

MUSEUM PEDAGOGY AND ASSESSMENT STRATEGIES: A CASE STUDY OF TWO MUSEUM EDUCATORS AT AN AUSTRALIAN IMMIGRATION-THEMED MUSEUM

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ABSTRACT

Background and Purpose: The role of museums has increasingly evolved from artifact repositories to educational spaces, promoting meaningful and active learning engagement. Despite museums' established role in supporting school curricula, there remains limited studies exploring museum educators' instructional and assessment practices. This study addresses this gap by examining the pedagogical approaches and assessment strategies employed by museum educators at an immigration-themed museum in Victoria, Australia.

Methodology: A qualitative interpretivist case study design was employed, involving two experienced museum educators. Data were generated through semi-structured interviews and non-participant observations of teaching sessions. Thematic analysis, following Braun and Clarke's (2006) six-step framework, facilitated the identification and interpretation of emergent themes.

Findings: Key findings revealed that educators employed blended instructional frameworks combining constructivist and behaviourist elements. Pedagogical approaches predominantly featured narrative techniques supported by object-based learning (OBL), storytelling, questioning, and scaffolding. Informal assessment played a continuous role in enabling instructional adaptation to meet diverse learner needs.

Contributions: The study enhances museum education literature by detailing practical pedagogical strategies and assessment methods utilized within museum settings. These insights hold substantial implications for professional development, guiding curriculum-linked educational program development, and highlighting effective instructional practices beneficial to both museum and classroom contexts.

Keywords: Museum education, museum pedagogy, visitor engagement, assessment strategies, immigration museum.

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1.0 INTRODUCTION

Since the turn of the 21st century, museums have been facing tremendous challenges that could potentially limit the effectiveness of museum management. Changes in visitor demographics, social attitudes, legal requirements, economic conditions, technological innovations, and socio-political landscapes (Della Corte et al., 2017; Plaček et al., 2020) are among the many barriers reported to impede museum growth. The threat of the pandemic and its aftermath have also transformed the way museums operate to a certain degree (Agostino et al., 2020; Gössling et al., 2020; Ou, 2020). To ensure the continuous relevance and increasing significance of museums in society, proactive measures have been undertaken. These include diversifying the roles and functions of museums and integrating museums and their collections into the fabric of society. One such role is positioning these establishments as educational centers that support teaching and learning processes in schools (Hansson & Othman, 2021; Lacoé et al., 2020; Marovah & Ncube, 2024). Although this initiative has been established since the early 1990s by many museums in developed countries, museum education has never been more relevant (Andre et al., 2017; Della Corte et al., 2017; Lacoé et al., 2020). Lacoé et al. (2020) emphasized the importance of museums assuming more proactive roles within the community. Consequently, the establishment of education departments in museums and galleries is viewed as a departure from their traditional roles and enhances their relevance in society (Andre et al., 2017; Hansson & Othman, 2021).

Developed countries such as the United Kingdom, the United States of America, and Australia have long recognized the potential of museums in enhancing student learning (Andre et al., 2017; Della Corte et al., 2017). In this context, the function of museums and galleries

has undergone significant changes, shifting from being repositories of static presentations of artifact collections to active learning environments for visitors (Lacoe et al., 2020; Robaina-Calderin et al., 2023). With vast collections of artifacts and creative planning, museums have been transformed into exciting learning environments, offering new and more meaningful learning experiences (Hansson & Othman, 2021; Robaina-Calderin et al., 2023).

Educational programs in museums create a shift away from the traditional classroom. The vast collections of objects found in museums provide students with opportunities to interact with real artifacts (Agostino et al., 2020). In many countries, education has become an integral part of a museum's organizational objectives. Strong connections are established between museums and schools, transforming exhibition halls into students' classrooms (Andre et al., 2017; Půček et al., 2021). With educational programs in place, the long-term effects on younger generations are invaluable in nurturing active young minds that appreciate cultural differences while embracing cultural uniqueness (Alvero, 2023; Andre et al., 2017).

Though museum education has been around for more than forty years, studies that attempt to document the full sequence of teaching processes which involve the development of education programs, lesson planning, lesson delivery and reflection of museum educators are scarce (Hansson & Othman, 2022; Tinning, 2017). Many studies with a focus on issues and challenges faced by museum educators placed emphasis on the perspective of management and administration of education departments (Kristinsdottir, 2017), the survival of museum and the education departments (Lacoe et al., 2020; Půček et al., 2021), and the role the department plays within the learning society (Andre et al., 2017; Witcomb, 2015). Literature that addresses specific issues and challenges faced by museum educators in the implementation of education programs lack sufficient detail that adequately portrays the routines of museum educators in the delivery of their instructional sessions (Alvero, 2023; Hansson & Othman, 2022). Detailing the development process of education programs is relevance in measuring the extent to which the programs meet the school curriculum as well as the considerations given in program development. Examining the full process of teaching, including the process of lesson planning, provides information in relation to museum educators' preparedness in teaching, as well as shedding insights on the similarities and differences between teaching in museums and teaching in schools.

Given the above-mentioned gaps, the study is poised to meet the following research objectives:

- i. To examine the overarching instructional framework, whether behaviorism or constructivism, that predominantly defines museum educators' instructional practices;
- ii. To examine the pedagogical approaches and strategies employed by the museum educators in supporting their lessons; and
- iii. To analyze the assessment strategies used by the museum educators to evaluate and adapt their teaching sessions effectively.

By bridging gaps in literature that often prioritize administrative perspectives over pedagogical practices, the study emphasizes the dynamic role of museums as educational spaces. Furthermore, its findings contribute to enhancing museum-based educational programs, offering practical implications for educators and policymakers to improve engagement, inclusivity, and learning outcomes in museum settings.

2.0 LITERATURE REVIEW

2.1 The Changing Role of Museums

The various educational roles that museums perform highlight the need for greater attention to educational activities. Over the past decade, significant changes have occurred in museums worldwide. Museums have transitioned from being static storehouses for artifacts to active learning environments for people (Andre et al., 2017; Půček et al., 2021). Andre et al. (2017) added that this change in function required a radical reorganization of the entire culture of museums, including staff structures, attitudes, and work patterns, to accommodate new ideas and approaches. Consequently, the term "museum education" was coined to illustrate and describe museums' commitment to promoting teaching and learning processes within their organizations (Witcomb, 2015).

