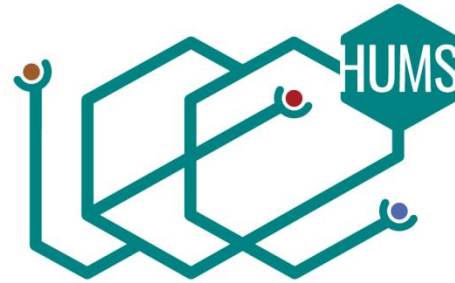UNIVERSITAS KRISTEN MARANATHA

ICETES

ICEHUMS

1ST INTERNATIONAL CONFERENCE ON EMERGING ISSUES IN TECHNOLOGY, ENGINEERING AND SCIENCE

&

1ST INTERNATIONAL CONFERENCE ON EMERGING ISSUES IN HUMANITY STUDIES AND SOCIAL SCIENCE

———

1-2 JULY 2021

VIRTUAL CONFERENCE

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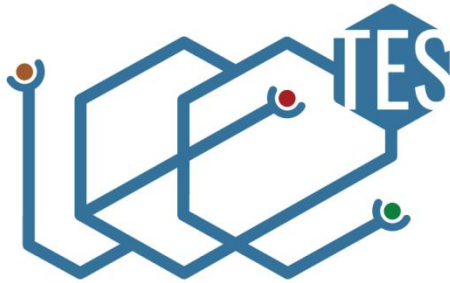
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Message from the Rector

Honorable Keynote Speaker, Mr. Ignasius Jonan, former Minister of the Energy and Mineral Resources, and previously Minister of the Transportation Ministry of the Republic of Indonesia, we are greatly honored to have you with us this morning.

Distinguished keynote speakers, Prof. Ahmad M. Ramli (represented by Indra Maulana, SH. LLM., Head of the Legal and Cooperation Division, Ditjen PPI, Ministry of Communication and Information Technology), Prof. John Silke, Dr. Ferry Sandra, Prof. Takayuki Arai, Prof. Young Ho Kim, Prof. Susy Tjahjani, Prof. Pim Martens, Dr. Dwinita Larasati, Prof. Chien-Hsu Chen, Prof. Wilson Bangun and Prof. Marcellia Susan, as well as all participants in the international conferences being held here.

A very good morning and best wishes to you all and good evening to our colleagues in the US. Greetings and a warm welcome to Maranatha Christian University (MCU), Bandung, Indonesia.

I am delighted to be here with you today for the opening of the first MCU international conferences. These are:

(i)   The International Conference on Emerging Issues in Technology, Engineering, and Science, and
(ii)   The International Conference on Emerging Issues in Humanity Studies and Social Sciences, with the themes of:
  a. Digital Ecosystems for Sustainable Health and Community Development towards an Intelligent Society, and
  b. Innovations for Sustainable Community Development - Research and Practices.

We would like to thank the many participants from countries across the different continents: the USA, the UK, the Netherlands, Germany, Taiwan, Malaysia, and Indonesia. Thank you for joining us.

These first international conferences will serve as a platform to enable speakers and participants to share their research results, drawn from up-to-date research work, to initiate and strengthen further collaboration.

My sincere hope is that what we accomplish today will be beneficial towards establishing collaboration among all the participants of these conferences.

I hereby declare the first international conferences at MCU in 2021 officially open.

God bless you all. Thank you!

Prof. Ir. Sri Widiyantoro, MSc., PhD., IPU.

Rector of Maranatha Christian University

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Message from General Chair

On behalf of the committee members, it is a great pleasure to welcome you all to our first two international conferences:

Emerging Issues in Technology, Engineering, and Science (ICE-TES) and,
Emerging Issues in Humanity Studies and Social Sciences (ICE-HUMS).

ICE-TES and ICE-HUMS are twin events which serve our passion in balancing technology and humanity issues in the world of science, and share the core values of our university: Integrity, Care & Excellence (ICE).

This year's theme for both conferences focuses on the United Nations' Sustainable Development Goals (SGD), which emphasize the following aspects: ICE-TES (Digital Ecosystem for Sustainable Health & Community Development: Towards the Intelligent Society) and ICE-HUMS (Innovations for Sustainable Community Development: Research and Practices). We believe research and initiatives that has pragmatic and multidisciplinary/interdisciplinary approaches allows us to unravel fundamental problems and answer related questions regarding sustainable development.

The logistics of both of the First ICE-TES and ICE-HUMS 2021 conferences consist of two general and five-scientific keynote speakers. Special tracks are designed in each conference which cover recent developments in: ICE-TES (technologies, engineering, medical, and dentistry), ICE-HUMS (psychology, languages & cultures, economics, arts & design, and laws). The ICE-TES tracks received 82 submissions and 52 accepted full papers, involving authors from five countries and corresponding to an acceptance rate of 63.4%. At the same time, the ICE-HUMS has received 130 submissions and accepted 76 full papers, involving authors from four countries, corresponding to an acceptance rate of 58.4%. All submitted papers were peer-reviewed on the basis of their significance, state-of-the-art contributions, and technical qualities.

Since we are still in the midst of COVID-19 pandemic, the conference has been organized virtually. The organizing committee has been working intensively to ensure that the scientific sessions will be valuable and engaging for all presenters and attendees. The parallel session format is a mix of pre-recorded and synchronous engagement through in-person live videos and question and answer sessions.

We would like to express our sincere appreciation to all the keynote speakers, committee members and reviewers for their dedication. Last, but certainly not least, we would like to offer many thanks to all authors who submitted their papers and all participants who registered to join this conference. We believe that ICE-TES and ICE-HUMS 2021 will be an inspiring academic occasion and will become a great platform for many ideas as well as research initiatives in the scientific community. Have an inspiring conference!

Dr. Hapnes Toba, M.Sc., General Chair of ICE-TES and ICE-HUMS 2021
Dr. Wahjoe Widowati, M.Si., General Co-chair of ICE-TES 2021
Joni, Ph.D., Ak., CA., CPSAK., General Co-chair of ICE-HUMS 2021

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Prof. Hae Dong Jang, Hannam University, Korea

Prof. Lawrence Young, University of Warwick, United Kingdom

Prof. Young Ho Kim, Chungnam National University, Korea

Prof. Sri Widiyantoro, Maranatha Christian University, Bandung Institute of Technology, Indonesia

Prof. Budi Hartanto Susilo, Maranatha Christian University, Indonesia

Prof. Marcellia Susan, Maranatha Christian University, Indonesia

Prof. Susy Tjahjani, Maranatha Christian University, Indonesia

Prof. Wilson Bangun, Maranatha Christian University, Indonesia

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Prof. Terutoshi Tada, Toyo University, Japan

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drg. Ferry Sandra, Ph.D. Trisakti University, Trisakti University

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Virtual Conference Instructions

General Information

ICETES-ICEHUM 2021 is a virtual conference which uses konfrenzi as its platform. There will be a co-host, a Session Chair, presenters, and guests for each session. The co-host and the Session Chair will be the persons in charge of facilitating the use of technology and coordinating the session and manage the Q&A respectively.

Session instructions

1. Beginning of the Session

   - The Session Chair will introduce the presenter and then the technical assistant (or student) will play the video recording that the presenter has submitted. It will be followed by live Q&A.

   - The duration of all presentation types is as follow:

     • Keynote speech: (20 minutes).

     • Recorded presentation (video) = max. 10 minutes per session.

     • Live Q&A = max. 5 minutes.

     • For opening and closing ceremonies, both ICE-TES and ICEHUMS participants can use the link below:

   INTERNATIONAL CONFERENCE ON EMERGING ISSUES – **ICE HUMS**
   Time: This is a recurring meeting Meet anytime
   Join Zoom Meeting
   http://gg.gg/ICEHUMS
   Meeting ID: 858 132 1255
   Passcode: ICE

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2. Prior to the session

   - The co-host will prepare the designated Go To Webinar session (10 minutes before the Session) and begin recording (2 minutes before the Session).

   - The Session Chair introduces the session (1 minute before the Session).

   - The participants of ICE-TES and ICE-HUMS can use the links below to access each event separately, except for the opening and closing ceremonies (we use ICE-HUMS link only).

INTERNATIONAL CONFERENCE ON EMERGING ISSUES – **ICE HUMS**	INTERNATIONAL CONFERENCE ON EMERGING ISSUES – **ICE TES**
Time: This is a recurring meeting Meet anytime	Time: This is a recurring meeting Meet anytime
Join Zoom Meeting	Join Zoom Meeting
http://gg.gg/ICEHUMS	http://gg.gg/ICETES
Meeting ID: 858 132 1255	Meeting ID: 869 481 9461
Passcode: ICE	Passcode: ICE

3. End of the Session

   - Before ending the session, the Session Chair will fill out the evaluation form.

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Virtual Conference using Konfrenzi Platform

The global COVID-19 pandemic, which is still occurring to date, has resulted in impediments to the holding of scientific/academic conferences in Indonesia. One alternative solution to this problem is to hold virtual conferences by utilizing online information and communication technology. This onference can be accessed via the link: https://konfrenzi.com/link/WM9CqjF. In general, there are two types of virtual conferencing, which are briefly described below.

1. Synchronous Virtual Conference (SVC)

The implementation of the SVC is very similar to a traditional conference, except that the presentation sessions go completely online; thus, the physical meeting is eliminated. The presenter's talk time is still limited as usual (a session moderator is needed), and the interaction with the audience (questions and answers) must also be instantaneous. The point is, everything (presentations and questions and answers) is carried out in real time via the internet / online. Some of the popular applications that can be used for example are ZOOM, Google Meet, Skype, WebEx, and many other applications as well. Since it is implemented in real time with a very limited time, many technical problems might occur in VirtualConf SVC. The problems might be a slow or even intermittent presenter / audience internet connection, technical difficulties with laptop / smartphone cameras, problems with mic / speaker, background noise, laptop hangs suddenly, gadget runs out of battery, and so on. These problems might result in ineffective presentation sessions.

