UNIVERSITI TEKNOLOGI MARA

i-SPiKE 2023

INTERNATIONAL EXHIBITION & SYMPOSIUM ON PRODUCTIVITY, INNOVATION, KNOWLEDGE & EDUCATION

"Optimizing Innovation in Knowledge, Education and Design"

EXTENDED ABSTRACT

e ISBN 978-967-2948-56-8

UNIVERSITI TEKNOLOGI MARA

i-SPiKE 2023

INTERNATIONAL EXHIBITION & SYMPOSIUM ON PRODUCTIVITY, INNOVATION, KNOWLEDGE & EDUCATION

"Optimizing Innovation in Knowledge, Education and Design"

EXTENDED ABSTRACT

Copyright © 2023 by the Universiti Teknologi MARA (UiTM) Cawangan Kedah.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or any means, electronic, mechanical, photocopying, recording or otherwise, without prior permission, in writing, from the publisher.

© iSpike 2023 Extended Abstract is jointly published by the Universiti Teknologi MARA (UiTM) Cawangan Kedah and Penerbit UiTM (UiTM Press), Universiti Teknologi MARA (UiTM), Shah Alam, Selangor.

The views, opinions and technical recommendations expressed by the contributors and authors are entirely their own and do not necessarily reflect the views of the editors, the Faculty, or the University.

Editors : Dr. Siti Norfazlina Yusoff
Azni Syafena Andin Salamat
Nurfaznim Shuib

Cover design : Syahrini Shawalludin
Layout : Syahrini Shawalludin

eISBN

Published by:
Universiti Teknologi MARA (UiTM) Cawangan Kedah,
Sungai Petani Campus,
08400 Merbok,
Kedah,
Malaysia.

CATEGORY: ASC ACADEMIC INVENTOR

NO.	TITLE	PAGE
1.	EZ-ARGUE: Empowering Students to Master the Art of Argumentative Writing *Nik Ahmad Farhan bin Azim @ Nik Azim, Nur Hafezah binti Hussein, Arifuddin bin Abdullah, Ahmad Zaki bin Amiruddin & Suhaida binti Omar*	1-5
2.	Kids Daily Flip Planner *Gladys Sebi Entigar, Milfadzhilah Mohd Jamil, Roziana Ahmed & Nashrah Talib*	6-10
3.	Framework for a Sustainable Smart Retirement City: A Local Perspective *Mohd Zool Hilmie Mohamed Sawal, Nazni Noordin, Zaherawati Zakaria, Muhammad Syahmizan Azmi, Adnan Aminuddin & Zakba Bin Shafie*	11-15
4.	Kickresearch Module: Research Proposal Made Easy! *Azlyn Ahmad Zawawi, Intan Syahriza Azizan, Noorlailahusna Mohd. Yusof, Junaida Ismail & Nor Ardyanti Ahmad*	16-22
5.	Gamifying Tax Learning: RPGT Interactive Game for Effective Tax Education *Norhayati Sulaiman, Irda Syahira Khair Anwar, Siti Marlia Shamsudin, Norul Akma Mansor & Roslan Abdul Wahab*	23-28
6.	Master of Flood Preparedness (MOFP): Game-Based Learning to Prepare Youth to be Aware, Prepared, and Resilient in Facing Floods *Mohd Rozaimy Ridzuan, Jamal Rizal Razali, Soon-Yew, Ju, Lai-Kuan, Kong, Amirudin Mohd Zani & Noor Amira Syazwani Abd Rahman*	29-34
7.	Learning Through Metaverse: Exploring the Role of Virtual Reality to Enhance English Language Proficiency *Stefanie Natasha Rich Joseph, Daryl Albright Doubless John, Cindy Robert, Fakhira Jafri & Tracy Adeline Ajoi*	35-39
8.	Learning Mandarin as A Third Language Among Non-Native Speakers by Using Alpha M (An Educational Card Game) *Sheau Ping Wee, Ai Nyet Chan, Chin Ying Liew & Yit Lian Liew*	40-44
9.	Green Banking Unveiled: Insights Into Student Perspectives on Sustainable Finance *Liyana Ab Rahman, Maslinawati Mohamad, Siti Marlia Shamsudin, Faros Faizdnor Roslan & Fatimah Alwi*	45-50
10.	Go GP: Greening Your House Starter Pack *Asmah Alia Mohamad Bohari, Zafikha Aida Bidin, Siti Nurul Ainun Mohd Mustafa, Natasha Khalil, Norliana Sarpin & Afiqah Iliyana binti Samsul Bahari*	51-55
11.	Tiktelligence: Making Learning Trendy, Memorable, and Fun! *Zafikha Aida Bidin, Sylvia Gala Mong, Syamimi Liyana Amat Rais, Farah-Ajlaa Julaihi & Nur Illiana Husin*	56-60

12. MFRS 137 Provisions, Contingent Liabilities and Contingent Assets: Smart Game App 61-66
Norliana Omar, Noor Saatila Mohd Isa, Dr. Masetah Ahmad Tarmizi, Dr. Mohd Taufik Mohd Suffian & Mohd Zulfikri Abd Rashid

13. Hi-Purlex Facilis: Learning Hire-Purchase Law Effectively in the New Age 67-71
Zuramaznum Sainan & Nasreen Miza Hilmy Nasrijal

14. Kickstart Your Writing Content with Water Kid Trick 72-76
Nur Asyrani Binti Che Ismail, Noorfarida Filzah Binti Mohd Sobri Paridaluddin, Hanna Insyirah Binti Mohd Sukri, Haida Umiera Hashim, Nurfarah Binti Saiful Azam & Omar Abu Hammad

15. Pembelajaran Cerita Jenaka Pak Pandir Menggunakan Permainan Digital Melalui 3T Dalam Kalangan Pemula 77-80
Nordiana Bin Ab Jabar, Sudirman Kiffli, Suraya Sukri, Daeng Haliza Daeng Jamal & Mohammad Syukran Bin Kamal Ruzzaman

16. Preserving Cultural Malay Traditional Jewellery: New Design of *Kerongsang Tok* 81-86
Ts. Rozita Shamsuddin, Ts. Emilia Abdull Manan, Ts. Mohd Masdi Abdull Manan, Mohd Hakim Mohd Sharif, Muhammad Shafiq Muda & Wan Salwana Wan Sulaiman

17. Evaluation of Co-Production in Local GovernmentServices (CO-PRO) 87-92
Siew King Ting, Tze Wee Lai, Adeline Engkamat & Sze Wei Yong

18. Learning Grammar the Fun Way Using EGGA (English Grammar Guide App) 93-99
Abdul Hadi Abdul Talip, Sueb Ibrahim, John Francis Noyan, Lilly Metom & Zubaidah Bohari

19. *Ad-Dhomair*: Pembangunan Aplikasi Mudah Alih Melalui Pembelajaran Kata Ganti Nama Diri Dalam Bahasa Arab 100-105
Afifah Binti Azmi, Masitah Binti Omar, Puteri Faida Alya Binti Zainuddin & Mohd Zuhaili Bin Kamal Basir

20. Embedded Video Survey 106-109
Nurul Najihah Binti Mad Rosni, Noor Syafiqah Binti Mohd Sabri, Ts. Siti Nurul Ainun Binti Mohd Mustafa

