On-site Learning in Museums:Re-conceptualizationsand Re-directions for Museum Education in the Post-pandemic Digital Age

ABSTRACT:

As the digital age introduces an increasing amount of media technologies to traditional museum settings, a wealth of literaturehas found that these technologies are exerting prominent effects on museum visitor experiences. Such technical shifts in essence imply a growing part of communication activities, metaphors of media culture, and implications fortechnology-empowered learning based on museum institutions. New emphasis is being placed on state-of-the-art definitions of museum-technology, museum-learner, and museum-society relationships, appealing for re-conceptualizations of Museum, Museum Communication, and Museum Education, and therefore inviting communication and media culture scholars to join this discourse. Reviewing upon on-site learning issues discussed in previous museum research, this paper addresses the theoretical needs for present on-site educational practices in museums with re-conceptualizations of several important and operationalizable terms, andproposes an interdisciplinary, learner-centered agenda for futuremuseum education research and practices that are facing challenges and potential opportunities from e-learning and digital culture.

Keywords:on-sitelearning; museumeducation; digital age; media culture

1. INTRODUCTION

While e-learning embraced its heyday during the COVID-19 pandemic period[1](Lynch, 2020; Maatuk, Elberkawi, Aljawarneh, Rashaideh, & Alharbi,2022), on-site learning confronted huge setbacks (for a discussion on pros and cons of this situation in the pandemic crisis, see Ben-Amram &Davidovitch, 2021) from long-lasting regulations such as social distancing and quarantining policies, rendering the reopening and restoration of numerous educational institutions as a social priority that follows the advent of the post-pandemic era. Museum, performing a unique educative role, has its own values to be included in this discourse, and even

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pushesmuseum-based on-site learning - defined as the learning experience realized by an actual museum visit in the real world- beyond restoration and more into innovation, in the face of rising challenges and chances from various digital media technologies, featured by virtual museums and so on, which constantly casts doubts on the point of physical presence in museum-based communication and education.

Accordingly, this paper aims to cut across academic boundaries to address theoretical needs in response toemerging on-site learning issues based on museum institutes, mainly from the standpoint of communication,with a fruitful intersection of education. A critical inquiry on a series of fundamental concepts and a review on thebrief history of educative contributions made by the museum industry are conducted first, followed by the proposition of a yet undervalued core curriculum that highlights the necessity of being present in a physical museum, as well as a learner-centered proposal of future directions for on-site learning in museums.

~~1.~~2.RE-CONCEPTUALIZATIONS: WHAT CAN BE BUILT OFF MUSEUM

There exist numerous definitions of *Museum* in both the museum industry and the academia. In line with the latest definition approved by the International Council of Museums (ICOM), a museum is "a not-for-profit, permanent institution in the service of society that researches, collects, conserves, interprets and exhibits tangible and intangible heritage. Open to the public, accessible and inclusive, museums foster diversity and sustainability. They operate and communicate ethically, professionally and with the participation of communities, offering varied experiences for education,

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enjoyment, reflection, and knowledge sharing" (ICOM, 2022). Definitions introduced by different professional museums associations around the world could be slightly different, but their common point is to insist on the activities that make museums differ from other institutions: conservation, research, and communication (Ginsburch&Mairesse, 1997). Similarly, in the academic realm, despite a great number of subdivisions existing under the general concept of museum, some scholars have made efforts to put forward a generalized, common role for all museums. The functions regarding communication have been widely discussed. For instance, in line with Witz (2006), museums, acting as sites for the visual management of the past, utilize curation to communicate to museum visitors.

Notably, the review of the existing literature so far reveals that withstanding similarities shared among certain conceptualizations, no consensus has been reached on the conceptual definition of museum; and even when one definition is offered, the conceptualization usually seems unsophisticated and single-perspective-based, which could be problematic for myriad reasons, especially causing issues for future research. As the wealth of wisdom is inconsistent with the conceptual definition of museum, it could be hard for future studies to operationallydefine and study museum, not to mention the meaningful interpretation of possible findings.

In summary, empirical research needs a conceptual benchmark, and that, surprisingly, is missing from the literature for museology. To fuel a discussion on how to best conceptualize museum, the author offershis position about Museum Communication here, from the viewpoint of communication scholarship, since communication, as

argued before, is seen as one of the common functions/roles of museums, and more importantly, known as an interdisciplinary domain.