2. Asynchronous Virtual Conference (AVC)

The implementation of AVC is different from traditional conferences. The concept is quite simple, namely physical meetings are eliminated and all presenters make video recordings of their presentations instead. The video is then uploaded to the internet by each presenter, so that other conference participants can watch and listen to the presentation video. Then, the interaction with the audience is carried out online, through an online question and answer forum. The committee opens access to view video presentations and opens a question and answer forum for a rather long period of time, for example for one week. Thus, even if the presenter / audience experiences

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technical problems at a certain point in time, this will not be too much of a problem, because the presentation video can be viewed again at any other time, and also the question-and-answer interaction can be held at any time within one week. Thus presentation sessions can be very effective. There are quite a number of conferences that have been held virtually / online, even a few years ago (especially in Europe and America) before the outbreak of the COVID-19 outbreak, both with the SVC and AVC methods. We can find many articles on the internet discussing the advantages and disadvantages of each method (SVC and AVC) and taking valuable lessons from their various experiences. Based on these articles, we recommend implementing VirtualConf with the AVC method rather than SVC. The Konfrenzi platform can be used for the implementation of VirtualConf both SVC and AVC. Konfrenzi can be directly used for SVC implementation, where the stages are exactly the same as traditional conferences. Especially for the implementation of AVC, we have recently complemented our system by adding new features in the form of a Presentation Video Embedding (YouTube-based) and also an Online Question & Answer Forum. AVC features are available in the Premium and Ultimate license packages, and not available in the Standard license package. We hope the brief information is useful to make you familiar with Konfrenzi.com.

Guidelines for Scientific Video presentation

A.   Rules for Scientific Presentation

1. Every scientific presentation will be in a form of a recorded video (maximum duration 10 minutes) followed by a live Q&A (maximum duration 5 minutes).
2. Thus, every presenter should prepare his/her recorded presentation in a form of a video file (one file such as .mp4) of maximum 10 minutes. He and she also has to record the content of the presentation using Microsoft Power Point in English with maximum file size 100 MB and upload it to YouTube. Please submit the link YouTube file into the Konfrenzi system.
3. Audiences are not allowed to record, download, copy, or edit the presentations.

B. Tips for preparing video file for scientific presentation

1. Before recording your presentation, please prepare the following items:
    a. Microsoft PowerPoint Presentation slides.
    b. Laptop/computer.

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      c.   Microphone.

2.   To record your voice and make sure the video is audible. Please connect the microphone/headset to your laptop/computer.

3.   Since your voice will not be recorded while you switch the pages, you will have to finish your words before you go to the next page.

4.   Hyperlinks are not available for the recorded presentation; thus, if you would like to play videos, please embed them directly in the slides.

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Instruction for Session Chairs/Presenters/Attendees

Session Chairs

A session chair will be responsible for:

- Introducing the session, and then each author/paper-title before playing the video.
- Observing and taking notes of questions from Q&A panel during the presentation playback.
- Reading the questions to the presenter during the Q&A period with absolutely no delay on the allocated Q&A slots.
- Concluding the session and filling out the evaluation form.
- Making sure the session starts and finishes on time.

Notes for the Session Chair:

- Please join the session at least 15 minute in advance by clicking a link that Organizer will provide via email.
- Please check and test your microphone once joined so that the session can start on time.
- Please turn on your video to engage the attendees during the sessional introduction and Q&A.
- Please turn off the video when the video is played so that the attendees can focus on the talk video.
- Please make sure to ask the questions verbally and according to the FIFO time they were first submitted.
- Please feel free to ask some of your question when there are not many questions from the audience.
- If the attendee needs to clarify their question, the Session Chair may unmute the attendee who placed the question to make clarifications.
- Please be mindful of the Q&A time limits! Any delays on the predetermined slots of each session will push other sessions behind.

Presenters

- Please join at least 15 minutes before your designated time slot by clicking the link that the organizer will send you via email.
- Please be present during the video playback as well as the Q&A session.
- During the replay of the presentation video, your microphone will be muted during the video playback and you are encouraged to keep an eye on the attendees' questions.
- At the end of the pre-recorded presentation, your microphone will be unmuted and please open your webcam to engage well when answering questions.
- If the time does not permit you to answer some of the questions, you may want to discuss the answer off-line.
- You may stay in the session as an attendee when not presenting.

Attendees

- Since webinars are intended to be "listen-only," the organizer will mute all webinar participants by default.
- To make sure the virtual conference runs smoothly and productively, following the introduction and the video presentation, the conference chair will moderate a brief Q&A session.
- All attendees are welcome to ask questions during the replay of the presentation video by typing your question in the given chat box.
- Since the time is limited, the Session Chair will select and ask the questions during the Q&A session.
- You will be unmuted if you would like to elaborate your questions by virtually raising hand; however, the limited Q&A duration, attendees may want to discuss with the author(s) off-line.
- You do not need to announce yourself when arriving or leaving a Session.

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Conference Schedule

The program schedule will be set in Western Indonesia Time (WIB or GMT+7).

Please adjust your time to be in line with WIB or GMT+7. Please visit http://time.bmkg.go.id/ to get more information about WIB.

ICE-TES Timetable

Day 1: Thursday, 1 July 2021

Day 1 (1 July 2021)		
	Activities	**Description**
08.50-09.00	**Pre-event**	Video
09.00-09.30	**Opening ceremony**	Prof. Ir. Sri Widiyantoro MSc. PhD. IPU
		Dr. Hapnes Toba, M. Sc., IPM
09.30-10.00	**General Keynote Presentation**	Prof. Ahmad M. Ramli
10.00-10.30		Drs. Ignasius Jonan, M.A.
10.30-11.00	**Paper presentation 1**	a maximum of 15minutes for each presenter
11.00-11.30		
11.30-12.00		
12.00-12.30		
12.30-13.00		Break Time
13.00-13.30	**Keynote Presentation**	Prof. John Silke
13.30-14.00		drg. Ferry Sandra, PhD.
14.00-14.30	**Paper presentation 2**	a maximum of 15minutes for each presenter
14.30-15.00		
15.00-15.30		

Day 2: Friday, 2 July 2021

Day 2 (2 July 2021)		
	Activities	**Description**
08.50-09.00	**Pre-event**	Video
09.00-09.30	**Keynote Presentation**	Prof. Takayuki Arai
09.30-10.00		Prof. Young Ho Kim
10.00-10.30		Prof. Dr. dr. Susy Tjahjani, M.Kes
10.30-11.00	**Paper presentation 3**	a maximum of 15 minutes for each presenter
11.00-11.30		
11.30-12.00		
12.00-12.30		
12.30-13.00		Break Time
13.00-13.30	**Paper presentation 4**	a maximum of 15minutes for each presenter
13.30-14.00		
14.00-14.30		
14.30-15.00	**Closing Ceremony**	Closing remark and best paper announcement
15.00-15.30		

ICE-HUMS Timetable

Day 1: Thursday, 1 July 2021

Day 1 (1 July 2021)		
	Activities	**Description**
08.50-09.00	**Pre-event**	Video
09.00-09.30	**opening ceremony**	Prof. Ir. Sri Widiyantoro MSc. PhD. IPU
		Dr. Hapnes Toba, M. Sc., IPM
09.30-10.00	**General Keynote Presentation**	Prof. Ahmad M. Ramli
10.00-10.30		Drs. Ignasius Jonan, M.A.
10.30-11.00	**Paper presentation 1**	a maximum of 15minutes for each presenter
11.00-11.30		
11.30-12.00		
12.00-12.30		
12.30-13.00		Break Time
13.00-13.30	**Keynote Presentation**	Prof. Pim Martens
13.30-14.00		Dr. Dwinita Larasati, M.A.
14.00-14.30	**Paper presentation 2**	a maximum of 15minutes for each presenter
14.30-15.00		
15.00-15.30		

Day 2 : Friday, 2 July 2021

Day 2 (2 July 2021)		
	Activities	**Description**
08.50-09.00	Pre-event	Video
09.00-09.30	**Keynote Presentation**	Prof. Chien-Hsu Chen
09.30-10.00		Prof. Dr. Drs. Wilson Bangun, M.Si.
10.00-10.30		Prof. Dr. Dra. Marcellia Susan Karnadi, M.T.
10.30-11.00	**Paper presentation 3**	a maximum of 15 minutes for each presenter
11.00-11.30		
11.30-12.00		
12.00-12.30		
12.30-13.00		Break Time
13.00-13.30	**Paper presentation 4**	a maximum of 15 minutes for each presenter
13.30-14.00		
14.00-14.30		
14.30-15.00	**Closing Ceremony**	Closing remark and best paper announcement
15.00-15.30		

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ICE-TES Timetable

Paper Presentation 1

Day 1: Thursday, 1 July 2021

ROOM A at 10:30-12:00

Artificial Intelligence, Big Data, IoT, Robotics, Multimedia and Game	Authors	Title
ABS-037	Ratnadewi Ratnadewi, Aan Darmawan Hangkawidjaja, Agus Prijono, Rudy Wawolumaja, Kartika Suhada, Maria Christine Sutandi, Andrew Sebastian Lehman, Elty Sarvia and Kervin Lusiano	Naïve Bayes Classification of Nominal Value Detection System with Entropy, Contrast, Correlation, Energy, Homogeneity and Rupiah Paper Legality Detection, 2004-2021 RGB
ABS-047	Joseph Sanjaya, Mewati Ayub, Hapnes Toba	Comparative Study of Convolutional Neural Networks-Based Algorithm for Fine-Grained Car Recognition
ABS-063	Muliady Muliady, Tien Sze Lim, Voon Chet Koo, and Nathaniel Pius Winata	Estimation of Paddy Leaf Nitrogen Status Using a Single Sensor Multispectral Camera
ABS-065	Novie Theresia Br. Pasaribu, Erwani Merry, Kalya Icasia, Jordan Eliezer, Che-Wei Lin, Febryan Setiawan	Taekwondo Poomsae-3 Movement Identification by using CNN
ABS-076	Semuil Tjiharjadi	Design and Implementation of A Path Finding Robot Using Modified Trémaux Algorithm
ABS-091	Marvin Chandra Wijaya	Priority Petri Net Multimedia Model For Non-Deterministic Events of Multimedia Presentations

