Transforming Learning: Incorporate Virtual Exhibitions into Teaching

Hazlin Anita Zainal Abidin[1*], Mohd Erman Maharam[2]

[1,2]Faculty of Film, Theatre and Animation, Universiti Teknologi MARA, Kampus Puncak Perdana, 40150 Puncak Perdana, Selangor, Malaysia
[1]hazlin561@uitm.edu.my, [2]erman@uitm.edu.my
**Corresponding Author*

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Abstract: *Advancements in digital technologies present exciting opportunities for art curators and educators to develop engaging art exhibition activities. Digitalisation effectively addresses challenges such as limited resources, funding, and technical support that often confront not only arts professionals but also, more critically, educators in higher education. These challenges are particularly significant for archiving, curating, and exhibiting projects centred on popular culture, especially those related to the entertainment industry. This paper posits that art educators can leverage digital technologies to train future curators and art exhibition specialists by incorporating virtual exhibitions into their syllabi and practices. This approach unlocks new opportunities for exploration within the field and enhances students' understanding of exhibitions and curatorship through digital technologies. This paper aims to share our experiences from a semester-long exhibition and curatorship course offered as part of the Arts Management program at Universiti Teknologi MARA, Puncak Perdana Campus. The project, titled 'Let's Digital,' is founded on three key pillars: robust support for technology in the archiving of digital data, curating, and exhibiting; the flexibility to cultivate new concepts and technologies in diverse environments; and the fostering of technological proficiency to equip students with essential lifelong learning skills for future workforce success. This technology-integrated, creative educational approach to preserving and curating exhibitions aims to provide students with flexible learning*

opportunities. Through these processes and by embedding technology, they acquire knowledge of Malaysian popular culture, developing theoretical and practical digital skills that enhance their personal development and deepen their understanding of exhibitions and curatorial practices in the digital age.

Keywords: *Digitalisation, learning experience, technological integration, virtual exhibition.*

1. INTRODUCTION

Curatorial and exhibition practices in the arts have long been valued for their traditional approaches, which allow artworks to be experienced in physical spaces. However, in today's digital age, our interactions and communications have transformed, affecting many aspects of our lives. This evolution reshapes social practices and influences how we engage with art. The emphasis here is on incorporating digital media technologies into art exhibition education and improving curatorial practices. Additionally, engaging with popular culture and its artefacts fosters collective public memory and highlights facets of our cultural heritage that are often overlooked. This educational and technological shift invites us to explore and celebrate local and contemporary artworks, enriching our understanding of societal and cultural identities in more engaging and meaningful ways. While Malaysia's popular culture is undeniably vibrant, the documentation surrounding it remains limited.

According to Altinay and Jokić (2020), the growth of popular culture collections in mainstream institutions, alongside the emergence of specialised repositories, has challenged traditional academic standards and value hierarchies. This evolution has facilitated access to a diverse array of alternative perspectives on history and culture. Waller and Waller (2021) observe that numerous scholars contend that the pop music and songs we enjoyed during our youth can be regarded as a form of "heritage." As we age, the music from our formative years acquires sociocultural and historical significance, highlighting its value as heritage. Popular culture, including pop songs and music, serves not only as entertainment but also plays a vital role in shaping social and cultural history. To fully understand this phenomenon, it is essential to consider related artefacts such as photographs, programs, tickets, posters, costumes, and instruments. These elements provide critical insights that enhance our

understanding of the past and can be invaluable in the learning process. Waller and Waller also emphasise the growing body of research examining the role of popular culture and music in cultural heritage processes. According to them, this effort aligns with a broader trend towards revitalising nostalgia-driven cultural expressions from the twentieth century. The complex processes of "heritagisation," "museumification," and "ratification" involve the collection, archiving, commercialisation, conservation, digitisation, remembrance, and exhibition of various tangible and intangible cultural assets.