2.1 Museum as in "Museum Communication"

Museum, when examined as "a setting for communication", could be found to come in the term *Museum Communication*, which is supposed to be a concept that communication scholars should deal with - but the scholarship have yet to do so widely.

In the modern scientific discourse, Museum Communication can be interpreted as:"...the museum-society process of transmitting and understanding information; the basic form of the museum communication is the museum exhibit." (Sapanzha, 2018; p.10) Several studies have acknowledged the unique values of the museum settings in communication studies and have identified various factors that may affect the effectiveness and efficiency of communication practices taking place in museum settings, such as storytelling, semiotics, and media technology (Nielsen, 2017; Horta, 1992; Fahy, 1995; Russo,Watkins, Kelly, & Chan 2006). A line of research tends to approach Museum Communication merely as a presentation strategy forbuilding brand image(s) via museum (e.g., Uralman&Babic, 2020). Though the scope of interest is limited to specific communication practices like promotion campaign, such studies also follow the basic logic of Museum Communication in its general meaning.

Recently, along with the flooding of communication research on media technologies, a great number of studies have found that media technologies are taking an increasingly prominent part to account for variations in museum visitor experiences.

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These studies confirm that compared with museums in late 19th-century, current museums are not only a storyteller telling a fixed story to visitors through curatorial design, but a story co-maker in collaboration with visitors, as the digital age has been bringing an increasing amount of media technologies to traditional museum settings (Liu & Lan, 2021; Fahy, 1995), and that new emphasis is being placed on museum-audience/visitor relationships, as well as re-conceptualizations of *Museum* and *Museum Communication*, in that older modernist models for communication based on the transmission of authoritative subject-based facts to a mass of passive receivers are being superseded by new approaches that acknowledge "active audiences", constructivist and interpretivist learning theories and the complexities of cultural politics (Hooper-Greenhill, 2000).

If examined from a traditional, phenomenological lens and discussed in a general sense, *Museum Communication* refers to all the communication activities and phenomena happening in museum-like spaces, which should entail not only all kinds of museums, like art museums, general museums, encyclopedic museums, and children's museums, but similar institutions like galleries, science centers, heritage spaces, visitor centers and so on (Burcaw, 1997; Hooper-Greenhill &Moussouri, 2000). This definition delineates the meaning of Museum Communication by positioning museum in a dynamic framework of communication, in which museum is a mediating site for communication activities to take place, rich in distinct antecedents and consequences that can be understood according to the basic rules of communication.

2.2 Museum Education based on Museum Communication

When amediating siteis combined with educational purposes, it is not considered a new topic within the realm of education research. The educational aspects of museum communication are studied in museum pedagogy (Sapanzha, 2018). A group of education scholars have interrogated how museums can be utilized as an educational space for both formal and informal learning/teaching (Hooper-Greenhill &Moussouri, 2000; Taylor & Neill, 2008; Altintas&Yenigül, 2020). In line with Sapanzha (2018), *Museum Education* is widely interpreted as finding and design of different ways of acquaintance with museum information, and thus has a connection with*Museum Communication*. It seems safe to say that *Museum Education*, in and of itself, constitutes an important branch of *Museum Communication*, which stresses the educational purposes of museums while communication theories, such as audience theory, are applicable for educational assessment, examining the effectiveness of museum education programs.

Hence, *Museum Education* can be defined below in a way that will navigate the on-site learning and teaching practices:

Museum Education refers to a series of communication activities that serve educational purposes, utilizing museum spaces and resources. While museum visitors come as audience slash learners, museum staff members, like curators and tour guides on site, as well as people coming with the learners, such as teachers leading a team of students or parents accompanying their kids for a visit, could play the role of

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instructors. In other words, the museum spaces and resources could be used by various educators for different types of learning experiences.

The defining characteristic of museum learning experiences is, the instructional design of every single learning experience happening in a museum space must be based on the curation of contents exhibited in the museum, as well as the planning of special activities. In other words, the planning, curation,management, and organization taking place in a museum - or to put them together, the design of a museum visit experience - constitutes an issue of instructional design in essence, which couldand should take a learner-centered perspective.