2.2 Museum Education

The review of literature related to museum management suggests the need for museums to shift out of their traditional roles. Previously, a museum's focus was primarily on its collections, with visits often made for the purpose of admiring these collections (Lacoe et al., 2020; Robaina-Calderin et al., 2023; Witcomb, 2015). Educational museums emerged in the 20th century due to increased awareness of the importance of visitor engagement and the necessity for museums to adapt to societal demands and lifestyle changes (Alvero, 2023; Půček et al., 2021). Hence, the term "museum education" describes any activities organized by a museum to facilitate knowledge or experiences for public audiences. Museum education is tasked with

connecting audiences to richer and more meaningful educational experiences (Johnson, 2009). It focuses on presentations offered to school children to supplement, enrich, or both, their classroom instruction, with an emphasis on local area history (Committee on Education, 2002). In the past, activities such as students walking in groups from one exhibit to another or sitting and listening to information while passing around objects and specimens were considered "educational." Interestingly, such activities are now deemed "traditional" (Andre et al., 2017; Lacoé et al., 2020).

The shift to an audience-based approach reshaped the way museum management perceives its collections, particularly in their potential to reach a larger audience base, penetrate specific audience segments (Alvero, 2023; Ou, 2020; Tinning, 2017), cater to variability in programs offered (Hansson & Othman, 2022), and provide experiences unobtainable from other competing education and leisure providers (Půček et al., 2021). Consequently, museum education places significant emphasis on experiential elements, focusing more on the process of learning rather than solely on outcomes (Agostino et al., 2020; Lacoé et al., 2020).

2.3 Education Programs

John Dewey's philosophy on education is often cited as a precursor to learning through experience (Falk & Dierking, 2018; Fuller, 2005; Hein, 2004). Dewey recognized the importance of prior learning in making meaning from new experiences and strongly emphasized the relevance of culture to those experiences (Hein, 2004). His support for constructivism and the role of culture in learning opened up new possibilities and increased the relevance of museums in showcasing their objects in ways that were more meaningful than a mere passive walk-through exhibits (Fuller, 2005; Hein, 2004).

Hein (2004) stated that the emergence of museums actively designing, promoting, and implementing educational programs became a common concept within the museum movement of the twentieth century. He challenged museum administrators to develop programs that offered meaningful learning experiences extending beyond mere activity. Exhibitions should be designed to ignite inquiry, stimulate critical thinking, and enable visitors to connect prior knowledge with new information. Kristinsdottir (2017) emphasized that museum management must adopt a more strategic approach to advancing museum education, incorporating sustainable and theoretically sound pedagogical practices.

2.4 Museum Educators

Central to the teaching and learning activities at museums are museum educators—personnel responsible for the overall process and practice of facilitating learning. Educators often specialize in specific content areas or academic disciplines (Nolan, 2009). A museum educator is also any member of the museum staff who holds specific responsibilities for organizing and delivering educational services while ensuring that education remains a central function of the museum in discussions and planning (Kristinsdottir, 2017; Talboys, 2016). A highly skilled museum educator is described as possessing the ability to lead in a variety of settings, including within their department, up the institutional hierarchy, across the institution, and beyond the institution (Hansson & Othman, 2021; Nolan, 2011; Ou, 2020).

The review of the literature indicated that museum educators held open views on how teaching and learning should be conducted (Andre et al., 2017; Della Corte et al., 2017; Lacoé et al., 2020). In fact, narrowing learning to a particular theory proved challenging due to the diverse motivations for visiting a museum (Falk & Dierking, 2018; Hein, 2004; Lacoé et al., 2020). While Falk and Dierking (2018) emphasized the cognitive and affective domains in educational programs implemented in museums, further literature review revealed that the domain of learning in which museum educators engage depends on both the nature of the topic and the specific characteristics of the museum itself.

Museum educators demonstrated flexibility in delivering their instruction, adjusting the pace and complexity of their content based on students' responses, level of engagement, and motivation (Falk & Dierking, 2018).

3.0 THEORETICAL FRAMEWORK

Three main theories underpin this study: social constructivist theory (Vygotsky, 1978), experiential learning theory (Kolb, 1984), and museum learning theory (Falk & Dierking, 1992).

3.1 Social Constructivist Theory

Central to the teaching and learning activities at museums are museum educators—personnel In social constructivism, learners construct knowledge through the interactions with more knowledgeable peers and environment (Vygotsky, 1978). Viewing social and cultural interactions as integral aspects of learning, Vygotsky (1978) also indicated that engagement with cultural artifacts as essential to learners' psychological development. The theory aligns with object-based learning (OBL) and scaffolding, the first involves learners' interaction with

objects in the process of knowledge construction and the latter refers to instructional strategies enabling teachers to support learning process at the level where learning is the most meaningful. The integration of the theory into the theoretical framework aligns with the museum education context. Muse educators facilitate learning by engaging visitors in interactive discussions, guided discovery and collaborative meaning-making. Through the incorporation of the theory, it deepens the insights into the active role of learners and their cognitive engagement in museum settings.

3.2 Experiential Learning Theory

Experiential learning theory (ELT) posits that individuals learn from direct experience, occurring through a cyclical process of experience, reflection, conceptualization and experimentation (Kolb, 1984). The theory emphasizes the value of active engagement with real-world situations. Hence the cyclical process breaks down the level of engagement: from concrete experience when a learner is presented with new experience, reflective observation when the contact with this new experience triggers thinking, abstract conceptualization when the thinking process leads to the formation of new ideas and theories, to active experimentation when the learner applies the newly learned concepts. As learning is an outcome of engagement with new experiences, the theory supports lifelong learning and the importance of adaptability. Learners are individuals with varied learning styles, and the role of educators to facilitate learning through diverse instructional strategies is pivotal (Kolb, 1984). ELT is particularly relevant to museum-based learning, where museum visitors engage with objects, historical narratives, and interactive exhibits. The four stages of Kolb's cycle provide an understanding of how museum engagement creates new experience that leads to meaningful learning. As visitors move from concrete experience where direct connection is made with the museum environment (artifacts, exhibitions, storytelling, etc.); to reflective observation where they engage in prior knowledge and the new experiences to interpret meanings; abstract conceptualization where visitors construct understanding by reflecting on broader historical, social and cultural contexts; and active experimentation where they apply the newly acquired knowledge through discussions, questioning, and interactive activities, reinforcing their understanding of immigration history. The presence of museum educators through structured engagement with museum-centered lessons would lead to more in-depth engagement with new experiences which produce a more profound learning outcome.