Archiving has long been a fundamental resource for curators and researchers, facilitating effective information curation across various fields. Emphasising the significance of documenting and preserving all information is crucial for ensuring transparency and the longevity of the collection and reasoning processes. As Cameron (2021) points out, the challenge of physical archiving is the accumulation of research data without proper access, which can lead to stagnant archives. Nevertheless, fortunately, the advent of digital media technologies and the World Wide Web has significantly transformed and continues to shape the practices of information and data archiving. This digital revolution has seemingly fostered a "widespread storage obsession" and a "fetishisation of data." The challenges outlined are considerable for education in archiving, curatorial practices, and art exhibitions focused on popular culture, particularly within the entertainment industry in countries like Malaysia. Today, various free digital tools and applications, such as Canva, Numbers and Artsteps, can effectively document, archive, and curate virtual exhibitions as alternatives to traditional formats. This paper proposes that art educators can seamlessly incorporate digitalisation into their curricula, syllabi, and practices to prepare future curators and art exhibition specialists by incorporating virtual exhibitions. This approach opens new avenues for exploration within the field and enhances our understanding of exhibitions and curatorship through the application of digital technologies.

2. ARCHIVING THE ARTS AND CULTURE

The field of archiving has traditionally been considered the primary resource for curators to curate exhibitions properly; this circumstance allows curators to draw on a wide range of fields. Researchers believe that we must document and preserve all information to ensure the transparency and permanence of the

gathering and reasoning process. Nevertheless, according to Cameron (2021), accumulating research data without appropriate access may result in a stagnant archive, with "billions of files resting like sediment in the cloud, on external drives." Luckily, new technologies, such as the printing press, lithography, photography, film, computers, and the World Wide Web, have historically influenced and continue to affect archiving practices since their debut. Digital media appears to have precipitated a "widespread storage obsession" and a "fetishisation of data."

Lawther, in an interview with Goskar (2021), asserts that, despite the impossibility of possessing comprehensive knowledge of every object or collection, it is crucial to document our existing knowledge to prevent its loss or forgetting. As stated by Oliver (1965), knowledge manifests in two forms: (1) "active knowledge," which resides in the minds of living individuals, readily accessible for immediate action, and (2) "passive (or potential) knowledge," which is contained within the extensive repository of documents that chronicle the experiences, observations, thoughts, and discoveries of others, primarily from the past. Oliver also highlighted that human progress has paralleled and, seemingly, depended on the growth and availability of this great reservoir of "passive knowledge."

Pop culture has become an essential component of popular media, disseminating messages, promoting products, and shaping individuals' perspectives (Chowdhury, 2023). It has also been employed to influence political decisions and affect public opinion. Pop culture has been used to drive social change, raise awareness of critical issues, and foster a sense of unity and belonging across diverse groups. In Malaysia's popular culture, the lives of iconic figures such as Tan Sri P. Ramlee, Puan Sri Saloma, Sudirman Haji Arshad, Datuk Sharifah Aini, and Dato' Siti Nurhaliza Taruddin are frequently discussed, and details of their lives are often made public. Stories and news about them have been shared for popular reasons, but remain unknown to the younger generation.

In recent years, the archiving environment for Malaysia's art and culture has undergone significant changes. Archiving is conducted not just by Arkib Negara Malaysia but also by independent archives and individuals who recognise the long-term significance of archiving, like Penang House of Music, MY Art Memory Project (MAMP), Arts Education Archive Malaysia (AEAM), Malaysia Design Archive, and Malaysian Art Archive & Research Support

(MARS) (Lee, 2021). The rise of the internet and advanced technologies has transformed traditional archiving into digital formats, significantly increasing its importance, particularly in preserving primary materials from the past.

The world is unequivocally entering a new epoch—the revolution of online education with innovative instructional tools. Pervez et al. (2018) emphasised the need for teachers, educators, and institutions to broaden the use of educational technology and to develop a comprehensive understanding of pedagogical issues. Education will expand significantly, particularly through the integration of technology and innovative tools. According to Tikader (2023), in the swiftly advancing digital era, innovative technologies are crucial in reshaping higher education. This is because fast-evolving technologies not only facilitate students' learning but also equip them with the digital skills necessary to compete in the contemporary world.