~~2.~~3.BRIEF HISTORY: ACHIEVEMENTS SO FAR IN MUSEUM EDUCATION

Moving on to what has been achieved in *Museum Education*, the author tapped into the relevant intellectual heritage and found out a strongly underlined relationship between *Museum Education* and*Informal Education* (Schauble, Leinhardt,& Martin, 1997; Martin, 2004; Russo & Groundwater- Smith, 2009; Pereira,Soares, Paula, & Coutinho-Silva, 2011; Crowley,Pierroux, & Knutson, 2014; Tišliar, 2017), not only for children but also for adults (Tailor & Neil, 2008; Crowley et al., 2014), opening up novel possibilities for certain instructional purposes that could be fulfilled outside traditional classrooms. This relationshiphas a relatively short history, considering the variation of people's understandings in museums, chronologically, from the early history of museum to the recent empirical and conceptual endeavors with similar concerns.

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3.1 Locating On-site Learning inthe History of Museum

The history of *Museum Education* has been examined by some scholars, as an educational viewpoint to interpret the history of *Museum*. Although it would be better not to claim a single origin point for all museum education, the earlymuseums are often said to be art museums (Prottas, 2019).Historically, traditional museums had shared an elitist image (think of The Louvre) for a long time (Ross, 2004). They were created by those in power, like collectors, masters, and sovereigns, with the purpose of bringing together the greatest possible number of rare, strange, rich, and memorable objects and works, and to display them to reaffirm the power; the visitors and audiences were elite members of the nobility, then the clergy during the Middle Ages (Bennett, 2013). The first public museums began to emerge in the 17th and 18th centuries in Europe (Gaspar, 1993), chiefly intended for university students, which means limited access to the public but still stands out as a turning point. Then during the industrial revolution, science museums emerged, mainly working as show cases for industrial achievements to promote the industrial development (Bennett, 2013).

It is until the nineteenth century when museums began to be seen as environments for people to learn (Crowley et al., 2014), with a growing number of museums finally getting open to the public, especially in the mid-20th century (Pereira et al., 2011). During the 20th and 21st centuries, there has been a dramatic increase in the number and types of museums, and a steady movement to identify museums as educational and cultural institutions; museum collections were made public to enlighten the visitors and instill the values of the state (Crowley et al., 2014), which could be

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interpreted as the early educational purposes of museums. From then on, museums have begun to be seen as public and social places of on-site learning, to which Crowley, Pierroux and Knutson gave a vivid description slash apt summary (2014):

"..., where (in museums) it is easy to find learning happening with families or peer groups who need to collectively negotiate how to move through the museum, decide what to do at each exhibit, and figure out how to make sense of what they encounter. Museums also provide a wide range of diverse examples of designs to support learning for audiences ranging from the youngest children to the oldest adults. Because of these features, museums are learning environments that expand our existing definitions of learning; they require learning scientists to account for phenomena that are very different from formal, in-school learning." (p.461)

Similar notions regard a museum as an informal learning environment, which can be described as a "salad bar" - a place where visitors can pick and choose as they feel inclined (Lindauer, 2005) - implying the possibility of active learning. Meanwhile, within the realm of informal education, history education, arts education, science education have been found to be able to take advantage of museums with relevant themes (Hooper-Greenhill &Moussouri, 2000), such as history museums, art museum, and science museums, which to some extent also reflects that the broadly accepted classification of museums is based on their role that concentrates on a certain discipline. It is easy to findsuch discipline-based museums in some museum-school interaction programs and initial/continual teacher training courses, since these museums are believed to provide an interactive setting for ending passive acceptance

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of information and encouraging critical capacity (Pereira et al., 2011). However, this discipline-based classification on museums could be accused of being oversimplified, appealing for alternative approaches to help establish the bounds of museum education studies.

The on-site learning mode of museum visitors is also worth discussion here. Crowley, Pierroux and Knutson (2014) describe museums as free-choice learning settings. According to their work, in most cases (excluding guided tours, for example), museum visitors are "guided by their own interests, goals, or knowledge, rather than a predetermined curriculum; as they learn, visitors engage with objects, signs, tools, discourse, and new technologies; and the topics that people learn about are diverse, including all aspects of art, science, history, geography, culture, and more"(p.461). From this point of view, during a museum visit, learning happens in a highly casual and personalized manner, which could be the beauty slash limitation of museum education. Even holding a brochure in hand does not guarantee that the visitor will follow the guidance or the recommended routes exactly the way intended by the curators. In a museum setting, the decision-making opportunities are granted to the learners to a large extent, whereas museum education merely offers an abundance of possibilities for active learning; however, it is hard to guarantee that the decision made by every learner could lead to ideal learning effects due to individual differences of the decision makers in numerous aspects. In this sense, the learning effects of a museum education program, no matter what learning objectives are, cannot be expected to happen like a lightning strike, coming right after one single,

isolated visit. Instead of efficiency, which requires detailed and personalized designs to aid certain visitors for broad and deep engagement, the effectiveness, on the level of the general instructional design, is more worthy of attention in practice.