3.3 Museum Learning Theory

Complementing the social constructivist theory (Vygotsky, 1978) and ELT (Kolb, 1984) is the museum learning theory which emphasizes the multi-dimensional nature of learning (Falk & Dierking, 1992). The theory recognizes the role of informal setting, such as museums, in fostering meaningful learning experiences. In promoting learning, museums are recommended to provide visitors with spaces that encourage them to explore, reflect and construct meaning from exhibits. Central to museums' role is ensuring visitors' engagement in relation to three interconnected contexts: personal context, sociocultural context and physical context. Personal context refers to prior experiences, interests, and motivations that influence how visitors engage with exhibits. Sociocultural context shapes social interactions, discussions and shared experiences that learners have with another visitor. The physical context represents aspects pertaining to museum design, exhibit layout, as well as interactive elements that influence engagement (Falk & Dierking, 1982). The theory enhances the study by providing a comprehensive perspective for understanding the variables at play when visitors engage with exhibits. Within the context of museum education, exhibits or objects are often utilized as the main highlight in facilitating deeper engagement (Falk & Dierking, 2018).

4.0 RESEARCH DESIGN

The study takes the perspective of interpretivist research paradigm. Lather (2006) explains that research paradigm comprises the interaction between researchers' worldview and overarching principles that shapes and reshapes their interpretations of phenomena. Pervin and Mokhtar (2022) and Shah et al. (2013) posited that paradigms are difficult concepts for novice and beginner researchers to comprehend and often a neglected discussion by many scholars. Interpretivism is concerned with in-depth exploration of variables, assuming the perspective that humans are complex entity rich with meaning, thus requiring different manner of investigation than physical phenomena (Saunders et al., 2012). In contrast to positivism which governs phenomena through structured and definite approach enabling generalization, interpretivist researchers are more interested in uncovering rich and deep meanings of the phenomena understudied (Bhattacharjee, 2012; Pervin & Mokhtar, 2022).

The study is of interpretivist paradigm as it seeks to explore the instructional frameworks, pedagogical approaches, and assessment strategies of museum educators. Specifically, the study aims to interpret and understand the experiences, perspectives, and instructional choices of the educators through interviews and observations, and not to quantify findings. Therefore, it appropriately sits within qualitative method, enabling for complex

phenomena of the intended variables to be investigated (Kalu & Bwalya, 2017). Qualitative method allows social science researchers explore the uniqueness, dynamic and holistic nature of targeted phenomena (Wuest, 2012); and widens their understanding of beliefs, values and culture as well as human experiences and situations (Cresswell, 2013; Holloway & Galvin, 2016).

Case study is adopted as the research design as it focuses on an in-depth investigation of two museum educators within a specific context. One of the most commonly employed methodologies for qualitative method (Ragin, 2013) as well as social research (Priya, 2021; Takahashi & Araujo, 2020), case study assumes phenomena investigated as 'case', serving as a focal point of scholarly investigations (Ragin, 2013). The study employs semi-structured interviews and non-participant observations to gather detailed qualitative data, making it an exploratory and descriptive case study. The case study design allows for a rich, contextualized understanding of the educators' teaching practices, assessment

4.1 Participants and Context

The participants of the study were two museum educators of an immigration-themed museum in Victoria, Australia, and the selection and number of educators were determined by the museum's top administration. Before data collection commenced, approval for the data collection was sought. This involved the researchers delivering a presentation to the museum's top management, explaining the study's purpose, research objectives, research questions, procedures, and significance. Two museum educators were recommended, referred to as Alicia and Pam, as the study's participants. Pseudonyms are used in this article to ensure the anonymity of the participants.

The use of purposive sampling techniques within a non-probability sampling design was deemed appropriate, as the findings from this study were not intended to draw statistical inferences but rather to gain an in-depth understanding of how educational programs are designed, planned, implemented, and evaluated. Popham (2007) emphasized that studies employing purposive non-random sampling are guided by a specific focus, aiming to gather data from predefined groups of interest.

4.2 Methods of Data Collection

The study utilized semi-structured interviews and teaching observations with each museum educator to gather the required information. The face-to-face contact with the participants began with a teaching observation session, followed by an interview immediately afterward.

This approach allowed the participants to provide justifications for various aspects of their teaching while responding to the interview questions. Data from the interviews were categorized into themes before being analysed.

The teaching observations provided information about materials and the environment, as well as the social behavior of groups or individuals (Creswell, 2016; Onwuegbuzie & Collins, 2007; Patton, 1990). A non-participant observation approach was employed, in which the observer's role involved passively watching and recording events without engaging in or influencing them (Burns, 2000). This minimized interaction with participants, allowing the researcher to focus unobtrusively on the flow of events while simultaneously recording participants' behaviors in their natural setting. Data analysis for the teaching observations focused on the participants' behaviors and the sequence of teaching activities (Creswell, 2016).

4.3 Validity and Reliability Considerations

To improve the validity and reliability of the study, several measures were taken to ensure the robustness of the research design, instrumentation and data collection process. The development of the semi-structured interview items and protocols was guided by Framework for Teaching (Danielson, 2007) as well as the work of Fraser (1998). Anchoring the interview design in these well-established frameworks improved the quality of the items and supported the development of more structured and effective interview protocols. Additionally, the six-step Observational Protocols for Qualitative Research (Cresswell, 2016) were followed during the construction of the observation checklist. The protocols ensured the development of a systematic approach to recording behaviors, interactions, and dynamics observed during lessons. The instruments underwent a panel review process involving two university educators. The primary aim was to ensure alignment with the research objectives. Their feedback focused on improving the clarity, relevance, and comprehensiveness of the questions and criteria to ensure they effectively captured the intended data. Suggestions from the panel were incorporated to refine the instruments further, enhancing their quality before data collection began.

