BEYOND COLLECTIONS : RETHINKING MUSEUM PEDAGOGY FOR MEANINGFUL LEARNING



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Abstract. *Museums have long been recognised as institutions of preservation, interpretation, and public learning. Yet the presence of significant collections, carefully curated exhibitions, and accessible information does not, in itself, guarantee a meaningful learning experience. Drawing on my engagement with museum and heritage education, art and design education, and different museum contexts, I argue in this keynote that the educational potential of collections must be deliberately activated through pedagogy. The discussion examines the relationship among collections, pedagogical approaches, museum educators, learners, and institutional support. Particular attention is given to object-based, inquiry, experiential, and narrative approaches, while recognising that no single pedagogical method is appropriate for every museum context. I argue that the nature of the collection itself matters pedagogically: different collections create different possibilities for observation, questioning, experimentation, interpretation, and meaning-making. From this perspective, the museum educator is positioned not simply as a transmitter of information, but as a pedagogical mediator who constructs the encounter between collection and learner. Building on these arguments, I propose five interconnected conditions for meaningful museum learning: collections, pedagogy, educators, learners, and institutional support. These conditions are presented not as a rigid model, but as a contemporary relational lens for considering how museums might respond to changing learners, technologies, cultural contexts, and educational expectations. The keynote ultimately calls for a shift from preserving and presenting collections towards more deliberately activating their educational potential, while maintaining the collection as the foundation of museum identity and scholarship.*

Keywords: *museum pedagogy; museum education; object-based learning; constructivism; museum educators; collections; meaningful learning.*

Beyond Collections: The Educational Problem

My engagement with museum education over the years has led me repeatedly to one fundamental question: what makes a museum genuinely educational? At first, the answer may appear self-evident. Museums preserve collections, produce knowledge, interpret heritage, and make objects accessible to the public. Education has long been recognised as part of this institutional responsibility. Yet, from a pedagogical perspective, I believe the question requires a more critical examination.

The presence of a collection does not, in itself, constitute a learning experience. An object may be historically significant. An artwork may carry extraordinary cultural value. An exhibition may be carefully researched and beautifully presented. But educational value does not emerge automatically from the significance of what is displayed. Something must happen between the collection and the learner.

It is this space between collection and learner that has increasingly shaped my thinking about museum education. Through my work in art and design education, museum and heritage education, and my engagement with different museum contexts, I have become particularly interested in how this encounter is pedagogically constructed. Some of these observations I share in this paper also draw on my own engagement with museum education in Australia, where I examined educational practices across museums with very different collections and institutional purposes. Comparing these contexts reinforced for me an important principle: differences in collections are not merely differences in content; they also create different pedagogical possibilities.

Why does one object invite sustained inquiry while another remains something merely observed? Why does one museum experience generate interpretation, dialogue, and reflection, while another ends largely with the transmission of information? These questions have led me to a position that forms the central argument of this keynote: a collection is not yet a learning experience.

I make this argument not to diminish the importance of collections. On the contrary, collections remain fundamental to the identity, scholarship, and public purpose of museums. They preserve material evidence, cultural memory, artistic achievement, and human experience. But preservation and access, while essential, are not the same as learning.

This question is particularly timely in the context of this conference. I would like to acknowledge the National Institute of Fine Arts and Design named after Kamoliddin Behzod for bringing together this discussion on "Museum Education in the 21st Century: Global Context and Transformations." The theme is significant because museum education today is no longer concerned only with how knowledge about collections is communicated. It also asks us to reconsider how museums respond to changing learners, technologies, professional roles, cultural contexts, and public expectations.

For me, this makes the theme especially relevant. Transformation in museum education should not simply mean introducing new technologies or new forms of presentation. It should also invite us to revisit a more fundamental question: how do we transform the educational relationship between collections, educators, and learners? By placing global context and transformation at the centre of this conference, NIFAD is asking not only how museum education is changing, but also what museum education now needs to become.

It is within this broader conversation that I position Beyond Collections. I am not proposing a movement away from collections. Rather, I am asking how museums can move through collections towards learning - how the educational potential of objects, artworks, stories, and heritage can be deliberately activated.

This distinction also has a longer history. Museum functions have evolved from safekeeping and collecting towards public display, interpretation, education, and engagement. Yet museum education has often occupied a less influential position than collecting and curatorial work. Hooper-Greenhill (1994) noted that this hierarchy could be seen not only in programmes but also in organisational structures. For me, this is significant: a museum may declare education important while still positioning learning at the margins of institutional decision-making.