3.2 Common Ground and Emerging Trends among Museums

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By introducing the lens of geography and ethnography, museums could be divided into national museums and regional museums, such as city museums. In a national museum, the use of terminology and physical presentation of objects becomes collective memories of a whole nation (Saeji, 2014). In contrast, city museums refer to institutions located in major metropolitan areas that collect and interpret the history of their city (Tisdale, 2013).

Notably, no matter what kind of museum is discussed, an agreement in academia has been reached on the importance of storytelling, conveying certain narratives to visitors (Glover Frykman, 2009). Collected stories about the objects on display are considered by numerous museum researchers as important as the objects themselvesand constitute a museum tradition, or common ground, with a long history that can be traced back to the early era of English museums(Arnold, 2006). Even a science museum is no exception, as the seemingly objective items of science and technology still follow and convey certain narratives decided by curators.

The constant development of media technologies, coming with the COVID-19 situation, has largely empowered the extensive use of digital storytelling and encouraged a certain amount of latest research on topics like digital or virtual museum and the role of social media in museum education(Hyun-Min & Mi-Soo, 2020;

Zollinger &DiCindio, 2021; Bai & Nam, 2020), which gives rise to another category of museums, discussedinrecentliteratureregarding transformative and/or hybrid museums (for a discussion on the digital smart transformation of traditional museums, see Puspasari, 2021). With a focus on the instructional design of on-site learning, the author suggests that future studies concentrate on the digital resources and digital storytelling available in a physical museum setting (for Interaction Design, Interactive Storytelling and Artificial Intelligence in museum experience design, see Falco &Vassos, 2017), while leaving the virtual museum and social media part for interested researchers, as the latter could be better incorporated into the discussions on distance learning topics, such as "online (collaborative) learning", "e-learning", "technology mediated learning", "virtual learning", and "web-based learning", to name but a few.

The choice of digital and interactive storytelling as a focus of future on-site learning scholarship is due to a prominent change broadly reported by museum education researchers in the past decade. The museum scholarship has confirmed that current museums are not only a storyteller telling fixed stories to visitors through curatorial decisions, but a story co-maker in collaboration with visitors being active learners, who interact with multimedia storytelling devices to gain knowledge in highly personalized manners.In line with Crowley, Pierroux and Knutson (2014), back in the 19th century, museums primarily focused on collections - preserving and curating were their primary functions; today, however, many museums, such as interactive science centers and children's museums, might have no collections at all. Thus,

generally, the exhibits of collected items in a museum institution should work together with digital resources, interactive devices and so on,to provide explicitly designed experiences for specific educational goals.

~~3.~~4.UNDERVALUED CURRICULUM: IDENTITY EDUCATION IN COLLECTED REALITY

A growing body of literature has assignedCultureto all museumsas a common theme for these educational and cultural institutions (Crowley et al., 2014),which is delivered through storytelling.From the concept of Culture, an undervalued curriculum for museum education, as proposed by the author, should be developed.

4.1 Culture and Identity: on-site learningthemes for personal sustainability

Museums can be utilized as learning environments for informal and lifelong learning(Kristinsdóttir, 2017), which implies that educational practices for personal sustainability can be incorporated into museum-based pedagogies (Hansson &Öhman, 2022).To better understandsustainable development and other sustainability issueson an individual level, at least two life-long themes should be first examined. The author starts with Culture, as acomprehensive theme for personal sustainable development.