21. Utilizing Blooket the Game-Based Learning Platformfor Introduction to Computer Security 110-105
Lenny Yusrina Bujang Khedif, Sulastri Putit, Ketty Chachil, Zubaidah Bohari & Abdul Hadi Abdul Talip

22. eNativeCase 106-115
Lenny James Matah, Rafidah @Malissa Binti Salleh & Shirley Arvilla Andrew

23. FLUX 2.0: Sustainable Furniture Production with Revolutionary Modular 3D Printed Joinery System 116-119
Muhamad Ezran bin Zainal Abdullah, Nor Hamizah binti Abdul Hamid, Jarfrulhizam bin Jaafar, Mohd Firuz bin Mohd Anwar & Siti Nurul Diana binti Sukri

24. BDPQ Integrated: Contemporary Jewellery Inspired by Tangram 120-125
Mohd Faiz Jalaludin, Mohd Hakim Mohd Sharif, Muhammad Shafiq Muda & Adib Mohd Hasan

25. Sistem eLaporan Audit UiTM Cawangan Negeri Sembilan (eLANS) 126-129
Wan Elina Faradilla Wan Khalid, Siti Noor Dina Ahmad, Tengku Sharifeleani Ratul Maknu Tengku Sulaiman, Siti Zaharah Mohd Ruslan, Nurul Auni Zainal Abidin, Alia Nadira Rosle & Ros Fadilah Deraman

26. Standard Operation Procedures: Systematic Special Equipment Reservation System at UiTM Cawangan Negeri Sembilan 130-134
Siti Nur Fadzilah Abdullah, Noor Hilmi Mohd Johan, Nurul Nisha Mohd Shah,Efina Hamdan, Noryusnita Ramli & Maizura Manshor

27. Majlis Perbandaran Hang Tuah Jaya Smart Apps (myMPHTJ) 135-139
Noor Syarafina binti Sallehudin, Zureen Natasya binti Zulkifli, Norhazlan bin Haron, Suharto bin Teriman, Muhamad Irham bin Mohd Zukifli, Mohamad Daniel Mustaqim bin Che Soberi & Ani Aznie binti Johari

28. Hello ALOE: Interactive Accounting Decoded, Enter the Realm of Wonder 140-145
Marzlin Marzuki, Siti Salmah Abu Bakar, Sazilah Mohd Saad & Mohd Hamidi Adha Mohd Amin

29. CHAPPS (Chambering Application Solutions) 146-150
Muhammad Izwan bin Ikhsan, Lenny James Matah , Ku Mohd Amir Aizat bin Ku Yusof & Rafidah@Malissa binti Salleh

30. Navigating the FDI-Energy Nexus: A Comprehensive Framework for Sustainable Energy Futures 151-154
Hafizah Hammad Ahmad Khan, Rosmaiza Abdul Ghani, Muhammad Hanif Othman, Handri Handri & Azib Azib

31. Development of the Socioeconomic Index for Rakyat's (SEIR) Well-Being: A Holistic Approach 155-161
Zuraidah Mohamed Isa, Norhidayah Ali, Dahlia Ibrahim, Azyyati Anuar, Suhaida Abu Bakar & Nor Salwati Othman

32. Mastering Environmental Economics Through an Interactive Massive Open Online Course (MOOC) for Optimal Online Learning 162-167
Hafizah Hammad Ahmad Khan, Nabila Ahmad, Noor Zahirah Mohd Sidek, Muhammad Hanif Othman & Hanani Ahmad Fuad

33. IMTIAZ: Manual of Zakat Interview Panel 168-172
Khadijah Amira binti Abdul Rashid, Mahasin binti Saja @ Mearaj, Dr. Nurul Badriyah binti Ali & Profesor Madya Dr. Mohd Ashrof Zaki bin Yaakob

34. EZ-ZAWAF UiTM 173-178
Mohd Ashrof Zaki Yaakob, Nurulaina Binti Saidin, Azri Bhari,Mohammad Mahyuddin Khalid , Mohd Faiz Mohamed Yusof, Mohd Yusra Abdullah & Nurulaina Binti Saidin

35. Digital Mathematics Exercise Tool (DiMatExT) 179-184
Norazlina Ahmad, Norhafiza Ahmad & Mohd Khairil Nazmi Md Nayan

36. LINGOACTIVE 1.0: Integrating the Italian Language and Exercise in A Fun Game 185-189
Suhardi bin Kram, Piermauro Catarinella, Wan Firdaus bin Wan Chik, Cyndra Robert Budull, Noreriani binti Sabturani, Adjullea James & Theresa Ahing

37. Proscience Workshop 190-194
Diana Indim, Siti Sarayati Hj Abdul Mawah, Shirley Arvilla Andrew & Farnidah Jasnie

38. Easy Way to Write a Clear Research Problem Statement Using IRCA Model: Ideally, Reality, Consequences and Aim 195-202
Haidy Henry Dusim, Tony Paridi Bagang, Jain Yassin, Lo Chor Wai & Alexius Korom

39. Kamus Saku Dialek Suku Kaum Jakun Lenga: Daripada Data Mentah ke Penerbitan Kamus 203-207
Mohamad Suhaizi Suhaimi, Muhammad Nazirul Mohd Noor, Aminuddin Saimon, Azean Idruwani Idrus & Nurul Jamilah Rosly

40. From Certificates to Comprehensive Records:Innovating with UiTM Kedah Student Activity Transcripts (UiTMKDH SAT) 208-215
Muhammad Hanif Othman, Mohd Nazir Rabun & Mohd Hamidi Adha Mohd Amin

41. MFRS 140 Investment Property Learning Through Gamification – "PROPQUEST GAME APP" 216-221
Dr. Masetah Ahmad Tarmizi, Noor Saatila Mohd Isa, Norliana Omar, Dr. Mohd Taufik Mohd Suffian & Mohd Zulfikri Abd Rashid

42. E-Inventori Bahan Panduan Pengurusan Rekod UiTM 222-226
Ahmad Azman Bin Mohamad Ramli, Noor Faraliza Binti Samsudin, Norhidayu Binti Md Yatim, Mohd Naim Bin Mohd Nasfi, Intan Nurbaizura Binti Zainuddin, Izzatil Husna Binti Arshad & Kasmarini Binti Baharuddin

43. Sustainable Supply Chain Management Disclosure Index (SSCMDI): Towards Achieving Sustainable Development Goals (SDGS) 227-230
Nur Zharifah Che Adenan, Prof Dr. Roshima Said, Prof Dr. Corina Joseph, Leily Adja Radjeman, Dr. Shafilla Subri & Syahrini Shawalludin

CATEGORY: ASP ACADEMIC INVENTOR

1. REED: 3D Printed Wearable Device to Manage Anxiety Through Melodic Mindfulness 231-236
Hana Hapiz, Nooraziah Ahmad, Yuhanis Ibrahim, Azlin Sharina Abdul Latef, Ainul Wahida Radzuan & Mohd Zaimmudin Mohd Zain

2. Bank Design: Collection of Student Artworks 237-242
Dr. Nani Hartina Ahmad, Nur Fatiyah Roslan, Nurin Elani Makrai, Azhar A Aziz & Zainab Anuar