My argument, therefore, is that collections possess educational potential. The critical question is how that potential is activated. This is where pedagogy becomes central. The collection remains the starting point - but it is not the educational endpoint.

From Repository to Learning Environment

Once we accept that collections hold educational potential rather than automatic educational outcomes, the next question becomes how museums turn that potential into learning. This requires a conceptual shift from information transmission to meaning-making. The distinctive educational strength of museums lies in encounters with material culture - artworks, specimens, technologies, historical objects, documents, spaces, and other forms of evidence. These resources can provoke close observation, sensory attention, curiosity, emotional response, comparison, questioning, and interpretation in ways that verbal explanation alone cannot easily reproduce.

Yet authenticity alone does not guarantee learning. In my view, the educational task is to design the conditions through which an encounter becomes meaningful. This position is consistent with Falk and Dierking's Contextual Model of Learning, which challenges the assumption that learning can be explained only by what an educator says or what an exhibition contains.

The model places museum learning in the interaction of personal, sociocultural, and physical contexts (Falk & Dierking, 2018). Visitors arrive with motivations, expectations, prior experiences, interests, and knowledge (Falk & Storksdieck, 2005). They encounter museums through social relationships and through physical environments that organize movement, attention, and access. Learning is therefore not a simple transfer from expert to visitor. A complex encounter produces it, allowing different learners to understand the same object in various ways.

This contextual perspective has two important implications. First, museum educators cannot assume a homogeneous audience. A school group, family, specialist, tourist, or adult learner may approach the same collection with different purposes and interpretive resources. Second, visitor-centeredness should not be mistaken for the abandonment of disciplinary knowledge. If meaning is constructed, the educator's task is not to withdraw expertise but to use it more intelligently: to frame questions, provide evidence, introduce concepts, correct misconceptions, and create connections at moments when these interventions deepen rather than close down inquiry.

Constructivist museum pedagogy is often associated with active participation, discovery, dialogue, and learning by doing. Hein (1998) noted that learners build knowledge by connecting new experiences to what they already know. I find this perspective particularly relevant to museums because museum learning is frequently episodic, socially mediated, and object-rich. However, I do not think constructivism should become a pedagogical rule that prevents educators from explaining, directing, or supplying knowledge when learners need it. Effective museum pedagogy requires judgement about when to facilitate, when to question, and when to intervene.

This is especially visible where museum educators combine constructivist and behaviorist elements. At the Immigration Museum, for example, instructional practice included student-centered, hands-on, and discovery-oriented learning while also retaining teacher-centered elements where particular knowledge or language learning required explicit direction. Rather than treating this combination as theoretical inconsistency, it can be understood as pedagogical responsiveness. The more useful question is not which theory wins, but which pedagogical decision best serves the learning purpose without reducing the museum experience to a classroom lecture.

For me, the critical distinction is therefore between pedagogy that is theoretically labelled and pedagogy that is educationally purposeful. Good pedagogy is responsive - not dogmatic.

Educators need to understand theory, but they also need the professional judgement to decide when learners should discover, when they need context, when questioning should continue, and when explanation is necessary. The issue is not methodological purity. The issue is whether the pedagogical decision helps the learner move from looking to noticing, from noticing to questioning, and from questioning to meaning.

The Collection Changes the Pedagogy

This brings me to one of the arguments I want to emphasise most strongly: the collection changes the pedagogy. I do not see museum pedagogy as a generic method that can simply be transferred from one museum to another. A science object, a migration story, an artwork, and an archaeological artefact do not invite exactly the same forms of attention, questioning, interpretation, or participation. Educational design should therefore begin by asking what this particular collection makes possible.

Comparative evidence from the Melbourne Museum, Scienceworks, the Immigration Museum, and the National Gallery of Victoria illustrates this point. At the Melbourne Museum, collections and exhibitions relating to natural history, culture, and social experience supported questioning, inquiry, observation, and the use of technological and experiential resources. At Scienceworks, the pedagogical logic was strongly experiential: learners were encouraged to manipulate, test, observe consequences, and discuss what occurred. Collections and exhibitions at the Immigration Museum explored migration, identity and cultural experience, providing opportunities for narrative, empathy, personal connection and discussion of human experience. At the National Gallery of Victoria, artworks invited sustained looking, interpretation, visual analysis, aesthetic response, and the consideration of multiple meanings.

