



PENN MUSEUM

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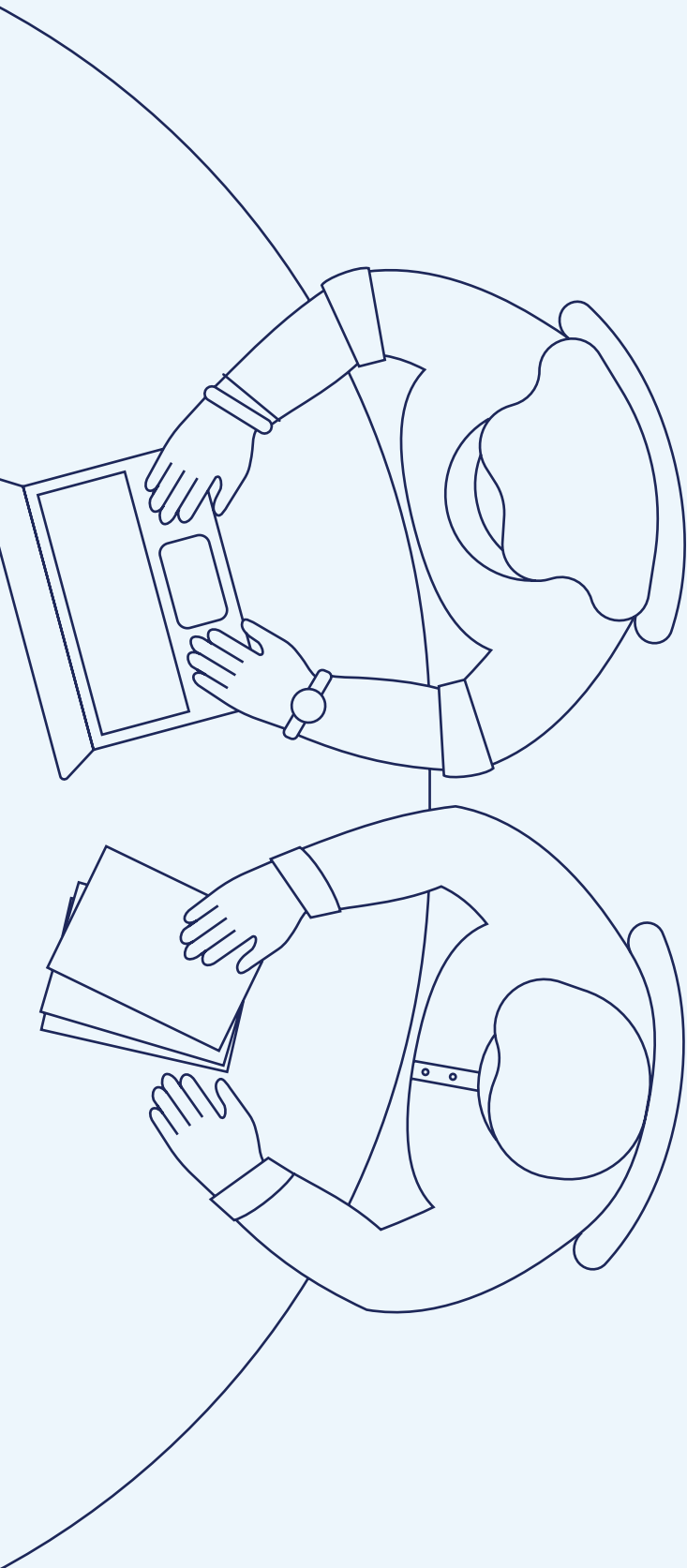


Bringing History to Life:

AN EVALUATION OF THE
PENN MUSEUM'S UNPACKING
THE PAST PROGRAM

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Acknowledgements

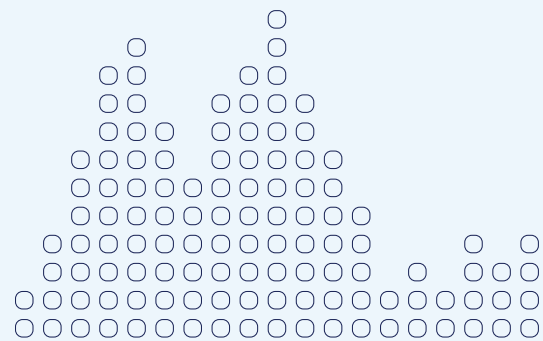


We would like to extend our heartfelt gratitude to teachers and students from 40 Philadelphia schools who took part in the evaluation. Teachers and students took time to complete surveys about their experience in the program, and classroom teachers facilitated the collection of student surveys, which were central to the endeavor. Special thanks are due to the 15 teachers and 23 students who also participated in focus groups, as well as teachers and students in the five classrooms we observed. The commitment of these study participants to scheduling data collection, ensuring survey completion, and collecting parental consent forms, along with their insightful input, was crucial to this evaluation.

We would also like to thank Unpacking the Past staff for their partnership throughout the study. Museum educators drew upon their valuable experience to offer insight into the program, inform the creation of data collection tools, and allowed RFA to observe their interactions with participating students. UtP leadership, including **Emily Hirshorn**, Associate Director of School Programs and **Jennifer Brehm**, Merle-Smith Director of Learning and Public Engagement, served as thought-partners in the data collection and analysis process and reviewed drafts of this report. We are especially grateful to Emily's assistance in ensuring that pre- and post-student surveys were distributed to participating classrooms and for her help in facilitating RFA's observations and student focus groups through communication with classroom teachers.

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THE EXECUTIVE Summary

The City of Philadelphia boasts a rich array of world class cultural institutions that offer educational programming for children and youth. Research suggests that these informal learning opportunities can be a resource for schools to support student learning and develop student interest and engagement (DeWitt & Storksdieck, 2008; Erickson et al., 2022).

The Penn Museum commissioned Research for Action (RFA) to conduct an evaluation of its **Unpacking the Past (UtP) program**, an educational program that introduces sixth and seventh grade students in the School District of Philadelphia (SDP) to the Museum's world-renowned archeology and anthropology collection. The initiative is an expression of the Museum's commitment to engage its Philadelphia community and to the overarching goal of the program to **"inspire students and teachers to feel welcome and included at the Penn Museum and museums in general"** (Penn Museum 2023). More specifically, the program seeks to increase students' understanding of and connection to human history through themes of color, trade, power, language, and innovation, and aligns with SDP's English Language Arts (ELA) and social studies curricula. The UtP program consists of a pre-lesson at school, a guided museum tour, an opportunity for self-guided exploration at the Museum, and a hands-on workshop at the Museum. Students also receive free museum passes that enable them to return to the Museum with their families in the future. Additionally, UtP arranges and pays for bus transportation to the Museum.

The evaluation offers an opportunity to understand the benefits of the museum field trip for student learning and engagement. It also provides an opportunity to identify lessons for other field trip experiences serving adolescents in Philadelphia and ways in which these experiences can be fully leveraged by Philadelphia's principals and teachers.



Background

This evaluation set out to answer the following questions:

- ▶ **Who does the Penn Museum serve through the UtP program, and how does the population served compare to the population of students in SDP?**
- ▶ **How well does the program meet its goals and achieve its intended outcomes?**
- ▶ **What other benefits of the program are experienced by students and teachers?**
- ▶ **Which components of the program contribute to positive participant experiences and outcomes, and how could the program be strengthened?**

To answer these questions, the evaluation drew on multiple sources of data collected between October of 2024 and March of 2025. The data included surveys from over 40 Philadelphia traditional public and charter schools, including post surveys from 57 teachers and pre- and post-surveys from more than 2,000 students, representing over half of the visiting students during the study period. RFA also conducted 12 program observations, four focus groups with 23 participating students, and focus groups and interviews with 15 Philadelphia classroom teachers.



THE Findings

UtP participating schools mirrored the make-up of SDP in terms of most demographic and academic achievement categories.

Autistic support teachers noted that UtP provided effective accommodation for their students. As one educator stated:

“ [The Penn museum educator] was absolutely wonderful...She definitely knew the audience, she had a sense of the age and how to share information and make it interesting.

Student engagement in and enjoyment of UtP was high.

► 96% of students reported in the student survey that they were interested in something or everything they saw, and over 50% of students reported asking at least one question during their visit. Program observations documented consistently high student engagement, as measured by active participation and attentive listening from almost all students in each component of the program. Student focus group participants shared varied parts of the program they enjoyed.

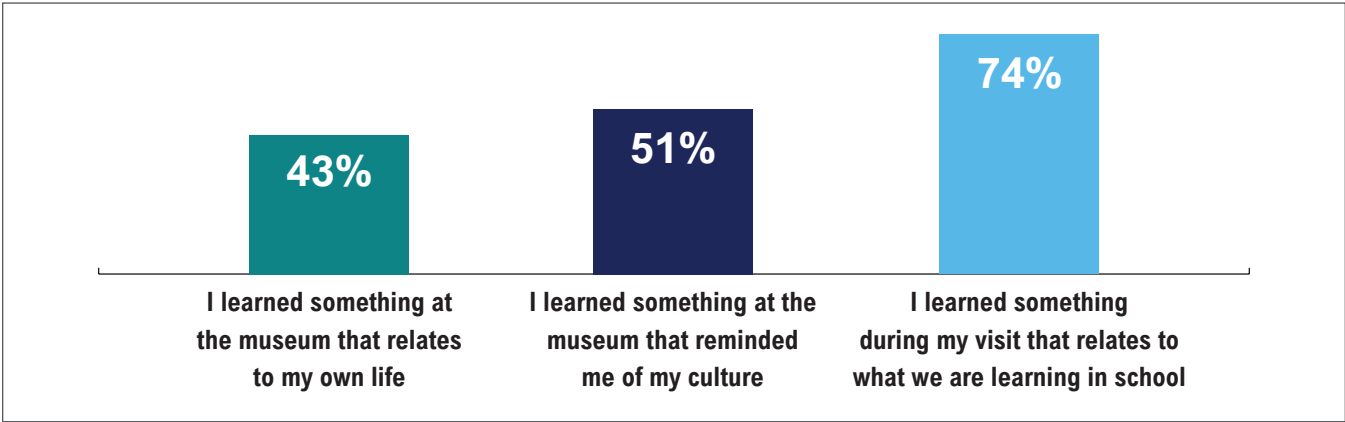
“ I like the painting part because, like, I just like doing arts and crafts. It was cool, crushing the rocks by yourselves, making paint...

“ I liked learning about the currency, like their coins, about how they found them and even how some of them didn't even use coins but traded other things.