3. MOBILIAID: Robotic Independence of Disabilities 243-245
Nur Husna Serip Mohamad & Nur Hana Serip Mohamad

4. Investigating the Acceptance of Course File Electronic Knowledge Acquisition PPPG (CEKAP)System Via UTAUT Model 246-250
Mastura Mohamad, Rozita Mengen, Nor Farhana Mohd Azmi, Noorsuraya Mohd Mokhtar & Nurul Zahidah binti Md Juperi

5. XL2S Pan Borneo Vs Rajang River Boardgame 2.0 (Empowering Fitness and Fun: A Board Game for Inclusive Physical Activity Among People with Disabilities) 251-254
Suhardi bin Kram, Abbylolita Sullah, Siti Nurr Atika binti Mohd Sanif, Luke anak Nikol, Asmalini binti Che Abu Shafie, Gordon Nicolaus Jemat Anchang, Ashley Irenaeus bin Jeck

6. MoTSEL: Model of Technology-Supported Learning for Special Educational Needs Learners in Institutions for Higher Learning 255-261
Roslinda Alias, Nor Aziah Alias & Azwadi Mokhtar

7. E-Care Sentinel: ECG- Based Emergency Alerts 262-269
Rosziana Hashim, Suziana Ahmad, Gloria Raymond Tanny, Dayanasari Abdul Hadi, Ahmad Alif Ahmad Aina, Ahmad Firdaus Mohd Rasdi & Muhammad Harries Ezary Ahmad Khairi

8. Enhancing Dyscalculia Identification Through an Innovative 3D Game Framework 270-274
Sazilah Salam, Bambang Pudjoatmodjo, Ahmad Naim Che Pee & Rikman Aherliwan Rudavan

CATEGORY: AST ACADEMIC INVENTOR

1. Program Outcomes Monitoring System for Civil Engineering Students (POSCES) 275-279
Md Rasul Mohamad Nor, Hazrina Ahmad, Nurjuhanah Juhari, Norlizan Wahid, Noor Syafeekha Mohamad Sakdun, Shafienaz Ismail & Ruqayyah Ismail

2. Web-Based System for Dyslexic: A Screening and Learning Style Recommendation 280-282
Nur Melissa binti Mohammad Faisal Wee, Mohd Zaki bin Sadik, Mohamad Hafiz bin Mohd Yusof, Nurul Hidayah binti Mohd Yusof & Ummi Qaisara Faqihah binti Reman

3. 2DAMP: The Novel of (2D)-Aminoethyl MethacrylatePerovskite for Ammonia Gas Sensor 283-288
Hasyiya Karimah Adli, Muhamad Yuzaini Azrai Mat Yunin, Norfatihah Mohd Adenam & Hadhrami Ab Ghani

4. An Attractive Approaches in Studying Basic OC (Organic Chemistry) 289-292
Ropisah Binti Me, Nur Syakilla Asyiqin Binti Hasan & Nur Syaida Maisarah Binti Hasan

5.	XPLORASI3D 2.0: Alternative Self Instruction Material (SIM) in Virtual Reality for Science *Syahir Bahiran Hilmi, Anuar Mohd Yusof & Suliadi Firdaus Sufahani*	293-295
6.	Intro to Stats Board Game©: A Board Game to Understand Statistics *Puteri Faida Alya Zainuddin & Azilawati Banchit*	296-300
7.	Electronic Ongoing Assessment System (e-OGA) *Shafaruniza Mahadi, Shamsatun Nahar Ahmad & Isma Ishak*	301-305
8.	Perception of Secondary School Students on Their Understanding on Terminology-Analogy of Reaction Rate in Chemistry *Nur Sofiah Abu Kassim, Ku Nurul Atiqah Ku Ahamad, Nur Nadia Dzulkifli, Nor Monica Ahmad & Ahmad Husaini Mohamed*	306-310
9.	AC-OP Water Filter *Shirley Arvilla Andrew, Siti Aminah Mohammad, Nor Faranaz Shamin Nor Azmi & Ajis Lepit*	311-316
10.	UMK-PPS3, A Locally Isolated Rhizobacteria as A PlantBooster *Ainihayati Binti Abdul Rahim, Nik Fatin Qharanie Binti Nik Mohd Kamaruzaman, Norhafizah Binti Md Zain, Wee Seng Kew & Noor Azlina Binti Ibrahim*	317-323
11.	Swanky Styler App: Styling You! *Nurkhairany Amyra Mokhtar, Nur Fatihah Shaari, Fatin Farazh Ya'acob, Basri Badyalina, Muhammad Majid & Mohamad Faizal Ramli*	324-327
12.	A Storymap: Japanese Occupation in Malaya Digital Storytelling *Noorsazwan Ahmad Pugi, Azlizan Adila Mohamad, Izrahayu Che Hashim, Haslina Hashim & Nursyahani Nasron*	328-333
13.	Treatment of Palm Oil Mill Effluent (POME) Using Electrolysis *Mohamad Imran Abu Sahit, Norhafezah Kasmuri & Nurfadhilah Zaini*	334-338
14.	Integrated Teaching and Learning Approach for ESD Course *Noor Syuhadah Subki*	339-342
15.	One Piece Mathematics Board Game (1PM3) *Tracy Adeline Anak Ajol, Cindy Anak Robert, Stefanie Natasha Rich Anak Joseph, Awang Nasrizal Bin Awg. Ali, Shirley Sinatra Anak Gran & Suffina Binti Long*	343-347
16.	"Build-A-Ride": An Online Simulation Game for Learning Construction *Balkhiz Ismail, Nurulhudaya Abdul Hadi & Dr Siti Rashidah Hanum Abd Wahab*	348-351

17. GeraNeem: A Natural Antibacterial Hand and Body Soap from Neem and Geranium Oils 352-357
Nor Raihan Mohammad Shabani, Nurhidayah Ab. Rahim, Siti Nurshahida Nazli, Tengku Nilam Baizura Tengku Ibrahim, Nurhidayah Sabri & Syarifah Masyitah Habib Dzulkarnain

18. Evolution Measuring Tape (Ev_MeTa-Cx) 358-362
Dr. Wan Zukri Wan Abdullah, Dr. Mohd Fairuz Bachok, Ainamardia Nazarudin, Dr. Duratul Ain Tholibon & Farah Wahida Mohd Latib

19. PLC-Based Industrial Application Simulator: Four Ways Traffic Light Management System 363-368
Rozi Rifin, Kamaru Adzha Kadiran, Mohamad Zhafran Hussin, Muhammad Rajaei Bin Dzulkifli & Ezril Hisham Bin Mat Saat

20. The CC Guy: Enhancing Comprehension of Continuity Correction 369-373
Syah Runniza binti Ahmad Bakri, Noriham binti Bujang & Aidil Azli bin Alias

21. Coupling of Computation Simulation and Hands-On Experience in Process Control Laboratory Inline with IR 4.0 Oriented Education 374-379
Serene Lock Sow Mun, Irene Lock Sow Mei & Lim Lam Ghai

22. Vib-Phages as A Supportive Tool for Development of Antibacterial Treatment in Aquaculture 380-383
Ruhil Hayati Hamdan, Tan Li Peng, Ain Auzureen Mat Zin, Nora Faten Afifah Mohamad, Pang Sing Tung, Nur Hidayahanum Hamid & Lee Rui Ying

CATEGORY: BSC YOUNG INVENTOR

1. Eye Tech 384-388
Ahlam Abdul Aziz, Muhammad Amir Farhan Mohd Azhar, Muhammad Aiman Muhammad Azly, Muhammad Irfan Abdul Jabar & Khairun Liyana Mohd Kamal