As previously stated, new tools are emerging, and as educators, we can readily utilise free and innovative apps for educational purposes. In this study, the educator will use Numbers and Artsteps, free and user-friendly applications, as teaching tools to enhance the teaching and learning process. Artsteps is an online tool that enables designers to create exhibitions, events, and brand storytelling concepts, while Numbers is an Apple-developed application that brings our data to life. Numbers makes it possible to create beautiful spreadsheets and designs, and comes included with most Apple devices. Students and educators may use the Apple Pencil on their iPad to add useful diagrams and colourful illustrations. Moreover, with real-time collaboration, they can work together, whether on a Mac, iPad, iPhone, or PC. We might regard these applications as ecologically conscious activities and materials that promote sustainability and foster innovation. Let's Digital also aligns with the significance of the Sustainable Development Goals (SDG). The SDGs provide a robust, universal vocabulary and an opportunity to address collective challenges, becoming part of a global movement towards sustainability that offers a framework for innovation, collaboration, and the exchange of solutions and best practices among educators and learners. In this project, the researchers incorporated the significance of Sustainable Development Goals (SDGs) into two specific goals:

- Goal 4 - focuses on quality education. It sets a goal for students to attain sufficient levels of education and acquire the necessary skills for productivity and employment.

- Goal 17 - focuses on fostering partnerships. It underscores the importance of access to science and technology, particularly internet-based information and communication technologies. These talents assist individuals in their personal and professional lives and enable them to participate in a global society.

Archival preservation aims to extend the usable life of research information for future use. Regrettably, public archives related to popular culture in Malaysia were not properly documented and archived. As Lawther (in Goskar, 2021) highlights, each undocumented or poorly documented object is a missed opportunity for the museum to do what it is celebrated for: engaging people, connecting people, and sharing stories. She also added that documentation levels are poor in almost every organisation, and it is a shame for all those objects to sit unused in the stores. Unfortunately, research into the impact of digital technology on archives and how this transformed archiving practices in research environments has received less attention. Current research often treats digital archives as static entities that may be searchable and, at best, offer data for download, although this trend is increasingly challenged (Cameron, 2021).

The objectives are as follows:
a. To unleash students' archiving skills through an advanced sustainable platform.
b. To promote self-directed learning in curating among students
c. To provide a platform that facilitates technology fluency and equips students with lifelong learning skills needed to be effective in the workforce.

The study also addressed the research questions as follows:
a. How to unleash students' archiving activity through an advanced sustainable platform?
b. How to promote self-directed learning and curating among students?
c. How to provide a platform that facilitates technology fluency and gives students the lifelong learning skills needed to be effective in the workforce?

In the Museum Management (FFM234) course, a set of activities is designed to highlight the problem and identify a solution to address it. Let's Digital Model will bring out each student's strengths across different skills. Some of the key skills associated with this model include critical thinking, self-awareness, and complex problem-solving. All these skills will work wonders with the help of technology and tools that are now available anytime, anywhere, provided students have an internet connection. For the current semester, the chosen subject of study focuses on the life and legacy of the late Biduanita Negara, Saloma.

3. DEVELOPMENT OF THE LET'S DIGITAL

Let's Digital is a model created under the subject of Exhibition Management (FFM234). It all started during the MCO, when everyone was having difficulty obtaining information and resources for research and exhibits. Let's Digital is an educational initiative that encourages self-directed learning and problem-solving skills among undergraduate students. It achieves this by leveraging Numbers and Artsteps, a free and user-friendly app, as a teaching aid to make the teaching and learning process more efficient and engaging. The objectives of Let's Digital are to provide students with sufficient education and developmental skills to enhance productivity and employment, and to highlight the importance of access to science and technology, including internet-based information and communication technologies. These abilities not only assist individuals in their personal and professional lives but also empower them to engage in a global society.