These differences matter because they demonstrate that pedagogy is not simply layered over content. Pedagogy emerges partly from the epistemic character of the collection itself. A science exhibit that can be manipulated asks something different of the learner from a historical artifact whose meaning depends on context or an artwork that permits multiple interpretations while still demanding attention to visual evidence. The object is therefore not simply a teaching aid. It participates in shaping the structure of the learning encounter.

This principle challenges two common tendencies. The first is the standardized museum lesson in which the same sequence—introduction, explanation, worksheet, and conclusion—is imposed across different collections. Such standardization may make programs administratively efficient, but it risks flattening the educational distinctiveness of museums. The second tendency is to treat engagement as an end in itself. An activity may be enjoyable and participatory while remaining weakly connected to the collection. Engagement becomes educationally significant when it directs attention back to evidence, interpretation, concepts, and meaning.

The starting point, therefore, is not a new label or a universal method, but a pedagogical question: what can this particular collection make possible for learning? A natural-history specimen may support classification, comparison, and scientific observation. A technological object may invite causal reasoning and experimentation. A migration object may open narrative, memory, identity, and empathy. An artwork may sustain close looking, interpretation, dialogue, and multiple evidence-based readings. The principle is simple: the nature of the collection should help shape the pedagogy.

The implication for program design is significant. Museum educators should begin not with a preferred activity but with a pedagogical reading of the collection. What kind of knowledge is embodied here? What can be observed directly and what requires contextual explanation? What questions are ethically and intellectually appropriate? What forms of participation can deepen

rather than distract from attention to the object? What prior knowledge might learners need? Such questions reposition pedagogy as an act of interpretation and design. If different collections invite different forms of learning, the next question is therefore unavoidable: how should the encounter between object and learner be designed?

From Object to Meaning: Object-Based, Inquiry, and Experiential Learning

Object-based learning occupies a central position in museum pedagogy because it takes seriously what makes museums distinctive: access to material evidence. Objects can function as stimuli for observation, questioning, inference, interpretation, and the construction of relationships between tangible evidence and abstract ideas. Yet object-based learning should not be reduced to simply placing an object in front of learners. Its educational value depends on the sequence of intellectual actions designed around that object.

A useful progression begins with disciplined looking. Learners may first describe what they can see before being asked to infer function, origin, meaning, or significance. This distinction between observation and interpretation is pedagogically powerful because it requires claims to be supported by evidence. Questions can then move from 'What do you notice?' to 'What makes you say that?', 'What might these observations tell us?', 'What else would we need to know?' and 'How does this information change your understanding?' The educator gradually moves the learner from encounter to inquiry and from inquiry to meaning.

In my earlier observations at Scienceworks, learners were encouraged to manipulate an exhibit, observe what happened, and then discuss the result. For example, Scienceworks educators get learners to pull a lever, see what happens and then talk about the result. “It’s the difference between telling you the experience and making sense of the experience,” she says. Experiential learning is not just an activity for the sake of it. It becomes pedagogically meaningful when action is followed by observation, articulation, explanation and conceptual connection.

In social history and migration settings, the object might operate in a different way. When it comes to the narratives, identities, and experiences that are associated with it, it might be significant. Learners are better able to see objects as traces of human lives rather than isolated artifacts when they are learning through narrative methods because these methods can link personal experience to larger historical and cultural issues. It is important to note that narrative pedagogy carries with it a responsibility as well: the personal connection should supplement engagement with historical evidence rather than supplant it. Emotional resonance and factual integrity have to work together.

Art museums create another pedagogical challenge. Artworks are open to interpretation, but openness does not mean that every interpretation is equally supported. Educators can encourage multiple responses while returning learners to visual evidence, artistic context, material, technique, and cultural knowledge. This balance is central to critical museum pedagogy: learners should have interpretive agency, yet interpretation should remain accountable to what can be seen, known, and reasonably argued.

Object-based, experiential, inquiry, and narrative approaches therefore share a common logic. They create a space between the object and the conclusion. Instead of supplying meaning immediately, they allow learners to notice, question, test, connect, and revise. The educator's expertise remains crucial because the openness of the process must be structured. Too much control can close down inquiry; too little can produce superficial or unsupported meaning. Meaningful museum learning is produced through this calibrated relationship between guidance and discovery.