Culture is a fundamental concept that requires an acceptable definition for academic inquiries, which could be constructed from the perspective of social science or philosophy (Blumenthal,1937). According to Blumenthal (1937), Culture is, in a broad meaning, the sum-total of past and present cultural ideas - those whose processors are able to commute them by means of symbols; even if the usage of the term “idea” in the definition is objected, at least a term that is sometimes considered

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to be its synonym should be used instead, such as “concept”. This broad usage of the term Culture is adopted in the remainder of this paper. The issue of learning culture is thus interpreted as the learning of ideas or concepts. To facilitate the definition of identity later, this understanding of how culture acts upon a person can be useful: on an individual level, a cultural mind consists of the stream of inactive and active cultural ideas in the individual from the first in his lifetime to whatever combination of them he may have later (Blumenthal, 1937). The fact that a cultural mind is open for commuting and building up implies that cultural ideas can be learned.

Previous literature has established that a wide range of categorical concepts have been coined to define a specific group of people.This is where *Cultural Identity* comes in (Pavlenko& Blackledge, 2004), which is a term on and with which myriads of historians and anthropologists have been working. Even though some researchers have found supports for common complaints of the extant literature lacking in definitions of Cultural Identityor simply Identity (Darragh, 2016), a classic argument is that Cultural Identity lies in historical imagination, especially when it comes to nationalism. For instance, Hobsbawm (1971) theorized how social mechanisms link our contemporary experience to previous generations, underwrite the processes of the historical imagination, and give rise to the Identity of a nation; likewise, Benedict Anderson, who coined the classic term Imagined Community, argued that nations are in essence imagined communities, and that members of an imagined community share imagined ties (Kanno& Norton, 2003).

As maintained by Bai and Nam (2020), besides nation, the term Identity can be defined and comprehended in a broad spectrum of ways, as each individual or group may socially categorize themselves based on their own looks, beliefs, norms, attitudes, and other factors; thus, people may represent their identities according to social and cultural factors such as gender, sexual orientation, race, ethnicity, and national origin. One's identity could be constructed based on one's own selection of the available, given cultural factors, which means that an individual's initiative takes a pivotal role in the development of an identity. In accordance with Falk (2006), all individuals enact multiple identities, many of which are situational and constructed in response to a social and physical context. However, no matter what criterion is adopted or what selection is made to construct an identity, self-esteem, or self-evaluation, is believed to be the most crucial aspect of the self-concept, and it has received theoretical and empirical attention over the last decades from psychology, psychotherapy, and other related fields (Sam, Vedder, Ward &Horenczyk, 2006).

Based on the discussion so far, the author accepted the constructivist philosophy and proposeda definition of Identity as follows:

Identity, one kind of self-knowledge or self-perception, refers to a set of cultural ideas about oneself, culturally defined and distinct from the identification determined and proved by governmental documents;it is the representation of an individual and/or a social group based on certain cultural categories, which tends to be flexible and open for manipulation and construction. A certain identity constructed based on a cultural category could usually find a relationship with a social group characterized by its own

culture of this category. Even not necessarily in a tangible way, a specific identity could make an individual believe that one belongs to a community.One can choose an identity from the given, build on the chosen to redefine it, and even give birth to a new identity. More than one identity could beclaimed and owned by someone at the same time, and they collectively serve to present one's own self-understanding and self-esteem.

The construction of an identity is based on 1) imagination, for the internalization of identity narratives, and 2) storytelling, for the externalization of one-self, both sides of which rely on a narrative structure organizing historical materialsfor the most part to deliver the plots and settings. In short, identity is mainly constructed by history-based narratives, with a considerable amount of imagination. Based on these features, it requires a narrative structure at bottom to teach an identity; and on the part of learners, reflection and critical thinking on their own identities usually happen during the learning of a new identity.

4.2 The Curation of Identity in Museums

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Bearing the definition of identity in mind, the author investigated previous research that established museums as narrative tools for identity. Museums are believed to depict narratives that can be crucial to understandings of the past for their visitors (Saeji, 2014). The relations between the learning of identity and museum education could be more clarified.

Museums, as active social participants, far from being neutral organizations, serve many social purposes, which includes defining and expressing major social narratives;

the narratives conveyed by museums are observed as definitive and authoritative, and the objects displayed are understood as emblematic or normative culture (Coffee, 2006). To be more specific, as maintained by Roberts (1994), it is through collecting, cataloguing and conserving art objects that society's ontology of objects is displayed; the objects are acquired, scientifically ordered, and processed to be preserved and to be part of a comprehensive whole (Christensen&Haldrup, 2019); the social construction of values is revealed in curatorial decisions aiming for presenting a "collected reality". Therefore, what kind of narratives and how the narratives are learned by a visitor, when they approach the collected reality in a museum, could be considered an essential issue in museum education. The learning of identity, as the main concern of the current discourse, also happens in this process.