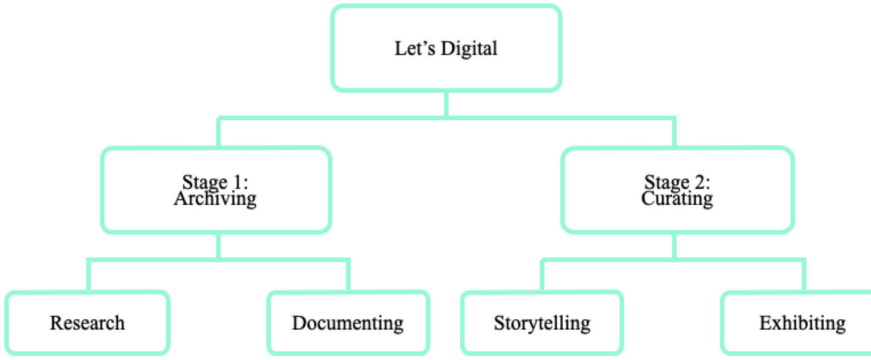


Figure 1. Steps of the methodology used in Let's Digital Model

Stage 1: Archiving

During this phase, students will collectively research and gather information from various resources. Information can originate from a variety of sources, such as social media, blogs, personal experiences, books, journal and magazine articles, expert opinions, newspapers, and websites—and the specific type of information required by students will vary over time; as a result, students must comprehend where to locate types of information. A brainstorming session is employed to generate various elements of a plan, method, solution, or approach, as well as to create checklists. During this step, students will collect information, data, graphics, and statistics to utilise in the design stage. Any format, including printed materials, files, electronic means, or other methods, can capture documented information as a record. This record is significant because it promotes openness and transparency by documenting and demonstrating work activities, making them accessible to the public. It encompasses correspondence, memos, books, plans, maps, drawings, diagrams, pictorial or graphic works, photographs, films, microfilms, sound recordings, videotapes, machine-readable records, and any other documentary materials, irrespective of their physical form or attributes, along with any copies thereof.

Stage 2: Curating

As stated by Nenarokamava (2023), curating is about caring enough to see the potential of an idea and finding the best way of communicating it. For the same objective, students will do the same when curating the exhibition. Carefully curated, planned, and executed exhibitions can educate, captivate, and motivate visitors, while poorly designed exhibitions can leave viewers feeling uninterested or detached. Students will begin curating by experimenting with the elements of storytelling. This is where the students will start questioning, analysing, and organising the information, and acting on the decision made. After meticulous organisation and preparation, students will begin developing the exhibition design concept. The team will begin designing the wall text graphic, incorporating it with the posters, photographs, artefacts, and song lyrics. Visual stimuli, such as labels, signage, auditory elements, and interactive technologies, will help students achieve their objectives. By merging the physical and digital aspects of the display, we harmonise functionality and aesthetics.

3.1 ARCHIVING AND DOCUMENTING PROCESS USING CLOUD-BASED PLATFORM

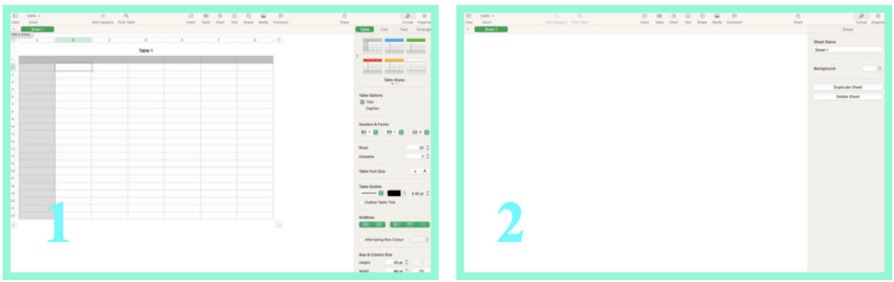
Segregating information into appropriate categories is particularly critical during the archiving procedure. The most effective method is to organise the data by utilising keywords such as (1) personal life story; (2) childhood life; (3) trivia; (4) discography; (5) filmography; (6) cover album; (7) film poster; and (8) accomplishment. Designated groups will handle each keyword to start the research and archiving process.

