and raise their public reputation [13]. Rapid technological developments make customer satisfaction the key to the success of a business [10]. The Covid 19 pandemic that began in Indonesia since March 2020 has had an impact in various fields, one of which is in the field of education. The education system, which initially took place face-to-face, has switched to online learning.

The previously lesser known platforms that provide online video facilities have become popular since the time of this pandemic. Students and lecturers are required to get used to and adapt to using the platform. Online learning has its own advantages and disadvantages compared to offline learning. By using the internet network, students and lecturers do not need to meet face to face, thereby reducing the risk of being exposed to Covid 19 [2]. In addition, online learning can be carried out anywhere and anytime, in other words it is not limited by time and place, as long as there is an internet network

Apart from the above advantages, online learning also has its drawbacks. One of them is that the material is difficult for students to understand, especially practicums and courses that require a calculation process. In addition, network constraints are not evenly distributed in each region, causing online lectures to be intermittent because the signal is less stable. The need for cooperation between educational institutions and the government to deal with these obstacles. Institutions need to provide convenience in online learning, for example the existence of e-learning facilities and media to meet face to face online (google meet, zoom, and others). In addition, lecturers also need to improve their quality in providing material online. If institutions and lecturers cannot improve their quality, it will reduce student satisfaction with online learning. In addition, it also reduces the competitiveness of the institution against other institutions.

Based on this background, it is necessary to evaluate and analyze online learning to determine the quality of learning during this pandemic. This quality measurement is expected to be the basis for improvement in online learning so that the quality of service to students can increase.

Previous research on the quality of online learning was conducted by Udo using the Servqual dimension [6]. The study only produced 4 Servqual dimensions which play an important role in assessing online learning, namely Assurance, Empathy, Responsiveness, and Website Content [6]. Previous research conducted research on evaluating the quality of online learning using the Service Quality (Servqual) and Importance Performance Analysis (IPA) methods [3].

In addition to the Servqual method, several studies use the Kano method in assessing quality, such as research conducted by Utami [4] which examined the improvement of the quality of teaching and learning activities. Wijaya and Suwastika [7] used Kano to assess e-learning user satisfaction. Zhao and Dholakia [11] used Kano to measure customer satisfaction in using interactivity websites. Oh [8] used Kano to determine the quality attributes of e-shopping malls. Thorsten Gruber [14] used the Kano model to determine the factors that influence student satisfaction. The findings illustrate that there is a set of multiple attributes that professors need to possess for satisfying student-professor classroom service encounters. Kano's model is also used in companies to analyze factors to improve service [9].

This study aims to measure the quality of online learning using the Kano method based on student perceptions. The grouping of attributes with the Kano Method is used to make suggestions for improvements that can be used by lecturers in the next learning process. These improvements are expected to improve the quality of lecturers in providing online learning and increase student enthusiasm for learning. The Kano method is a method that aims to categorize the attributes of a product or service, how well the product or service is able to satisfy consumer needs. This method can explain the attributes that affect online learning so that it can be used to improve further learning.

METHOD

Data Collection

Data was collected by distributing questionnaires to new students of the 2020/2021 class UPY, Faculty of Science and Technology. The questionnaire uses a Likert scale of 1 to 5. Attributes to the Servqual dimension are based on the research of Irawati and Jonathan [3]. The five Servqual dimensions used to assess the quality of the online learning process, namely tangible, reliability, responsiveness, assurance, and empathy are described in Table 1.

TABLE 1. Five Dimensions Servqual

Kode	Tangible
X1	Use of interactive tools for online learning
X2	Ease of access and connection of online learning platforms
X3	Selection of varied online learning platforms
Kode	Reliability
X4	The consistency of lecturers in delivering lectures is good
X5	Lecturers are reliable in managing classes during online learning
X6	Lecturers are reliable in using online learning platforms
Kode	Responsiveness
X7	Lecturers respond quickly and efficiently to student needs while studying online
X8	Lecturers are able to adapt from conventional learning to online learning
X9	Lecturers welcome student questions and comments
Kode	Assurance
X10	Lecturers teach according to their fields
X11	Lecturers are fair and impartial in the assessment
X12	Lecturers are willing to answer student questions
X13	Lecturers master the material being taught
Kode	Empathy
X14	Lecturers encourage and motivate students to do the best learning in the online learning process
X15	Lecturers understand the difficulties of students in the online learning process
X16	Lecturers concern with students during online learning
X17	Lecturers instill a long-term interest in students to stay afloat in the online learning process

Data Processing

Data processing begins with a validity and reliability test. Furthermore, the data were processed using the Kano method. Validity and reliability testing was carried out with the help of IBM SPSS Statistics 25.