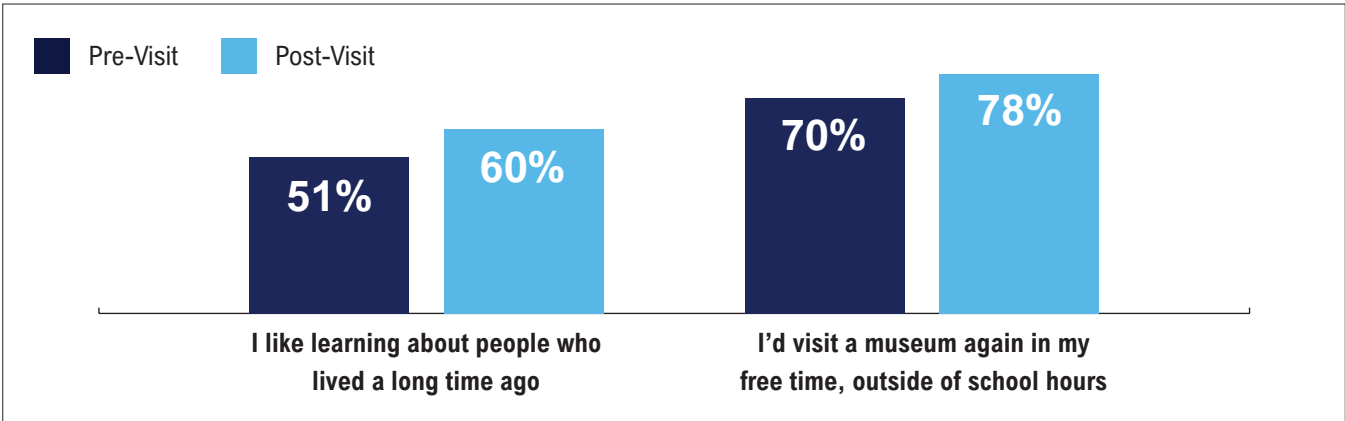
Students made connections between what they saw during their visit and school curricula, their culture, and their personal lives.

Figure 1. Percent of students answering “Agree” or “Strongly agree”, post-program survey on questions related to making connections



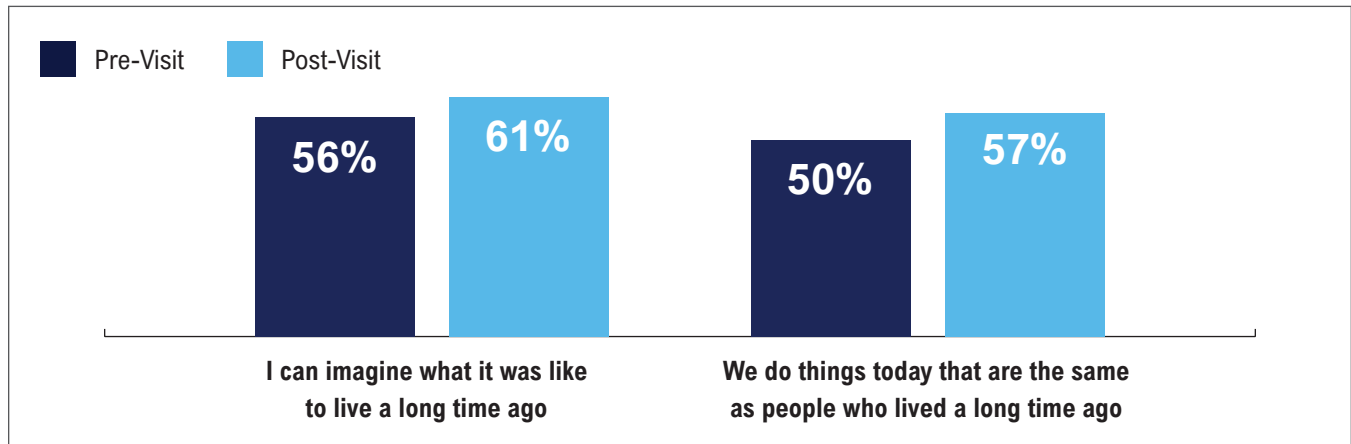
Student responses showed a statistically significant increase in their interest in learning about people who lived in the past and their interest in visiting museums.

Figure 2. Percent of students answering “Agree” or “Strongly agree”, pre- and post-program survey questions about interest in history and visiting museums



Students also reported a statistically significant increase in historical empathy (Greene, Kisida & Bowen, 2014)

Figure 3. Percent of students answering “Agree” or “Strongly agree”, pre- and post-program survey questions about historical empathy



A majority of teachers reported that students retained information they learned from UtP (75%) and applied it in the classroom (66%), and teachers in focus groups reported increased classroom engagement in lessons about ancient civilizations.

A majority of teachers also reported that the program gave students the opportunity to practice 21st Century skills, such as making inferences, predictions, comparisons, and practicing creativity.

Through teacher interviews and surveys as well as a review of other research on field trips, the evaluation identified several program strengths that likely contributed to a positive student experience and outcomes.

- The UTP structure reflects several research-based best practices for field trips including a pre-visit lesson, small group work, and hands-on and discovery-oriented activities.
- UTP employs museum educators who create a supportive learning environment and effectively facilitate content for Philadelphia middle school students. Classroom teachers repeatedly commented on the skills of UtP’s educators.

Teachers identified two areas for improvement related to the self-guided portion of the tour.

- Teachers requested more support in leading students on the self-guided tour.
- Teachers expressed concerns about the oversight of museum security during the self-guided tour, which at times felt intrusive.

Recommendations for UtP

This evaluation identified ways in which the Penn Museum could improve the implementation and impact of the UtP program, including:

- ▶ **Providing more structure or resources for the self-guided portion of the visit**
- ▶ **Developing additional accommodations for Multi-Lingual Learners**
- ▶ **Offering post-trip activities for teachers to deepen and sustain student learning, interest and historical empathy after the trip**

Recommendations for Other Cultural Institutions

Additionally, lessons gleaned from this study point to effective strategies that other cultural institutions with educational programs for adolescents could adopt, such as:

- ▶ **Offering pre- and post-visit activities to ensure maximum benefits for students**
- ▶ **Adapting the experience for students with IEPs, and Multi-Lingual Learners.**
- ▶ **Considering ways to support transportation to and from the institution**

Recommendations for the School District of Philadelphia

Continue to support connections between the city's cultural institutions and schools. The findings of this evaluation validate the support that the School District of Philadelphia already provides to connect schools and cultural institutions. It suggests that these existing efforts be continued and expanded where possible. The district could also continue to support research that illuminates the connections between student learning on field trips and the district's curricular goals.

In conclusion, UtP provides a promising example of the ways in which museum experiences can benefit young people in Philadelphia. By continuing to leverage UtP and other similar cultural resources, schools in Philadelphia can enrich the educational experiences of their students and foster greater engagement in learning in the classroom and beyond.

THE

Introduction

The City of Philadelphia boasts a rich array of world class cultural institutions that offer educational programming for children and youth. Research suggests that these informal learning opportunities can be a resource for schools to support student learning and develop student interest and engagement (DeWitt & Storksdieck, 2008, Erickson et al., 2022). Adolescent brain science suggests that these types of learning opportunities are particularly important for adolescents, who are engaged by novel and experiential learning (UCLA Center for the Developing Adolescent, n.d.). In addition, adolescence is a time when young people become aware of their own cultural identities in a new way, and cultural institutions can engage young people in deepening their understanding of their own and other cultures (UCLA Center for the Developing Adolescent, n.d.).

Many of Philadelphia's cultural institutions offer educational opportunities for students in Philadelphia. Such opportunities, while valuable for all school districts, may be even more important in the context of the chronic underfunding of Philadelphia's education system, where many students have access to fewer classroom-based resources and experiences to foster engagement. Therefore, it is important to understand the benefits of these field trip experiences for Philadelphia's adolescents and identify ways in which Philadelphia's principals and teachers can fully leverage them to foster engagement in learning.

This report shares the findings from an evaluation of an educational program offered by one of Philadelphia's cultural institutions, the Penn Museum. **The Penn Museum's Unpacking the Past (UtP)** program introduces sixth and seventh grade students in the School District of Philadelphia to the museum's world-renowned archeology and anthropology collection. The initiative is an expression of the Museum's commitment to engage its Philadelphia community and to the overarching goal of the program to "inspire students and teachers to feel welcome and included at the Penn Museum and museums in general" (Penn Museum 2023). More specifically, the program aims to increase students' understanding of and connection to human history. It centers on the theme of color as an entry point to ancient civilizations and other themes such as trade, power, language, and innovation. The program and content of the museum also directly align with the School District of Philadelphia's English Language Arts (ELA) and social studies curricula for sixth and seventh grade students, which covers Greek mythology (ELA) and ancient civilizations (social studies).



The program has several components, all led by museum educators who are former classroom teachers. These components include:

- 1** a pre-lesson at school
- 2** a field trip with free busing arranged by the Museum that includes a guided tour, as well as an opportunity for self-guided exploration
- 3** a hands-on workshop at the museum (paint-making or rope-making)
- 4** free passes for students to bring their families to the Museum post-program

The Museum also offers professional development for teachers outside of the UtP program. A fuller description of the program is offered in the text box below.

UNPACKING THE PAST PROGRAM DESCRIPTION



Pre-lesson: UtP educators visit participating classrooms the week of their trip to the museum. In a 45-minute lesson, they introduce students to the four ways in which objects are colored including natural colors, painting, dyeing and glazing. In small groups, students examine three to four museum artifacts and determine how the object was colored, noting supporting evidence for this claim on a worksheet. After discussing the activity in the whole group, the pre-lesson closes with an overview of what students can expect at the museum.



Museum Tour: Museum tours vary by class, but groups typically visit at least three galleries within the one-hour tour. Within each gallery, the museum educators offer some orientation to the gallery and then give students a worksheet-based discovery activity. For example, in the Native American gallery, students are asked to find the oldest and newest artifacts. In the Ancient Greece gallery, students are asked to draw images they see on the pottery. In the middle eastern gallery, students look for ancient objects that were like modern day objects. Students are given clipboards and pencils to write down their answers and have the option to work in pairs, small groups, or by themselves. Different galleries are visited depending on the goals of the classroom teacher and the accessibility of galleries that day at the museum.



Paint Making Lesson: The one-hour paint making activity occurs during the field trip. It includes an opening lesson on how ancient people around the world made paint. The educator displays images of ancient artifacts from around the world and asks students to identify the common colors—brown, red, and black. Students then reflect on why artifacts have these common colors and guess at the materials used to create paint with those colors. The educator walks students through a process of making their own paint using the same materials—charcoal and ochre—used by ancient civilizations around the world. Students work in small groups to crush the charcoal or ochre in a mortar and pestle and then add water and glue. Once the paint is created, students test the readiness of their paint and then create a design they want to put on a small wooden magnet. Students paint their own magnets which they can take home with them after their trip.



Self-guided Tour: Following lunch, classes have 30 minutes to explore, with their teachers, galleries they will not see on the guided tour. UtP educators suggest galleries based on the plans for the guided tour. Classes can also choose to go outside to see the Museum's koi pond.

Evaluation Goals and Activities

In the spring of 2024, the Museum commissioned Research for Action (RFA) to conduct an evaluation of the UtP program to mark its ten-year anniversary. The evaluation was framed by the program’s logic model, as well as a framework for evaluating informal learning programs and research literature on field trips. These organizing frameworks will be discussed in more detail in the next section of this report.