Figure 2. Simple archiving framework

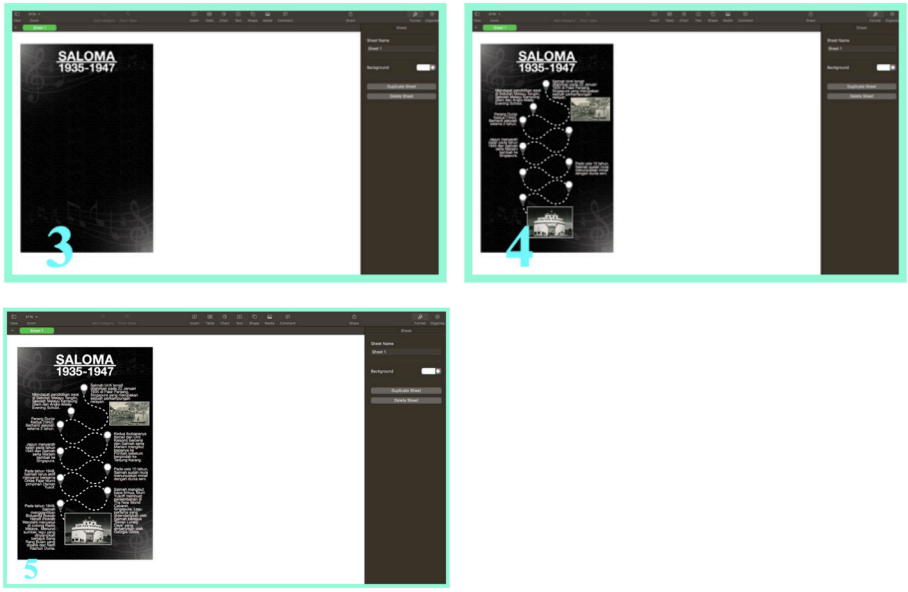
With advances in technology and the rise of the internet and digital documents, digital archiving has become a necessity. All data collected will be stored in a cloud-based archive. The advantages of cloud-based archiving are accessibility from anywhere, scalability, reduced storage costs, and automatic updates.

3.2 DESIGNING PROCESS USING NUMBERS

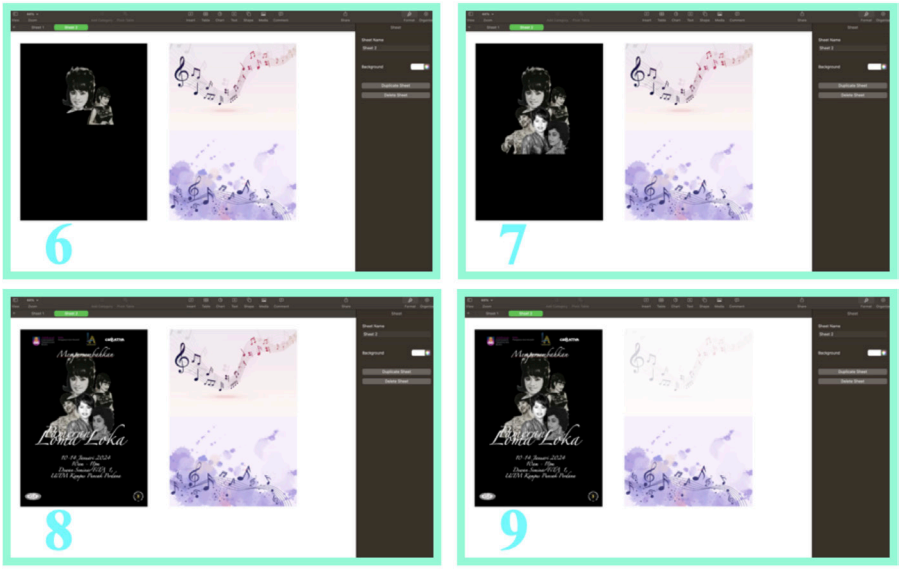
Numbers is a user-friendly platform designed to function like Microsoft Excel, but with creative manipulation of its impressive tables and images. It makes it possible to create beautiful spreadsheets and exhibition wall text. Numbers starts with a blank canvas instead of an endless grid like Microsoft Excel. Users will have the freedom to move everything around the canvas and organise data however they choose. An additional amazing feature is that anyone with access to the file can edit it.