Day 1: Thursday, 1 July 2021

ROOM B at 10:30-12:00

Bio informatics, Medical and Veterinary Science	Authors	Title
ABS-005	Hanna Sari Widya Kusuma, Hartini Tiono, Philip Onggowidjaja, Selonan Susang Obeng, Wahyu Widowati, Cintani Dewi Wahyuni, Cahyaning Riski Wijayanti, Muhamad Aldi Maulana, Aditya Rinaldy, Rizal Rizal	Anti-inflammatory Activity Screening of Pineapple (Ananas comosus) Core Extract in Lipopolysaccharide-induced RAW264.7 Cell Line
ABS-008	Wahyu Widowati, Rita Tjokropranoto, Cindy Damayanti, Hanna Sari Widya Kusuma, Aditya Rinaldy, Rizal Rizal	Potential of Black Tea (Camellia Sinensis (L.) O. Kuntze) Extract as Anti-oxidant, Skin Anti-aging
ABS-009	Ervi Afifah, Hartini Tiono, Philips Onggowidjaja, Selonan Susang Obeng, Wahyu Widowati, Cintani Dewi Wahyuni, Cahyaning Riski Wijayanti, Muhammad Aldi Maulana, Tri Handayani, Rizal Rizal	Luteolin Possess Anti-Inflammatory Effect on LPS induced RAW 264,7 Cell Lines
ABS-029	Julia Windi Gunadi, Diana Krisanti Jasaputra, Decky Gunawan, Ludovicus Edwinanto, Kwee Limdawati, Harijadi Pramono, Adrian Suhendra, Ghita Sariwidyantry, Hanna Goenawan, Ronny Lesmana	The Effect of Different Intensities of Treadmill Exercise on FGF23 Gene Expression in Gastrocnemius and Soleus Muscles of Wistar Rats
ABS-038	Ermi Girsang, Chrismis Novalinda Ginting, I Nyoman Ehrich Lister, Cahyaning Riski Wijayanti, Wahyu Widowati, Rizal Rizal	Antioxidant Properties of Salacca zalacca (Gaertn.) Voss Peel Ethanolic Extract Compared to Chlorogenic Acid
ABS-043	Tiur Gantini, Hans Christian	Analyse Protein Model of the SARS-CoV-2 Virus Using Data Mining Methods

Day 1: Thursday, 1 July 2021

ROOM C at 10:30-12:00

Bio informatics, Medical and Veterinary Science	Authors	Title
ABS-067	Didik Priyandoko, Wahyu Widowati, Cintani Dewi Wahyuni, Hanna Sari Widya Kusuma, Rizal Rizal	Antioxidant Properties of Soybean (Glycine max) Extract and Its Compounds
ABS-083	Dian Ratih Laksmitawati, Diah Ika Pratami, Wahyu Widowati, Hanna Sari Widya Kusuma, Cahyaning Riski Wijayanti, Cintani Dewi Wahyuni, Ervi Afifah3, Rizal Rizal	Significance of Antioxidant Properties of Curcuma longa L. and Curcuma xanthorriza rhizomes
Dental Science and Advanced Dentistry	Authors	Title
ABS-034	Vinna Kurniawati Sugiaman, Henry Yonatan Mandalas, Ethan Yeshael Tanamal, Nathalia Cahya Calista, Natallia Pranata	The Effect of Agarwood Leaves Ethanol Extract on Porphyromonas Gingivalis Growth Inhibition and in Vitro Cytotoxicity Assay on Fibroblast
ABS-087	Aprianisa Obsidiany Daisy Tarigan, Hendra Polii and Rosalina Intan Saputri	Comparison of Two Dental Age Estimation Methods: the London Atlas and the Schour & Massler Atlas in 3-23 Years Old Indonesian
ABS-095	Rudy Djuanda, Eliza Madyanty, Almira Anggarini Witjaksono, Vinna Kurniawati Sugiaman, Natallia Pranata	The Effect of Apple Vinegar as an Irrigation Solution to Dental Root Canal Microstructure

Paper Presentation 2

Day 1: Thursday, 1 July 2021

ROOM D at 14:00-15:30

Electrical, Electronics, Computer Engineering and Science	Authors	Title
ABS-049	I Gede Made Karma, I Ketut Gede Darma Putra, Made Sudarma and Linawati	The Color Dissimilarity Based Method Among Other Segmentation Methods: a Comparison
ABS-054	Sodikin- Hendramawat Aski Safarizki	Safety Driving Behavior of Adolescents Pre-Owning Driving License (SIM)
ABS-064	Erwani Merry Sartika, Novie Theresia Br. Pasaribu, Richard Setiawan, Reynaldy Felicius Gunawan, Dion Melvern Siswanto, Che-Wei Lin, and Febrian Setiawan	Virtual Reality Stimulants of Motor Ability through the Virtual Reality-Based Game
ABS-094	Zainal Arifin- Linda Fitri	Implementation of Battery Energy Storage System at Cirata PV Solar Floating for Reducing the Electricity Cost Production on Jamali Grid
Process Automation, Scheduling and Adaptive Industrial Engineering	Authors	Title
ABS-068	Novie Theresia Br Pasaribu, Vivi Arisandhy, Christina, Elty Sarvia, Rainisa Maini Heryanto, Erwani Merry Sartika, Audyati Gany, Olga Catherina Pattipawaej, Richard Setiawan, Jessica	Design of Bilateral Hand Movement Device
ABS-081	Winda Halim, Rainisa Maini Heryanto, Santoso, Christina, Erwani Merry Sartika, Audyati Gany, Andrew Sebastian Lehman, Anggie Ervany Haryono, Vieri Candhya Wigayha	Experimental Design of Driving with Distractions at Urban Area using Simulator Driving

Day 1: Thursday, 1 July 2021

ROOM E at 14:00-15:30

Geo informatics, Building Structure, Landscape and Architecture	Authors	Title
ABS-021	Robby Yussac Tallar1 , Teofilus Sawang1	Experimental Study on Velocity Profiles due to Ecological Barriers
ABS-025	Cut Talitha Salsabila Nuraprili, Robby Yussac Tallar, Alexander Yovan Suwono	Comparative Study of Riprap Model Design for Scour Protection of Bridge Pier
ABS-026	Daud Rahmat Wiyono, Roi Milyardi, Yosafat Aji Pranata, Robby Yussac Tallar	The Experimental Study of Optimum Thickness on Riprap Layer Design
ABS-027	Daud Rahmat Wiyono1 , Roi Milyardi2 , YosafatAji Pranata3 and Robby Y Tallar3	The Effect of Seismic Masses in Calculation of 17th Building Structures
ABS-030	Deni Setiawan1 , and Stefanny Abigail	Identification of Risk Factors for Delayed Time Schedule in Summarecon Serpong Playfield Preschool Project

Day 1: Thursday, 1 July 2021

ROOM F at 14:00-15:30

Geo informatics, Building Structure, Landscape and Architecture	Authors	Title
ABS-033	Roi Milyardi1 , Deni Setiawan2 and Tri Octaviani Sihombing3	Flood Risk Assessment of Heritage Building in Semarang City
ABS-052	Jeffrey Limas Lim, Ayomi Dita Rarasati, and Mohammad Ichsan	Identification of Risks in Making Decision for Overseas Expansion by Indonesian State-Owned Construction Enterprise
ABS-053	Rumasoreng W.A.K ,Karyadi , and Nindyawati	Pull-Out Resistance of Glued-In Rod Embedded Parallel to Grain in Laminated Bamboo with Two Edge Distance Variations
ABS-066	Marwahyudi, S Sangadji, Halwan Alfisa Saifullah, SA. Kristiawan	Experimental Study of Shear Strength of *Purus Lobang Berkait* (PLB)-Masonry Wall
ABS-073	Noek Sulandari, Cindrawaty Lesmana, Cindy Maria Setyana	Engineering Education: Measuring the Relationship Between Knowledge and Confidence to the Student Performance
ABS-097	Ferlina Sugata, Nathalia Yunita Sugiharto, Nina Nurviana, Seriwati Ginting, Isabella Isthipraya Andreas, Shirly Nathania Suhanjoyo, Andi A. Hamzah and Heddy Heryadi	Bio-Cord as an Ecotechnological Wastewater Treatment for Productive and Attractive Urban Open Spaces

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Paper Presentation 3

Day 2: Friday, 2 July 2021

ROOM G at 10:30-12:00

Health informatics, Public Health, and Clinical Research	Authors	Title
ABS-016	July Ivone, Stella T Hasianna and Victor Yohanes S, Vilia Ruthy W	Relationship between Low Birth Weight (LBW), Birth Length, Basic Immunization History and Stunting in Children Age 9 - 60 Months in Kabupaten Purwakarta
ABS-040	Nur Ika Hariastuti, Nike Susanti, Hana Apsari Pawestri and Kartika Dewi Puspa	Application of Freeze-thaw Harvest for SARS-CoV-2 PCR EQA Panel Material
ABS-046	Charissa Lazarus, Khamelia Malik	Suicide and Narcissistic Personality Traits: a Review of Emerging Studies
ABS-058	Elty Sarvia, Elizabeth Wianto, Erwin Ardianto Halim, Elvira Natalia	Expected Variables to Design Sleeping Facilities for the Elderly Based on the Potential Stakeholders Point of View
ABS-093	Wahyu Widowati, Teresa Liliana Wargasetia, Fanny Rahardja, Rimonta F Gunanegara, Hanna Sari Widya Kusuma, Seila Arumwardana, Cintani Dewi Wahyuni, Aditya Rinaldy, Cahyaning Riski Wijayanti, Tri Handayani, Rizal Rizal	Potential of Wharton's Jelly Mesenchymal Stem Cells as an Alternative Candidate for Covid-19 Therapy