2. Kompang Illustration by Using Equation of Curve 389-393
Masnira Ramli, Rosfatihah Che Mat, Zati Ascha Rejab, Nalle Nor Lyana Binti Saridon & Mohd Asmirul Fikri Bin Mukmin

3. SOAPOLOGY: Eco-Friendly Handmade Soap from Used Cooking Oil 394-399
Muhamad Aiman Mazlan, Muhammad Alif Haiqal Bin Asmizar, Ilhamd Bin Sazali & Nurul Hidayana Mohd Noor

4. E-SMART 2.0: A Sustainable Bin for E-Waste Disposal 400-404
Raja Nur Izny Kamaliyah Raja Zulkifli @ Wan Zulkifli, Tengku Nurshazwina Tengku Sahrum, Abdur Rahman Sudais Ahmad, Muhammad Mukhlis Ahmad Taufiq & Mohd Idham Mohd Yusof

5.	EVABrainiac: The Best Destination for Your Intelligence *Husnul Izzati Binti Hassan, Muhammad Hazim Bin Hisham, Nurul Aqilah Binti Sohaimi, Safwah Malyanah Binti Sahariddun, Siti Nur Zuriati Binti Azman & Dr. Farah Adilla Binti Ab Rahman*	405-409
6.	OSEM Luggage *Crystal Marvella Jasren, Erzivericella Buing, Nurazlina & Cindy Johnny*	410-415
7.	KAECPR App *Amiruddin bin Junli, Siti Nor Ismalina binti Isa, Farrah Shafeera binti Ibrahim, Rosuzeita Fauzi & Muhamad Ridhwan bin Abd Rahman*	416-420
8.	Wonder Guide App *Tomy Masital, Muhammad E-man Arrazzaq, Nur Syafiqah binti Sairan, Siti Anis Farhanah binti Mohd Faisal & Spencer Hedley Mogindol*	421-426
9.	MY Culture Wise Application *Viliannie Fung, Irdhina Hani binti Ramji, Jerad Jay Janis & Alvin Gatu*	427-431
10.	Preparing the Inevitable: How JUNBI Eases the Burden of Death Planning *Syairunessa Farhana Mohamad Handal, NurFakiera Mohamad Yussuf, Nur' Atasha Amiera Nurdin, Muhammad Firdaus Karia & Adrianna Aziz*	432-436
11.	Eyetrixia *Nurul Eva Natasah Binti Nordin, Anis Sabrina Binti Nasir, Beatrice Elvina Anak Jolis & Nur Murniza Binti Mohd Zaidi*	437-441
12.	Brainy Burner *Winnie Limau Anak Jekeri, Dexter Petrus, Hailin Jaibah, Mohammad Syafie Bin Asmara & Umairah Binti Abd Khalid*	442-447
13.	NeuroTravel *Nur Ellyvia Lengidang Binti Muhammad Bunyau, Allanis Brooklyn Anak Nawin, Anis Nadhirah Binti Romel Shaadat Khan & Alvin Gatu*	448-452
14.	GroomGenie Kit *Azie Anjelly Ranty Binti Betty, Nur Sahirah Binti Zainuddin, Viona Maria Anak Guan & Nur Murniza Mohd. Zaidi*	453-457
15.	MyAbilityAssist *Rosevelt Kulong Anak Rudy, Muhamad Dzulhaziq Hiznie Bin Patehi, Izwana Binti Md.Ideris@ Idris, Alya Alyani Syazwina Binti Alihan & Alvin Gatu*	458-462
16.	AquaSaver Band: Scuba Emergency Bracelet *Mohd Zulfahmi Bin Ashan, Debra Utih Anak Francis, Floria Ann Anak Dominic, Stephanie Pilem & Boyd Sun Fatt*	463-467

17.	PilgrimGuard Band: Pilgrimage Emergency Bracelet *Mohd Zulfahmi Bin Ashan, Debra Utih Anak Francis, Floria Ann Anak Dominic, Stephanie Pilem & Boyd Sun Fatt*	468-472
18.	Ecobloom *Annatasha Faythe Henry, Norfazierra Wara Binti Awang Latiff, Qurratu'Aini Binti Mohammad Ibrahim, Suhaiza Shazleen Binti Balamis & Mohd Arsy Ardy Mohd Hardy*	473-477
19.	Smart Bip Bottle *Ryliani Dahlya Binti Nawi, Waldina Fadila Binti Cabel, Nur'Ain Binti Muin, Nuraisyah Syahirah Binti Rody & Sairah Saien*	478-483
20.	AdaptCare *Nurul Zakiah binti Ramli, Enmmanuell Anak Ayang, Nurul Nazihah binti Asmad & Ahmad Fareez bin Yahya*	484-488
21.	Float-Flex *Ummi Syakirah Rosmini, Aini Nabihah Ahmadi, Nur Wafiqah Waki', Muhammad Farhan Azaham, Azmeer Hafizi Halimi, Nur Farahah Mohd Pauzi & Siti Azrina Adanan*	489-494
22.	SHOPFinder Application *Muhamad Atiq Fahim bin Buareng, Al Zikri bin Alkadzlie, Nurul Shafika Norkhatijah binti Abdul Rasit, Vassylysa Eirlys Paulus & Nurafiqah Mohamad Musa*	495-500
23.	Maya (Smart Mirror) *Dr. Vani A/P Tanggamani, Siti Fatimah Noor Binti Minhad, Nur Syazwani Binti Suhaimi, Dania Arisya Binti Isderis, Nor Hafizatul Madihah Binti Mohd Jaffar, Nurhuda Hanisah Binti Haizam & Puteri Fadlin Sakina Binti Megat Mahayudin*	501-505
24.	MudahTravel Mobile App *Carolena Mariana James, Nur Syuhadah binti Khir Juhari, Sharifah Aida Asyiqin binti Syed Anuar & Nurafiqah Mohamad Musa*	506-510
25.	E-Book "A Night in Gong Mountain" – A Tale on Environment and Space *Muhammad Azmeer Mohd Zahari, Juritah Misman & Nik Narimah Nik Abdullah*	511-514
26.	TLM On-the-Go: Online-Based Instructional Materials *Ellyza Ezlyn Blaise, Fazlinda Hamzah & Mohd Azlan Shah Sharifudin*	515-517
27.	PoemS: A Poem Sharing Application *Clarence Anak Laurence, Mohd Azlan Shah Sharfuddin & Fazlinda Hamzah*	518-521
28.	Hair Extractor Comb *Noraini Binti Sa'ait, Agnes Anak Kanyan, Nur Liyana Binti Abdullah. Nur Balqis Amirah Binti Hamzah, Nur Ellyssa Azreen Binti Abdul Rahman, Siti Nasuha Nabilah Binti Mohamad Mokhaldin & Yusratul Wanie Binti Yusmandi*	522-526

29. *RUSH* – Multifunctional Makeup Kit 527-531
Noraini Binti Sa'ait, Siti Farah Binti Lajim, Nur Ainaa Binti Hasim, Nathaniel Anak Sanor, Norazrieen Binti Mohd Helmi, Jordan Juman Buayeh Jeremy & Mohamad Osman Bin Samsudin