Validity Test

Testing the validity with the Pearson correlation can be done by comparing r count with r table or by comparing the Sig. (2-tailed) with a real level. This study uses the real level or $\alpha = 0.05$. The questionnaire question is said to be valid if the calculated r value obtained is greater than the value of r table. When comparing the Sig. (2-tailed) with the real level, then the question is valid if the value is Sig. (2-tailed) < actual level used.

Reliability Test

The instrument reliability test was performed using the Cronbach Alpha formula. Manual calculations with Cronbach Alpha are as follows.

$$r = \left(\frac{n}{n-1} \right) \left(1 - \frac{\sum \sigma_i^2}{\sigma_t^2} \right) \quad (1)$$

Information:

r = reliability

n = number of questions

$\sum \sigma_i^2$ = the amount of variance in the score for each question

σ_t^2 = the total variance

If the reliability value is greater than 0.7, the instrument / questionnaire is said to be reliable.

Processing by the Kano Method

The processing steps using the Kano method are as follows [15].

1. Determine the attribute category of each respondent. How to determine the category of each attribute based on the Kano classification method is described in Table 2 below.

TABLE 2. Kano classification method

Consumer Needs		Dysfunctional				
		1. Like it	2. Expect	3. Neutral	4. Tolerance	5. Don't like it
Functional	1. Like it	Q	A	A	A	O
	2. Expect	R	I	I	I	M
	3. Neutral	R	I	I	I	M
	4. Tolerance	R	I	I	I	M
	5. Don't like it	R	R	R	R	Q

Information:

Q = *Questionable*

R = *Reverse*

A = *Attractive*

I = *Indifferent*

O = *One Dimensional*

M = *Must be*

2. Count the number of each Kano category in each attribute based on the Kano classification method.
3. Determine the Kano category for each attribute using Blauth's formula, as follows.
 - If each attribute has total value (one dimensional + attractive + must be) > total value (indifferent + reverse + questionable) then grade is obtained by choosing the maximum value from (one dimensional, attractive, must be).
 - If each attribute has a total value (one dimensional + attractive + must be) < total value (indifferent + reverse + questionable) then the grade is obtained by selecting the maximum value from (indifferent, reverse, questionable).
 - If each attribute has a total value (one dimensional + attractive + must be) = total value (indifferent + reverse + questionable) then the grade is obtained by selecting the maximum value among all Kano categories, namely (one dimensional, attractive, must be and indifferent, reverse, questionable).
4. Calculate the ES (Extent Of Satisfaction) and ED (Extent Of Dissatisfaction) values to determine the level of satisfaction and the level of dissatisfaction with the following formula.

$$ES = \frac{A+O}{A+O+M+I} \tag{2}$$

$$ED = \frac{O+M}{(A+O+M+I) \times (-1)} \tag{3}$$

The value of the level of satisfaction ranges from 0 to 1, the closer to 1, the more it affects the level of satisfaction. Conversely, if the value is close to 0 then it does not affect satisfaction. The value of the level of dissatisfaction between the values of -1 to 0, the closer to -1, the effect on user disappointment is very strong if the attribute is not met. Meanwhile, if the value is close to 0, it can be said that this attribute does not affect customer disappointment. The minus sign in front of the consumer disappointment level coefficient is to emphasize the negative effect of customer satisfaction on unmet product quality.

5. Mapping Kano to classify these attributes into the Kano method. The classification is:
 - Must-be requirement: (if the extent to satisfaction value < 0.5 and the extent to dissatisfaction < -0.5)
 - One-Dimensional: (if the extent to satisfaction value > 0.5 and the extent to dissatisfaction < -0.5)
 - Attractive Requirement: (if the extent to satisfaction value > 0.5 and the extent to dissatisfaction > -0.5)
 - Indifferent: (if the extent to satisfaction value < 0.5 and the extent to dissatisfaction > -0.5)

Analysis

The data that has been processed is analyzed to determine which attributes need to be improved or improved in quality. The research method is described in the flow chart in Fig. 1.