Day 2: Friday, 2 July 2021

ROOM H at 10:30-12:00

Software Engineering, Information and Communication Technology	Authors	Title
ABS-011	Apriliana Fajri Wibowo, Yova Ruldeviyani	Factors Affecting Success of Team Members in Indonesia Scrum Implementation
ABS-013	Erwin Ardianto Halim, Monica Hartanti, Maresha Caroline Wijanto, Yosepin Sri Ningsih, Hendra Setiawan, Yudita Royandi, Yunita Setyoningrum, Berti Alia Bahaduri, Aulia Wara Arimbi Putri	The Application of Digital Module Design of East Sumba Woven Fabric on Interior Accessories
ABS-057	Bayu Rima Aditya, Dina Fitria Murad, Oscar Karnalim, Aditya Permadi, Andrisyah, Fathul Jannah, and Irawan Nurhas	The Use of Technology in Indonesian K-6 Education during Covid-19 Pandemic: a Review
ABS-060	Febrina Anastasha, Teddy Marcus Zakaria	Build Software of Information Management Community Service Events
ABS-096	Bernard Renaldy Suteja, Wilfridus Bambang Triadi Handaya	User Interactions Analysis on a Moodle-based online Learning Management System during Pandemic

Paper Presentation 4

Day 2: Friday, 2 July 2021

ROOM I at 13:00-14:30

Nutrigenomics and Food Science	Authors	Title
ABS-019	TE Pramudito, EGA Putri, E Paluphi, G Florencia, MR Gunawan, MP Pratiwi and Y Yogiara	Bioactivity of Soybean Tempeh Against Diarrhea Associated Pathogen is More Correlated with the Number of Total Bacteria than Specific Major Bacterial Phylum
ABS-031	Diana Krisanti Jasaputra, Julia Windi Gunadi, Penny Setyawati Martioso, Larissa, Yenny Noor, Irna Permanasari Gani, Erik Dwikurnia Saiman, Desman Situmorang, Andi Haryanto	Effects of Herbal Ingredients (Allium Sativum, Punica granatum, Curcuma longa, Curcuma xanthorrhiza) on FATP3 Gene Expression in Aorta of High Fat Diet-fed Rats: a Preliminary Study
ABS-055	Sri Wulandari, Makhmudun Ainuri and Anggoro Cahyo Sukartiko	Biochemical Characteristics of Ground Robusta Coffee under Various Postharvest Technologies and Processing Parameters
ABS-092	Deni Rahmat, Wahyu Widowati, Etik Mardliyati, Eny Kusrini, Abdi Wira Septama, Yati Sumiyati, Mita Restinia, Sjaikhurrizal El Muttaqien, Cintani Dewi Wahyuni, Hanna Sari Widya Kusuma, Muhammad Aldi, Tri Handayani, Rizal Rizal	Substantially Improved Antioxidant Activity of Modified Polymeric Nanostructure Entrapping Curcumin

Day 2: Friday, 2 July 2021

ROOM J at 13:00-14:30

Machine Learning, Edge Computing, Deep and Federated Learning	Authors	Title
ABS-032	Hendra Bunyamin, Hapnes Toba, Meyliana, and Roro Wahyudianingsih	Breast Cancer Histopathological Image Classification Using Progressive Resizing Approach
ABS-082	Natalia Hartono	Multi-objective Bees Algorithm for Feature Selection
ABS-089	Audyati Gany, Meilan Jimmy Hasugian, Erwani Merry Sartika, Novie Theresia Br. Pasaribu, Hannah Georgina	Eye Abnormality Automatic Detection Using Deep Learning based Model

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Family, Gender and Intergenerational Issues	Authors	Title
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ABS-36	Afifah Z. Sari, Destie N. Ramadhan, Minerva Patricia, Pingkan C. B. Rumondor, Farah M. Djalal	How do Indonesians perceive Marriage? Semantics Analysis of Marriage as a Concept and its Relation with the Well-Being
ABS-50	Abd Rahman, Sri Rum Giyarsih, Sigit Herumurti BS	Desire to Have Children Assessed from Socioeconomic Context Post Disaster in Palu
ABS-59	O.Irene Prameswari Edwina, Tessalonika Sembiring, Cindy Maria, Jean Esparanci	Family Resilience:Traits, Positivity, and Close Relationship in Adolescents
ABS-60	Ria Wardani , Ira Adelina, Heliany Kiswantomo	Predicting Retention: Sociodemographic, Motivational, and Perceived Social Support Factors
ABS-64	Fenty Lidya Siregar, Henni, Silvanni Comara	The Representation of Gender in Garner's Politically Correct Bedtime Stories: a Critical Stylistic Analysis

Day 1: Thursday, 1 July 2021

ROOM L at 10:30-12:00

Financial Models, Accounting, Marketing and Economic Growth	Authors	Title
ABS-20	Tan Ming Kuang, Lidya Agustina, and Yani Monalisa	Using Educational Game for Improving Students' Knowledge and Interest in Investing in the Capital Market
ABS-24	Apriani D.R Atahau, Imanuel Madea Sakti, Cheng-Wen Lee, Andrian D. Huruta	Green Microfinance and Renewable Energy: Empowering the Role of Women in Rural Areas
ABS-34	Yenni Merlin Djajalaksana and Doro Edi	Utilization of Digital Marketing after Covid-19 Pandemic in Indonesia Businesses
ABS-41	Moh Farid Najib	Assessing Business Performance of the Traditional Market Trader: the Role of Buyer-Supplier Relationship and Dynamic Capabilities
ABS-51	Maya Malinda, Asni Harianti, Yolla Margaretha, Henky Lisan Suwarno, Kaleb Immanuel Yahya, Miki Tjandra	Comparison of Financial Literacy for Micro, Small and Medium Enterprises Entrepreneurs at Bojong Soang upon Using Financial Planning Application "SAKA (peSAK Abdi)"
ABS-57	Rhosalina Damayanti, Adrian Izaak Rompis and Aprina Nugrahesthy Sulistya Hapsari	Testing the Internal Control of Simda Application in Effort to Improve Public Accountability

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Financial Models, Accounting, Marketing and Economic Growth	Authors	Title
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ABS-65	Christina Wirawan	Bibliometric Analysis of Product-Service System Related to Life Cycle
ABS-77	Elvira Luthan, Yulia H. Yeni, Eri Besra	Analysis of Factors Affecting the Sustainability of Village-Owned Enterprise in the Province of West Sumatera
ABS-80	Ita Salsalina Lingga	The Importance of Internal Control on Accounting Information System's Quality: Survey on Banking Sector
ABS-99	Ilham Pranata, SeTin SeTin	The Roles of Organizational Politics and Fairness in the Relationship between Relative Performance Evaluation and Managerial Performance
ABS-110	Marcellia Susan, Jacinta Winarto, Agus Aribowo, Yusuf Osman Raihin, Martalena, Herlina, Herman Kambono, Enny Prayogo	Sustaining Customer Loyalty in Higher Education

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Paper Presentation 2

Day 1: Thursday, 1 July 2021

ROOM N at 14:00-15:30

Financial Models, Accounting, Marketing and Economic Growth	Authors	Title
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ABS-139	Michael Christian, Lasmery RM Girsang, Henilia Yulita	Measuring Ease of Use Aspects of Shopee Usage Behaviour During Pandemic Using the PLS-SEM Approach
Psychological, Education and Social Resources in the New Normal	**Authors**	**Title**
ABS-75	Yuspendi, Trisa Genia C. Zega, Indah Soca R. Kuntari, Lie Fun Fun, and Ida Ayu N. Kartikawa	The Role of Adult Attachment and Spiritual Well-Being Towards Wife's Marriage Satisfaction in the Muslim Community of Bandung
ABS-109	Imelda Junita, Fanny Kristine, Sherlywati, Rizki Muhamad Sidik	Potential Relationship between Students' Satisfaction on University Attributes and Positive or Negative Word-of-Mouth (WOM) and Its Correlation with their Recommendations
ABS-115	Purnama E.D. Tedjokoesoemo, Poppy Firtatwentyna Nilasari, and Sriti Mayang Sari	Addressing The Independent Learning Curriculum (*Kurikulum Merdeka Belajar*) as a Form of Positive Disruption to Empower the Community
ABS-134	Robert O. Rajagukguk, Candra Sinuraya, Jane Savitri, Kristin Rahmani, Stephanie Andamari	Model of Student Identity Development by Chickering Theory

Day 1: Thursday, 1 July 2021

ROOM O at 14:00-15:30

Hybrid Approaches to Create Sustainability in Arts and Design	Authors	Title
ABS-8	Elizabeth Wianto, Monica Hartanti	The Role of Sustainable Packaging Design for West Java Local Products
ABS-16	Ariesa Pandanwangi- Dewi Isma Aryani- Belinda Sukapura Dewi- Ismet Zaenal Effendi- Wawan Suryana- MikyEndro Santoso- Leonardo- Beni Sasmito	Spiritual Value: a Mythological Figure in Keraton Kanoman Cirebon
ABS-40	Christine Claudia Lukman, Krismanto Kusbiantoro, Irena Vanessa Gunawan, Lois Denissa, Elliati Djakaria, I Nyoman Natanael, Grace Carolline Sahertian, Wenny Anggraini Natalia	Multidiscipline Hybrid Approach in Art and Design Education to Support the Sustainability of Batik Cimahi
ABS-46	Greysia Susilo, S.E., S.Sn., M.Hum., Veila Venisia	Changes in Interior Design Programming at Residentials after Covid-19 Pandemic
ABS-82	Lois Denissa	JFC Timeless Uses Hybrid Codes in Costumes for Reaching Sustainable Identity
ABS-87	Isabella Isthipraya Andreas, Shirly Nathania Suhanjoyo, Andi Aulia Hamzah, Ferlina Sugata, Nathalia Yunita Sugiharto, Nina Nurviana, Heddy Heryadi, and Seriwati Ginting	The Improvement of *Jamu* Appeal Using Creative Sales Strategy and Contemporary Design