Following the data collection process, the accuracy and consistency of the interview transcriptions were carefully checked throughout the transcription process. Standardized coding criteria was used to maintain uniformity in data interpretation. Member checking was also employed by sharing the transcribed texts with the interviewees to validate their accuracy through feedback. These measures collectively strengthened the research methodology. Data analysis was conducted thematically using an inductive approach, which allows themes,

patterns, and categories to emerge directly from the data without the influence of pre-existing assumptions. This approach is well-suited for thematic analysis in social sciences, as it offers the flexibility to accommodate emerging themes (Thomas, 2006). Thematic analysis followed Braun and Clarke's (2006) six-step framework: familiarizing with the data, generating initial codes, identifying themes, reviewing themes, defining and naming themes, and producing the final report.

5.0 ANALYSIS AND DISCUSSION

5.1 Demographic Information of The Participants

Two museum educators from the immigration-themed museum were interviewed, and their teaching sessions were observed. Alicia and Pam (pseudonyms) were recommended by the museum's top administration as the research participants based on their roles and extensive experience in delivering educational programs within the museum.

The first museum educator, Alicia, was a school teacher with up to 35 years of teaching experience before joining the museum as a museum educator. She held a Diploma in Education and a Bachelor's Degree in Arts, and began her teaching career in 1976. During her teaching career, she became actively involved in history education and played a significant role in the History Teachers' Association at both state and national levels. Alicia had been with the museum for seven years and was the only educator solely attached to the museum.

Alicia was responsible for preparing all the instructional modules, which also required her to carry out research, developing content, and the training of other educators to deliver these modules effectively. The programs had been developed over the past five years, with some being modified and adapted to align with curriculum requirements and the museum's mission and vision. Alicia typically conducted three teaching sessions daily, each involving a large group of 50 students. These students would usually be divided into smaller groups of ten. The teaching sessions were structured to include a 45-minute classroom lesson followed by 45 minutes to one hour of teaching in the museum gallery.

The second museum educator was Pam. She held a unique role at the museum, as her attachment to the museum was primarily in the form of a secondment by the Italian Government. This arrangement aimed to promote the Italian language through stories related to Italian migration. Unlike her colleagues who conducted their teaching sessions in English, Pam delivered hers in Italian. Prior to joining the museum, Pam was a school teacher for seven years, teaching a variety of subjects, including Italian language, science, and biology.

Pam typically conducted two teaching sessions per day but could be assigned up to three sessions depending on the number of bookings. She noted that she was accustomed to teaching groups of 50 students, though this number had recently been reduced to 30 students per group to facilitate more effective teaching. Each teaching session lasted between 40 minutes and one hour.

5.2 Instructional Framework Adopted by The Museum Educators

The first research objective aimed to examine the overarching instructional framework—whether behaviorism or constructivism—that predominantly defined the instructional practices of museum educators. Findings from both data sources revealed that the educators did not rely exclusively on the constructivist framework, although constructivism served as the primary model for lesson development and implementation at the museum. Instead, both educators integrated elements of behaviorist and constructivist models in their lessons, depending on the lesson content, teaching context, and the students' ability levels. Furthermore, an emerging finding highlighted Alicia's inclination toward a thinking-oriented curriculum.

5.2.1 Balancing The Act: Between Behaviorist and Constructivist Instructional Framework

Discussing constructivism during the interview session, Alicia explained how she integrated constructivist elements in her teaching. She stated, "It's all about hands-on constructivist student-centered, it's about the adult expert as the facilitator not as standing up there as a point of knowledge, it's about discovering for themselves and it's about the students being inspired to ask more questions because of the information they are gathering by their collaboration. And because it's so hands-on, they can't help but ask questions and get excited about things." Alicia acknowledged several elements of constructivism in this statement. First, the role of teacher as a facilitator in student learning and not the one who disseminated the information. Second, an important aspect of constructivist theory that emphasized on learning by doing and discovery. And this was demonstrated through hands-on learning activities that would increase students' engagement.

Pam structured her lessons based on constructivist theory to a certain extent but also incorporated elements of behaviorist theory in her teaching. Pam held a unique position at the museum, where the education programs served as a platform to raise awareness of the Italian language and enhance students' literacy in it. The extent to which a behaviorist framework was employed depended on the students' proficiency level in Italian. She stated, "*For language learning, I find that being able to present to students and them responding to me is easier. If*

they have a lot of language, then they can do hands-on, quite easily. But you just have to set up in different way. I've done, I've done both. Last year I ran a program where it was hands-on and students did very well but I still had to give them some input. I still had to give them some input at the beginning then they do an activity in groups and then I would try to bring them up together." Based on this statement, Pam's engagement with behaviorist-based approaches differed between groups, based on the groups' level of Italian proficiency.

For Pam, it was particularly important especially when teaching in Italian, she needed to first model the language through modelling and presentation. According to her, *"I think for me the teacher-centered is probably easy in the sense because the students are coming to see me speak in another language. For them, for me to do that I have to present. So, for me, with the Italian language, I try to mix it up. So, there'll be a bit of presenting in the beginning and then the students might be doing something...."*

The findings from the thematic analysis of the observational checklists corroborated the interview findings. Pam's lesson relied heavily on the use of narratives, as she dominated the lesson by telling stories about the lives of three immigrants who migrated to Australia between the 1950s and a more recent period. In the lesson focused on Migration and Identity, Pam employed a narrative approach to convey these stories. Each story was followed by a brief discussion between her and the students, during which the students answered three predetermined questions she had outlined earlier. Her narration was teacher-centred, as she delivered all the information while the students primarily assumed the role of listeners. However, her stories were rich in information, and she occasionally used questioning techniques and incorporated objects, images, and maps to support her storytelling.