The evaluation aimed to address four research questions:

1. Who does the program serve, and how does the population served compare to the population of students in SDP?
2. How well does the program meet its goals and achieve its intended outcomes?
3. What other benefits of the program are experienced by students and teachers?
4. Which components of the program contribute to positive participant experiences and outcomes and how could the program be strengthened?

RFA designed a mixed methods study to address these questions which included surveys, focus groups and program observations. Data for the study was collected between October 2024 and March 2025. The activities are described below, with further details offered in Appendix A for surveys and Appendix B for observations and focus groups.



Surveys

RFA worked with Penn Museum and classroom teachers to administer a pre- and post-program survey to students and a post-program survey to teachers. Pre-program surveys were administered 1-2 weeks prior to the pre-lesson, and post-program responses were collected 1-2 weeks after the museum trip. In addition, RFA analyzed booking survey data collected by Penn Museum for the 2024-25 school year. In total, the survey responses included over 2,000 students, representing over half of all participating students during the study period, and 57 teachers representing the vast majority of participating teachers. The full breakdown of responses is described in Table 1 below.

Table 1. Survey response rates by school and students

SURVEY	RESPONSE RATE	_N UNIQUE SCHOOLS	_N UNIQUE RESPONSES
Student pre-survey	59%	40	2,170
Student post-survey	39%	37	1,443
Teacher post-survey	89%	33	57



Observations

RFA followed four classrooms through their UtP experience, conducting structured observations of their pre-lesson, the guided museum tour, the paint-making lesson, and their self-guided tour. A total of 12 structured observations were conducted across the three core components of UtP (RFA observed the self-guided tour but did not score the observation) for a total of 11 hours of formal observation. RFA also followed one autistic support class through the four components of the program but did not score the observation. More details about the observation rubric can be found in Appendix B.



Focus Groups and Interviews

RFA conducted four in-person focus groups with students from the observed general education classes, which included 23 students in total. Focus groups with students ranged from 30-45 minutes. RFA did not conduct a focus group with students in the autistic support classes.

RFA also conducted four virtual teacher focus groups (two in December and two in February) and 6 individual interviews with teachers unable to attend focus groups. A total of 15 teachers participated in focus groups or interviews. Four of these teachers were autistic support teachers. Focus groups with teachers ranged from 45-60 minutes. Individual interviews averaged 30 minutes. More details about the focus groups can be found in Appendix B and all focus group protocols can be found in Appendix F.



Triangulating the Evidence

After analyzing the data from student and teacher surveys, observations, and focus groups, the research team triangulated the findings across these data sources to answer each of the research questions. The team first compared responses from teacher and student surveys to determine if and where there was alignment. The survey offers the largest sample of teacher and student perspectives and therefore determined our findings in the areas of program outputs and outcomes. Focus group findings help to explain or elaborate on the survey findings. Focus groups and interview data drive the findings for questions that were more exploratory, such as identifying additional benefits of UtP not specified in the logic model. Focus group and interview data also examine questions about program implementation. Observation data contributes uniquely to our findings regarding active student participation in UtP and our assessment of the content and quality of UtP programming. Throughout the evaluation, RFA met regularly with UTP staff who were invited to review and provide input on research instruments and emerging findings as well as drafts of this report.

The report shares the evaluation findings for each of the research questions that guided the study. We begin with frameworks for the evaluation, including the program's logic model. The structure of the report is as follows:

- ▶ **Section II: Evaluation frameworks and research literature:** A review of the program's logic model and the outcomes assessed in this evaluation as they align with a framework for understanding museum impacts and other research on field trips.
- ▶ **Section III: Program participation:** Who does the program serve, and how does the population served compare to the student population of the School District of Philadelphia?
- ▶ **Section IV: Participant experience and outcomes:** How well does the program meet its goals and achieve its intended outcomes?
- ▶ **Section V: Additional benefits:** What other benefits of the program are experienced by students and teachers?
- ▶ **Section VI: Program components:** Which components of the program contribute to positive participant experiences and outcomes, and how could the program be strengthened?
- ▶ **Section VII: Recommendations:** for UtP, other cultural institutions and the School District of Philadelphia.

SECTION II:

Evaluation Frameworks and Research Literature

The evaluation centered on the program's logic model. The original UtP logic model (displayed in Appendix C) asserts that students will:

- Enjoy and actively participate in UtP activities,
- Make connections between their lives and the lives of those they study during the experience, and
- Leave the experience identifying at least one thing they want to learn more about.

As a result of this experience, they will:

- Want to visit the Penn Museum or other museums again in the future,
- Have increased empathy for cultures other than their own and interest in understanding human experience, and
- Show increased motivation to be active learners.

RFA situated the UtP logic model within a larger framework for evaluating informal learning programs as well as research literature on the impact of school field trips and developed a revised set of outcomes for the purposes of the evaluation. The following section describes the frameworks and literature that informed this revision.

— What outcomes can be achieved through museum visits? —

In evaluating proposed outcomes for UtP, it is important to consider what a one-time experience at a museum might achieve and why the outcomes of these experiences are important. Wasserman, Popson and Weiss (2022) developed the Strategic Outcomes Framework as part of the Informal STEM Education and Evaluation System. This framework is helpful in articulating the categories of outcomes as well as the range of outcomes that might result from experiences offered at a science museum. Categories of outcomes that result from an informal learning experience at a science museum include interest, attitude, knowledge, 21st CCLC skills, behavior, STEM capital, and career building.



The authors propose that shorter-term exposure experiences, such as those at a science museum, can plant seeds in each of these categories for a continuum of deeper outcomes in the future.

Wasserman et al. call these seeds “situational outcomes,” which are outcomes that emerge during and shortly after an experience. They are contrasted with personal or stable outcomes, which are long-term, sustained outcomes associated with more cumulative experiences. For example, a museum exhibit might spark student interest during the museum trip (situational) but because of prior interest or through subsequent follow up experiences, the interest could be maintained after they leave the museum. Through additional experiences, it could grow to become a more significant personal interest that the student pursues until it eventually informs career choices or motivates other pursuits. Another type of situational outcome is the development of a positive attitude about a subject – “I like this”. Because of this positive association, the student might be more excited about learning about the subject when exposed to it in the future. A positive attitude, if fostered, might lead to the feeling that the subject is relevant (i.e., this connects to my life) and has value (i.e., this is important). If the subject is viewed as enjoyable, relevant, and of value, a student may be self-motivated to pursue additional learning experiences and even begin to identify with the subject (“I am a science person”).

While the Strategic Outcomes Framework was developed in the context of science learning experiences, the insights can be generalized to other experiences, such as the historical and cultural experiences offered by UtP. Research on field trips to art and history museums supports the application of the Strategic Outcomes Framework to art and history museums. This research has documented the benefits of a single field trip (RK&A Associates, 2018), which include increased understanding of and interest in the subject matter and more positive attitudes towards the subject matter. With the right supporting conditions that reinforce or build upon the initial experience, the benefits can be seen for years beyond the event. For example, a review of research on the impact of field trips (Dewitt & Storksdieck, 2008) found that lasting outcomes from field trips were associated with the high personal involvement of the students in the subject matter prior to the trip, strong links with the school curriculum which enabled follow-up in the classroom, and multiple visits to the museum. One of the most rigorous, long-term studies conducted on the impact of field trips, which tested the benefits of three museum visits in one school year and six museum visits over two years, found a statistically significant difference between treatment and control students on attendance, behavior, test scores, and course grades two years after their museum visits (Erikson, et.al., 2022). Therefore, if it is leveraged, a museum experience such as UtP, can be a building block for deeper changes.

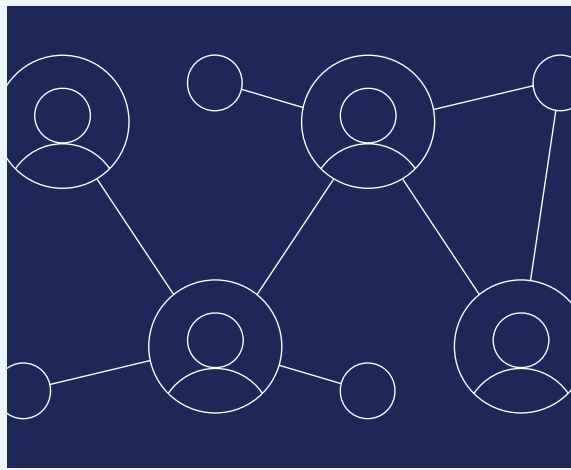
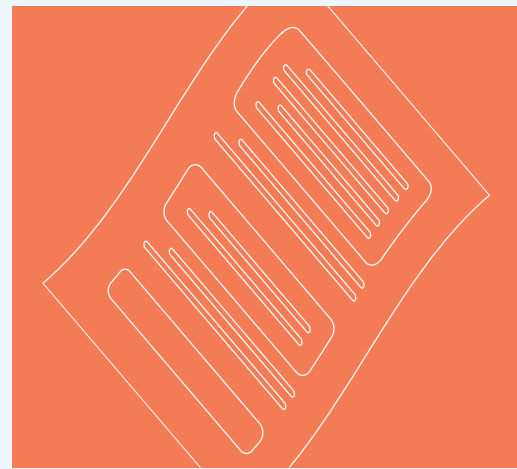
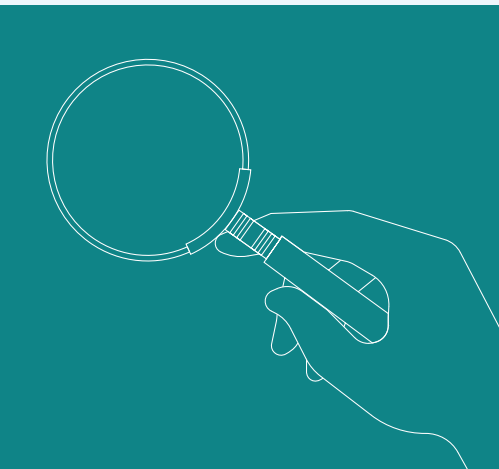
RFA applied the Strategic Outcomes Framework to the outputs and outcomes in the UtP logic model to further refine the logic model and support the development of pre- and post-program surveys and the interview and focus group protocols used to assess outcomes. A revised set of outcomes was developed to align to the intent of the outcomes in the original logic model but further specified to reflect the situational interest and attitude found in the Strategic Outcomes Framework and other research on field trips to art and history museums. The table below displays the revised outcomes assessed in this evaluation.