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Hybrid Approaches to Create Sustainability in Arts and Design	Authors	Title
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ABS-121	Ariesa Pandanwangi, Ratnadewi, Agus Prijono	Local Potential as the Source of *Batik* Design Using Turtle Graphics
ABS-151	Hayu Puspasari Saputri	Arumawa Ilé: New Normal and Sustainable Café Concept in Turirejo, Malang, East Java
ABS-152	Elizabeth Susanti Gunawan, Krismanto Kusbiantoro and Sugiri Kustedja	Transformation of a Chinese Cultural Heritage House in Bandung: Towards Sustainability
ABS-153	Kezia Clarissa Langi, Dian Widiawati, Setiawan Sabana, and Tusita Metadevi Jayamangalani Suprapto	Development of Weaving Craft Motif Designs as a Diversification Attempt for Nias Local Souvenir Products
ABS-154	Petrus Gogor Bangsa- Wening Udasmoro, and Christian Budiman	Self-taught Online Graphic Designer in Salaman, Magelang: Between Art Work, Decent Work and Vulnerable Work

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Paper Presentation 3

Day 2: Friday, 2 July 2021

ROOM Q at 10:30-12:00

Law and Legal Systems for Sustainable Development	Authors	Title
ABS-9	Johannes Ibrahim Kosasi- Yohanes Hermanto Sirait	Urgency in Using Indonesia Language on Business Contracts and Potency of Investment Dispute (the Study of Supreme Court Decision Number 601 K/Pdt/2015)
ABS-10	Tresnawati	Corporate Social and Environmental Responsibility Regulation and Implementation in Indonesia: Contribution for Sustainable Development or Legalized Robbery?
ABS-15	Rahel Octora , Fauzan Hanif M.	Financial Exploitation by Spouse, a Crime in Private Space (an Overview Based on Indonesian Legal System)
ABS-53	Ida Sumarsih	Study of Stock Ownership Nominee Agreement in Mining Business to People's Welfare that is Aligned for Sustainable Development Goals
ABS-70	Reggiannie Christy Natalia	Part Time Working Arrangement in Omnibus Law as Part of Sustainable Development and How it is Implemented in Developed Countries
ABS-108	Agus Setiawan, Harris Wiguna, Pan Lindawaty Suherman Sewu	Good Faith Principle and Legal Protection over Parties Related to Fiduciary Certificate in the Constitutional Court Decision in Indonesia after the Constitutional Court Decision Number 18/PUU-

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ROOM R at 10:30-12:00

Mental Health, Human Resources, Leadership and Well-being	Authors	Title
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ABS-23	Susanti Saragih, Meily Margaretha, Sherlywati	The Role of Calling and Job Crafting on the Promotion of Employee Engagement for Organizational Sustainability
ABS-28	Hasna Fauziati Zakkiyah, Stella, Farah Mutiasari Djalal, & Yosef Dedy Pradipto	What does Sejahtera mean to you? The interpretation of Sejahtera based on money-saving habit, happiness, and life satisfaction
ABS-58	Ida Ayu Nyoman Kartikawati, Lie Fun Fun , Lisa Imelia, Stephanie Andamari	Teacher Self Efficacy and Work Engagement: the Mediating Role of Psychological Well Being
ABS-63	Heliany Kiswantomo & Theofanny	Neuroticism and Subjective Well-Being in Faculty of Psychology Student
ABS-66	Leonardus Dewa Hardana, Rayini Dahesihsari	Internal Change Agents' Strategies to Deal with Boundary in Organizations in Indonesia

Day 2: Friday, 2 July 2021

ROOM S at 10:30-12:00

Mental Health, Human Resources, Leadership and Well-being	Authors	Title
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ABS-094	Efnie, Indrianie	Brain Respiration to Overcome Stress People Who Live with HIV (ODHIV)
ABS-101	Rhea Griselda- Olivia Gunawan- Laksmi Kusuma Wardani	The Interior of Medium-Scale Business Tiara Handicraft in Surabaya with Accessible Design Principle for Mentally and Physically Disabled Employees
ABS-102	Mutiara Ramadhita Roesad, Pingkan Cynthia Belinda Rumondor	Happily Married in the Absence of a Child: Marital Satisfaction of Voluntary and Involuntary Childless Individuals
ABS-136	Ka Yan, Priska Analya	Gratitude Journal, Expressive Writing and Mindfulness
ABS-138	Henilia Yulita, Vincencius Farrel Jonathan, Yustinus Yuniarto, Michael Christian, Eko Retno Indriyarti, Suryo Wibowo	The Role of Affective Commitment in Mediating the Relationship between Authentic Leadership and Organizational Learning at Chicken-Based Food Processing Company in Indonesia

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ROOM T at 10:30-12:00

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Mental Health, Human Resources, Leadership and Well-being	Authors	Title
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ABS-159	Erwin Permana, Widarto Rachbini, Wasi Widayadi, Rukun Santoso	The Dimensions of Transformational Leadership and Their Impacts on the Performance of Construction Business during Covid-19 Pandemic

Psychological, Education and Social Resources in the New Normal	Authors	Title
ABS-39	Ira Adelina, Vida Handayani, Maria Yuni Megarini	Systematic Literature Review on Mindset and the Benefits in Living New Normal Life
ABS-52	Tery Setiawan, Indah S.R. Kuntari, and Indah Puspitasa	Human Development Index in Indonesia: Are We in Line with SDGs and How Much Have We Grown?
ABS-54	Ellen Theresia , Marissa Chitra Sulastra and Serena Wijaya	Role of Parental Stress in Parenting Practice in Parents of Middle Childhood Children

Paper Presentation 4

Day 2: Friday, 2 July 2021

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ABS-27	Trisnowati Tanto, Sri Iriantini	Local Wisdom in Indomie and Demae Icchou Video Advertisements: a Multimodal Analysis
ABS-38	Mohamad Makincoiri, Mulyana	The Influences of Song Lyrics *"Jagad Anyar Kang Dumadi"* on the Productivity of Traditional Artists in Yogyakarta: a Critical Discourse Analysis
ABS-43	Selvia, M.Hum., Yohan Yusuf Arifin, M.His., Septerianie Sutandi, M.TCSOL.	Representation of Political, Social, and Cultural Phenomena in Biopics of Chinese Indonesian Figures Using Historical Approach
ABS-67	Brian L. Djumaty: Nina Putri Hayam Dey	Food Sustainability in Local Wisdom Perspective of the Indigenous People Dayak Tomun Lamandau
ABS-73	Dexon Pasaribu, Bagus Takwin, Pim Marten	The Role of Religious Orientation and Ethical Ideologies in Environmental Concerns amongst Teachers and School Staff in East Java, Indonesia

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ROOM V at 13:00-14:30

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ABS-84	Maryani	The Perceptions of Indonesian University Students on the Use of Extensive Reading in English Grammar Class
ABS-90	Xuc Lin, Mariana, Fu Ruomei	Raising Environmental Awareness Through Teaching Chinese as a Second Language at University
ABS-95	Hurriyah	Local Religions and Contested Civic Space in Indonesia: a Case Study of Sunda Wiwitan community in Cigugur
ABS-103	Irsanti Widuri Asih, Heru Nugroho, Budiawan	New Constellations of Power and Resistance in the Platform Economy: Study of Gojek
ABS-104	Devi Riskianingrum- Herry Yogaswara	The Recalled of Disaster Memory on Sebesi Island: a Historical Perspective

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ROOM W at 13:00-14:30

Religion, Language and Humanity Issues in Sustainable Communities	Authors	Title
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ABS-113	Rizki Theodorus Johan, S.S, M.A, Sonny Angjaya, S.S, M.Hum.	Healing Through Acting: the Therapeutic Effect through Online Monologue Performance
ABS-132	Julianti Kasih1 , Yenni Merlin Djajalaksana2 and Doro Edi3	Digital Interactions in Church Communities Attributable to COVID-19 Pandemic
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Evaluation for indexation: Scopus

ABS-115
Addressing the Independent Learning Curriculum (*Kurikulum Merdeka Belajar*) as a Form of Positive Disruption to Empower the Community

Purnama E.D. Tedjokoesoemo[1] , Poppy Firtatwentyna Nilasari[2 2] and and Sriti Mayang Sari[3 3]

[1]*Interior Design Department, Universitas Kristen Petra, Jl. Siwalankerto 121-131, Surabaya, Indonesia*
Corresponding author: esa@petra.ac.id

Keywords: community engagement, rusunawa, sociopreneurship, design thinking, Kurikulum Merdeka Belajar

Abstract: The emergence of COVID-19 in early 2020 demands strategic policies to accelerate. The strategic policy in education was responded to by the Independent Learning Curriculum (Kurikulum Merdeka Belajar), which is commonly known as virtual learning. Virtual learning has become a challenge to implement community service as one of the threefold missions of higher education. Rumah Langit is a learning house that serves the pre-prosperous children in Rusunawa Urip Sumoharjo Surabaya. This object is the pilot project to study the implementation of community service with Independent Learning Curriculum for final project students' of interior design programs. The research was conducted in a qualitative method to learn the implementation of the design thinking method used in design development. The study showed that high flexibility in the final project stage may not be any different to previous final projects in older curriculum. However, this curriculum forces students to sharpen soft skills rather than mere design skills. The output not only focuses on solving the interior problems but also to equip the community. Therefore, the Independent Learning Curriculum can be said as a positive disruption that offers acceleration and bridging the needs of education and industry that has been requested for a long time.