The semi-structured interview session, conducted after Pam's observed lesson, provided her with an opportunity to explain the teaching approaches she had employed. During the interview, Pam elaborated on her use of a teacher-centered approach during the lesson. She stated: *"It's a lot more work, but it's more student-centered. Today, for example, my lesson was more centered on me, with me giving information to the students and their interaction, interacting. Some of the other styles that we do are more student-centered, where the student is in control, and the educator tries to elicit information from them."*

The lesson conducted by Alicia incorporated both teacher-centered and student-centered instruction. Similar to Pam, Alicia used narrative as the primary approach in her teaching. She shared stories on topics such as the Gold Rush, British Migration, Post-World War II, Inside Refugee, and Post-Vietnam. While telling these stories, students assumed the role of listeners, as they were required to identify answers to questions provided on the activity

sheet. Each story was followed by a student from each group presenting their responses from the activity sheet. In this lesson, teacher-centered instruction was the most dominant approach used.

5.2.2 Thinking-Oriented Curriculum

In designing lessons and modules, Alicia focused on the thinking curriculum, which involved delivering lessons, tasks, and activities that provided students with opportunities to think critically and develop their cognitive abilities on a particular topic. The pedagogical approaches emphasized inquiry-based learning, constructivism, community of learners, and student-centeredness. The presenters assumed the role of facilitators rather than disseminators of knowledge. Students were encouraged to construct their own learning and inspired to ask more questions to deepen their understanding. According to Alicia, the hands-on nature of activities at the museum compelled students to be more engaged and encouraged them to ask questions. Alicia also prepared a question sheet for teachers to monitor their students' engagement during the lesson. This enabled teachers to scaffold student learning effectively once they returned to school.

5.3 Instructional Approaches and Strategies Utilized By The Museum Educators

The second research objective aimed to identify the instructional approaches and strategies adopted by the educators. Four main instructional approaches were identified: object-based learning (OBL), the narrative approach, and a balance between student-centered and teacher-centered approaches. Additionally, the educators incorporated questioning techniques, employed scaffolding strategies, and utilized storytelling to support their lessons.

5.3.1 Instructional Approaches

Object-Based Learning Approach (OBL)

The OBL approach was the most frequently mentioned instructional method by the educators in the study. According to both educators, they rarely used replicas and instead relied on authentic objects in their teaching. Replicas were only used when the original objects were unsuitable for the classroom context due to factors such as size, weight, or value.

Pam, for example, thought highly of OBL. Explaining her selection criteria of objects for teaching, *"I try to find objects that make them curious, that the students have never seen before. And I try also to introduce like a mystery object, something that is very unusual so they have to try and figure out what is this object, what its purpose, you know... what it's made out*

of, who would have used it.” Pam added the objects used were known as interpretive objects and they belonged to one of the departments in the museum which the educators could borrow from. These objects had rich connections to the stories and cultures.

Narrative Approach

It was found that OBL was employed as an integral component of the narrative approach. According to both educators, narrative was a prominent teaching method for lessons at the museum. Alicia and Pam utilized this approach to deliver lessons on migration and immigration history. During the lessons, the educators would bring a briefcase containing relevant objects, which they would take out and show to the students while telling stories. This method significantly enhanced student engagement with the lessons.

Student-Centered and Teacher-Centered Instruction

Pam was found to integrate both student-centered and teacher-centered instruction within a single lesson. She believed that blending these approaches was more effective for language teaching. When teaching Italian, she typically began her lessons with a presentation (teacher-centered) and, midway through the lesson, transitioned to hands-on activities where she assumed the role of facilitator (student-centered). She clarified, *“I like both [teacher-centered and student-centered approaches]. I think for me the teacher-centered is probably easy in the sense because the students are coming to see me speak in another language. For them, for me to do that I have to present. So, for me with the Italian language, I try to mix it up. So, there’ll be a bit of presenting in the beginning and then the students might be doing something... something more like a hands-on thing. So, I try and do a variety of things, a variety of activities.”*

She explained why she had to revert between teacher-centered and student-centered teaching, *“I think it depends on the students and situations. For language learning, I find that being able to present to students and them responding to me is easier. If they have a lot of language, then they can do hands-on, quite easily. But you just have to set up in different way. I’ve done... I’ve done both. Last year, I ran a program where it was hands-on and students did very well but I still had to give them some input, I still had to give them some input at the beginning then they do an activity in groups and then I would try to bring them up together. I think.... I think both styles work.”*

5.3.2 Instructional Strategies

The educators were found to incorporate several strategies in their instruction, with the major strategies being questioning, scaffolding, and storytelling.

Questioning

The questioning strategy was found to be valuable to the educators at the museum for several reasons: it enabled them to assess students' level of engagement, generate interest, and determine the extent of students' understanding of the content taught. Findings from the teaching observations indicated that the educators employed questioning at both the beginning and end of their teaching sessions. The observed lessons were structured around stories of immigrants and immigration, with a series of questions posed at the end of each story.

Scaffolding

Scaffolding of student learning was indirectly referenced by Pam during the semi-structured interview session. Her description of a flashcard activity she conducted illustrated the use of scaffolding to support student learning. In this activity, students were required to match the cards they were given to the appropriate themes written on the board. According to Pam, *"I use the cards because... I use it as a prior knowledge question at the beginning. When they do that activity, I do then know what they know about immigration, do they know a lot about immigration, do they know nothing. And I can tell by the way they do that activity; how much they know and what I need to focus on."*

She added, *"If they done putting things in incorrect column [order], I now I need to focus on that and this because they don't... because that's really the only way you know you can engage and find out.... so, I try to use prior knowledge questions, always just to focus myself as well so that I can see where the students are at."*

The concept explained by Pam is closely associated with scaffolded lessons.

Storytelling

Storytelling was found to be one of the dominant strategies incorporated into lesson delivery at the museum. This strategy supported the use of the narrative approach and was employed to enhance students' understanding of immigration and immigrants. Objects were used to complement and better illustrate the stories. This finding was evident in both types of data collected. During the observed lessons, Alicia taught a session on Periods of Migration, presenting five different stories: Gold Rush, British Migration, Post-World War II, Inside

Refugee, and Post-Vietnam. Pam focused on Immigration and Identity, discussing three individuals who migrated to Australia during different eras for different purposes: Carmella, who came to Australia in 1957 as a proxy bride; Pietro, who migrated in the 1940s for better work opportunities; and Enzo, who studied in Australia in the 1990s and decided to settle there. In both lessons, students were provided with an answer sheet containing a list of questions, which were discussed after each story was told.