Table 2. Unpacking the Past outputs, and situational outcomes assessed through pre- and post-program surveys

TYPE	OUTPUTS (PARTICIPANT EXPERIENCE)	SITUATIONAL OUTCOMES (CHANGES IN INTERESTS AND ATTITUDES POST-EXPERIENCE)
Interests	Interest in UtP activities Active student participation in discussions and activities.	Increased interest in understanding the past Students take steps to learn more about something from their visit to the museum. Increased interest in visiting museums
Attitudes	Enjoyment of UtP Ability to articulate a similarity or connection between their life and the lives of people we studied.	Historical Empathy ¹

Another important implication of the Strategic Outcomes Framework for UtP is that interest and positive attitudes developed through the museum experience could be leveraged by additional experiences such as follow-up with classroom teachers, their peers, or their families and result in personal, longer lasting impacts. The free museum passes provided by the museum provide one opportunity for interest kindled during the museum visit to be furthered by students. Research on field trips also points to the role of classroom teachers in amplifying the impact of the museum visit (Dewitt & Storksdieck, 2008). Therefore, the evaluation also examined teachers' perspectives toward the UtP program and their use of the UtP experience in their classrooms to better understand whether the conditions for lasting impact are present.

1. Historical empathy refers to "the ability to understand and appreciate what life was like for people who lived in a different time and place" (Greene, Kisida & Bowen (2014), p.83.). Historical empathy may emerge from making past and present connections.



SECTION III:

Program Participation

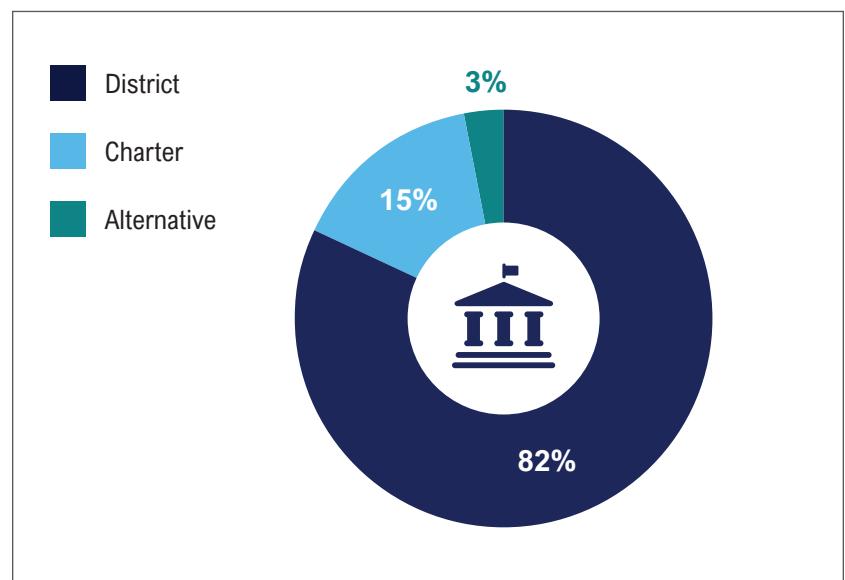
Who does the program serve, and how does the population served compare to the School District of Philadelphia? —

The UtP program is a community engagement effort aligned with the Museum’s goal of being a welcoming environment for all children and families. It aims to serve 6,000 6-7th grade students in Title 1 schools in Philadelphia each year. While RFA was not able to assess the total number of students served in 2024-2025 because data collection ended in March, we used the Museum’s booking survey data to examine whether visiting schools were Title 1 schools. In addition, the evaluation went further to examine whether the population served by the program reflected the population of the School District of Philadelphia demographically, geographically, and in terms of student performance. This section describes who the program served.

During the 2024-25 school year, UtP was scheduled to serve sixth and seventh grade students from 73 district, charter, and alternative schools in 2024-25 (47 schools visited during the evaluation). All visiting schools receive Title I funding.

Participating schools came from around the city, with students coming from schools in nearly all sections of the city (all but two zip codes represented). A map of program participants by zip code can be found in Appendix D.

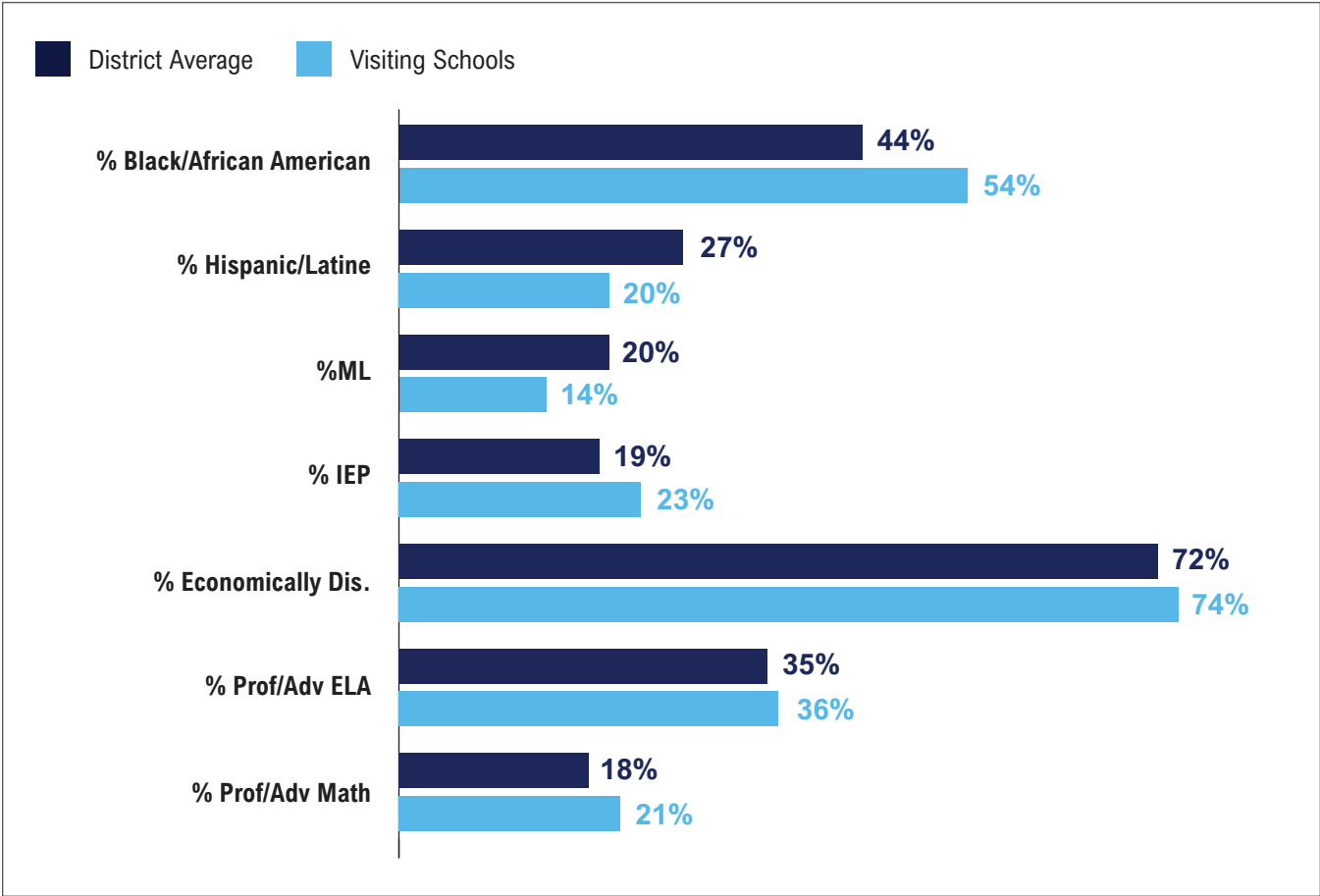
Figure 1. Types of schools participating in the UtP program, 2024-25





As shown in Figure 2 below, participating schools mirror the district in most demographic and academic performance categories.

Figure 2. Demographics and standardized test scores of visiting schools versus district average, 2024-252



- Visiting schools had slightly higher rates of students identifying as economically disadvantaged and Black/African American and slightly lower rates of students identifying as Hispanic/Latine.
- Visiting schools have slightly higher rates of students with individualized educational plans (IEPs) than the district average and lower rates of multi-lingual learners (ML) than the district average.
- Participating schools show similar standardized test scores in English, and slightly higher scores in math.

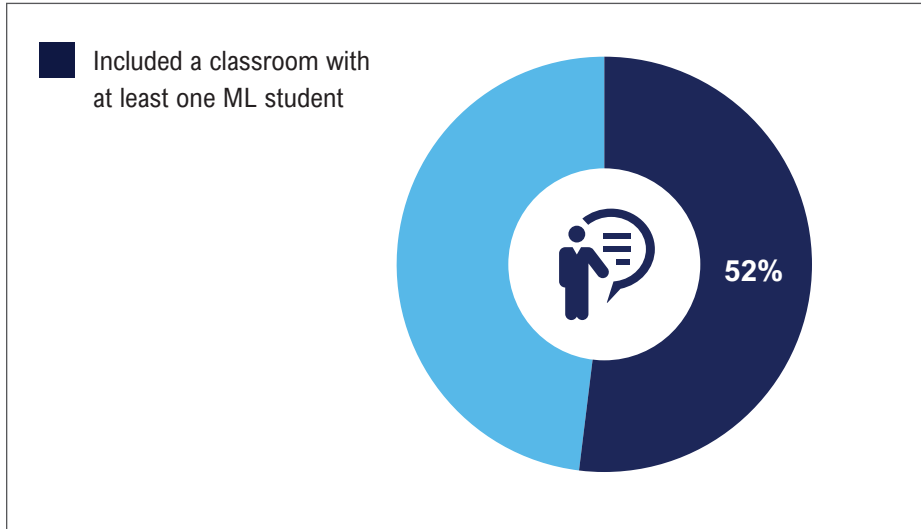
Over half of visiting schools included one or more self-contained special education classes (see Figure 3 below). Teachers of these classes reported that UtP provided effective accommodation for their students. Self-contained learning support (LS) and autistic support (AS) classes received an adapted program to meet the needs of their students. The text box below provides more details about the ways in which UtP adapted the program for autistic and learning support students.

Figure 3. Participating AS classrooms/classrooms with students with special needs, 2024-25



While visiting schools had slightly lower rates of Multi-Lingual Learners (ML) as compared to the district average, over half (52%) of visiting schools included classes with at least one Multi-Lingual Learner (ML) (see figure 4 on the next page). ML students were fully included in the experience, but no specific accommodations were observed to be provided for this group. While UtP has accommodations available for ML students including translated activity guides in five languages, teachers did not report seeing them. However, they noted that their ML students found ways to translate for each other, and in some instances, a chaperone was able to translate. They also reported that their ML students enjoyed the visit and learned from it despite language barriers. Teachers of ML students gave more positive responses on average to the statement “Museum staff made my students feel welcome.” Teachers who reported having at least one ML student in their visiting class gave an average score of 9.78 out of 10 on the post-program survey, compared to teachers without ML students, who gave an average score of 9.25 out of 10.