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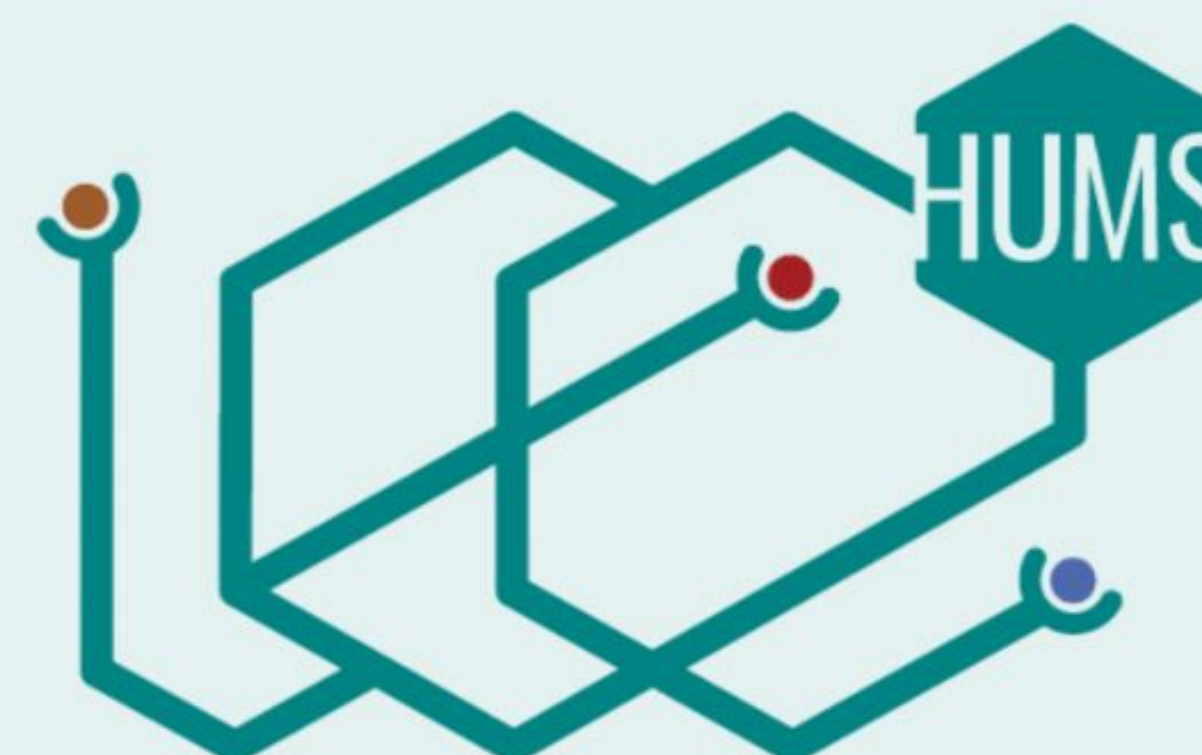held by Maranatha Christian University
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Addressing The Independent Learning Curriculum (Kurikulum Merdeka Belajar) as a Form of Positive Disruption to Empower the Community

Purnama E.D. Tedjokoesoemo[1] [1], Poppy Firtatwentyna Nilasari[2] [2] and and Sriti Mayang Sari[3] [3]

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[1] https://orcid.org/0000-0003-1754-6600
[2] https://orcid.org/0000-0001-6001-9246
[3] https://orcid.org/0000-0003-0545-7731

1 INTRODUCTION

Disruption is the impact of the industrial revolution 4.0 that affected almost all fields, including in the field of science and technology (IPTEK) and higher education. The industrial revolution 4.0 demands speed and accuracy so that the use of various applications of advanced technology, artificial intelligence (AI), the internet of Things (IoT), advanced robotics, and 3D technology can no longer be avoided (Adiyanto, 2019).

In an effort to respond to changes that occur in society and education (namely Industry 4.0, Society 5.0, Gen Z, IAPS 4.0, and International Accreditation), it is deemed necessary to immediately make changes to the curriculum (Universitas Kristen Petra, n.d.). Apart from those reasons mentioned, the emergence of COVID-19 in early 2020 accelerated this change for it demands strategic policies to adapt the use of advanced technology and flexibility in learning without being limited by space and time. This strategic policy in education was then responded to by the Independent Learning Curriculum (Kurikulum Merdeka Belajar) nationally in November 2020.

The Independent Learning Curriculum, as initiated by its name, provides independence for students to learn with high flexibility. The objective is to create a link and match, not only with the world of industry and the world of work but also with a rapidly changing future. In higher education, this curriculum has come as a disruption to how students may achieve their bachelor degree. This curriculum enables students to learn 3 semesters off campus in forms of student exchange, internship, teaching assistance in education units, research, humanitarian project, entrepreneurial activities, independent project, and or thematic real work lecture (Direktorat Jenderal Pendidikan Tinggi Kementerian Pendidikan dan Kebudayaan, 2020).

Conventional assessment was challenged. The conventional graduation assessment by just and only thesis was seen as obsolete. The obsolete assessment was seen as keeping the gap between education and work life. The conventional final project assessment of interior design students assessed their understanding of the problem, sensitivity to see the phenomenon, and solution offered. However, the empathize stage often became an assumption since most of their time was spent on campus. Unfortunately this causes most final project works to end up as discourse.

Therefore, new assessment tools and education based on outcome is seen as necessary. This paper may highlight the final project of interior design students who took the humanitarian project path as their choice of learning. This path will be further addressed as community engagement in this paper. The proposal on aspects to assess in this path is expected as an initial offer.

This research was conducted to observe the first year implementation of the Community Engagement program as a final year project of interior design students in the academic year of 2020/2021. The study was carried out in the Rumah Langit Community, a learning house that serves kindergarten to junior high school students from pre-prosperous families in Rusunawa Urip Sumoharjo Surabaya, that is run by Yayasan Generasi Peduli. Since COVID 19 pandemic outbreak, activities and capacities at Rumah Langit have been significantly limited, while learning assistance is still very much needed. Regular volunteer activities were stopped as part of health protocol implementation. However, re-arrangement of the layout and supporting furniture has not been done properly. Coordinator of Rumah Langit took separator as the only approach needed. Whereas, on market separators were not space friendly and storage systems to make sure variation of activities were still not properly provided. Therefore a better design approach is expected to come from deeper understanding and on site observation run through community engagement path in design thinking method.

2 METHODS

This research is conducted in a qualitative method with a deep observation approach. The observation was aimed to analyse each stage of the design thinking process and what potential aspects to be set as assessment tools to measure the success of this activity (community engagement) in coming years.

In depth observation of design thinking methodology was seen as a logical approach to understand the journey and reasoning for each activity held and each object designed in order to engage and empower a community. Dorst (2011) formulate the reasoning principles that are commonly found to solve a problem (see Table 1).

Table 1: Basic Reasoning Patterns.

What (thing)	How (working principle)	Leads to Result (observed)	Situation called as
v	v	v	Basic
v	v	?	Deduction
v	?	v	Induction

However, oftentimes, in design and other productive professions, the equation changes. In that, the end now is not a statement of fact (observed result), but the attainment of a certain 'value' (Dorst, 2011). The condition often met by designers is they are required to create a design that operates with a known working principle, and within a set scenario of value creation. But a more complex situation occurs when designers were put at the start of the problem solving process by only knowing the end value expected. So the challenge is to figure out 'what' to create, while there is no known or chosen 'working principle' that can be trusted to lead to the desired value (Dorst, 2011).

This is the situation met at the Rumah Langit Community Engagement program as the first humanitarian project adopting the Independent Learning Curriculum in our campus. Approaching humanitarian action through design is dependent on deriving insights about the end user, and on understanding the relationship between multiple stakeholders, and how they influence each other and the objectives they are striving towards. The goal of this research was to improve understanding; and to determine the purpose of design within humanitarian action (Nielsen, 2017). This has become the base on why design thinking may come as a relevant research approach for this learning project.

Design Thinking is a design methodology that provides a solution-based approach to solving problems. It's extremely useful in tackling complex problems that are ill-defined or unknown, by understanding the human needs involved, by re-framing the problem in human-centric ways, by creating many ideas in brainstorming sessions, and by adopting a hands-on approach in prototyping and testing (Dam & Siang, 2021).
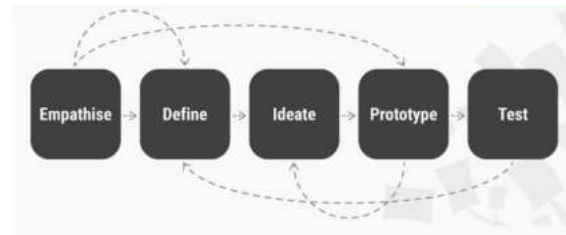

Figure 1: Design Thinking Diagram
(Dam & Siang, 2021)

The design thinking approach used in this research is the 5 stages of design thinking. The following are the design thinking stages, methods, and objectives that will be carried out in this research:

Table 2: Design Thinking Methodology Applied in This Research.

Design Thinking Method	Intended Activity	Aim
Empathize	• On site observation and informal internship • In depth interview	Understanding and formulation of site, potentials, problems, needs, activities
Define	• Affinity Diagram • Concept making	Problem statement and programmatic conceptual
Ideate	• Brainstorming • Schematic Design • FGD	Initiate interior and product design, busy art box
Prototype	• Model experiment • Construction test	Real product prototype ready to function
Test	• Functional test • Aesthetic test	Product acceptability and ease of use Evaluation formula for further development

This research observed 2 interior design final students as a pilot project in their effort to complete the Community Engagement program. Community

Engagement students will carry out their activities in 2 stages of activities, namely redesign and creative activity training. Redesign will be carried out simultaneously with the design thinking stage by providing virtual assistance with in charge supervisors.