5.4 Assessment Strategies Implemented by the Museum Educators

The third research objective examined the museum educators' use of assessment strategies to support their lessons. Findings from both data sources indicated that informal assessment was an integral component of the lessons and was used continuously throughout instruction. The role of informal assessment was crucial given the limited information the educators had about the groups they taught. For standard programs, the booking team typically only provided information about the topic the students were booked for, the students' year level, and their school. Although additional information could be obtained from accompanying teachers prior to the lessons, such interactions were usually brief.

Negotiated programs, however, allowed educators to gather more detailed information due to ongoing communication with school teachers before the excursion. This enabled the educators to tailor the content and pedagogy to ensure complexity and appropriateness for the students. Despite this, standard programs were more frequently booked than negotiated programs, making the reliance on data gathered through informal assessments essential to inform and adapt their teaching effectively.

The main methods of assessment employed by both educators were questioning and observation, which were particularly prominent at the beginning of the teaching sessions. The first few minutes of the lessons were dedicated to gathering as much information as possible from the learners through questioning, which helped the educators determine the appropriate complexity of the lessons. Questioning was also used periodically to assess students' level of understanding. Additionally, data from the educators' observations of students' behaviors and attitudes played a crucial role in tailoring content and activities to enhance student engagement. The use of informal assessment strategies was continuous, with the data collected providing ongoing feedback to improve teaching effectiveness.

5.5 Discussion

The findings from this study revealed a comprehensive instructional framework, pedagogical approaches, and assessment strategies adopted by the museum educators at the selected immigration-themed museum. Central to their instructional design is the integration of constructivist and behaviorist frameworks, tailored to meet the diverse needs of learners. Both educators, Alicia and Pam, demonstrated a pragmatic balance between these approaches, which was shaped by the content, context, and students' abilities. While constructivism served as the dominant framework in lesson planning and execution, behaviorist elements were incorporated when foundational knowledge needed to be explicitly imparted. This flexible blending of theories emphasizes the educators' adaptability in addressing varying levels of prior knowledge and engagement.

5.5.1 Instructional Framework: Bridging Behaviorism and Constructivism

The constructivist foundation was evident in the hands-on, inquiry-based learning activities and the facilitation role assumed by the educators. Alicia emphasized the importance of student-led discovery, aligning with Dewey's principles of experiential learning and constructivist paradigms. Conversely, Pam integrated behaviorist techniques, particularly when teaching Italian language lessons, where modelling and structured input were necessary to scaffold learning. Her use of a teacher-centred approach at the beginning of lessons ensured clarity in linguistic foundations, transitioning later to a constructivist mode where students engaged in hands-on, collaborative activities. This adaptive application illustrates a thoughtful alignment of instructional strategies with learner readiness and content complexity.

The emphasis on a constructivist framework supported by behaviorist techniques aligns with prior studies that advocate for a blended instructional approach in informal learning environments like museums. Falk and Dierking (2018), Hein (2004), Isa et al. (2018), and Lacoé et al. (2020) emphasize the importance of integrating constructivist methods, such as hands-on activities and inquiry-based learning, to foster engagement and deeper understanding among museum visitors. Similarly, Tišliar (2017) highlights that museum pedagogy benefits from flexible frameworks that accommodate diverse learner needs, underscoring the adaptability demonstrated by Alicia and Pam in this study.

5.5.2 Pedagogical Approaches and Strategies

The pedagogical approaches employed by the educators were grounded in narrative techniques, OBL and a strategic balance of teacher-centred and student-centred methods. Storytelling

emerged as a dominant strategy, effectively supporting the narrative approach. Both educators relied on richly contextualized stories to make abstract historical and cultural concepts tangible. Objects served as vital tools to enhance storytelling, with authentic artifacts used whenever feasible to foster curiosity and engagement (Isa et al., 2018). Pam's emphasis on interpretive objects and Alicia's structured use of objects to support narratives reflect an alignment with best practices in museum pedagogy, as highlighted by Hein (2004), Isa et al. (2018), and Falk and Dierking (2018).

Additional strategies, such as scaffolding and questioning, were integral to the educators' instructional repertoire. Questioning was employed at the beginning and end of lessons to assess prior knowledge, stimulate interest, and evaluate comprehension. Pam's use of flashcard activities exemplifies scaffolding, allowing her to gauge students' existing knowledge and adjust instruction dynamically. This strategic layering of support reflects a sophisticated understanding of formative assessment principles (Zakaria et al., 2016; Juhari & Zakaria, 2024).

The use of OBL as a foundational pedagogical approach corroborates recent findings by Robaina-Calderin et al. (2023), who argue that authentic objects in museum education enhance curiosity and critical thinking, providing a tangible link between abstract concepts and real-world contexts. This study's integration of OBL with narrative techniques further supports the conclusions of Kristinsdottir (2017), who notes that storytelling enriched by objects is particularly effective in creating immersive educational experiences.

Additionally, the integration of narrative approaches with OBL presents a compelling model for enhancing engagement, which could serve as a benchmark for future curriculum development in museums. The findings suggest that a balanced use of teacher-led storytelling and student-driven exploration, supported by authentic artifacts, maximizes learning outcomes - a perspective supported by recent innovations in experiential learning (Isa et al., 2018; Půček et al., 2021).

5.5.3 Assessment Strategies: Informal Yet Integral

Assessment strategies adopted by the educators were predominantly informal, consistent with the context of museum education. Questioning and observational methods were continuously employed to adapt teaching to student needs in real time. These strategies compensated for the limited information available about student groups prior to lessons, particularly for standard programs (Isa et al., 2018). Negotiated programs, which involved pre-excursion communication with teachers, enabled more tailored lesson planning. However, the

predominance of standard programs highlighted the importance of informal assessments in informing instructional decisions (Azmi & Zakaria, 2024). These assessments also provided ongoing feedback, enhancing teaching effectiveness and engagement (Azmi & Zakaria, 2024; Juhari & Zakaria, 2024).