One essential fact of the "collected reality" available in museums can be revealed here,whichcould also support the utilization of museums for social integration: in practice, the curatorial decisions could exert huge influences on the contents on display and how the contents are organized; and the act of presenting only part of a historical narrative can be a form of officially sanctioned forgetting, working alongside practices of remembering (Eyerman, 2004), to modify the identity narratives shared by a group of people - in short, an imagined community could be formed this way and open to anyone who is willing to accept the shared narratives in and through social interactions, regardless of the actual differences at the individual level. It is based on this theory and the pursuit of cultural hybridization (for the democratic value of cultural hybridization, seeKwok-Bun &Peverelli, 2013) that the

usage of museum for social integration could, as believed by the author, help humanity to form an inclusive society that embraces constantly growing diversity and differences, in response to the unprecedented prosperity and still ongoing development of transportation and communication technologies, which largely accounts for the growing complexity in reality.

4.3 The Learning of Identity in Museums

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On the part of museum visitors, Falk (2006) argues thatidentities, motivations, and learning seemto be inextricably intertwined. Identity is considered important to the realization of all educational goals in general, as identity influences motivations, which in turn directly influence behavior and learning (Falk, 2006). Thus, educators may choose to target aspects of students' identity in their pedagogical practices (Schachter & Rich, 2011). These insights also apply to museum education, as museums stand out as a frontier for identity issues.

On a global scale, identity issues are becoming increasingly complicated and challenging to education, especially in some immigration countrieswhere the diversity of races and the existence of multilingual contexts are evident in educational practices (Mansouri & Wood, 2008; Crichlow, 2013). Taking transnationalism into consideration, people from different countries, who no longer fit into nice, neat categories, have complicated allegiances to places (Tisdale, 2013). Immigrants, soon after settling down in a new country, could confront the confusion and problems brought by multiple identities with which they mustcope in daily life.

Moreover, there has been a growing body of literature in cultural studies and global studies that seeks to understand cosmopolitanism and its intersection with transnationalism and transnationality among divergent culture-sharing groups in nation-states.The cross-national context of museums is believed to be helpful to the construction of such understandings. Museums, although bound by national and local contexts, are genuinely transnational and multilocal, representing cultural heritages and identities which can transcend the structures of national particularity that demonstrate a positive social and cultural movement based on their government's political-ideological and political-economic ends (Bai & Nam, 2020). Besides, a museum is, by its very nature, a democratic institution, involving the public in its programs and thereby supporting target mechanisms (Orloff, 2008). This is the reason why the author believes that museums embrace cultural democracy and provide ideal contexts for the public to understand the cosmopolitanism-related issues happening around them, from which specific solutions might also be found for social integration.

While the identity shared by some museum visitors could align largely with the one represented through a museum, an increasing number of visitors have identities that do not align with and even clash against the one embraced by a museum, as the cosmopolitanism is expanding with the growth of international transportation and migration. More importantly, people who have, or claim to have, multiple identities are no more rare cases, because of not only international migration, but the increasingly developed intercultural communication, largely propelled by social

media (Chen, 2012). Most of the visitors could come to a museum with multipleidentities and relevant identity needs.

In essence, a museum, as it is open to the public, principally with no certain target audience, could have visitors of all ages, nations, races, religions, and all the other categories that have formed different identities. Visitors already possess a certain number of identities and relevant needs prior to their visit to a museum. However, it could be laborious to consider all the identities possibly possessed by the target visitors in the general curation process, even though such mindsets are highly recommended. The instructional design of personalizedprograms, or programs targeting specific identity groups, on the other hand, should start with the identity needs of the target visitors. For example, to cope with the increasingly complicated identity issues in some immigration countries, identity-based educational interventions could become part of the naturalization program, where museums could offer an ideal context for certain immigrant groups to embrace their own legacy, as well as their new identity brought by the new citizenship. Theoretical frameworks and practical guidelines are needed to facilitate the design and assessment of museum education programs with identity concerns (for a starter, see Lei, 2023, which establishes the basic process of how interactions could happen among different identity learners when approaching the same identity contents within a museum).