Field coordination was done in a hybrid method while Focus Group Discussion (FGD) will be carried out offline. On-site FGD will involve 2 active site coordinators and 5 permitted children while doing tutorial activity. These are the maximum numbers of allowed participants. The participants of FGD will be the remaining active volunteers in Rumah Langit consisting of one coordinator from Generasi Peduli, one main volunteer who is also occupant of rusunawa, and 5 children from age range of 4th grade to junior high school. The remaining active volunteers represents volunteers in general, the volunteer whom also live in rusunawa also represent building manager as per assigned by the chairman of the household, and the 5 children in higher stage of age were selected by the Generasi Peduli and Rumah Langit as they are well articulated and communicate well on their opinion. Their role during FGD will be as per usually done by which they will act and respond to furniture and design casually and freely before discussion were conducted. In the second stage, by using data gained from FGD creative activity training will be carried out in the form of on-site workshops with the recognition of health protocols.

3 COMMUNITY ENGAGEMENT

The challenge faced by universities in curriculum development in the Industrial 4.0 era is to produce graduates with new literacy abilities, namely data literacy, technological literacy, and human literacy who have a noble orientation. The curriculum, known as Independent Learning Curriculum (Kurikulum Merdeka Belajar) is intended to realize an autonomous and flexible learning process in higher education so as to create a learning culture that is innovative, non-restrictive, in accordance with the needs of students. This policy also aims to increase link and match with the business world and industry (Suryaman, 2020).

Community engagement pedagogy is one approach that combines learning goals and community service in ways that can enhance both student growth and the common good. Typically, community engagement is incorporated into a course or series of courses by way of a project that has both learning and community action goals. This gives students experiential opportunities to learn in real world contexts and develop skills of community engagement, while affording community partners opportunities to address significant needs (Bandy, 2016).

Kerissa Heffernan (in Bandy, 2016) states there are six general models of community engagement teaching. Those are:

- Discipline-Based Model
- Problem-Based Model
- Capstone Course Model
- Service Internship Model
- Action Research Model
- Directed Study Additional/Extra Credit Model

In this final project, the community engagement scheme shifted from problem based model into service internship model. Problem based model was the scheme often used in pre design studios conducted in service learning based. According to Kerissa Heffernan (in Bandy, 2016), this scheme expect students to relate with the community much as "consultants" working for a "client." Students work with community members to understand a particular community problem or need. Problem based model presumes that the students have or will develop capacities with which to help communities solve a problem. In this model, students commonly will act as giver due to restricted time for empathizing methods and more in design development by focusing only on design problems.

Meanwhile, the service internship model proposed for final year implementation in community engagement path, offered deeper understanding and possibility to expand students' skill that by the end of the program was expected to empower the community they served. This approach asks students to work in a community setting (ideally as many as 10 to 20 hours a week). As in traditional internships, students are charged with producing a body of work that is of value to the community or site. However, unlike traditional internships, service internships have on-going faculty-guided reflection to challenge the students to analyze their new experiences using discipline-based theories. Service internships focus on reciprocity: the idea that the community and the student benefit equally from the experience (Bandy, 2016).

4 RUMAH LANGIT

Rumah Langit is a learning house program in one of the flats in the center of Surabaya, namely Rusunawa Urip Sumoharjo Surabaya. This flat is inhabited by pre prosperous families. Rumah Langit uses one of the flat units to carry out free all-day tutorials led by a coordinator and volunteers from the Yayasan Generasi Peduli. This tutoring accommodates activities for kindergarten to junior high school students.

Until early of 2020, Rumah Langit operated with approximately 42 children. Unfortunately, the COVID 19 pandemic has significantly limited activities and capacities at Rumah Langit, while learning assistance is still very much needed and even more so when schools go online. In addition to functioning as a place of learning, Rumah Langit also functions as a forum for children's activities, which is currently not optimal because it only accommodates learning activities and does not accommodate the development of other interests, especially in the art, that are quite desirable.

In regards to COVID 19 conditions, the implementation of the threefold missions of higher education, especially community service, has been challenged since it generally requires direct interaction. Virtual learning also becomes a challenge, especially for the pre-prosperous who have limited space, access to knowledge, and access to cyberspace.

Figure 2: Rumah Langit Situation.

5 RESULT AND DISCUSSION

Community Engagement is designed to focus on human literacy which has a noble orientation. This path is carried out continuously for 2 semesters at the 1 last year off campus opportunity. At community engagement final projects, students are required to engage in a community and make a project that will empower the community and enable it to support itself even when the final project has finished.

The result to be discussed in this paper will be described by stages of design thinking methodology they carried out in. However, by the time this paper was written, the design thinking process may have just finished the prototype stage and entered the early test stage. Therefore, the discussion on the design thinking stage and how each stage is conducted will be carried out until the prototype stage at the construction test only.

5.1 Empathize

The first stage of the design thinking process is to gain an empathic understanding of the problem we are trying to solve. Empathy is crucial to a human-centered design process as empathy allows designers to set aside their own assumptions to gain insight into users and their needs (Dam & Siang, 2021).

This stage was conducted the longest as initial understanding of community engagement models expected is different from usual community engagement implemented in service learning classes done previously. Understanding (sense-making) and purpose are central in design thinking (Nielsen, 2017). As students are given more flexibility in time and attendance, the community engagement model is expected to shift from problem based model to service internship model.

Initial discussion with management of Rumah Langit and Generasi Peduli was done virtually. Project overview, community profile, and facilities needed were communicated. To gain deeper insight of the occupants needs and the community potentials, direct observation, interviews, and field measurements are still necessary to be done directly.

Figure 3:Observation in Rumah Langit.

This stage is crucial to be conducted physically and directly, since dealing with a community, we may encounter many possibilities of implied needs. In this stage students were forced to practice communication skills, sensitive to capture surroundings potentials, to be selective of information received from virtual meetings, and to be open for other possible change of plans. Information received from virtual meetings with Generasi Peduli consisted of brief explanations or Rumah Langit, activities involving volunteers under Generasi Peduli, their need of acrylic separator to protect the children and volunteers, and arrangement of contacts for further observation and design activity needed. In order to gain those insights and datas, students got their hands on volunteering for a few meetings.

First meeting on site was done by having an interview with the chairman of the household, Rumah Langit coordinator, PIC from Generasi Peduli for Rumah Langit, and a few residence representatives. The students were expecting to find potentials in residence to be invited for collaboration for their learning house. Unfortunately, adults' responses were lacking, as well as the chairman of the household support was minimal and returned all data requested to be achieved from Rumah Langit coordinator only. However, at this stage, the students found that children in Rumah Langit were very enthusiastic. Apart from academic learning conducted routinely in Rumah Langit, the children also developed very well in art (see figure 4).

Contrary to previous service learning or final projects that mostly deliver conceptual design with less human centric design due to time constraint in group interaction, community engagement done in Independent Learning Curriculum for final year students provide enough time to lengthen the empathize stage and to conduct in depth interaction individually. During the empathic stage, the students found that Rumah Langit not only needed just any

acrylic separator, but also a storage system as well as play and learn objects.

Figure 4:Few Art Activities Done in Rumah Langit.

To collect data of building orientation, needs, building regulation especially in interior related works, and gain insight of design preference on site through interview, casual discussion, and routine interaction from zero was the hardest part for the students. To shift from project based paradigms that focus only to deliver a conceptual design to meet the needs of a community, into service internship that require closeness to blend in the community and be able to deliver a design that gives the community an opportunity to grow independently post program is such a game changer.

In this stage, the challenge to shift paradigm was not only faced by the students but also by the supervisors, not to mention lack of adult community member support that making the community involvement usual plan is no longer possible. Therefore, frequent communication and to discuss closely with the final project coordinator, who holds the mapping of curriculum transformation for particular subjects, is found to be necessary. At this stage, service internship sessions are used to observe, interview, and collect data as well. Supervisors are assigned to broaden how students will view community service that is engaging and empowering, not just to give. Hence, at this stage, populist communication skills can be assessed. By the end of this stage, students were able to arrange data collection, but yet define the problem and conceptual problem solving.

5.2 Define

Define stage is when we put together the information gathered during the empathize stage. In this stage, analysis and synthesis were made to define the core problems that will be presented as a problem statement in a human-centred manner (Dam & Siang, 2021).

Problem seeking method used in this research is by using affinity diagrams. Scattered on site data was compiled and analyzed with affinity diagrams to gain the bigger picture of current problems, potential occurring problems, needs, determine goals, and state the main problem to be solved within a given time frame. The affinity diagram was then presented in table. The conclusion of this table should be a problem statement.
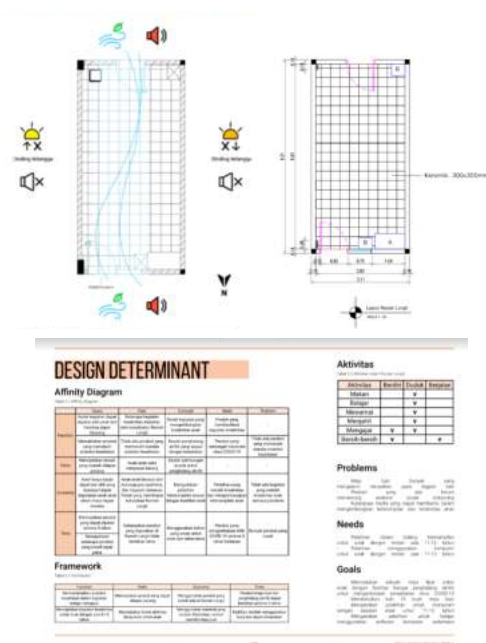

Figure 5: Example of Data Analysis.

