UNIVERSITI TEKNOLOGI MARA

PIONEERING EDUCATIONAL PERSPECTIVES

Series 2025

THE World University Rankings 2023 TOP 1501+
TOP 128 UI GreenMetric
MDEC Premier Digital Tech Institution
THE IMPACT RANKINGS 2022 TOP 101-200
MyRA

PIONEERING EDUCATIONAL PERSPECTIVES

Series 2025

Chief Editors:
Nur Alyani binti Khairol Anuar
Muhammad Irfan bin Mokhtar

Editors:
Aqeela binti Ahmad Kamiri
Hawa Syamsina binti Md Supie
Nurul Nadiah binti Rasdi
Qistina Azra binti Mohani
Siti Aishah binti Taib
Nurul Hijah binti Jasman
Siti Mariam binti Mohammad Iliyas

Published by:
Academy of Language Studies, Universiti Teknologi MARA
Cawangan Johor, Kampus Pasir Gudang, Jalan Purnama,
Bandar Seri Alam, 81750 Masai, Johor Darul Ta'zim.
07-3818455
edgii.apbpg@gmail.com

Copyright © Pioneering Educational Perspectives: Series 2025

All rights reserved. No part of this publication may be reproduced in any form or by electronic or mechanical means, including information storage and retrieval systems, or transmitted in any form or by any means, without the prior permission in writing from the publisher.

e-ISBN : 978-967-0033-31-0

Published date: 2025

Chief Editors:
Nur Alyani binti Khairol Anuar
Muhammad Irfan bin Mokhtar

Editors:
Aqeela binti Ahmad Kamiri
Hawa Syamsina binti Md Supie
Nurul Nadiah binti Rasdi
Qistina Azra binti Mohani
Siti Aishah binti Taib
Nurul Hijah binti Jasman
Siti Mariam binti Mohammad Iliyas

Published by:
Academy of Language Studies, Universiti Teknologi MARA Cawangan Johor, Kampus Pasir Gudang, Jalan Purnama, Bandar Seri Alam, 81750 Masai, Johor Darul Ta'zim.
07-3818455
edgii.apbpg@gmail.com

Preface

Pioneering Educational Perspectives: Series 2025 is a collection of thought-provoking insights and research contributions exploring contemporary educational trends and practices. This eBook presents a diverse range of perspectives on innovative teaching methodologies, digital learning strategies, and transformative approaches in education. Designed to serve as a resource for educators, researchers, and practitioners, it aims to inspire meaningful discussions and advancements in the field. Through carefully curated chapters, this publication offers fresh ideas and practical solutions to enhance learning experiences in an ever-evolving educational landscape.

e-ISBN: 978-967-0033-31-0

USING AI AND LEARNING ANALYTICS TO ENHANCE STUDENT ENGAGEMENT IN HYBRID LEARNING 57

Muhammad Nur Firdaus Nasir[1,*], Fahmi Samsudin[2], Nor Fariza Baharuddin[3], Nadzri Mohd Sharif[4] & Meor Hasmadi Meor Hamzah[5] 57

THE ARTARCHIPELAGO EXPERIENCE: INVESTIGATING USER INTERACTION AND ENGAGEMENT IN A VIRTUAL GALLERY SETTING 61

Liza Marziana Mohammad Noh[1*], Shaliza Dasuki[2], Fazlina Mohd Radzi[3], Fahmi Samsudin[4] & Khairunnisa Mohd Abdul Ghani[5] 61

STUDENT ONLINE LEARNING EXPERIENCE WITH INTEGRATION OF HANDS-ON SIMULATION 65

Mastura Shafinaz Zainal Abidin[1]* & Zaharah Johari[2] 65

PEMBELAJARAN KENDIRI ASAS PENGATURCARAN TAHUN 4 (PKAP 4.0) 69

Ros Eliana Ahmad Zuki[1]*, Nur Alia'tul Nasrin Hasuvadi[2] 69

IOT-3D SYNERGY: COLLABORATIVE, INNOVATIVE AND CONTEXTUAL PROJECT-BASED ASSESSMENT FOR FUTURE STEM TEACHERS 73

Muhamad Furkan Mat Salleh[1*], Nurul Akmal Md Nasir[2], Nurhayani Romeo[3], Norezan Ibrahim[4] & Mohamad Hisyam Ismail[5] 73