30. Fire Prevention and Safety (FIPRESA) 532-536
Aristole Anderson Peter, Azrul Hafiz Bin Riezman, Ellysa Syahira Binti Mohammad Hartolo, Fhacillyiana Nawie Anak Empatie, Nurain Binti Shariff, Elizabeth Caroline Augustine & Nur Farhani Binti Samasu

31. MicroCol: A Synergistic Approach to Classroom Learning 537-541
Nurul Fitriah Alias & Rafiza Abdul Razak

32. Arabic-KAFA: An Augmented Reality Application for Learning Arabic Vocabulary 542-545
Mohd Akashah Bin Mohamad Yusof, Nasirah Ismail, Muhamad Zaidi Zakaria, Wan Ab Aziz Wan Daud & Muhammad Taufiq Abdul Ghani

33. Developing A Comprehensive Framework for Assessing the Impact of Political Instability on Foreign Direct Investment Inflows in Malaysia 546-549
Mohamad Aizad Mohamad Azahar & Hafizah Hammad Ahmad Khan

34. Access Audit & Scoring Compliance Assessment for The Elderly – Friendly Mosque. Case Study: Heritage Mosque – Masjid Diraja Sultan Suleiman & National Mosque of Malaysia 550-556
Che Muhamad Hanif Che Wil @ Ismail & Hafiszah Ismail

CATEGORY: BSP YOUNG INVENTOR

1. Automatic Key Holder 557-564
Nur Alya Syahirah Noor Azahan, Nik Nurfatihah Mohd Termidzi, Mariam Setapa, Shafiza Safie, Tismazammi Mustafa, Khairunnisa Rahman & Siti Maziah Ab Rahman

2. Smart Waste Bins 565-573
Nurul Afni Muhammad Amali, Muhammad Baihaki Othman, Mariam Setapa, Liziana Kamarul Zaman, Wan Asma Hanim Wan Mustapha, Firdawati Mohamed & Norshaieda Abdullah @ Adnan

3. Travel Eye – New Way of Travelling 574-578
Syairunessa Farhana Mohamad Handal, NurFakiera Mohamad Yussuf, Nur' Atasha Amiera Nurdin, Muhammad Firdaus Karia & Adrianna Aziz

4. Equal Education (e2): Easy-To-Use Application Software to Provide Awareness on Educational Rights of Children with Disabilities in Malaysia 579-583
Muhammad Fikri Othman, Nur Ezan Rahmat, Norazlina Abdul Aziz & Hartini Saripan

5	CNN-Based Model on Potential Dyslexia Detection Based on Automated Handwriting Features Extraction *Siti Azura Ramlan, Iza Sazanita Isa, Ahmad Puad Ismail, Muhammad Khusairi Osman & Zainal Hisham Che Soh*	584-588
6.	EDUxic for Dyslexic: A Framework for Teaching Aids *Norarifah Ali, Azhari Md Hashim, Roslinda Alias & Muhammad Nidzam Yaakob*	589-595

CATEGORY: BST YOUNG INVENTOR

1.	Flood, Earthquake, Air Pollution (FEAR) Alert and Monitoring System with WiFi Module *Mohd Sufian Ramli, Siti Sufiah Abd Wahid, Khairul Kamarudin Hasan & Danial Zarif Mohammad Zaharuddin*	596-600
2.	C++ Rush: Interactive Game for Novices in Learning Basic Computer Language *Muhammad Salman Hakim Shaiful Nizam & Arifah Fasha Rosmani*	601-606
3.	GoBox *Aqib Syahir Bin Ahmad Tarmizee, Ariff Hakimi Bin Ahmad Khusairi, Muhammad Zulhilmi Bin Mohamad Fauzi, Nur Afiqah Binti Zakaria & Nur Nadiah Binti Zuber*	607-611
4.	Smart Vision the Smart Projector *Muhammad Hazim Bin Roslan, Harith Danial Bin A.S Azmi, Muhamad Hakim Bin Anuar, Muhammad Faris Syazwi Bin Shukri, Muhammad Zahiruddin Bin Omar, Afidah Binti Sapari & Dr Vani A/P Tanggamani*	612-618
5.	UniEase *Muhammad Haziq Syukran Bin Abdul Manaf, Muhammad Sallehudin Bin Samudin, Muhammad Syukran Bin Mohamed Desa, Aisya Nurdania Binti Mohd Noor Azian, Alia Hasanah Binti Abdul Rahim, Nurin Syakira Binti Ahmad Zainuddin & Nor 'Asyiqin Abu*	619-622
6.	Exploring the Potential of Aloe Vera and Coconut Oil in Natural Toothpaste Tablets *Muhammad Nazrul Afiq Zulkifli, Muhammad Irfan Mustakim, Nurul Ain Jaaizah Muhamad Zaki, Nur Syabila Husna Mohd Bakti, Nurul Aimi Zakaria, Zubainun Mohamed Zabidi & Ahmad Nazib Alias*	623-627
7.	Building Resilient Start-Up: A Comprehensive Strategic Framework for Start-Up Survival *Irme Rafhan Ibrahim, Ammar Yasir Mustafa, Aqilah Hanif, Batrisyia Tihani Hamdan, Maisarah Ruslan, Wan Hafiz Aizuddin Wan Yusoff & Suriana Ramli*	628-638

8. Fostering A Global Talent Mindset for Young Entrepreneurs in Malaysia (Tertiary Level) 639-649
Nur Hafizah Binti Ab Aziz, Nurhanim Binti Ibrahim, Mai Tiara Alia Binti Meor Mahaputra, Wan Fatanah Syaza Binti Wan Kefli, Noor Halimatun Saadiah Binti Mohamed Ayub, Suraya Abdul Karim & Suriana Ramli

9. New Entrepreneurship Education Framework for Malaysian Secondary Schools Based on Design Thinking, Flipped Classes, and the Korda Method 650-655
Nur Atiqah Binti Hamizan, Hafiz Amin Bin Suhaimi, Nur Hidayah Binti Aboo Bakar, Jasnan Bin Jounin, Nur Farahana Binti Zahari, Suzielawati Binti Kahulan & Suriana Binti Ramli

10. Development of Reporting System for Unsafe Actions and Unsafe Conditions 656-664
Ahmad Saiful Ahmad Suhaimi & Aznifa Mahyam Zaharudin

11. Basalt Fibre Reinforced Polymer Composite Filled with Nano Silica for Green Truck Body Panel 665-669
Mohamad Asrofi Muslim, Aidah Jumahat & Shahrul Azam Abdullah

12. SurfSphere: All-In-One Platform for Surfing Competition 670-673
Muhammad Shafiq Angullia Tawfeik Bin Sulleiman Angullia & Ong Yew Chuan

CATEGORY: CSC YOUNG INVENTOR

1. Zodia Army 674-678
Sharvina Sekaran

2. IOT Based Drainage Monitoring System 679-682
Abhinaashgovin A/L Venoth, Sukhiirtan Sankaran, Sheshan A/L Velan, Atishvar A/L Moganthera Thevar & Sharvin A/L Saravanan

3. Projek Peningkatan Rangsangan Otak Murid Melalui Inovasi 'Fresh Up Me!' 683-688
Muhammad Ashraf Hakimi bin Khairul, Muhammad Nizamudin bin Mohd Johar, Muhammad Aiman bin Muhammad Amin & Lokman bin Ramdan Mohamed