This dynamic also explains why direct instruction should not be dismissed. There are moments when learners need terminology, historical context, scientific explanation, or curatorial knowledge that cannot be inferred from an object alone. The pedagogical issue is timing and purpose. Explanation is strongest when it responds to a question, extends an observation, or resolves a conceptual need generated through engagement. In this form, expert knowledge does not replace inquiry; it advances it. Yet objects, questions, activities, and explanations do not organise themselves into learning. Someone must decide what to reveal, what to ask, when to explain, and when to step back. This brings the museum educator into focus.

The Museum Educator as Pedagogical Mediator

If objects do not teach by themselves, then someone must make pedagogical decisions about how the encounter is structured. This is why I see the museum educator as far more than a presenter of information. The educator makes professional judgements at the point where collection, learner, institutional purpose, and curriculum meet: what to reveal, what to ask, when to explain, and when to step back.

The museum educator is the point at which collections, institutional purposes, and learner experiences are brought into practical relationship. Museum-education literature portrays museum educators as carrying a wide range of responsibilities: teaching, program development, research, partnerships, educational resources, outreach, and collaboration with different audiences (Wetterlund & Sayre, 2009). This breadth is important because it demonstrates that museum education is not simply the delivery of tours. It is a professional field requiring pedagogical judgement.

Earlier patterns of museum education often privileged specialist content knowledge and the capacity to explain collections. Later literature has focused more on constructivist approaches, facilitation, responsiveness and adaptation to learner needs. The shift is significant, but it should not be understood as a movement from knowledge to pedagogy. Strong museum education requires both. An educator who knows the collection but lacks pedagogical skill may produce an authoritative lecture with limited learner engagement. An educator skilled in facilitation but weak in collection knowledge may generate discussion that lacks disciplinary depth.

Four forms of knowledge are therefore especially important: knowledge of the collection, knowledge of pedagogy, knowledge of learners, and knowledge of curriculum or learning purposes. Collection knowledge allows the educator to select evidence, identify significant details, and respond accurately to questions. Pedagogical knowledge allows that expertise to be transformed into teachable encounters. Learner knowledge supports decisions about language, pacing, questioning, prior knowledge, and participation. Curriculum knowledge becomes particularly important when museums work with schools, because it enables museum experiences to complement rather than merely duplicate classroom learning.

The interaction among these forms of knowledge is more important than any one in isolation. A museum educator may have in-depth knowledge of an object, but the educational challenge lies in determining which aspects of that knowledge are relevant for the learner at this specific moment and for this particular purpose. Professional judgement is therefore relational. It involves reading the collection and the learner simultaneously.

This perspective also clarifies the educator's role as mediator. Mediation does not mean standing between the learner and the object as a gatekeeper. It means creating productive access. The educator may slow down looking, introduce a question, invite comparison, provide a missing piece of context, connect a learner's response to evidence, challenge an assumption, or redirect

attention. These are subtle instructional actions, but they determine whether a museum encounter remains passive or becomes intellectually generative.

The professionalization of museum educators is consequently an institutional concern. If educators are expected to design complex learning, adapt to diverse audiences, and collaborate with teachers and curators, they require professional development, time for planning, access to collection knowledge, and a meaningful voice in program and exhibition development. Treating education staff as delivery personnel while expecting sophisticated pedagogy creates a structural contradiction.

The museum educator matters, but the argument should not end with individual competence. While excellent educators can mitigate institutional weaknesses, their efforts have limitations. Where education is peripheral to strategy, under-resourced or disconnected from curatorial and management processes, pedagogical quality becomes dependent on individual effort rather than institutional capacity. This leads directly to the question of organizational support.

Museum Education Must Become Institutional, Not Incidental

Yet even the most capable educator works within an institutional system. My position is that excellent museum education should not depend on the presence of one exceptional educator. If learning is central to a museum's public purpose, education must be visible in strategy, exhibition planning, staffing, partnerships, resources, and evaluation. Otherwise, education remains an activity delivered by a department rather than a responsibility carried by the institution.

Embedding educational ambition within the purposes, structures and strategic decisions of the institution increases the potential for it to be sustained. Evidence from Museum Victoria demonstrates how organizational arrangements can shape educational possibilities. Its networked structure placed the Melbourne Museum, the Immigration Museum, and Scienceworks within shared leadership and cross-institutional divisions, including Public Engagement, Collections, Research and Exhibitions, Corporate Services, and Communications and Partnerships. Such arrangements are significant because education depends on relationships among precisely these functions.