Figure 4. Participating classrooms with at least one Multi-Lingual Learner, 2024-25



ENGAGING AND SUPPORTIVE MUSEUM EXPERIENCES FOR AUTISTIC SUPPORT AND SPECIAL EDUCATION CLASSES

Teachers praised UtP’s adaption for autistic support students reporting that the UtP educators seemed familiar with the needs of these students. One teacher commented that it was “spot on as far as the level...” They noted multiple aspects of the adapted program that were beneficial to their students. These included continuity between the pre-lesson and the museum visit. Unlike the pre-lesson for general education students, the pre-lesson for AS classrooms was modified to include a similar hands-on activity as would be done during the painting activity at the museum. Also, the hands-on activities during the museum tours were altered to include more visually oriented activities. In addition, the UtP educator who taught the pre-lesson was the same educator that greeted their students at the museum and provided their tour. AS teachers also appreciated that UtP worked with them to design a schedule for the day that would best accommodate their students’ needs. Teachers reported, and RFA observations confirmed, a high level of engagement for AS classes. One teacher summarized all the strengths of the program for her students saying,

“ [The Penn museum educator] was absolutely wonderful...She definitely knew the audience, she had a sense of the age and how to share information and make it interesting. And I really liked the fact that when she came, they did an activity together. She had great visuals with her slides. Her questions were accessible for my kids, and when they got to the museum, they did a similar activity, which I thought was wonderful because they can be more confident about what’s happening and how to do what they were about to engage in with. And they loved it...

[Autistic support teacher]

The AS and general education teachers we spoke to also reported that the Penn Museum’s accommodations for autistic students were unique – they were not aware of any other museum in the city that offered an accommodated experience for their students. As one general education teacher who coordinated the trip for the school stated,

“ I would like them to know that the autistic support inclusion is unique and extraordinary...And I do mean extraordinary, like it is not ordinary, that they have accommodations that are very well thought out...

(General education teacher)

SECTION IV:

Intended Program Outcomes

How well does the program meet its goals and achieve its intended outcomes?

The UtP program logic model states that students will have positive experiences in the program and these positive experiences will lead to increased interest in and more positive attitudes about learning about people who lived in the past and museums. This section of the report shares what the evaluation learned about participants' experiences and outcomes.

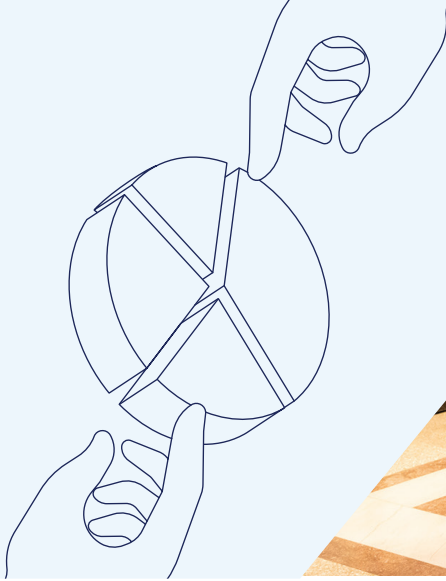
Participant Experience: Interest, enjoyment, active participation, and relevance

UtP hopes that students will be interested in and actively participate in the UtP program, and that they will enjoy the experience and find it relevant (i.e., seeing connections to their own lives).

The evaluation found that student interest, active participation, and enjoyment of UtP was high. Students and teachers both reported high levels of student interest in the program's content and activities, which was reaffirmed by program observations. Ninety-six percent of students responding to the post-program survey reported that they were interested in something or everything they saw during the museum visit. Additionally, more than half of the student survey respondents reported asking at least one question during their visit.

RFA's observations also document high levels of active participation in all program components. Nearly all students in three of the four observed classes were focused and listening to the museum educator throughout each of the sessions. One class demonstrated less attention to the museum educator during pre-lesson and museum gallery tours, but all students in this class still actively participated in the hands-on activity.

Students' attention was most varied during the guided museum tours: the attention of those further away from the tour guide could wander, especially when in crowded spaces or large student groups. Nonetheless, their attention typically wandered to the museum exhibits they were interested in seeing. Almost all youth also actively participated in the paint making activity at the museum. In the classes RFA observed, half or more students typically raised their hands to ask or answer questions during this activity.



Teachers responding to the post-program survey also noted the high interest and participation in program activities among their students. Nearly all (97%) teachers reported that more than half of their students engaged in an activity during the museum trip. A large share of teachers also reported on the survey that more than half of their students asked questions (75%) and participated in discussions (86%) while at the museum.

In focus groups, students identified aspects of UtP they found most interesting and enjoyable. Not surprisingly, students' favorite aspects were the hands-on components. In the pre-lesson, focus group students commented most frequently on being able to handle artifacts. From the museum tour, students consistently identified the paint lesson as a highlight. One student stated, "I really liked it because we also got to paint our own magnets, which was really fun..." Another student in a different focus group stated, "I like the painting part because I just like doing arts and crafts. It was cool, crushing the rocks by yourselves, making paint..."

“ I really liked it because we also got to paint our own magnets, which was really fun...

“ I like the painting part because I just like doing arts and crafts. It was cool, crushing the rocks by yourselves, making paint...

Students also highlighted galleries they enjoyed visiting. Favorite galleries included the Egypt gallery, where they were able to see a mummified person, as well as the Asian and Greek galleries. One student commented about the Greek gallery, "I liked learning about the currency, like their coins, about how they found them and even how some of them didn't even use coins but traded other things." Another student similarly stated, "[I liked] ancient Greece, because I like learning about the gods, and I always watch shows and movies about ancient Greece." A third student commented on appreciating the Asian gallery, "the China artifacts. Because, like, the China artifacts are, like, they're just mesmerizing to look at, especially with the crystal ball."

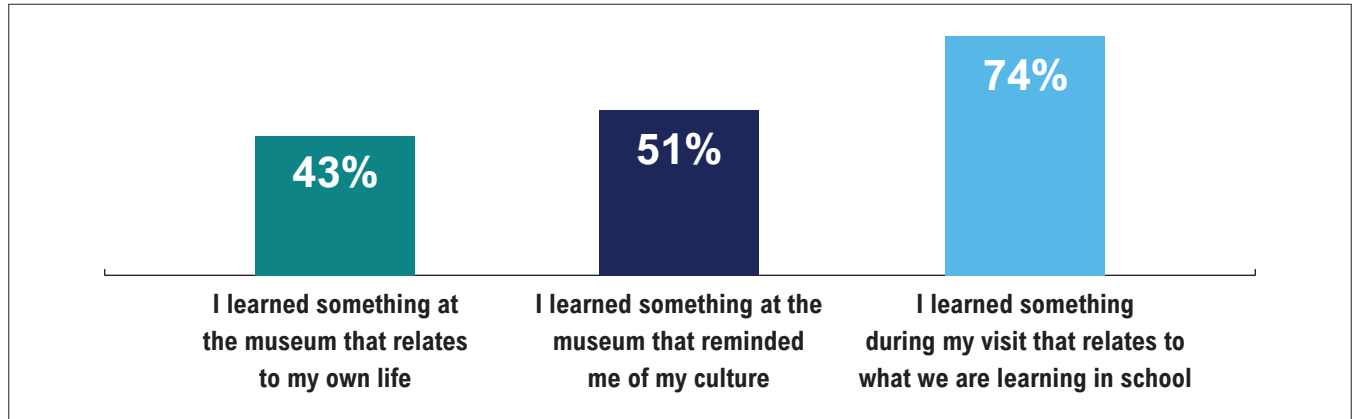
“ I liked learning about the currency, like their coins, about how they found them and even how some of them didn't even use coins but traded other things.

“ [I liked] ancient Greece, because I like learning about the gods, and I always watch shows and movies about ancient Greece.

“ the China artifacts. Because, like, the China artifacts are, like, they're just mesmerizing to look at, especially with the crystal ball.

Three-quarters of students (74%) reported making connections between UtP and their classroom curriculum. Between one third and one half reported making connections between UtP content and their own lives and cultures. Figure 5 below displays student survey responses related to making connections.

Figure 5. Percent of students answering “Agree” or “Strongly agree”, post-program survey



In their post-program survey, students were most likely to report making connections between the UtP program and what they were learning in school (74%). Teachers’ post-program survey responses followed this trend, with 75% of respondents reporting that more than half of their students were able to make connections between something from the museum and what they are learning about in class. In focus groups, multiple teachers described these connections. As one teacher commented:

“ They picked up on some of the Greek mythology that we’ve been reading about and then ancient Egypt, they were just getting into that. So, they were asking me a lot of questions, and I told them, you know, we’re still getting into some of that. We will definitely get into it more. But they were really excited about that, because they know that we’re learning that right now. So, they were trying to, they’re making connections on what we’ve learned so far in ancient Egypt.

(General education teacher)

Additionally, 95% of surveyed teachers responded that the program “brought history to life” for more than half of their students, and many reiterated this during focus group discussions.

“ So having the kids see that, you know, a live version, not just in a textbook, I think is important, which really brings the history to life. It brings ancient civilizations to life. So it’s not like this crusty, dusty thing we read about, right? It integrates all of that and brings it to life. It helps them make connections across cultures and eras. So, you know, we begin to realize this is a condition of being human. It’s not just because the Romans did this, and the Egyptians did this. It’s like, oh, human beings do this, right?

(General education teacher)

“ I think they just get to see it like come to life, like one of my kids this year was like, I’ve seen stuff in videos or seeing stuff in pictures is cool, but I actually got to see it in real life, like I understood this part of history more, which I think is really valuable because, like, a lot of social studies education is primary source analysis or secondary source analysis, but you’re not like physically touching that the artifacts, or like experiencing them firsthand... School District of Philadelphia, it’s like a black and white picture of the thing that you’re looking at, and then it’s only on the smart board that it’s in color. So, I think all of that is important.

(General education teacher)

RFA observed multiple instances in each UtP activity where staff intentionally made connections to students’ own lives or between the past and present. Students also were observed to make spontaneous connections between museum exhibits and their lives. For example, a student noticed that the sarcophagus of the mummified person would be too small for him to fit in and asked why they were so small. This led to a discussion with the UtP educator about people being of smaller stature in the past.

In focus groups, a few students offered connections between objects they saw at the museum and the present. For example, one student noted a game in the Africa gallery that was like a game they played today. Several students were also familiar with the stone lapis lazuli in the Middle East gallery from playing Minecraft.

When asked directly on their post-program survey, however, only 43% of students agreed or strongly agreed that they learned something that related to their own lives. Teachers responded more positively, with 74% of teachers reporting that over half of their students made connections between their lives and the objects at the museum.

Another way in which students might make connections to their own lives is through connections to their culture. Conversations with Penn Museum staff prior to the evaluation suggested that students who immigrated from other countries sometimes comment on connections to their culture at the museum. As a result, RFA added a question to the survey to ask about this. Post-program survey responses to this question were slightly higher than the question about a more general connection to students’ lives. As Figure 3 shows below, 51% of surveyed students reported that they learned something at the museum that reminded them of their culture.

In focus groups, several teachers shared stories, like those reported by Penn Museum staff, of immigrant students making connections between objects at the museum and their own cultures.