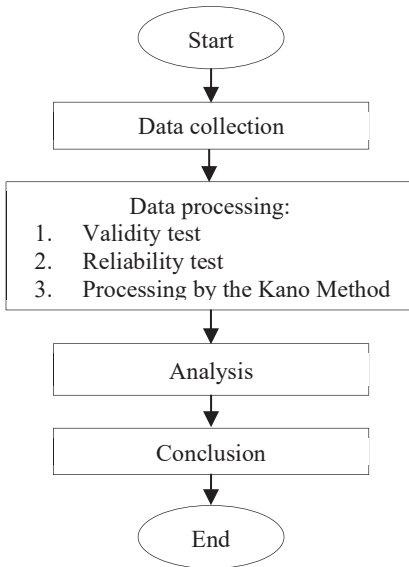


FIGURE 1. Research flow diagram

RESULTS AND DISCUSSION

Data collection has been carried out by producing 49 questionnaire data. Respondents consisted of 23 women and 26 men. Age range of respondents from 18 - 21 years. Meanwhile, the highest number of respondents was from the Architecture Study Program with 12 people and the least was Electrical Medicine with 2 respondents. The number of respondents per Study Program is described in Table 3.

TABLE 3. Number of respondents per study program

Study program	Number of Respondents
Industrial Engineering	9
Electromedical	2
Pharmacy	5
Nutrition	10
Informatics	8
Architecture	12
Biomedical Engineering	3

The validity test using IBM SPSS Statistics 25 results that all functional and dysfunctional questionnaires are valid, that is, if the value is sig. (2 tailed) is smaller than the real level of 0.05. Table 4 below describes the results of the validity test of 49 respondents.

TABLE 4. Validity test results

Question	Functional			Dysfunctional		
	r count	Sig. (2-tailed)	Conclusion	r count	Sig. (2-tailed)	Conclusion
1	0,546	0,000	Valid	0,618	0,000	Valid
2	0,667	0,000	Valid	0,762	0,000	Valid
3	0,560	0,000	Valid	0,684	0,000	Valid
4	0,508	0,000	Valid	0,747	0,000	Valid
5	0,768	0,000	Valid	0,670	0,000	Valid
6	0,746	0,000	Valid	0,693	0,000	Valid
7	0,601	0,000	Valid	0,881	0,000	Valid
8	0,617	0,000	Valid	0,728	0,000	Valid
9	0,476	0,000	Valid	0,862	0,000	Valid
10	0,505	0,000	Valid	0,781	0,000	Valid
11	0,395	0,000	Valid	0,825	0,000	Valid
12	0,543	0,000	Valid	0,772	0,000	Valid
13	0,517	0,000	Valid	0,819	0,000	Valid
14	0,688	0,000	Valid	0,662	0,000	Valid
15	0,633	0,000	Valid	0,840	0,000	Valid
16	0,627	0,000	Valid	0,885	0,000	Valid
17	0,514	0,000	Valid	0,817	0,000	Valid

The Cronbach Alpha reliability test with SPSS shows that the functional and dysfunctional questionnaire questions are consistent so that the data is free from random error variance. The Cronbach Alpha values from the results of the functional and dysfunctional questionnaires were 0.878 and 0.956, respectively. These results explain that the attribute questions that have been filled in by students are reliable because the value is greater than 0.7.

The determination of Kano's category for each attribute using Blauth's formula is described in Table 5 below. There are 9 attributes that are included in the Indifferent category, 1 attribute including Attractive, and 7 attributes including One-dimensional.

TABLE 5. Processing with Blauth's formula

Questionnaire Attributes	A	M	O	R	Q	I	A+O+M	I+R+Q	Total	Category
1	5	11	11	0	2	20	27	22	49	I
2	7	10	13	0	2	17	30	19	49	I
3	14	8	7	1	2	17	29	20	49	I
4	10	6	14	0	1	18	30	19	49	I
5	15	9	11	0	2	12	35	14	49	A
6	11	7	11	0	1	19	29	20	49	I
7	8	11	9	0	2	19	28	21	49	I
8	7	3	16	0	1	22	26	23	49	I
9	10	7	21	1	0	10	38	11	49	O
10	13	6	20	0	0	10	39	10	49	O
11	8	10	25	0	0	6	43	6	49	O
12	12	5	23	0	0	9	40	9	49	O
13	15	6	20	1	0	7	41	8	49	O
14	9	11	19	0	1	9	39	10	49	O
15	10	15	16	0	1	7	41	8	49	O
16	8	13	11	0	2	15	32	17	49	I
17	8	7	14	0	2	18	29	20	49	I

After calculating with Blauth's formula, each attribute is calculated the value of satisfaction (ES) and dissatisfaction (ED) which is shown in Table 6. There are 8 attributes that fall into the must-be requirement category, namely attributes 1, 2, 3, 4, 6, 7, 8, and 17. Only one attribute is included in the one-dimensional category, namely attribute 5. Attribute which is included in the attractive requirement category, namely 9, 10, 11, 12, 13, 14, and 15. There is only one attribute that is classified as indifferent, namely attribute 16 The ES and ED values were used for the Kano mapping described in Fig. 2.