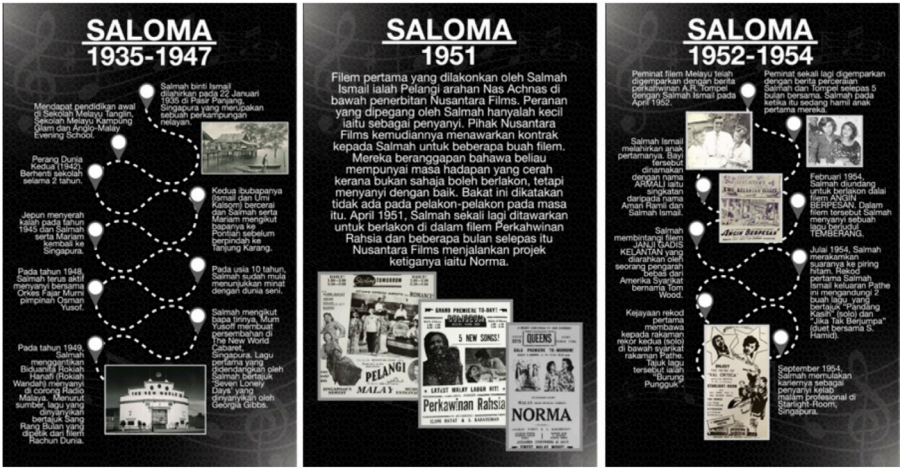
Pictures 1 & 2 - Numbers will start a table, and the first step is to delete it to get a blank canvas



Pictures 3, 4, and 5 - A step-by-step guide for designing the wall text using the Numbers App by creating the watermark, base-shape and colours.



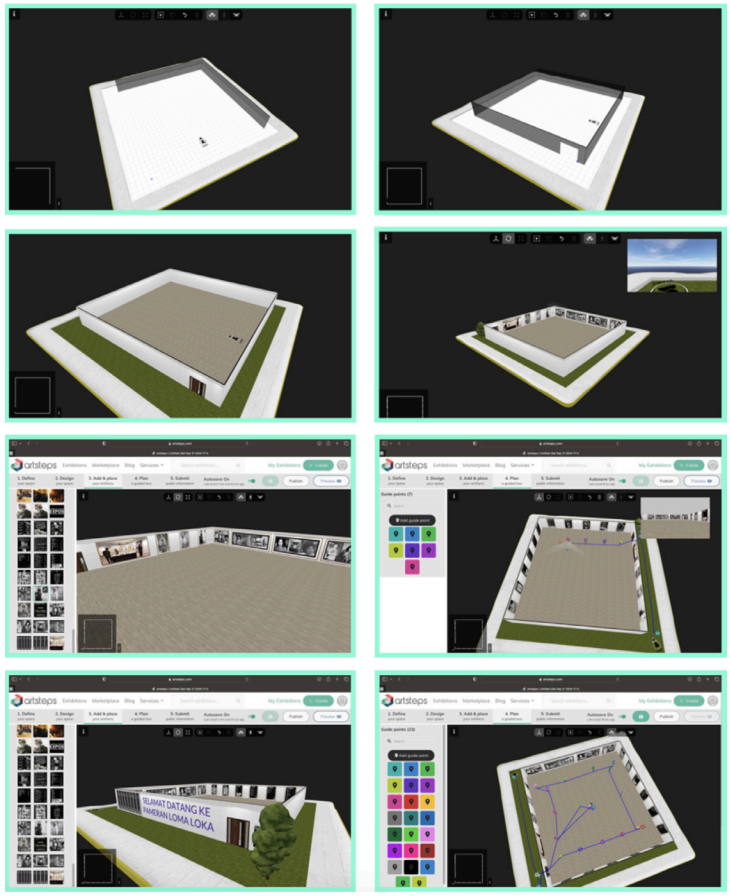
Pictures 6, 7, 8, and 9 - A step-by-step designing exhibition poster using Numbers App.