“ When we went into like the African side that we had two students were from Ghana, and they were able to see, like, their own money, that, like the money from their country, and all that other stuff. So it was and then you have their classmates be able to relate to them a little bit more like, oh my gosh, that’s where you’re from, and that’s where your money is from.

(General education teacher)

“ And I teach a lot of English learners, so a lot of students from different places. And this year in particular, we got to like the ancient Egypt exhibit. And one of my students was like, Oh, my ancestors. So having those connections for kids is just really exciting.

(General education teacher)

In addition, students in one focus group discussed the connections they made with their cultures and an interest in learning more. One student commented on seeing symbols in the Asian gallery that reminded him of objects he had seen in his grandparents' house. Another commented on wanting to learn, “more about my culture, like what were the famous people there and what like traditions?”

In summary, the evaluation found evidence that participants had a positive experience during the UtP program. They actively participated, were interested, and enjoyed the experience. Three quarters of students found the museum exhibits relevant to what they were learning in school, half were able to make connections to their cultures but fewer than half reported seeing connections between the people they studied and other aspects of their lives.

Program outcomes: Increased interest in the subject matter, increased historical empathy, further learning and increased interest in visiting museums.

Given the positive participant experience at the museum, the evaluation then examined whether interests or attitudes changed after the experience.

Students demonstrated a statistically significant increase in interest in learning about people who lived a long time ago, and some took steps to further their own learning on topics introduced during the program. Students were asked a series of questions about their interest in learning about cultures, people, and museum artifacts both before and after their museum visit. When asked about their interest in learning about “people who lived a long time ago”, the percentage of students who agreed or strongly agreed increased significantly after their trip over their average pre-trip response.^{2,3} (See figure 6 on the next page). However, interest in other areas showed no meaningful change.

One quarter to one third of students took action to further their knowledge on topics they learned about at the museum: on their post-program surveys, 27% of students reported asking their teacher questions about their trip when they returned to school, and 32% indicated they looked up something from the museum online to learn more about it.

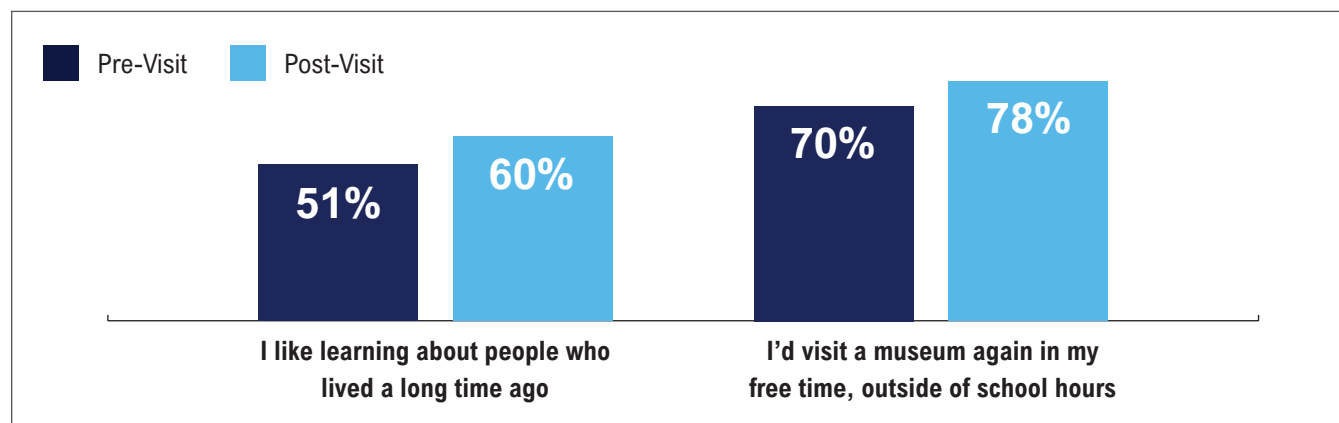
As shown in Figure 6 on the following page, students also reported a statistically significant increase in their interest in visiting museums after the UtP trip. The evaluation suggests that the UtP program shifted student interests in museums. For example, the percentage of students who responded “Agree” or “Strongly agree” to the statement “I’d visit a museum again in my free time, outside of school hours” increased significantly in the post-program survey when compared to responses from the pre-program survey.^{4,5} In all student focus groups, students reported that they would have liked to spend more time in the museum and

2. Students were asked to respond to statements using the following scale: 1 (Strongly disagree), 2 (Disagree), 3 (Neither agree nor disagree), 4 (Agree), 5 (Strongly agree).

3. The difference was found to be significant at the 1% level.

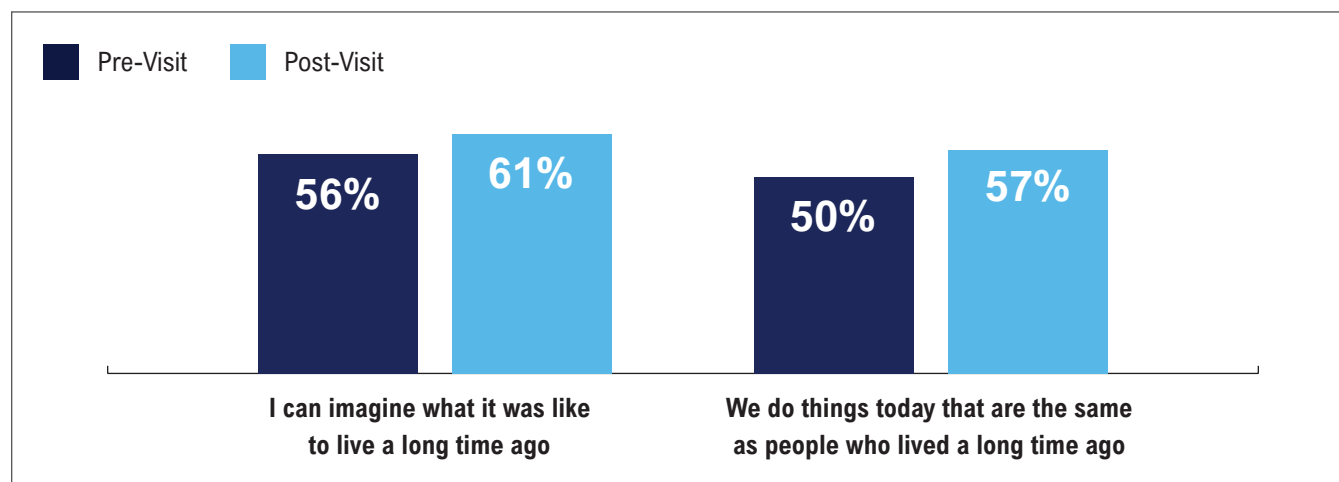
identified other galleries they would want to visit. Almost all indicated that they would want to use their museum passes.

Figure 6. Percent of students answering “Agree” or “Strongly agree”, post-program survey



Students also reported a statistically significant increase in historical empathy after UtP. The share of students agreeing with the statements “I can imagine what it was like to live a long time ago” and “We do things today that are the same as people who lived a long time ago” both increased significantly following their trip.^{7,8}

Figure 7. Percent of students answering “Agree” or “Strongly agree”, post-program survey



In summary, the evaluation finds that interests and attitudes of students toward history and museums changed after the UtP program.

4. Students were asked to respond to statements using the following scale: 1 (Strongly disagree), 2 (Disagree), 3 (Neither agree nor disagree), 4 (Agree), 5 (Strongly agree).

5. This difference was significant at the 1% level.

6: Students were asked to respond to statements using the following scale: 1 (Strongly disagree), 2 (Disagree), 3 (Neither agree nor disagree), 4 (Agree), 5 (Strongly agree).

7: Differences were found to be significant at the 1% level.

SECTION V:

Additional Benefits

Are there other benefits for students that are not specified in the — program logic model? What are the benefits for teachers? —

The evaluation offered an opportunity to not only assess the hypothesized program outcomes but also to explore if there were other unanticipated outcomes for students not specified in the logic model. Any additional outcomes observed by teachers could be considered for future assessments. In addition, because of the influential role of classroom teachers in furthering the benefits of the UtP program after the visit, we explored how the program might influence teachers. This section shares additional benefits for students and teachers which UtP might consider adding to their logic model.

Teachers reported that students showed increased content knowledge related to ancient civilizations and increased classroom engagement in these topics after UtP. Other research on field trips has documented that the students have increased knowledge about the content of the field trips after their trip (DeWitt & Storksdieck, 2008). The Strategic Outcomes Framework (Wasserman et. al., 2022) describes knowledge gains as moving from retained knowledge to applied knowledge.

Although learning content knowledge was not identified as a goal of the UtP program, RFA included questions related to this outcome on the teacher survey and in teacher focus groups. Consistent with other research, teacher surveys and focus groups suggest that at least half of students participating in UtP retain and apply content knowledge about ancient civilizations when they return to their classroom.

- Over 75% of teachers reported on their post-program survey that over half of their students retained information they learned at the museum when they returned to the classroom.
- 66% reported that over half of their students applied information they learned at the museum to topics they discussed in class.

Teachers also shared that students were more engaged in their classroom content when they returned to school. For example, one teacher commented:

“ Definitely kind of changed opinions on some things. Like, I couldn't get my kids excited about Egypt and today, like many of them, started asking questions and trying to get involved, which was very different than what we've had. So that was just, you know, I saw that. I thought that the experience was really helpful for that reason.



A few students also reported being more interested in topics in school after the trip. One student commented, “once you actually see it in like, real life, and you’re like, oh, you feel like you want to learn more about it, yeah. So it’s a good way to kind of engage.”

“...once you actually see it in like, real life, and you’re like, oh, you feel like you want to learn more about it, yeah. So it’s a good way to kind of engage.”

Engagement in classroom content is important because it provides an opportunity for the continued development of situational interests and attitudinal changes that occurred through the museum experience.

The Strategic Outcomes Framework identifies 21st Century skills, such as observation, as one type of outcome that can develop through museum visits. **Several teachers, in two focus groups, reported that UtP helped students improve their observational skills.** As one teacher described:

“One big thing that the students gained after that was, like, I think they really helped them with their notice and wonder activities, just because it helped with talking through different processes for like color and art processes and helped them figure out what to focus in on, what exactly to look for. So it kind of triggered that ability to really pay more attention to images and whatnot, looking for patterns and similarities and differences. I definitely noticed that the concept of notice and wonder got stronger with our students after that [trip].

(General education teacher)

A teacher in another focus group commented similarly:

“Even in just in how [UtP educators] were working with them inside the classroom, and the care and the precision that [students] took when they were actually looking at artifacts and trying to decipher if they were glazed or if they were just painted. So then, when we got to the museum, when they saw the same things, they were aware of, okay, this is how we appreciate it. This is how we look and observe as well as learn from it...

(General education teacher)

A third teacher described how the development of observation skills can lead to other higher-level thinking:

“ I think it helps develop their observation skills. It helps them slowdown in order to do that, which leads to critical thinking and questioning. I think a lot of our kids aren't taught that questions are a good thing, that you know, we want them to wonder, we want them to seek out, and it helps develop curiosity.