TABLE 6. Kano classification

Questionnaire Attributes	Satisfaction (ES)	Dissatisfaction (ED)	Classification
1	0,340	-0,468	Must-be requirement
2	0,426	-0,489	Must-be requirement
3	0,457	-0,326	Must-be requirement
4	0,500	-0,417	Must-be requirement
5	0,553	-0,426	One-dimensional
6	0,458	-0,375	Must-be requirement
7	0,362	-0,426	Must-be requirement
8	0,479	-0,396	Must-be requirement
9	0,646	-0,583	Attractive requirement
10	0,673	-0,531	Attractive requirement
11	0,673	-0,714	Attractive requirement
12	0,714	-0,571	Attractive requirement
13	0,729	-0,542	Attractive requirement
14	0,583	-0,625	Attractive requirement
15	0,542	-0,646	Attractive requirement
16	0,404	-0,511	Indifferent
17	0,468	-0,447	Must-be requirement

Kano classification percentages are described in Table 7. Must-be is the category with the most number, namely 8 attributes or 47.059%. The second most attractive requirement with 7 attributes (41.176%). Meanwhile, one-dimensional and indifferent each has only 1 attribute.

TABLE 7. Percentage of Kano classification

Kano classification	Number of Attributes	Percentage
Must-be requirement	8	47,059
One-dimensional	1	5,882
Attractive requirement	7	41,176
Indifferent	1	5,882
	17	100

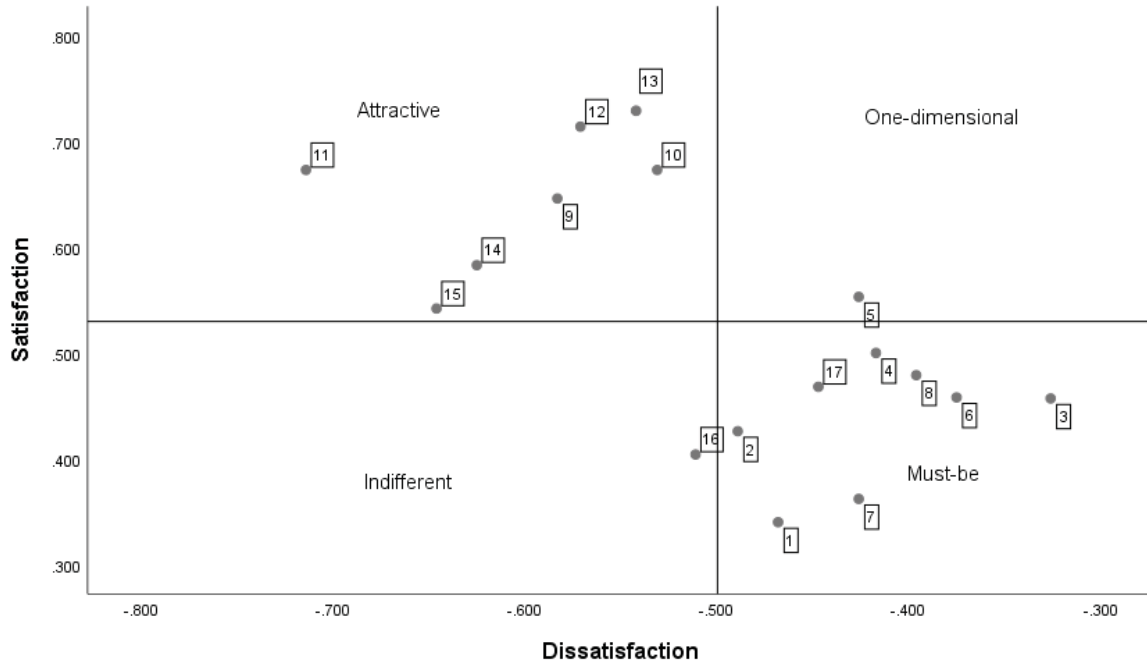


FIGURE 2. Kano chart

In research [3] only explains the priority of attributes that must be improved and has not provided a solution for improvement. The priority of research attributes that must be improved are the consistency of lecturers in giving good lectures, reliable lecturers in using learning platforms, lecturers responding quickly and efficiently to student needs in online learning, lecturers encouraging and motivating students to study well, and lecturers understand student difficulties during the online learning process [3]. Research [7] also only explains that the e-learning system is in the must-be and attractive phase. Likewise, research [6] that uses Servqual only measures the quality of e-learning in higher education, without providing any improvement solutions. Research by [12] which lacks detail in explaining the improvement of each attribute.