While this study emphasizes the reliance on informal assessments, such as questioning and observation, for tailoring instruction, some recent studies argue for the incorporation of more formalized assessment strategies in museum settings. For instance, Lacoé et al. (2020) advocate for hybrid assessment models that combine informal methods with structured feedback mechanisms to evaluate learning outcomes more comprehensively.

5.5.4 Emerging Finding

An emerging finding was Alicia's inclination toward a thinking-oriented curriculum, which emphasizes critical thinking and cognitive development. This focus aligns with broader educational goals of fostering deeper understanding and lifelong learning. Another noteworthy trend was the educators' ability to shift fluidly between instructional roles—facilitators in student-centred contexts and providers of foundational knowledge in teacher-centred scenarios. This dynamic role-shifting highlights the complex demands of museum education, where educators must balance curriculum alignment with the informal, exploratory nature of museum learning environments.

The interplay between narrative approaches and OBL not only increased engagement but also reinforced conceptual understanding by linking tangible objects to abstract ideas. This integration supports Hein's (2004) assertion that museums must go beyond static exhibits to offer interactive and meaningful learning experiences.

6.0 LIMITATIONS

The study is limited by its reliance on two museum educators from a single immigration-themed museum. The small number of participants as well as the inclusion of only one institution in the study restrict the finding's generalizability to other museum contexts or educational settings. Furthermore, the use of purposive sampling further restricts the scope as the educators were selected on their specific expertise and experience, rather than representing a broader range of museum educators. Additionally, the interpretivist qualitative case study design prioritizes depth over breadth, providing rich, context-specific insights into pedagogical and assessment practices. However, this methodological approach reduces the transferability of the results, making the findings less directly applicable to other museum contexts or

educational settings. Lastly, the short timeframe for data collection, involving only one observation and one interview per educator, may limit the capturing of potential variation of educators' instructional and assessment practices over an extended period.

7.0 IMPLICATIONS OF THE STUDY AND RECOMMENDATIONS FOR FUTURE RESEARCH

The findings of this study have critical implications for enhancing pedagogical practices in museum education, particularly in the design and implementation of meaningful educational programs aligned with formal school curricula. Museum educators can utilize these insights to refine their instructional frameworks, emphasizing narrative techniques, object-based learning (OBL), questioning, and scaffolding strategies to better address diverse learner needs. Moreover, the study highlights the importance of informal assessments, suggesting that such methods can effectively gauge visitor engagement and learning outcomes without disrupting the immersive nature of museum learning experiences. From a policy and decision-making perspective, the insights gained can guide curriculum developers, museum administrators, and educational policymakers in designing and implementing more interactive, learner-centered programs. These stakeholders may utilize the study's findings to create educational policies emphasizing constructivist, experiential approaches to learning and authentic assessment practices.

Future research should consider involving a more diverse sample of museum educators across multiple institutions and themes to improve the generalizability and transferability of findings. Furthermore, longitudinal research designs would provide deeper insights into how educators' pedagogical approaches evolve over time, potentially uncovering best practices for sustained visitor engagement and learning in museums. Investigations that explicitly compare educational strategies across different types of museums (e.g., art, history, science) could further enrich understanding and strengthen recommendations for museum education practices broadly.

8.0 CONCLUSION

The study explored the pedagogical frameworks, approaches, and assessment strategies employed by museum educators in one of the immigration-themed museums in Victoria, Australia. It revealed that the educators integrated both constructivist and behaviorist frameworks to address the diverse learning needs of students, with the flexibility to adapt their instructional methods based on context, content, and learner abilities. Strategies such as object-

based learning (OBL), storytelling, and questioning were effectively utilized to engage students and facilitate meaningful learning experiences. Informal assessment practices played a crucial role in tailoring instruction in real-time, ensuring lessons remained responsive and impactful. By emphasizing the importance of blending narrative and interactive approaches, the study contributes to understanding how museum pedagogy can support curriculum-linked programs and enhance student engagement. These findings offer practical implications for the professional development of museum educators and the integration of museum-based learning in broader educational settings.

REFERENCES

- Agostino, D., Arnaboldi, M., & Lampis, A. (2020). Italian state museums during the COVID-19 crisis: From onsite to online openness. *Museum Management and Curatorship*, 35(4), 362–372.
- Alvero, J. C. M. (2023). Promoting cultural heritage preservation: Analyzing the effectiveness of teaching historical significance on contemporary Filipino culture. *Philippine Interdisciplinary Research Journal*, 1(1), 76-81.
- Andre, L., Durksen, T., & Volman, M. L. (2017). Museums as avenues of learning for children: A decade of research. *Learning Environments Research*, 20(1), 47-76.
- Azmi, M. F. F., & Zakaria, Z. (2024). Rubric revelations: Examining competencies and use of scoring tools in visual arts assessments. *Asian Journal of Research in Education and Social Sciences*, 6(2), 517-527.
- Bhattacharjee, A. (2012). *Social science research*. Open University Press.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(1), 77-101.
- Burns, R. B. (2000). *Introduction to research methods*. SAGE Publication.
- Committee on Education. (2002). Excellence in practice: Museum education principles and standards. *American Association of Museums*. <http://www.aam-us.org/docs/default-source/accreditation/committee-on-education.pdf?sfvrsn=0>
- Creswell, J. W. (2016). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage Publications.
- Danielson, C. (2007). *Enhancing professional practice: A framework for teaching* (2nd ed.). Association for Supervision and Curriculum Development (ASCD).