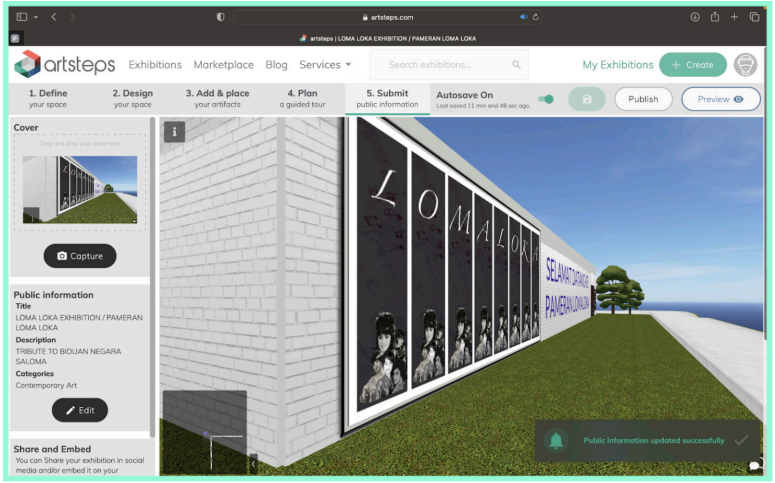


Some of the design of the wall text for the virtual exhibition

3.3 DEVELOPMENT OF VIRTUAL EXHIBITION USING ARTSTEPS

Artsteps is an intuitive tool enabling users to design and personalise their virtual spaces and homes. Users can augment these areas by incorporating web links, text, audio, and video information (Fokides & Zampouli, 2017). The Artsteps platform is accessible at http://www.artsteps.com/. The platform facilitates various virtual learning environments, including (i) the exploration of art within 3-D virtual galleries; (ii) the creation of 3-D virtual exhibitions; and (iii) the integration of digital creations on blogs or websites (Cruz & Torres, 2023).





For a preview of the learning outcome, click the link below.
https://www.artsteps.com/view/66ee8b6a4894ae2ff8a96e3e

4. OUTCOME OF THE LET'S DIGITAL VIRTUAL EXHIBITION

The collected data from the participating students clearly showed that the Let's Digital expanded their perspectives on archiving and curating. The participants' responses to the Let's Digital activity were overwhelmingly positive and diverse, emphasising several features that made it remarkable. This feedback not only affirmed Let's Digital's effectiveness as an educational aid but also highlighted its significance as a facilitator of self-directed learning. A set of five (5) point questions is distributed to 87 respondents rated on a five-point Likert rating scale.

	Total of Responses (n=87)				
	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
Do you think Let's Digital helps you understand the archiving and curating better?	0	0	2	7	78
Do you think Let's Digital unleashes students' problem-solving skills through an advanced sustainable platform?	0	0	7	9	71
Do you think Let's Digital promotes self-directed learning among students?	0	0	6	6	75
Do you think Let's Digital is impacting your learning process?	0	0	8	7	72
How does the technology used within Let's Digital facilitate students' lifelong learning skills?	0	0	6	7	74

Table 1. Respondents' Feedback

Eighty-seven students unequivocally stated that the Let's Digital activity significantly enhanced their understanding of the exhibition design course. Eighty participants unanimously agreed that Let's Digital improves their problem-solving abilities by utilising an advanced, sustainable platform. In response to an inquiry about self-directed learning, 81 participants indicated substantial agreement that the Let's Digital activity promotes it. They have the autonomy to determine the trajectory, schedule, and venue of their display design efforts. Seventy-nine respondents strongly agreed that the Let's Digital activity significantly impacted their learning experience. Several students observed that participation in Let's Digital activities offers an opportunity to explore diverse platforms related to exhibition design. Throughout the process, students can investigate numerous concepts and ideas. Seventy-four respondents strongly agreed that the technology used in Let's Digital activities enhances their lifelong learning capabilities.