LEARNING MOTIVATION APP 76

Mohd Fairuz Bachok[1*], Muhammad Farid Muhammad Fathullah[2], Siti Isma Hani Ismail[3], Zulfairul Zakariah[4] & Farah Wahida Mohd Latib[5] 76

MATHREDEO: MATHEMATICS REVISION VIDEO 80

Norfazillah Matmali[1*], Nasrah Naharu[2], Nur Aliyah Jazuli[3] & Norzanah Abd Rahman[4] 80

REACT, RESPOND, AND REFLECT: ENHANCING REFLECTIVE WRITING USING THE PSYCHOGEOGRAPHICAL WALKING THROUGH METAVERSE PLATFORM 84

Mohd Fadhli Shah Khaidzir[1] & Mafarhanatul Akmal Ahmad Kamal[2*] 84

REFLECTION TEST MODULE FOR SELF-REGULATED LEARNING 88

Haslin Idayu Binti Amaruddin [1,*] & Siti Hawa Binti Rosli[2] 88

ARABIC DIGITAL LEARNING KIT FOR BEGINNERS: WATCH, PLAY, PRACTICE! 92

Adhanawati Abdul Rapa[1*], Nurhanani Abdul Rapa[2] & Dr. Ijlal Saja@Mearaj[3] 92

INOVASI PENGAJARAN DAN PEMBELAJARAN MELALUI VIRTUAL REALITY (VR): SIMULASI PEMASANGAN SISTEM SOLAR PADA BANGUNAN 96

Syazaliah bin Salim[1]*, Ridzman bin Husin @ Ibrahim[2], Muhammad Firdaus bin Mohd Zublie[3] & Fauzi bin Ghani[4] 96

EZIRA (HUKUM TAJWID HURUF RA) 100

Murihah Abdullah[1,*], Haziem Ruslan[2], Alya Saadah Anuar Sadad[3], Ummu Syifa Mohd A'lim[4], Sharifah Nur Hayati Syed Abdul Mubin[5] 100

MALAY PROVERB VISUALIZATION: A STUDY ON THE POTENTIAL OF AI-GENERATED IMAGE IN ENHANCING SECONDARY SCHOOL STUDENT'S UNDERSTANDING AND APPRECIATION 104

Amir Nor Azan Samar[1]*, Iqbal Jaapar[2], Muhammad Firdaus Amairudin[3], Intan Nadira Abdullah[4] & Mohd Ali Azraie Bebit[5] 104

e-ISBN: 978-967-0033-31-0

THE ARTARCHIPELAGO EXPERIENCE: INVESTIGATING USER INTERACTION AND ENGAGEMENT IN A VIRTUAL GALLERY SETTING

Liza Marziana Mohammad Noh[1*], Shaliza Dasuki[2], Fazlina Mohd Radzi[3], Fahmi Samsudin[4] & Khairunnisa Mohd Abdul Ghani[5]

[1,2,3,4,5]*Universiti Teknologi MARA, Melaka Branch, Alor Gajah Campus*

**Corresponding author: lizamarziana@uitm.edu.my*

ABSTRACT

This abstract discusses the rise of digital technology, which has transformed how people access, view, and appreciate art. Virtual art galleries have emerged as a new platform that allows users to enjoy art without geographical limitations, offering a unique experience that replicates traditional galleries while incorporating digital advantages. This study explores user interaction and engagement within "The Art Archipelago Experience," a virtual gallery designed to simulate the traditional art environment with interactive and multimedia elements. Using a mixed-methods approach, including user experience surveys, behavioural analytics, and qualitative interviews, the research identifies factors that enhance or diminish user engagement. Findings reveal that engaging features, intuitive navigation, and interactive elements significantly contribute to user satisfaction and prolonged engagement. The study highlights the potential of virtual galleries as an innovative platform that expands access to art, offering a more inclusive and personalized art-viewing experience. These insights underscore the importance of user-centred design in developing future virtual art spaces to maximize engagement and educational value.