- Della Corte, V., Aria, M., & Del Gaudio, G. (2017). Smart, open, user innovation and competitive advantage: A model for museums and heritage sites. *Museum Management and Curatorship*, 32(1), 50–79.
- Falk, J. H., & Dierking, L. D. (1992). *The museum experience*. Whalesback Books.
- Falk, J. H., & Dierking, L. D. (2018). *Learning from museums: Visitor experiences and the making of meaning*. Altamira Press.
- Fuller, N. J. (2005). Recognizing and responding to the knowledge needs of museums. *Museum Management and Curatorship*, 20(3), 272-276.
- Fraser, B. J. (1998). Classroom environment instruments: Development, validity and applications. *Larning Environments Research*, 1(1), 7-33.
- Gössling, S., Scott, D., & Michael Hall, C. (2020). Pandemics, tourism and global change: A rapid assessment of COVID-19. *Journal of Sustainable Tourism*, 29(1), 1-20.
- Hansson, P., & Othman, J. (2021). Museum education and sustainable development: A public pedagogy. *European Educational Research Journal*, 21(3), 469-483.
- Hein, G. E. (2004). John Dewey and museum education. *Curator: The Museum Journal*, 47(4), 413-427.
- Holloway, I., & Galvin, K. (2016). *Qualitative research in nursing and healthcare*. John Wiley & Sons.
- Isa, B., Zakaria, Z., & Forrest, D. (2018). Instructional approaches and assessment strategies utilized by the gallery educators of the National Gallery of Victoria (NGV). *Journal of Economic and Management Perspectives*, 12(3), 754-759.
- Johnson, A. (2009). Museum education and museum educators. In A. Johnson, K. A. Huber, N. Cutler, M. Bingmann, & T. Grove (Eds.), *The museum educator`s manual: Educators share successful techniques* (pp. 7-14). Altamira Press.
- Juhari, N. A. A., & Zakaria, Z. (2024). Malaysian science teachers' tech-infused instruction and assessment strategies. *Asian Journal of Research in Education and Social Sciences*, 6(1), 162-176.
- Kalu, F. A., & Bwalya, J. C. (2017). What makes qualitative research good research? An exploratory analysis of critical elements. *International Journal of Social Science Research*, 5(2), 43-56.
- Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Prentice-Hall.
- Kristinsdottir, A. (2017). Toward sustainable museum education practices: Confronting challenges and uncertainties. *Museum Management and Curatorship*, 32(5), 424-439.

- Lacoe, J., Painter, G. D., & Williams, D. (2020). Museums as classrooms: The academic and behavioral impacts of ‘school in the park’. *American Institutional Research Institution Open*, 6(3), 1-22.
- Lather, P. (2006). Paradigm proliferation as a good thing to think with: Teaching research in education as a wild profusion. *International Journal of Qualitative Studies in Education*, 19(1), 35-57.
- Marovah, T., & Ncube, H. (2024). The pedagogical value of museums in the teaching and learning of secondary school history: A historical thinking perspective. *The Social Studies*, 115(2), 81-91.
- Nolan, T. R. (2009). The museum educator crisis. *Journal of Museum Education*, 34(2), 117-121.
- Nolan, T. R. (2011). *The leadership practice of museum educators* [Unpublished doctoral dissertation]. National Louis University.
- Onwuegbuzie, A. J., & Collins, K. M. (2007). A typology of mixed methods sampling designs in social science research. *The Qualitative Report*, 12(2), 281-316.
- Patton, M. (1990). *Purposeful sampling* (Vol. 2). Sage Publications.
- Ou, J. (2020). China Science and Technology Museum boosting fight against COVID-19. *Museum Management and Curatorship*, 35(3), 1–6.
- Pervin, N., & Mokhtar, M. (2022). The interpretivist research paradigm: A subjective notion of a social context. *International Journal of Academic Research in Progressive Education and Development*, 11(2), 419–428.
- Plaček, M., Ochrana, F., Půček, M., Nemeč, J., Křápek, M., & del Campo, C. (2020). Autonomy and performance of local museums: The case of Czech Republic. *Museum Management and Curatorship*, 36(5), 504-522.
- Priya, A. (2021). Case study methodology of qualitative research: Key attributes and navigating the conundrums in its application. *Sociological Bulletin*, 70(1), 94-110.
- Půček, M. J., Ochrana, F., & Plaček, M. (2021). *Museum Management. Arts, Research, Innovation and Society*. Springer.
- Ragin, C. C. (2013). Reflections on casing and case-oriented research. In D. Byrne, & C. C. Ragin (Eds.), *The SAGE handbooks of case-based methods* (pp. 522–534). Sage Publications.
- Robaina-Calderin, L., Martin-Santana, J. D., & Munoz-Leiva, F. (2023). Immersive experiences as a resource for promoting museum tourism in the Z and millennials generation. *Journal of Destination Marketing and Management*, 29(1), 1-10.

- Saunders, M., Lewis, P., & Thornhill, A. (2012). *Research methods for business students* (6th ed.). Pearson Education Limited.
- Shah, M. A., Elyas, T., & Nasseef, O. (2013). Research paradigms: A slippery slope for fresh researchers. *Life Science Journal*, 10(2), 89-94.
- Takahashi, A. R. W., & Araujo, L. (2020). Case study research: Opening up research opportunities. *RAUSP Management Journal*, 55(1), 100-111.
- Talboys, G. K. (2016). *Museum educator's handbook*. Routledge.
- Thomas, D. R. (2006). A general inductive approach for analyzing qualitative evaluation data. *American Journal of Evaluation*, 27(2), 237-246.
- Tinning, K. (2017). *The ambivalent potentiality of vulnerability museum pedagogy in exhibitions on difficult matters and its ethical implications* [Unpublished PhD thesis]. University of Lund, Sweden.
- Tišliar, P. (2017). The development of informal learning and museum pedagogy in museums. *European Journal of Contemporary Education*, 6(3), 586–592.
- Vygotsky, L. (1978). *Mind in society: The development higher psychological processes*. Harvard University Press.
- Witcomb, A. (2015). Toward a pedagogy of feeling. Understanding how museums create a space for cross-cultural encounters. In A. Witcomb, & K. Message (Eds.), *The international handbooks of museum studies: Museum theory* (pp. 321–344). Wiley-Blackwell.
- Wuest, J. (2012). Grounded theory: The method. In P. L. Munhall (Ed.), *Nursing research: A qualitative perspective* (5th ed., pp. 225-256). Jones and Bartlett Publications.
- Zakaria, Z., Care, E., & Griffin, P. (2016). Scaffolding instruction where it matters: Teachers' shift from deficit approach to developmental model of learning. *Journal of Education and Practice*, 7(23), 144-152.