(General education teacher)

Teachers also see value in exposing their students to museums and the broader city. Across focus groups, teachers also described the value of UtP as it exposed students to a world class museum and to other sections of the city of Philadelphia. Teachers observed that many of their students had not been to a museum before and saw UtP as a good opportunity to understand how to appreciate museums. This was a prominent theme in focus groups, and comments from several teachers are shared below:

“ I think that for some students, it was a new experience overall. I mean, they had never been to that museum before, so I think the exposure, in and of itself, was a wonderful treat for them to see all the different things that were there.

(AS teacher)

“ Well, this trip was really especially powerful because this group of sixth graders had not been on a trip for like, four or five years, so just having the opportunity to get outside of the school and having an opportunity, and a lot of them had not heard of the Penn Museum. I was hearing how pretty everything was and how fun. Yeah, so and their parents, who chaperoned, also loved the trip.

(Gen Ed classroom teacher)

“ I think it's a lot of life skills, like, how do you act in a museum? What sorts of questions would you ask in a museum, what can you do when you grow up? I think it does a good job of exposing kids to those experiences which otherwise they wouldn't have.

(General education teacher)

In addition, teachers observed that their students benefited from seeing other parts of the city beyond their neighborhood. Two teachers, exemplary of others, stated:

“ And then I think that, you know, the bus ride also includes, like, driving into the city. I did let all the students know that what kind of institution University of Pennsylvania is...I also talked about Philadelphia and Center City.

(General education teacher)

“ Just going down I-76 and seeing the water, and then just the whole university city area with the buildings. When we were at the koi pond, they got to see the helicopter coming into the hospital. So, the whole experience was, it was great for them.

(General education teacher)

Autistic Support teachers valued the opportunities for their students to practice social skills. As one teacher explained:

“ A lot of my students work on social skills. They work on mastering different behaviors like controlling themselves, speaking, advocating, and so you’re able to kind of use the outside setting to really help guide them further, and then also to teach that concept.

(General education teacher)

Another AS teacher observed the collaborative opportunities in the painting lesson as being valuable for the development of her students’ social skills:

“ I would say they did really well with, like, figuring out how to collaborate while they were doing the different things. I saw them when they were doing the painting activity, and they had to share materials. And they were really looking to collaborate and finding ideas to put on their magnets. And they were just really into helping each other figure it out... they did really well with helping each other to piece things out, and that’s not something that’s easy to do with autistic support students, so I feel like that was a really cool thing to see them sit with each other and have organic conversation that didn’t have necessarily anything to do with me prompting them to do it.

(AS teacher)

Some teachers also reported gaining new insights about their students, learning content knowledge, and appreciating observing strategies used by the museum educators. When asked about ways in which the experience may have benefited them, some teachers pointed to the general benefits of watching other educators, particularly skilled educators, teach their students, so they may get new ideas or insights about their students.

“ All of the educators that I interacted with were terrific, and so they’re showing a lesson that’s done over and over again, so they’re very, very good at it. So I absolutely have learned from them...teachers don’t always get to see other teachers teach.

(General education teacher)

A few teachers also reported that the trip helped them learn content knowledge they can bring to the classroom.

“ Think everything I’ve ever learned from, like the museum, I always took it back to class, yeah, it’s a learning experience for everyone. I’ve learned a lot just going with the groups and watching the tours.

(General education teacher)

Several teachers also stated that there was no impact on their teaching practice, but it reinforced what they already do.

The additional benefits that the research surfaced, particularly increased classroom engagement and observation skills, suggest that there are opportunities in some post-trip settings to capitalize on the seeds that are planted during UtP.

SECTION VI:

Program Components

Which program components contribute to positive participant experiences and outcomes and where could the program be strengthened?

The final set of evaluation findings focuses on the program structure and implementation. It highlights elements of the program that are likely contributing to the positive participant experience and positive outcomes, as well as a few areas for consideration to improve or enhance the program.

UtP structure reflects several best practices for field trips.

The UtP program is structured to include elements that contribute to impact, according to research literature on field trips (DeWitt & Storksdieck, 2008). Teachers also praised many of these features, listed below.

- ▶ **Pre-lesson that orients students to the museum and begins to build knowledge.** Research suggests the pre-lesson activities support both cognitive and affective learning on the trip (DeWitt & Storksdieck, 2008). These activities are important because they make the new setting less novel –when a field trip setting is too novel, it can undermine the learning experience. In addition, the pre-lesson begins to build knowledge and prior knowledge about a topic can facilitate learning on a field trip. When asked about the value of the pre-lesson on the teacher survey, teachers rated it highly (9.3 out of 10).
- ▶ **Small group work:** In two of the three components of UtP (pre-lesson and paint lesson), students are asked to work together in small groups. Additionally, on the museum tour, students have the option of pairing up with others to complete activities. Research suggests that the social context of a field trip influences students' overall experience (DeWitt & Storksdieck, 2008). Opportunities for conversations between students about what they are seeing and doing can amplify learning. As





described above, RFA's observations confirmed a high-level of participation and collaboration in small group activities during UtP in which students were discussing what they were seeing and learning.

- ▶ **Structure balanced with discovery-oriented activities:** Structure in field trips can support learning, but overly structured experiences can decrease students' engagement or positive attitudes toward the experience (DeWitt & Storksdieck, 2008). Therefore, best practices suggest that structure, such as provided by worksheets, should be used to foster discovery and social interactions about learning. Each component of UtP offers a clear structure through worksheets that support discovery-oriented activities. For example, in a gallery on ancient Greece, a museum educator asked students to look at all the images they see on the ancient coins in display cases and record them on a worksheet to create a bar graph. In a later discussion they talked about which types of images they saw most commonly and why. Other gallery tour activities included identifying the oldest or the newest objects or identifying objects that were like objects used today.

Multiple teachers in focus groups commented on the value of the program's structure, which helped to keep their students focused. They contrasted the structure of the UtP program with field trips at other institutions and reported that their students learned more because of the structure. At the same time, students in one focus group would have liked more autonomy during the museum tour. As one student explained:

“ One thing I would say is that, like, our tour guide was like, he didn't give us, a lot of time to, look at the stuff on our own. Like, he was mostly talking about this stuff in one part of the gallery, and then you didn't have a lot of time to go and look at other stuff in the gallery.

(Student focus group participant)

Another student in the same focus group suggested that students may need more choice during the visit.

“ [We should] spend more time exploring the museum, more exploration and look around time. ...So they should probably have, like votes in there just in case some people want to stay.

(Student focus group participant)

In other student focus groups, students also described wanting more time in the museum and opportunities to see other galleries they didn't get to see on the guided tour, which may also point to a desire for more autonomy.

UtP educators create a supportive learning environment.

Positive adult-youth interactions are critical for youth engagement and learning in any classroom-based or out-of-school learning experience. RFA's observations documented consistently positive and supportive interactions between students and UtP educators, all of whom are former classroom teachers. For example, RFA's structured observations documented that UtP staff, in almost every activity across UtP staff, did the following:

- Greeted students and made an effort to learn their names,
- Used a warm tone of voice even when guiding student behavior,
- Smiled and made eye contact with students,
- Were always actively involved with students, monitoring progress and providing support while they participated in hands-on activities,
- Regularly acknowledged youth contributions with general praise or more specific feedback, and
- Frequently asked open ended questions that allow youth to express opinions.

On the post-program survey, teachers rated highly the degree to which staff helped students feel welcome at the museum (9.56 out of 10). In focus groups, teachers described UtP practices that helped their classes feel welcome. First, they noted that the staff members who came for the pre-lesson greeted classes as soon as they got off the bus at the museum and directed them to the gathering place. They described:

“ And then, you know, [UTP staff] says Hi, and like, they already know the museum educator who came to visit, and [Another UTP staff] says Hi, and then [A third UTP staff] says hi. So like, they get those introductions, and then we kind of go into our groups.

(Teacher focus group participant)

“ Okay, they love the instructors coming here, the educators coming here. Because, first of all, the educators are educators... They're not docents, they're educators. The kids love the engagement. They love how personable they are with them. They learn their names, they you know, call them by their class name and all those things, so they feel connected, that they feel connected to the museum educators.

(Teacher focus group participant)

“ The educators are clearly educators, and they know how to deal with middle school kids... they're really great with the kids. And the kids feel that. They feel like they have a warm welcome, they feel like they belong, and they feel like they can ask questions...

(Teacher focus group participant)

Students in focus group also reported liking Penn Museum staff, saying they were “fun”, told jokes, or explained things well. Students in one focus group, however, reported that their tour guide sometimes talked too much or rushed them through the exhibit and did not allow them to take photographs.

UtP educators effectively facilitated UtP content for Philadelphia middle school students.

UtP educators were observed to be not only supportive but also effective with middle school students. On the post-program survey, teachers rated staff’s effectiveness with their students an average of 9.35 on a 10-point scale. In focus groups, a few teachers shared their perspective on effectiveness saying:

“ And in my classroom, it’s like, full inclusion, even though we have IEP and G IEP students, however, I just think that the level of questions that they asked were definitely appropriate and they were definitely scaffolded...

(Teacher focus group participant)

“ [UTP staff are] awesome...they’re really good. I think there’s some, like, classroom management tricks [they used] just like asking, one kid to do the collecting of the papers. Or like, one kid collects the brown paint, and the other one collects the black paint... they’ll use wait time when they ask questions, and like, they will wait until they have the kids attention before they start. I think all of that are, like, really effective that they interact with kids.

(Teacher focus group participant)

At the same time, while most teachers were very complimentary about UtP staff, one teacher had a different perspective, saying that one of the UtP educators who guided their students struggled with group management and didn’t “know exactly how to manage middle school behaviors.”