KEYWORDS: Art Education Technology, Digital Art, Malaysian Contemporary Art, Virtual Art Gallery, Virtual User Interaction.

PROBLEM AND OBJECTIVE

The increasing integration of digital technology into the art world has led to the emergence of virtual art galleries, which aim to replicate traditional art-viewing experiences while incorporating new interactive and multimedia elements (Vayanou et el., 2014). However, despite the growing popularity of virtual gallery, there is limited understanding of how users interact with and engage in these digital spaces (Aziz et al., 2020). Key challenges include identifying the factors that enhance or hinder user engagement, understanding navigation and interaction behaviours, and assessing the effectiveness of virtual galleries in fostering art appreciation and education. Without clear insights into these aspects, the potential of virtual galleries as an effective medium for engagement remains underexplored and underutilized. This study is trying to investigate user interaction by focusing how they navigate and engage with artworks and multimedia elements. Secondly, the study assessing the effectiveness of virtual gallery as education and art appreciation platform, compare to conventional ways of viewing artworks in physical gallery. Lastly, this study is identifying what are the factors that enhance or hinder user engagement in virtual gallery setting by considering the interface design, navigation, interactivity, and multimedia features so that it cannot only be use as visiting site, but also educational tools for teachers as well.

e-ISBN: 978-967-0033-31-0

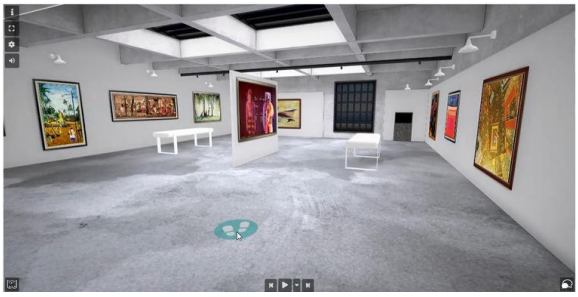
DESIGN DESCRIPTION

An immersive digital environment that closely mirrors a traditional art gallery while leveraging the unique advantages of digital technology. The virtual space is designed with intuitive navigation, allowing users to move freely though different gallery section as if walking through a real space. Interactive elements, such as clickable artworks that provide detailed information, multimedia presentation, and audio guides, enhance the art-viewing experience. The design emphasizes user engagement through personalized features, such as customizable viewing path and social interaction tools, enabling users to leave comments or share their favourite pieces. The aesthetic combines realistic gallery layouts with modern digital enhancement, creating visually appealing and engaging space that caters to both seasoned art enthusiasts and casual viewers, enhancing overall user interaction and engagement.

VISUALS



Visual 1: ArtArchipelago Virtual Gallery's main entrance with AVGA logo.





Visual 2: AVGA interior design revealing the virtual exhibition space.

Visual 3: One of the approach as educational tool for assessment used in this virtual gallery.



Visual 4: An example of artwork with information relating its formal analysis and contextual interpretation.

e-ISBN: 978-967-0033-31-0

NOVELTY AND UNIQUENESS

The Art Archipelago Experience can enhance accessibility to art, offering users the ability to explore and appreciate art from anywhere, especially to those who may not have access to physical galleries due to location, mobility issues, or other constraints. By using interactive and multimedia elements, virtual gallery provides a more engaging and immersive art experience compared to traditional online galleries (Ibrahim et al., 2018). Users can interact with artworks, access additional content like artist interviews or historical contexts, and navigate the space in a way that mimics a physical gallery visit. This innovation can be use as educational tool platform, offering schools, universities, and independent learners a dynamic way to study art history, techniques, and cultural significance (Ahmad et al., 2019). The virtual gallery can integrate quizzes, guided tours, and other educational tools to enhance learning outcomes. The virtual gallery can be tailored to different themes, exhibitions, and audiences, making it a versatile tool for various stakeholders, including artists, curators, educators, and art institutions. It can host temporary exhibitions, permanent collections, or even collaborative projects. The platform can collect and analyze user interaction data to provide valuable insights into user preferences, engagement patterns, and content effectiveness. This data can inform future exhibitions, marketing strategies, and user experience improvements.