Through analysing the collected data and mapping them in an affinity diagram, students understand the potentials and shortcomings at Rumah Langit to define their needs, problem to face, and programming their needs in interior related matters and activities. Design approaches were made with consideration of environmental condition, user characteristic, and estimation of usage duration.

From mapping the data, facts, expectation, needs, site condition, timeframe, and economic value for realisation and maintenance in an affinity diagram, the students are then able to state the problem in Rumah Langit to solve. The facts are Rumah Langit learning house serves children with a wide range of age, the children have interest in arts, mostly have kinesthetic ability, they are able to play independently in groups of 2-3 in usual context pre-pandemic, and the facility has a very limited space available. However, any facility tends to face problems of durability due to usage by different excites children. Volunteering activity was expected to happen even ini limited batch of children.

By those facts, Rumah Langit not only needed just any acrylic separator, but an acrylic separator that was compact, enabled interaction, and easy to store. Rumah Langit also needed renovation on existing damaged folding tables to accommodate tutoring activities and skill development, storage for folding tables, storage system for teaching materials and tools, and art training, and also a play and learn objects. The programmatic concept brought then was to make use of a vertical plane so that it won't obstruct teaching and learning activity, and to incorporate a simple Montessori method into the design. Due to lack of adults' responses, the community to engage and empower will focus on the children and the volunteers.

Define stage is closely related to emphasize stage. So, these 2 stages are possible to be assessed altogether by assessing their communication skill and sharpness of analysis. These two points may need a supervisor's accuracy in reading the data and confirmation.

5.3 Ideate

At this stage, ideas are generated as much as possible. There are hundreds of ideation techniques, brainstorming sessions are typically used to stimulate free thinking, out of the box ideas, and to expand the problem space. It is important to get as many ideas or problem solutions as possible at the beginning of the Ideation phase (Dam & Siang, 2021).
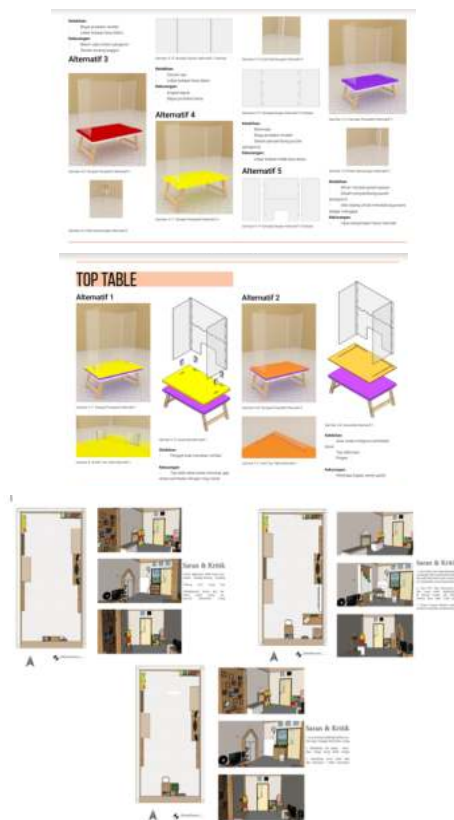
Figure 6: Example of Ideation Stage.

Brainstorming, mood board discussion, and schematic designs were discussed online with supervisors. Each student made 5 design alternatives, brought them for discussion with supervisors, and got them selected into top 3 (figure 6). Selected design alternatives were then delivered in FGD mode with volunteers coordinator and some students in Rumah Langit to gain broad insight and suggestions.

First FGD carried out by showing design renders in casual discussions while carrying out activities as usual to get an honest opinion on design interest, material selections, activities to cater. After the first FGD, selected design or designs will be developed for another 3 alternatives to be discussed with tutor regarding design, brought to wood and materials laboratorium regarding realisation possibility, and selected 1 to be made the 1:1 mock up.

Figure 7: Example of Renders Brought in Discussion.

The second FGD was conducted in free discussion by putting a mock up in the middle of the group to observe their interest, trial for usage, possibility of product ease of use understanding, and testing of the ergonomic body movements on complaints and what was expected (figure 8). The activities made at the mock up voluntarily or directed were documented for further analysis as well as any inputs or jokes on potential problems.

Figure 8: Trial with 1:1 Mock Up.

In this stage as well, students were looping back to empathize and define phases as new data such as renovation permits and work restrictions were informed. Students also did a test on possible art activity that children of Rumah Langit were interested in and possible to be combined with the storage design later on that may bring additional economic benefits. The activity chosen was macrame making. The storage design will be done vertically, flexible to assemble in various combinations as per needed for tutorial activities, and incorporate simple montessori in it (figure 8).

Figure 9 :Macrame Making Activity.

At this stage, students did their discussion with the supervisors virtually and visitation to Rumah Langit was lessened. In exchange, they were required to think of the production stage and budgeting that often missed out on the on campus learning process. Discussion with supervisors mainly to ensure each needs were met, schematic design alternatives were well understood, and to give advice on possible realisation to enter prototype stage. Assessment at the ideation stage is proposed to be combined with the prototype stage.

5.4 Prototype

After ideation design alternatives were chosen, the next step was to test the 1:1 prototype on construction durability. This is an experimental phase, and the aim is to identify the best possible solution for each of the problems identified during the first three stages. The solutions are implemented within the prototypes to be further investigated and examined. By the end of this stage, the design team will have a better idea of the constraints inherent to the product and the problems that are present, and have a clearer view of how real users would behave, think, and feel when interacting with the end product (Dam & Siang, 2021).

The prototype was made with a hybrid method between student designers and furniture contractors. Direct meetings were conducted to explain the design, discussion, and agreement on the working process (figure 10). Virtual updates were sent by the contractors to the students simultaneously (figure 11). Update on working progress delivered to supervisors virtually. Prototype was then tested before it went into the finishing stage and delivered to Rumah Langit to be re-examined, evaluated, and repaired for any minor adjustment before finals (figure 12). After the prototype is coated and finished, designers should test the joints and

configuration before shipping to Rumah Langit for further testing (figure 13).

Figure 10: Direct Meeting and Updates Videos

Figure 11: Virtual Updates Through Videos

Figure 12: Prototype Ergonomic and Construction Test

Figure 13: Joint, Finishing, and Configuration Test.

At this point, discussion with supervisors may only be to share progress. Students are encouraged to explore workshops, the construction market, and lead the production process. Visitation to Rumah Langit was done as the prototype was ready to be tested.

Ideate and prototype assessment shall look deeper into suitability of design with location, ease of use, and design capabilities to become the answers to the needs on site. However, the test stage (that hasn't been done yet by the time this paper is produced) shall put user's feedback and willingness of designers to adjust their design to meet the needs seriously by giving it higher credits than just as evaluation for future design. In the community engagement path, the "future" is now and the spirit of engagement is shown by immediate wise action.

These stages were often skipped in the previous curriculum which then cut students' opportunity to experience the full range of design thinking process. Oftentimes, in the previous curriculum, the final project studio was finished at prototype stage as technical drawing ready to produce or as far as the first stage prototype due to limitation of time and administrative reasons.

Unfortunately, due to time constraints, by the time this paper was written, the stages were not yet finished to be conducted and reviewed. Up to prototyping stage, the interaction between the final year students and Rumah Langit community was still up to design realisation. The engagement was still limited to achieving the final products. The empowering itself was still unable to be investigated. Ideally, it will take another minimum of one semester to really judge whether the engagement was really empowering. Therefore it is good to have a third party that actually runs the community to maintain what has been designed, when the community engagement is done for the final year project. In this context Generasi Peduli has run the Rumah Langit learning house before the community engagement students came to learn. Hopefully whatever the design and training incorporated in it will keep running after the program ends.

6 CONCLUSIONS

The community engagement program conducted in accordance with the Independent Learning Curriculum (Kurikulum Merdeka Belajar) has brought significant shifting in understanding community engagement for students and lecturers. With one year off campus provided in the new curriculum, as well as expectations of human literacy implementation and emphasis to bridge academic to real life experiences, accelerated learning processes were forced to be enabled.

The practice of first community engagement for the final year project with service internship model was still far from perfect. It was lacking in collaboration with the community and understanding of empowerment from the students and supervisors. The students and supervisors were still anxious by the requested outcome of empowerment that opened for intangible outcomes, but the assessment scoring system still called for products of interior elements. To ensure better practice of this path, new assessment aspects are needed.

Independent Learning Curriculum may not offer a whole new method for design students, or for any other skill based programs, to learn and practice their skill, as well as to graduate. However, this curriculum may disrupt the long stable threefold missions of higher education. It may force acceleration in teaching and learning, as it will also call for collaboration in applying research and community service. Since this curriculum is still newly launched, there are still so many rooms for improvements on the field particularly in assessment aspects.

In terms of assessment, some aspects are needed to be reviewed. Conventional assessment with singular instruments may not be suitable to facilitate a wider range of learning paths. Suggested stopping points to review and their assessment aspects are as per follows:

Table 3: Assessment Points Proposal.

Stage	Output	Assessment Points
Empathize	Understanding and formulation of site	● Communication skill ● Sharpness of analysis ● Presentation
Define	Problem statement and programmatic conceptual	
Ideate	Design alternatives, mock up	● Design suitability ● Ease of use ● Solutive design
Prototype	1:1 prototype	
Test	Product acceptability	● Users' respond ● Users' understanding of design ● Feedback action

Nevertheless, this research was just made to observe the first batch of final projects using the Independent Learning Curriculum (Kurikulum Merdeka Belajar) in practicing community engagement. There are still rooms for improvements and study to be done in the coming years and other fields of study to complete and enrich the assessment instruments. With many possible paths and flexibility given, it is possible to have no definite key to assess every variation of situation. There also needs to be examined on how students may differ to approach the community when they mix the path of learning for each semester or stay in one path for consecutive semesters.

ACKNOWLEDGEMENTS

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