~~4.~~ 5. REDIRECTIONS: ON-SITE LEARNING IN FUTURE MUSEUMS

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In summary, to clarify the ambiguity surrounding Museum, Museum Communication, and Museum Education, the author argues for conceptual parsimony that should be perused in conceptualizations.By looking back at the museum history and tracing the educational tradition of museum, the three fundamental concepts have beenidentified more clearly than previous studies, in turn scaffolding the discussion on the on-site learning in museums.Withstanding all the theoretical work that has been done so far,the dynamics of the ongoing digital age have yet to receive enough consideration, alongside a series of impactful changes taking place during the pandemic period. Theycannot be taken away from the agenda, especially when physical museums seek for new directions to fight their own way out, in the face of challenges from not only their counterparts, like virtual museums, e-learning resources, and so forth, butmore generally, the post-pandemic digital age.

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5.1 Challenges from E-presence and E-learning

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The unfolding of the digital age has enabled contents, once posted online, to be more accessible, interactive, and diversified, which constitutes a crucial aspect of digitalization and has exerted far-reaching influenceson the productionand consumption of cultural contents. Besides, given the rapid shareability of virtual spaces, there are now more forms of presence than in the past, redefining the meaning of “being on site” and “participating”. What is new in human history is, people can now communicate with each other and share ideas in real time around the world and across any geographical or cultural boundary.

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By giving rise to a new form of presence, namely e-presence, as an alternative for physical presence, the digital age has empowered communication and participation. E-presence refers to the electronic trail that we leave behind (Ridge, 2014), recorded and represented with the help of digital methods. E-learning exemplifies a specific application of e-presence.Across all the fields that have incorporated e-presence, two trendsappear - the increasing openness of private space and the privatization of public space-and have been intertwined to shape online cultural environments.

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Compared with on-site experiences,online participation and discussion could take place more instantly and spread more widely. Once a private topic intersects with the public agenda, or a private topic causes a controversy to draw public attention, the value of the private topic is likely to be exploited. Lines between "public" and "private" have been re-drawn and both spaces are in constant interactions with the other, which could pose direct threats to industries that traditionally draw on the practice of being physically present in a public space.The business of exhibition, in this sense, is being threatened. For example, instead of just hanging up a piece of artwork and showing it to visitors in a gallery, an online exhibition could allow a user to create a personal artwork and tag a friend to spread a promotion message. With the expansive Internet characterizing this digital age, any Internet user can add messages and contexts to the cultural contents they produce or simply come across; they can include different elements of expression and distribute their ownuser-generated contents (UGC) onto various platforms. Thanks to such advantages, online contentsare multi-disciplinary and multifaceted, and insights from multiple

perspectiveson multiple topics can be learned. Therefore, somefeatures of on-site learninghave beenquestioned, as online communication has enabled more ideas and beliefs to spread among creators and consumers, as well as instructors and leaners.

A museum visit can now be a purely digital or online experience. It is amazing to witness how far the museum industry can reach now through the Internet. During the pandemic, some museums launched virtual interactive tours for free, characterized by open access to the digital versions of their collections. Anyone, in another area of the country or the globe, would be able to access an exhibit in New York City, where they might not be able to physically visit, as long as the Internet is available.

5.2 Defense for Physical Museumsagainst FullDigitalization

Regarding digitalization, aseparate conversation, distinct from the praises of the bright side, is that there is still a digital divide, exacerbated and more problematized by the pandemic(Lythreatis, Singh, & El-Kassar, 2022),and that even as we reach more people with the internet, disparities remain. It seems by now in previous literature, we have been presented with a wealth of evidence to support the realities of the digital divide and the stakes of being left out(for another post-pandemic discussion on the digital divide, see Zollinger &DiCindio, 2021), which leads us to land on a primary conclusion for now: the reality is not ready for full digitalization; physical presence and participation are still integral to our real-life experience.

Museums have survived shocks from technology more than once. Prior to digitalization, the age of mass production also once casted a shadow over museums. Cinemas, for example, were considered as another kind of cultural institutions,

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characterized by mechanical reproduction that enabled moving pictures to contain narratives. This directly challenged the definition of art, once understood as an authentic or original copy that occupies a particular time and space, since a film, unlike a painting, a classic form of art, does not occupy a single space for display or require the viewers to appreciate it at the same time. A film-watching experience can be realized simultaneously in multiple places and times, creating different experiences and contexts for each viewer.The scenes, depicted by the camera lens, cannot be captured as original in its traditional meaning; and the focused subjectalone cannot be considered art without a specific context. The lack of singularity, following the prosperity of film art,causes the loss of essence - this is what Benjamin coined as the loss of "aura" (1935), a notion that has profoundly influenced discussions surrounding art and technology, and could be used for the defense of other cultural institutions like museums.When watching a film, viewers might seek the aura of a real-life experience, but end upmerely consuming reproductions of it in the form of videos and audios, whereas the aura of reality can be appreciated by visiting a museum.