BENEFITS TO MANKIND

This study can benefits mankind by democratizing access to art, allowing people from all locations and backgrounds to explore and appreciate art without the need for physical travel. It enhances the quality of life by providing an immersive, educational, and interactive art experience that fosters cultural understanding and creativity (Dilly et al., 2022). The virtual gallery also offers a sustainable alternative to traditional exhibitions, reducing the carbon footprint associated with transporting artworks and visitors (Jung et al., 2018). By making art accessible and engaging, it promotes lifelong learning, supports mental well-being, and nurtures a more inclusive and culturally rich society.

COMMERCIAL POTENTIAL

The Art Archipelago Experience has significant commercial potential, catering to a growing market of digital art enthusiasts, educators, and institutions seeking innovative ways to engage audiences. Its competitive advantage lies in its interactive, customizable, and scalable design, which can host various exhibitions, from artist showcases to educational tours. The platform can operate on a subscription model for institutions, a pay-per-view model for special exhibitions, or through partnerships with art organizations. Its low overhead compared to physical galleries offers a cost-effective solution, while data-driven insights enable targeted marketing and user retention strategies, enhancing revenue opportunities and long-term scalability.

CONCLUSION

In conclusion, The Art Archipelago Experience redefines the art-viewing landscape by offering an accessible, immersive, and interactive virtual gallery that bridges the gap between traditional and digital art experiences. It democratizes access to art, enhances educational opportunities, and supports sustainable exhibition practices, making art more inclusive and engaging for diverse audiences. The platform's scalable and customizable nature allows it to cater to various stakeholders, from artists and curators to educators and art enthusiasts. By leveraging user interaction data, it continuously improves user experience, offering valuable insights for future developments. Looking ahead, the platform can explore advanced features such as augmented reality (AR) integrations, virtual reality (VR) experiences, and AI-driven personalized art

e-ISBN: 978-967-0033-31-0

recommendations. Expanding collaborations with art institutions and integrating more interactive educational tools will further solidify its role as a leading virtual gallery platform, fostering a deeper connection between art and its audience in the digital age.

REFERENCES

Ahmad, S. F., & Ali, N. M. (2019). Digital technologies in Malaysian art education: Exploring virtual gallery platforms. *Malaysian Journal of Art & Design, 7*(1), 15–24.

Aziz, N. A., Nordin, N., & Hashim, H. (2020). Virtual galleries and digital curation: Enhancing user engagement with Malaysian cultural heritage. *Journal of Visual Art and Design, 8*(2), 35–48.

Dilly, B., & Liew, C. L. (2022). Virtual art galleries and their influence on visitor interaction and engagement: A cross-cultural analysis. *Museum Management and Curatorship, 37*(2), 143–158.

Ibrahim, N., & Rahman, A. H. A. (2018). The impact of virtual art spaces on visitor engagement in Malaysia. *International Journal of Arts & Technology, 11*(4), 311–327.

Jung, T., tom Dieck, M. C., & Rauschnabel, P. A. (2018). Augmented reality in cultural heritage: A technology acceptance model approach. *Journal of Heritage Tourism, 13*(2), 122–138.

Vayanou, M., Katifori, A., Antoniou, A., Karvounis, M., & Ioannidis, Y. (2014). Interactive storytelling in virtual museums: Enhancing visitor experience. *Journal on Computing and Cultural Heritage, 7*(2), 1–22.