Museum Victoria's strategic planning also articulated education through commitments to deeper visitor connections, co-created physical and digital experiences, lifelong learning, partnerships, and the use of museum resources for education. The key lesson is not that a single organizational model should be replicated, but that educational practice is stronger when institutional strategy recognizes learning as a shared responsibility rather than the isolated work of an education department.

This challenges a persistent structural problem in museums: the separation of collecting, curating, exhibition development, and education. If education enters only after an exhibition has been conceptualized and installed, the educator is asked to build learning around decisions already made. By contrast, early collaboration allows pedagogical questions to influence interpretive design: Who is expected to learn here? What prior knowledge is assumed? What can visitors do with the objects? Where can dialogue occur? What forms of access are required? Education then becomes part of exhibition thinking rather than an activity attached to it.

Management support also shapes the culture of program planning and instructional practice. Resources determine staffing, professional learning, program continuity, digital development, and partnership capacity. Leadership determines whether experimentation is encouraged and whether educational evidence influences decision-making. Evaluation determines whether institutions learn from their programs. Consequently, weak museum learning cannot

always be attributed to educator performance. It may reflect organizational conditions that constrain what educators can reasonably do.

The relationship with schools makes this institutional dimension even clearer (Griffin, 2011). Museum visits involve curriculum expectations, preparation, logistics, teacher roles, and follow-up. Research on museum-school programmes has identified situations in which teachers became disconnected from museum lessons or were restricted largely to monitoring behavior. Other work argued that museums should provide learning experiences that are inherently different from school rather than reproducing classroom instruction in another venue (Tran, 2008). This is a critical warning. Curriculum alignment should strengthen relevance without turning the museum into a school classroom.

Partnership therefore requires role clarity. Teachers bring knowledge of students, curriculum, and learning progression. Museum educators bring knowledge of collections, museum pedagogy, and the distinctive affordances of the institution. When these forms of expertise are combined, preparation before the visit, learning during the visit, and follow-up afterwards can become interconnected. The museum visit then moves from an isolated excursion to part of a wider learning sequence.

The institutional argument can be stated simply: education cannot be an afterthought if museums expect learning to be a core public outcome. Pedagogy requires infrastructure. It requires strategic legitimacy, professional expertise, collaboration, resources, and evaluation. A museum becomes educational not merely because it offers programs, but because learning is visible in the way the institution thinks. Once education is understood as both a pedagogical and institutional responsibility, a further issue emerges: these responsibilities are rarely free of tension.

Critical Tensions in Museum Pedagogy

Museum education is changing, and the question is whether our pedagogical and institutional practices are changing with it. Rather than presenting these tensions as problems with simple solutions, I see them as conversations the field can no longer postpone.

Preservation and Participation. Museums have a responsibility to preserve collections, protect evidence, and sustain scholarly integrity. At the same time, contemporary audiences increasingly expect participation, dialogue, and opportunities to contribute meaning. The challenge is not to choose between preservation and participation, but to design participation that respects the integrity of collections while opening them to meaningful engagement.

Expert Knowledge and Multiple Voices. Museums hold disciplinary and curatorial expertise, but they also operate in societies where communities, visitors, and historically under-represented groups expect their experiences and perspectives to be recognised. For me, the pedagogical task is to retain intellectual and evidential rigour while creating space for multiple voices, questions, and interpretations.

Physical Object and Digital Experience. The physical encounter with an authentic object remains one of the museum's distinctive educational strengths. Yet digital interpretation can extend access, reveal hidden information, connect dispersed collections, and support learning before and after a visit. The question is therefore not physical or digital. It is how digital experience can extend the encounter with heritage without replacing what is educationally distinctive about the object itself.

Human Pedagogy and Artificial Intelligence. Artificial intelligence introduces new possibilities for interpretation, personalisation, translation, access, and interaction. But it also sharpens an important question: what should remain a human pedagogical responsibility? I would argue that professional judgement, ethical mediation, sensitivity to context, and the ability to

respond to the learner in the moment remain central. Technology should support these relationships, not make them invisible.

Mass Visitation and Meaningful Experience. Museums are often evaluated through visitor numbers, reach, and tourism impact. These measures matter, but they do not tell us what visitors were able to understand because they came. There is a difference between visiting a museum and learning through a museum. This is why I believe we must ask not only how many people entered, but what kind of educational encounter the museum enabled.