Artworks, traditionally, are believed to be featured bycult values, suitable for collection based on intrinsic aesthetic values. This attitude denies any social function of artistic and cultural contents. However, the sociopolitical significance of a cultural item, as argued earlier for the use of museum in identity development, might manifest itself when the narrativessurrounding this item attempt to tell the audience what they are seeing, although the item itselfsuffices to be visual evidence. The narrativesserve to address the perspectives and positions of the audience so that the audience might

unconsciouslyaccept and celebrate the overall construction of messages delivered by the narratives. Thus,it might be safe to conclude that every time new cultural forms ensue,they mainly vary in the rhetorical distance of their narratives, namely the distance between the reality and the imaginary,while sticking to their specific social functions.

Marching into the digital age, Benjamin's insightsbased on the context of mechanical reproduction still have important implications. Similarly, traditional notions of authenticity and originality are being challenged, once again, by mechanical and digital reproductionin a collective manner, including the reproduction of images and texts on the Internet, as well as some state-of-the-arttechnologies being recently discussed, like 3D printing, Augmented Reality, and Virtual Reality. In the digital age, with enhanced productivity and accessibility, these technology-based representations of realitymight become a more stable reality than reality itself, whilemissing its authenticaura.In this sense, Benjamin's theories on communication, reproduction, urban experience, and cultural memory provide aframework for analyzing the impact of digital technologies on the modern environment, whichis still built on the reality for the most part, thereby helpingreaffirm the value of physical museums for preserving and presenting the original reality.

Looking ahead, as the age of Metaverse is unfolding right before our very eyes, researchers are invited to investigate the legal, ethical, and humanitarian issues laying behind mixed realities,from the perspectives of sociology, media culture, cultural criticism and so on; meanwhile, the on-site sphere remains the core arena for the

identity development of an individual, which, as underscored by the author before, is crucial in determining the satisfaction and success of one's life.On a social level, aswe take a stance against full digitalization, we ought to show support for free and open access to knowledge, as well as public institutions that may function as venues for promotion of a culture of inclusiveness, peace, and nonviolence. This is the kind of future-oriented tenets, required by the era of global citizenship.

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The beauty of museum lies in its way of storytelling based on a collection of reality, the originality of which is scientifically provable and/or officially guaranteed. The author looks forward to witnessing more appreciations for the intricate art of storytelling through museums; meanwhile, the author also tends to prompt the museum industry to embrace emerging technologies, as the tools rather than the goals. In this hope, this paper serves to facilitate explorationson a broader spectrum of possibilities and perspectives for museum education practices. The liberation from past constraints invites future scholarship to engage with technology and culture in ways that transcend conventional boundaries; meanwhile, the academia and the industry must adhere to some principles and traditions, passed down throughout the museum history, which spotlights the value of physical museums for on-site learning and social integration.

65. CONCLUSION

In this paper, the author has provided a timely overview of theoretical and practical issues surrounding on-site learning in museums, presenting a brief history of Museum Education, foregroundingthe theoretical foundations for this area of studies, and

summarizing what should be known and reapproached foron-site educational practices in museums that are undergoing restoration and innovation in the post-pandemic digital age. The author has delineated the mechanisms of how Museum Communication and Museum Education operate, as well as the theoretical framework within which on-site learning programs may be delivered. Promising directions for ongoing research have been identified, including the use of museums for Identity Education to serve the interests of personal sustainability. The paper lands on the importance of building a cumulative, learner-centered agenda for on-site learning in museums and, most importantly, translating theinterdisciplinary expertise to applied settings - physical museums that function as increasingly technology-empowered cultural and educational institutions for reality-based storytelling.

7. CONFLICT OF INTEREST STATEMENT

The author reportsno affiliations with or involvement in anyorganization or entity with any financial or non-financial interest inthe subject matter discussed in this manuscript.

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