The study clearly answered the research questions asked:

RQ1: How do we unleash students' archiving activity through an advanced sustainable platform?

Answer: Educators have increasingly incorporated digital technology into their curricula to foster student innovation. Student creativity is vital, and educators must foster and develop it to the fullest. Let's Digital fosters students' creative ingenuity by directing them through three unique phases: organising, designing, and creating. In this phase, students use their cognitive, creative, leadership, and decision-making skills to complete their display design effectively.

RQ2: How do we promote self-directed learning and curating among students?

Answer: Self-directed learning (SDL) is a process wherein learners take responsibility for establishing their learning goals, developing strategies, utilising resources, and evaluating their progress. Contemporary educational institutions must provide students with the essential skills and information to adapt to a constantly changing world. Knowledge is proliferating swiftly and significantly across numerous fields. Emerging technologies, including artificial intelligence and the metaverse, are persistently shaping our environment, presenting distinct challenges and opportunities.

RQ3: How do we provide a platform that facilitates technology fluency and gives students the lifelong learning skills needed to be effective in the workforce?

Answer: Lifelong learning has emerged as an essential endeavour in the era of swift technological advancement. Technology has transformed learning modalities, timing, and locations. Human curiosity, the aspiration for personal progress, and rapid professional advancement propel this evolution. Lifelong learning in the digital era is more than just an option; it is a strategic necessity for individuals aiming to thrive in the knowledge-driven economy of the 21st century.

5. CONCLUSION

Archiving, curating, and displaying are topics within the domain of Exhibition Management (FFM234). This subtopic enhances pupils' ability to understand upcoming knowledge. In the absence of appropriate resources and facilities, educators may employ alternate platforms to present new experiments. We can regard Let's Digital as a viable approach to address these issues. In contemporary society, no universal solution exists that applies to all circumstances. Educators must recognise that educational culture is evolving, and that modifications intended to enhance students' lifelong learning competencies are crucial to their success in the professional realm. These abilities enhance individuals' capacity to navigate their personal and professional spheres and empower them to engage effectively with the global community.

Technology is a powerful catalyst for transforming learning by fostering engagement, personalisation, and accessibility. As educational tools and methodologies continue to evolve, educators, institutions, and policymakers must thoughtfully embrace and adapt to these changes. By leveraging technology effectively, the educational landscape can become more inclusive, dynamic, and better able to meet the diverse needs of learners in the 21st century. The integration of technology in education has revolutionised teaching and learning, creating dynamic and engaging environments that enhance the educational experience. This transformation encompasses various technological tools, methodologies, and platforms designed to foster collaboration, accessibility, and personalised learning.

6. SUGGESTIONS

Based on the most crucial factors identified in this study, it is suggested that, when developing a curriculum, educators should consider a wider range of styles and backgrounds. The aim is to ensure that the virtual exhibition benefits the pupils. In addition to all of this, educators need to consider training as a way to maximise their talents and enhance the quality of their future projects.

7. ACKNOWLEDGEMENTS

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8. AUTHOR'S CONTRIBUTION

The authors declare that there is no conflict of interest in this article. Author 1 developed the main project idea, prepared the literature review, and oversaw the overall write-up of the whole article. Author 2 created the virtual scenarios and contributed to the design of the proposed process throughout the project.

9. CONFLICT OF INTEREST DECLARATION

We certify that the article is the authors' and co-authors' original work. The article has not received prior publication and is not under consideration for publication elsewhere. This research/manuscript has not been submitted for publication, nor has it been published in whole or in part elsewhere. We testify to the fact that all authors have contributed significantly to the work, validity and legitimacy of the data and its interpretation for submission to IJELHE.

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