Institutional Silos and Learning Ecosystems. Meaningful museum learning rarely belongs to one department alone. Collections, curatorship, exhibitions, education, digital practice, universities, schools, tourism, and communities increasingly intersect. When these areas operate as silos, educational potential is fragmented. A learning ecosystem requires relationships across them, with education recognised as an institutional responsibility rather than an activity added at the end.

Taken together, these tensions reinforce the central argument of this keynote: meaningful museum learning cannot be explained by a single method, technology, professional role, or institutional feature. It emerges from relationships. This is the point at which I bring the argument together through five interconnected conditions for meaningful museum learning.

Five Conditions for Meaningful Museum Learning: A Contemporary Synthesis

Taken together, these arguments suggest that meaningful museum learning cannot be explained by any single method, actor, or institutional feature. From this argument, I propose five interconnected conditions for meaningful museum learning: collections, pedagogy, educators, learners, and institutional support. I do not present them as a new universal theory or a rigid model. Rather, I offer them as a contemporary relational lens for understanding how the educational potential of museums can be activated and sustained.

First, collections provide educational potential. They are not neutral containers of information; their material qualities, disciplinary contexts, histories, and cultural meanings shape what can be investigated. This is why I have argued throughout this keynote that the collection changes the pedagogy. The educational question is not simply what information the collection contains, but what forms of observation, inquiry, interpretation, experimentation, or reflection it can support.

Second, pedagogy activates that potential. Objects do not teach by themselves. Display labels do not guarantee understanding. Technology does not guarantee engagement. Pedagogy organises attention and creates relationships among observation, knowledge, experience, and interpretation. This involves the selection and sequencing of questions, explanations, activities, stories, analogies, and reflections.

Third, the encounter is mediated by educators. Through their professional knowledge and judgement, educators bring the collection, the learner, and the educational purpose into productive relationship. The value of the educator is not to be at the center of experience, but to make the encounter educationally productive. Expertise is expressed in selection, timing, adaptation and judgment.

Fourth, learners create meaning. What is salient is conditioned by prior knowledge, motivations, identities, interests, and social interactions. Recognizing the learner does not mean allowing personal responses to displace evidence. It means designing from the understanding that learning occurs when new encounters can be connected, questioned, and reorganized within existing ways of knowing.

Fifth, institutional support enables and sustains the other four conditions. Strategic commitment, leadership, staffing, professional development, collaboration, access, evaluation, and partnerships determine whether effective pedagogy can move from isolated excellence to consistent practice. Without this condition, museum education risks becoming incidental.

The strength of the synthesis lies in the relationships among the conditions. A significant collection without pedagogy may remain inaccessible. Strong pedagogy without collection knowledge may become generic. A skilled educator without institutional support may be unable to sustain innovation. A well-resourced program that ignores learner contexts may remain educationally ineffective. Meaningful museum learning is therefore relational rather than additive.

This synthesis also offers a critical test for museum programs. Instead of asking only whether an activity was delivered successfully, institutions can ask: How was the collection pedagogically activated? What did the educator do to mediate the encounter? What knowledge and experience did learners bring? What evidence suggests that meaning was constructed or revised? What institutional conditions supported or constrained the experience? These questions shift evaluation from program completion to educational quality.

The proposition at the center of this keynote can now be stated more precisely: collections have educational potential; pedagogy activates that potential; educators mediate it; learners construct meaning from it; and institutions determine whether the conditions for such learning can be sustained. The next question, then, is how these conditions extend beyond the museum itself and remain meaningful as learning contexts, technologies, and visitor expectations continue to change.

From Universities to Learning Destinations: Museum Pedagogy in a Changing World

The argument also has implications beyond museums themselves. In my own field of art and design education, I have become increasingly convinced that universities and teacher education have an important place in the museum-learning ecosystem. If future teachers encounter museums only as visitors, we miss an important opportunity. They should learn about museums and heritage, learn in museum and heritage environments, learn through objects, artworks, places and stories, and ultimately learn to teach through them. The museum can become an extended classroom; heritage can become a learning resource; and objects can become pedagogical tools.

This also invites us to think of museums as learning destinations. A museum may be visited as an attraction, but visitation alone is not the same as learning. The educational progression I want to emphasise is from visit - 'I came to see' - to experience - 'I engaged' - and then to learning - 'I understood and connected'. The museum can also become a gateway to place, linking heritage sites, cities, and communities. Beyond counting visitors, we should therefore ask what visitors were able to understand because they came.