This research provides improvement solutions based on Kano Model attribute categorization. The category that needs to be improved first is must-be because must-be is a category that must exist. Must-be is a basic criterion for a product or service, which means that these criteria have been met by the company. The next priority category is one-dimensional and attractive [2]. The indifferent category is not a priority because the presence or absence of an indifferent attribute will not affect the increase or decrease in the level of student satisfaction. The following Table 8 shows the improvement strategies that need to be improved for each attribute.

TABLE 8. Improvement strategy

Questionnaire Attributes	Classification	Improvement
1	Must-be requirement	procurement of interactive tools (e.g. pen tablets)
2	Must-be requirement	cooperation between institutions and the government in granting free internet quotas, the government and the private sector to help with network distribution
3	Must-be requirement	there are various types of online learning platforms provided by the institution, so that lecturers can choose the right platform
4	Must-be requirement	improving the quality of lecturers in giving lectures (lecturers increase their knowledge by participating in training, seminars, etc.)
5	One-dimensional	lecturers improve their teaching skills online (more clearly provide material, provide examples, can control classroom situations)
6	Must-be requirement	the lecturer controls the platform menus used in online learning
7	Must-be requirement	communication between lecturers and students is further improved so that lecturers can respond quickly to student needs
8	Must-be requirement	consistent use of online learning platforms and increasing lecturers' skills in using the platform, for example training on how to use the platform
9	Attractive requirement	answer student questions well
10	Attractive requirement	lecturers teach according to their fields / expertise
11	Attractive requirement	provide fair and transparent grades
12	Attractive requirement	answer students' questions well
13	Attractive requirement	the lecturer deepens the material by attending training, seminars, or from other media
14	Attractive requirement	lecturers motivate students in learning so that students remain enthusiastic about learning and doing assignments
15	Attractive requirement	the lecturer asks the students whether there are difficulties in learning so that later there will be a solution to overcome these difficulties
16	Indifferent	-
17	Must-be requirement	provide motivation to students so that they remain enthusiastic in learning

CONCLUSION

The Kano method is able to explain the attributes that affect online learning so that it can be used to improve further learning. The results of processing using the Kano method show 8 attributes which are categorized as must-be, 1 attribute is indifferent category, 1 attribute is one-dimensional category, and 7 attributes are attractive category. The category that needs to be improved first is must-be because must-be is a category that must exist. The must-be attributes are Use of interactive tools for online learning (1), the improvement strategy is procurement of interactive tools (e.g. pen tablets); Ease of access and connection of online learning platforms (2), the improvement strategy is cooperation between institutions and the government in granting free internet quotas, the government and the private sector to help with network distribution; Selection of varied online learning platforms (3) the solution is that there are various types of online learning platforms provided by the institution, so that lecturers can choose the right platform; The consistency of lecturers in delivering lectures is good (4), the proposed solution is improving the quality of lecturers in giving lectures (lecturers increase their knowledge by participating in training, seminars, etc.); Lecturers are reliable in using online learning platforms (6), the solution is the lecturer controls the platform menus used in online learning; Lecturers respond quickly and efficiently to student needs while studying online (7), the improvement is communication between lecturers and students is further improved so that lecturers can respond quickly to student needs; Lecturers are able to adapt from conventional learning to online learning (8), the improvements are consistent use of online learning platforms and increasing lecturers' skills in using the platform, for example training on how to use the platform; and Lecturers instill a long-term interest in students to stay afloat in the online learning process (17), the improvement is to provide motivation to students so that they remain enthusiastic in learning. Further research can be developed using the QFD (Quality Function Development) method so that it can be used as a comparison with the Kano method in determining needs that can truly satisfy students. In addition, there is a need for additional respondents

who are not only limited to 7 study programs. For example, respondents who represent each study program in one university, so that research results can be used widely.

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Online learning quality measuring using Kano

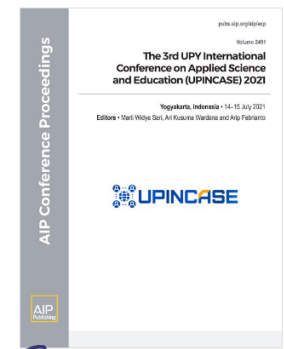
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

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The Covid 19 pandemic that began in Indonesia since March 2020 has had an impact in various fields, one of which is in the field of education. The education system, which initially took place face-to-face, has switched to online learning. Online learning has shortcomings, one of which is that the material is difficult for students to understand because it cannot

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