4. Poplasty AC: Domestic Waste as Activated Carbon for River Water Treatment 689-693
Ghazali bin Sabudin, Nur Atiqah binti Akhyani & Norazura binti Jaballudin

5. Lipellent 694-696
Zuriahanim binti Abdul Manan, Batrisyia Aliah binti Mohd Hadaffi, Nur Imanina binti Mohd Ali, Nur Arissa binti Redzuan & Nur Aqilah binti Saiful Bahri

6. Centennial Garden 'The Smart Way for Green Planting' 697-701
Nurhazwani binti Zanuddin, Fakharudin bin Shahudin & Norazura binti Jaballudin

7. Sad Nature Bag 702-705
Nurul Hazirah Amani binti Hafizal, Khursiah Nur binti Mohamad Amin & Nurulhuda Insyirah binti Khairol Maizi

8. Mehlcate Gift 706-709
Noor Ruzzuwana binti Rahlan, Darshanaa A/P Gunasingam, Dania Balqis binti Rezaman, Aniq Hakimi bin Rozishahlan & Nur Zahirah Aqilah binti Johori

CATEGORY: CSP YOUNG INVENTOR

1. Gyroscopic Contactless Head Mouse 710-713
Nannabhad Thammultri, Bhandhisa Pongsak, Pakin Teerachotmongkol & Athicha Siriboonlamom

2. "Imagine Spacing Ruler, Your Writing Buddy" 714-718
Saadiah Juliana Saadun, Putri Qisha Nur Iman, Damia Humaira Syuhaimi, Nurul Aina Amilia Mokhtar, Khayra Zarith Khuzairi, Siti Maslinda Syed Musa & Farah Ilyana Azlan

3. SOAP4LYFE: Soap Used Cooking Oil with Sandal Wood and Black Seed 719-723
Irdina Iwani Abd Jalil, Fatin Nur Amira A.Rosman & Fatin Nursabrina Lokman

CATEGORY: CST YOUNG INVENTOR

1. Smart Exposure to Artificial Intelligence (AI) Among the Primary School Students 724-726
Muhammad Adam bin Helmi, Mohammad Qayyim bin Mohammad Rizal, Muhammad Anas bin Helmi & Adlin Elieza binti Nik Awang

2. Go Beyond 727-729
Raidahwati binti Jalalin, Madni bin Siadi, Maimunah binti Tajuddin, Mohd Hafiz bin Abdul Karim & Myzan Luqman bin Mohd Yazid

3. Sustainable Sap Hydrogels Enhance Controlled Urea Release in Agriculture 730-736
Maizatul Husna Nasuha Mazlan, Alyasofea Nazrul Hisham, Hatika Kaco & Mohd Shaiful Sajab

4. Coco M Board (Coconut Multipurpose Board) 737-740
Norzalina binti Jenal, Badreyanaliss binti Ignicious Nizam, Farishah Najwa binti Roslan, Nurin Qistina Basyirah binti Rusli, Nur Hidayatul Munirah binti Mohd Zaiton, Nadhirah binti Abdul Halim & Fateha Syahera binti Khairul Anuar

5.	Matrix Board *Muhammad Izzul Haiqal Bin Ismadi, Ahmad Aqil Bin Khalid, Muhammad Fakhrulradzi Haiqal Bin Md Ismail, Muhammad Nasrullah Bin Suhaimi & Malik Bin Efendi*	741-744
6.	EGNA 3.0 *Nur Khaiza Binti Abdullah, Ana Zahra Binti Azman, Nur Umairah Syahmina Binti Mohd Shahrulaza, Nur Anida Farhana Binti Mohd Kairil & Zainab Binti Husain*	745-747
7.	GREEN As Model Urban Gardening in School *Nayudin Hanif*	748-756
8.	IOT Flood Monitoring System *Vimalan Pillai A/L Vajathan, Sachinn A/L Dhinagaran, Timothy Nathan A/L Thivianathan, Shaarveen A/L Tamilamuthan & Sanjay A/L Govindasamy*	757-760
9.	River Cleaning Robot *Yalleni A/P Thayalan, Indujaa A/P Kanaga Naidu, Yogini A/P Venugopal, Sarvina A/P Sasikumar & Thanishka Nair A /P Vimalan*	761-764
10.	IOT Based Smart Street Lighting System *Shivani Balakrishnan, Darshan A/L Kalidassen, Maniggandan A/L Manimaran, Shweta A/P Sivakumar & Darshanasri Vishnu*	765-768
11.	IOT Smart Irrigation Monitoring and Controlling System *Thanissa A/P Ganason, Lim Mei Lin, Sagunthali A/P Baskaran, Prishaashree A/P R N Raju & Guruprasath A/L Nanthakumar*	769-772
12.	Smart Waste Management System with IOT Monitoring *Sachein A/L Kalitazan, Suvarshan A/L Muniswaran, Sheshan A/L Velan, Suvathithan A/L Muniswaran & Dhanesh Shah*	773-777
13.	Smart Aquaponic Garden with an IOT Monitoring System *T. Yuvan Raj, C. Divashen, K. Nishart Pillaiy, S. Pretthic & S. Rishwin*	778-781
14.	Solar Tracker with IOT Monitoring *Saathish A/L Kumaran, Abinayashri A/P Srikanth, Hashini A/P K. Navukkarasu, Karthigeyan Utamanseelan & Hamshini A/P Ravachandran*	782-785
15.	Morusscented Candle *Farehan Binti Fauzi, Lam Mei Shan, Muhamad Haziq Bin Azizan, Syahzanani Binti Mohd Kamal & Muhamad Syamil Bin Zulkhairi*	786-788
16.	Paper Mache Mini Whiteboard *Keerthika A/P Thinesh, Ahvinaash A/L Vasu & Thanisha Sri A/P Balasingam*	789-792
17.	Brain Booster *Mohana Murugayan, Loghen Rajakumar & Udayaraj Gobinath*	793-797

18.	'OLIVA' Spoon *Rhubhambikhei A/P Murugan, Oviyea Balamurugan, Liyona Kannan & Avaneesh Santha Kumar*	798-802
19.	CR Spray *Syarifah Norziana binti Syed Osman, Muhammad Ilham Husaini bin Azhar, Futra Ramadani bin Saharuddin, Irdina Maisarah binti Ahmad Rafie & Nur Athirah binti Rosdy*	803-805
20.	Bio Natural Bromelain Soap with Black Seed *Nur Farisya Qistina Alia Binti Abdullah, Nurul Syasya Laiyinah Binti Shahrizul Fardli & Aisyah Binti Che Mohd Azam*	806-810
21.	Ecosoap Used Cooking Oil with Coffee and Black Seed *Nur Alya Mirza Binti Mohd Hairul Azmi, Anis Munawwarah Binti Ahmad Rizal & Niswah Binti Mohammad Mohdzir*	811-815
22.	Eco-Tin Composite Dental Care (ETC) *Norazura Binti Jaballudin, Rose Qaisara Binti Ahmad Zaki, Nur Durrani Farhanah Binti Rozuan, Nur Qaseh Rafhanah Binti Mohd Muhaidin & Amierah Humairah Binti Mohd Zairy*	816-821
23.	MYCELIA BIO-P *Nur Atiqah binti Akhyani, Ghazali Bin Sabudin & Norazura binti Jaballudin*	822-827
24.	OPF Paper: Wet Strength in Paper Making from Oil Palm Fronds *Fakharudin Bin Shahudin, Haslizaidi Bin Zakaria & Norazura Binti Jaballudin*	828-833
25.	Eco-Farming Pocket *Norazura binti Jaballudin, Nurhazwani binti Zanuddin & Fakharudin Bin Shahudin*	834-838
26.	3 SEKAWAN *Aleeya Batrisya binti Abdullah, Nurjannah binti Norazmi & Umi Adawiyah binti Mohamad Saiddin*	839-841
27.	Tri-S Innoforagri *Nur Huda Haida binti Roslan, Nur Liyana Nabilah binti Fadeli & Nurulain Faqihah binti Nor Sharifuddin*	842-846

Assalamualaikum warahmatullahi wabarakatuh,

First and foremost, I would like to express my gratitude to the organizing committee of i-Spike 2023 for their tremendous efforts in bringing this online competition a reality . I must extend my congratulations to the committee for successfully delivering on their promise to make i-Spike 2023 a meaningful event for academics worldwide.