This wider learning ecosystem is itself changing. The museum does not stand still, and neither does the learner. Museum-education research has long identified changing demographics, shifting visitor expectations, new communication practices, and the increasing integration of physical and digital experiences as pressures requiring strategic institutional responses. These pressures intensify a broader set of tensions for contemporary museum education: preservation and participation; expert knowledge and multiple voices; physical objects and digital experience; human pedagogy and technologically mediated learning; mass visitation and meaningful experience; and institutional silos and learning ecosystems. These tensions should not be treated as binary choices. They are design problems requiring pedagogical judgement.

Technology provides a particularly useful test of that judgement. The pedagogical value of a digital resource does not lie in its novelty. Recent reviews similarly show that digital technologies

can improve accessibility, engagement, and educational potential, while leaving the pedagogical quality of their integration as a central design question (Li et al., 2024). Its value lies in whether it extends attention to collections, enables access, supports inquiry, reveals relationships, or sustains learning beyond the physical visit. The same principle should guide emerging technological possibilities: technology should extend the encounter with heritage, not replace it. When the screen becomes more memorable than the object, or interaction becomes detached from interpretation, innovation may increase activity without increasing understanding.

My concern with technology is therefore pedagogical rather than technological. I am less interested in whether a museum uses AI, immersive media, or another new platform than in what the technology enables the learner to do that could not otherwise be done as effectively. Does it deepen observation? Expand access? Support interpretation? Connect dispersed evidence? Encourage further inquiry? If not, technological sophistication can easily become educational distraction.

If context matters this much, comparative practice must be approached carefully. This is particularly relevant as I bring this argument to Tashkent. I am not suggesting that a museum pedagogy developed elsewhere should simply be imported into Uzbekistan. The principle I would emphasise is: do not copy the pedagogy; apply the principle. Uzbekistan does not need an Australian model of museum education. It needs pedagogies that emerge from Uzbekistan's own extraordinary collections, histories, communities, institutions, and learners. International experience can provide questions, possibilities, and points of comparison, but meaningful museum pedagogy must remain culturally and institutionally grounded.

In this sense, the significance of this conference extends beyond the exchange of current practices. It creates an opportunity to ask what kind of museum education should emerge for the next generation, particularly in contexts such as Uzbekistan, where extraordinary collections and heritage traditions meet rapidly changing educational, social, and technological environments. The value of an international conversation such as this lies not in producing one model for everyone, but in sharpening the principles through which each context can develop its own meaningful pedagogical responses.

This contextual principle brings the argument towards the future rather than towards a fixed prescription. I would leave six questions for our continuing discussion: What makes a museum educational rather than merely informative? How can collections be activated for meaningful learning? What pedagogical knowledge do museum educators need? How can universities better prepare future educators to work with museums and heritage? How should technology and AI extend - rather than replace - the encounter with heritage? And how can museums move from isolated educational activities towards sustainable learning ecosystems?

Seen together, these questions return the keynote to its starting point. The trajectory from collection to pedagogy, from pedagogy to meaning, from educator to institution, and from museum to a wider learning ecosystem clarifies what beyond collections actually means. It does not mean beyond objects, heritage, or preservation. It means moving beyond the assumption that preservation and display are educationally sufficient. To preserve heritage is to secure its continuity; to activate it pedagogically is to make that heritage available for questioning, interpretation, connection, and learning in the present.

Conclusion

I began this keynote with a simple proposition: a collection is not yet a learning experience. I return to it now because the argument has become more precise. Collections provide educational potential, but learning emerges through the relationships we design around them - through

pedagogy, through educators, through learners, and through institutions that make meaningful encounters possible.The collection is therefore the starting point - not the educational endpoint. For me, the future of museum education does not lie in finding one universal method. It lies in strengthening our capacity for responsive pedagogical judgement: understanding the collection, understanding the learner, choosing the right form of mediation, and recognising when institutional structures help or constrain that work. If we want to transform museum education, we cannot transform museums alone. We must also transform how we prepare the educators who will work with them. Museums need institutional commitment to learning; universities need to prepare educators who can work confidently with collections and heritage; and technology should extend the encounter with heritage rather than replace it. My final message is simple: collections provide potential. Pedagogy activates it. People give it meaning. Let us preserve heritage - but let us also activate it for learning.

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