The theme for this event, 'Optimizing Innovation in Knowledge, Education, and Design,' is both timely and highly relevant in today's world, especially at the tertiary level. Innovation plays a central role in our daily lives, offering new solutions for products, processes, and services By adopting a strategic approach to 'Optimizing Innovation in Knowledge, Education, and Design,' we have the potential to enhance support for learners and educators, while also expanding opportunities for learner engagement, interactivity, and access to education.

I am awed by the magnitude and multitude of participants in this competition. I am also confident that all the innovations presented have provided valuable insights into the significance of innovative and advanced teaching materials in promoting sustainable development for the betterment of teaching and learning. Hopefully, this will mark the beginning of a long series of i-Spike events in the future.

It is also my hope that you find i-Spike 2023 to be an excellent platform for learning, sharing, and collaboration. Once again, I want to thank all the committee members of i-Spike 2023 for their hard work in making this event a reality I would also like to extend my congratulations to all the winners, and I hope that each of you will successfully achieve your intended goals through your participation in this competition.

Professor Dr. Roshima Haji Said
RECTOR
UiTM KEDAH BRANCH

WELCOME MESSAGE (i-SPiKE 2023 CHAIR)

We are looking forward to welcoming you to the 3rd International Exhibition & Symposium on Productivity, Innovation, Knowledge, and Education 2023 (i-SPiKE 2023). Your presence here is a clear, crystal-clear testimony to the importance you place on the research and innovation arena. The theme of this year's Innovation is "*Optimizing Innovation in Knowledge, Education, & Design*". We believe that the presentations by the distinguished innovators will contribute immensely to a deeper understanding of the current issues in relation to the theme.

i-SPiKE 2023 offers a platform for nurturing the next generation of innovators and fostering cutting-edge innovations at the crossroads of collaboration, creativity, and enthusiasm. We enthusiastically welcome junior and young inventors from schools and universities, as well as local and foreign academicians and industry professionals, to showcase their innovative products and engage in knowledge sharing. All submissions have been rigorously evaluated by expert juries comprising professionals from both industry and academia.

On behalf of the conference organisers, I would like to extend our sincere thanks for your participation, and we hope you enjoy the event. A special note of appreciation goes out to all the committee members of i-SPiKE 2023; your dedication and hard work are greatly appreciated.

Dr. Junaida Ismail
Chair
3rdInternational Exhibition & Symposium Productivity, Innovation, Knowledge, and Education 2023 (i-SPiKE 2023)

i-SPIKE 2023
INTERNATIONAL EXHIBITION & SYMPOSIUM ON PRODUCTIVITY, INNOVATION, KNOWLEDGE & EDUCATION
"Optimizing Innovation in Knowledge, Education and Design"

EZ-ARGUE:
EMPOWERING STUDENTS TO MASTER THE ART OF ARGUMENTATIVE WRITING

Nik Ahmad Farhan bin Azim @ Nik Azim
Faculty of Language Studies and Human Development, Universiti Malaysia Kelantan farhan.na@umk.edu.my

Nur Hafezah binti Hussein
Faculty of Language Studies and Human Development, Universiti Malaysia Kelantan nhafezah@umk.edu.my

Arifuddin bin Abdullah
Faculty of Language Studies and Human Development, Universiti Malaysia Kelantan arifuddin@umk.edu.my

Ahmad Zaki bin Amiruddin
Faculty of Language Studies and Human Development, Universiti Malaysia Kelantan ahmadzaki@umk.edu.my

Suhaida binti Omar
Faculty of Language Studies and Human Development, Universiti Malaysia Kelantan suhaida.o@umk.edu.my

ABSTRACT
The development of written argumentation in academic settings has been slow and is often characterized by subpar quality. Criticisms of argumentation rhetoric and its patterns highlight the prevalence of fallacies in argumentative writing. Numerous studies have identified the root of this problem as a complex interplay between linguistic, sociocultural, and cognitive factors. Additionally, Covid-19 pandemic has introduced challenges to the teaching and learning of argumentative writing; necessitating modifications in instructional design and approaches to address the intricacies of argumentative writing. In response to the pressing concerns, many instructors have turned to technology as a mean to bridge the pedagogical gap, particularly in the realm of academic writing practices. This study proposes the utilization of EZ-Argue, a technology-mediated tool designed to support students in their practice of argumentative essay writing. Specifically targeting weak and average students, EZ-Argue models functional words, phrases, and sentence patterns that are pertinent to argumentative genre. A textual analysis of 167 argumentative essay scripts were carried out to examine the impact of EZ-Argue as a treatment on student's writing and the delivery of argumentative writing instructions. The findings indicated most frequent errors were found at formation of thesis statement, counterargument, and refutation. The analysis also revealed a positive outlook of these three elements when EZ-Argue was used as a treatment. Pedagogically, the findings of this study were expected to provide valuable insights to instructors informing them about the potential and effectiveness of employing such a tool in facilitating argumentative writing instructions.

Keywords: argumentative writing, writing tool, writing instructions, writing pedagogy, genre approach

INTRODUCTION

The emergence of written argumentation in academic context is slow to develop and generally of poor quality. The argumentation rhetoric and its pattern are often being criticised for the fallacy of argumentative writing. A large body of studies (Hyland, 2003; Schneer, 2014; Ferretti & Graham, 2019; Luna et al., 2020) suggested that the problem is attributed to the complex relationship of linguistics, sociocultural and cognitive factor. The transformation of education landscape due to the impact of Covid-19 pandemic has also created a caveat in teaching and learning pedagogy of writing. Hence, urging instructors to modify the existing instructional design and approaches. In line with such pertinent issue, many instructors have adopted technology as a mediating tool in bridging the pedagogical gap, including in academicwriting practices. Hence, the inception of EZ-Argue; a technology-mediated tool for argumentative writing. This digital tool is designed to scaffold students' argumentative essay practice especially among weak and average student by modelling functional words, phrases and sentences pattern which are related to argumentative genre. This tool will be used as a treatment to understand the extent of EZ-Argue impact on targeted student's argumentative writing.

Argumentative Writing

Writing in English as Second Language (ESL) setting can be very challenging especially when it involves academic discourse such as argumentation. Due to the requirement of understanding genre type, the Commonwealth European Framework of Reference for Language (CEFR) even classifies argumentative writing as an expected output for B2 students. Implementing argumentative writing as part of the assessments of Integrated Reading and Writing (IRW) course in Universiti Malaysia Kelantan (UMK) unveils several challenges including defining rhetoric of arguments and imparting explicit genre instructions to students within the context of heterogenous classes; as pre-requisite for this course is Malaysia University English Test (MUET) Band 3 and Band 4. Currently, the instructional approach for argumentative writing includes modelling of text type and collaborative writing between students and instructor. In addition to that, online exercise sheets and notes, video and slides related to argumentative writing are also made available on UMK Learning Management System (LMS).

Despite such effort, students did not perform well in February Semester of 2021/2022 as 64% out of 121 students exhibited issues with their counterargument and refutation. Although students are explicitly exposed to the genre since their school years-in preparation for their MUET Examination, poor performance in the argumentative writing could be attributed to a few factors including insufficient amount of instructional approach or disorganized exposure to the genre instructions or a part of thereof. The amount of such exposure may also vary between MUET Band 3 and Band 4 students. Such discrepancy illustrates a pedagogical disconnection that exist between literatures and the current instructional practice.

The shift of pedagogical approach that focuses remote learning due to Covid-19 outbreak is another significant factor. Conducting classes remotely and provisioning of learning materials via LMS poses another set of challenges in an already challenging task of academic writing. Current pedagogical approaches and instructions should not be postulated and overgeneralized as its impact could be equivocal. Adaptation and assimilation on this matter seem paramount. Therefore, there is a need for systematic integration of genre instructions and instructional approach into a learning tool such as EZ-Argue that may scaffold student's writing process; particularly benefitting the average and weak students. This tool willremain valid, even post-pandemic time, as it will overcome some of the challenges in learning argumentative writing.

Technology in Academic Writing

The incorporation of technology in language learning, particularly in academic writing has shown positive outcomes. Tools like Microsoft Words and Grammarly offer immediate feedback on. Linguistic elements, aiding language accuracy. However, existing tools have limitations in addressing language issues and genre instructions needs. Customised digital tools are needed to address specific genres and learning contexts. Factors impacting tool effectiveness include flexibility, accessibility, increased feedback, and student comfort. Consequently, suggesting a need for further research and development of customize writing tools based on genre and proficiency levels to enhance student achievement in writing.

In acknowledging these challenges, EZ-Argue conceptualises argumentative writing withsome degree of automation by using the technology. Instead of employing traditional writing methods, utilizing a user-friendly webtool with an optimized genre writing approach can be a time-saving and effective strategy. The use of EZ-Argue tool as part of the instructional approach in the classroom will facilitate better understanding on how explicit genre instructions embedded in EZ-Argue are affecting student's performance in argumentative essay writing. As argumentative writing is also taught at other educational institutions of various level including schools, EZ-Argue will offer a significant commercial potential. This is particularly relevant and an important learning tool for students who will sit for MUET as one of its writing focus is on argumentation. Such undervalued market on learning tool segment for this group of students can be seen as a potential to be immediately tapped.

Figure 1. Conceptual Framework of EZ-Argue

FINDINGS

A total of 167 essay scripts written by students who enrolled in Integrated Reading and Writing (UBI20302) were analysed. The essays were part of their formative assessment. The findings revealed three most frequent errors occurred in those scripts, namely: thesis statement 's background formation, counterargument formation and refutation formation. Consequently, formation of these elements was compared between pre- and post-treatment. The representation of such findings is illustrated in Figure 2:

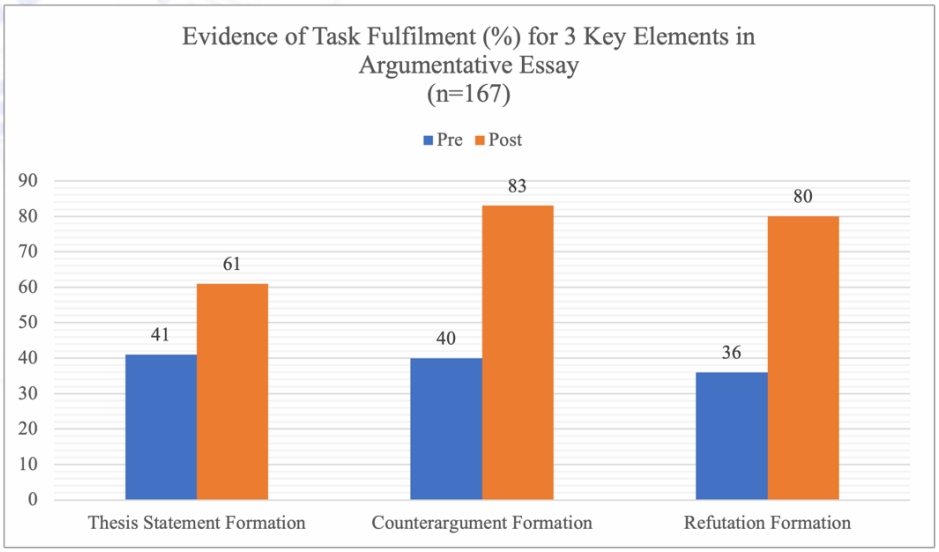

Figure 2. Evidence of Task Fulfilment for 3 Key Elements in Argumentative Essay

Additionally, a structured, Likert-scale rated questionnaire were administered post-treatment. The questionnaire is aimed at understanding the perception and attitudes towards the use of EZ-Argue. The questionnaire separated into two main sections: 1) Writing in Digital Tool and Traditional Environment and 2) Attitudes Towards Technology. The finding is exhibited in Figure 3.

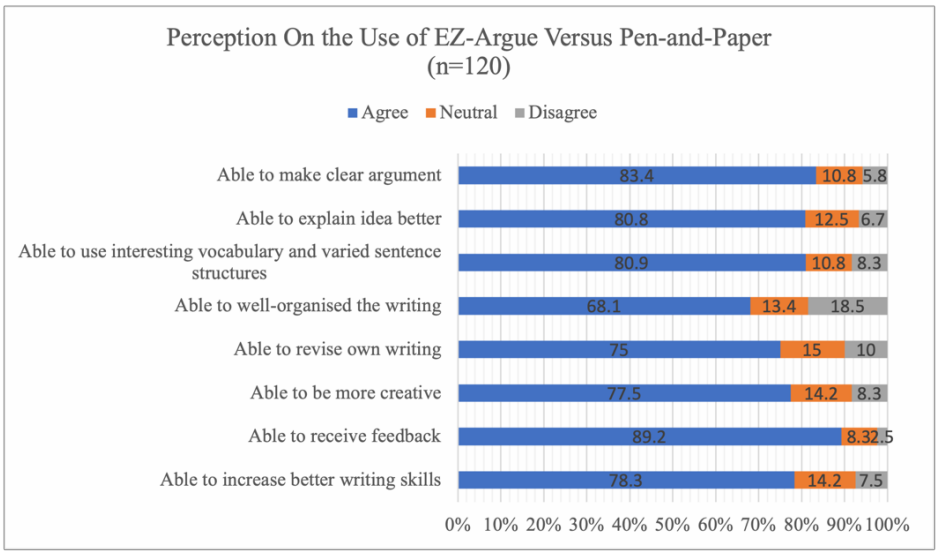

Figure 3. Perception On the Use of EZ-Argue Versus Pen-and-P