RFA’s structured observations also documented consistently strong teaching practices including time management and scaffolding learning. Staff effectively managed the time and flow of session activities in most activities observed, though there were occasional delays, particularly with the gallery tours. In addition, in all 12 observations RFA observed UtP staff consistently scaffolded learning, drawing on the following practices at least once:

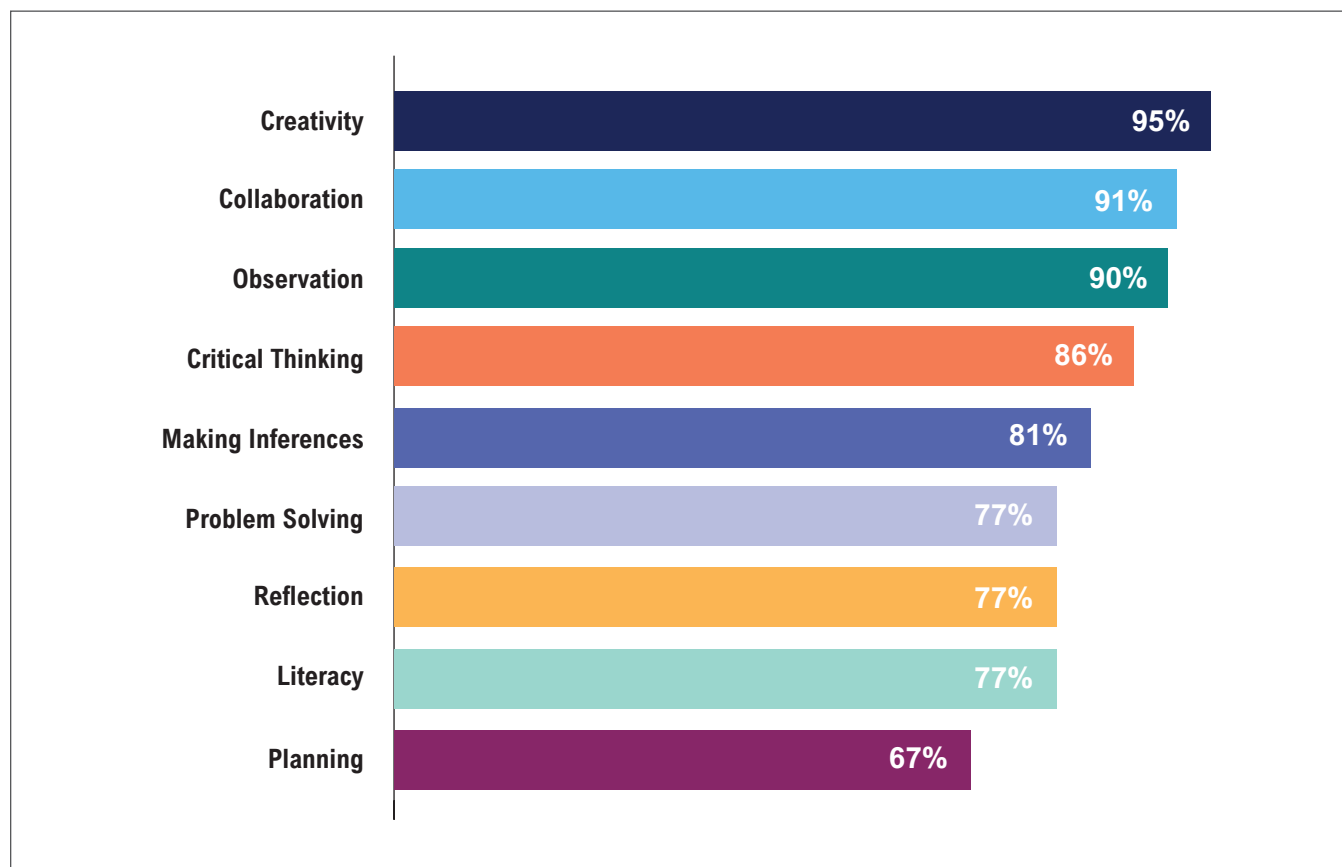
- Breaking complex tasks down into steps,
- Modeling skills at least once,
- Monitoring the level of challenge and adjusting as needed, and
- Asking questions to guide discovery and problem-solving

Examples of these observed practices can be found in Appendix E.

UtP offers opportunities for students to practice 21st Century skills, particularly collaboration, creativity and observation.

Teacher survey and observation data suggest that UtP also offers opportunities for students to practice 21st Century skills and higher order thinking. On the survey, teachers reported that the trip provided opportunities for their students to practice 21st Century skills. Specifically, Figure 8 below shows the share of teachers that responded that most of their students were able to practice each skill. The most frequently practiced skills were collaboration, creativity and observation, followed by critical thinking and making inferences.

Figure 8. Percent of teachers who answered that over half of their students practiced a skill, teacher post-program survey



RFA's structured observations across 12 activities (3 per classroom) also confirmed that UtP activities consistently engage youth in higher order thinking activities. In each activity, RFA observed that the following occurred at least once in each of the three activities, meaning students had three opportunities within the whole UtP program to practice one of the following skills. The staff practices that were consistently observed at least once in each of the three components of UtP include the following:

- Making inferences, predictions, and comparisons,
- Making connections to their own lives,
- Evaluating their own work against criteria or standards, and
- Encouraging creativity.

Specific activities lend themselves to different higher order thinking skills. For example, the paint lesson provides the most significant opportunity to practice creativity. However, each student experiences all three activities and therefore has at least one creative experience. Examples of these observed practices can be found in Appendix E.

Teachers identified free transportation, free family passes and the ease of scheduling as other features of the program they appreciated.

In addition to these elements of the trip, teachers in focus groups and in the survey highlighted other aspects of the trip that contributed to it being a positive experience for students as well as for teachers. First, they pointed to the importance of the trip being free, including the transportation offered by the Penn Museum. As one teacher said, “They pay for the buses, which is a huge help. The fact that the trip is free is phenomenal.”

In addition, most teachers raved about the level of support provided by Penn Museum in planning the trip. On the survey, teachers rated the ease of scheduling a trip a 9.26 out of 10, on average. In focus groups, they described UtP supports that made it so smooth.

“ I don’t think they can make it any easier. [UTP coordinator], as soon as you contact her, she calls you back. They send, you know, the packet that they sent out. They send you a checklist. Tell you what you should have by two weeks or months in advance. I don’t think it can make it any easier. Like, everything is so laid out, it’s perfect. Everything’s laid out, even as far as calling to reserve the bus, so it’s easy to plan for.

(Teacher focus group participant)

“ It’s so easy... [UTP coordinator] is so phenomenal and so organized.

(Teacher focus group participant)

One teacher, however, reported having some technical challenges associated with the on-line scheduling platform and some challenges with UtP rescheduling the pre-lesson several times due to unexpected events.

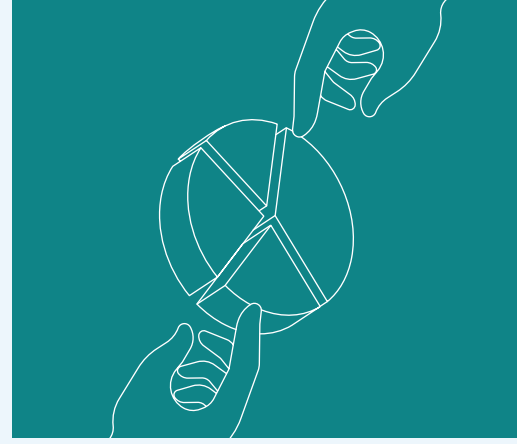
Finally, several teachers commented on the benefits of the free family pass for students; appreciating the opportunity it provided to support connections between students and their families. In focus groups, most students expressed an intention to use the pass and identified various galleries they would want to see on their return. However, it was unclear how many students would use the pass. UtP reported that their own past analysis of data on the use of passes suggested that a small percentage of students use them. One teacher suggested that she might start to ask parents when they come to conferences if they knew about and used the pass.

Teachers and students identified three areas for consideration to strengthen the program experience.

Two areas for consideration and enhancement of the program emerged from the teachers in the evaluation.

- ▶ **More alignment and support for teachers on the self-guided tour.** One of the three activities students do at the museum is a self-guided tour with their teacher. The tour is typically 30 minutes and follows their lunch break. School groups may be scheduled to have lunch and do the self-guided tour as the first, second or third activity during their three hours at the museum. In three of the four focus groups, as well as on the teacher survey, teachers reported that this component of UtP was most challenging for them to manage and least engaging for their students. Teachers described problematic student behaviors arising during this time. One teacher described the self-guided tour as “chaos”. Teachers suggested more resources from the museum to help focus students such as a scavenger hunt. Additionally, they noted that it would be helpful to have information on the different galleries they might visit in advance so they could prepare themselves and their students. One teacher also pointed out that it was difficult for classes to do the self-guided portion of the tour as the first activity at the museum since they had not yet been shown how to appreciate the museum.
- ▶ **Support for museum security to create a welcoming environment.** A related issue that arose, primarily during the self-guided portion of the tour, was negative interactions with museum security who were present to remind students of the norms of behavior in the museum. On the teacher survey and in focus groups, several teachers commented on negative experiences with students being corrected by museum security or museum security asking teachers to correct students. One teacher commented, “There was a security guard who seemed to follow us everywhere and was extremely rude.” Another teacher reported that her students felt “targeted” by museum security who followed them, corrected their behavior, and complained about them to another staff member within earshot.

Students in one focus group identified one additional area for consideration – more affordable and accessible food. Students typically bring their own lunch, or bag lunches are provided by the school. UtP educators warn students in advance that the Museum’s vending machines are not reliable, and students are strongly discouraged from ordering food in the Museum’s café due to the tight timeline for lunch (30 minutes). However, students in one focus group were disappointed that they could not purchase food during their field trip. They suggested that the vending machines be fixed and/or the food in the Museum’s café be available to them and less expensive.



SECTION VII:

Conclusions and Recommendations

The evaluation finds that UtP is achieving many of its intended goals and demonstrating some potential additional benefits. Students, who come from schools that are representative of the population of the School District of Philadelphia, express a high level of interest and enjoyment in the UtP experience and actively participate. In addition, statistically significant changes were observed in students' interest in learning about people who lived in the past, their historical empathy (ability to imagine what it was like to live a long time ago), and their interest in visiting museums in the future. Teachers also observed other benefits including increased content knowledge, greater classroom engagement in social studies and ELA units related to ancient civilizations and the development of observation skills. These benefits arise from a well-designed program, aligned to research-based best practices, that is led by effective educators who create a supportive learning environment and provide multiple opportunities for students to practice 21st Century skills and higher order thinking.

Unique to the UtP program is its accommodation for autistic and other learning support students. Teachers of these classrooms expressed appreciation for the opportunity to take their students on a field trip and reported that it was perfectly aligned to the needs of their students.

Some teachers also reported content and pedagogical learning from the program and almost all teachers offered overall praise for UtP staff for creating a smooth and impactful experience for them and their students.

The evaluation also highlighted potential areas for improvement for UTP including adding more structure to the self-guided tour and ensuring that museum security convey the same welcoming tone that UtP staff offer to students.

As a result of the evaluation, RFA offers a revised logic model for the UtP program which highlights revised outcomes assessed in the evaluation as well as additional benefits identified by teachers. The revised logic model can be found in Appendix C.

The evaluation also highlights other recommendations for UtP to continue to improve and enhance their program, recommendations for other museum education programs, and recommendations for the School District of Philadelphia to leverage these types of experiences for their students.



Recommendations for Continuing to Improve or Enhance UtP

The first set of recommendations includes adjustments that could be made to ensure a consistent and positive participation experience.

- 1. Provide more structure for the self-guided tour.** The only element of the museum experience that teachers reported as less engaging for students was the self-guided tour. As described above, they requested more structure for this component such as pre-made activities for students and/or resources that would enable teachers to prepare themselves and their classes for the galleries they would visit.
- 2. Work with museum security to create a consistently welcoming environment for students.** In addition, during the self-guided tour, some classes had negative interactions with museum security as student groups explored exhibits with their peers. UtP staff may accompany some self-guided tours to understand the dynamics with museum security and engage in dialogue with them to understand their perspectives and determine other approaches to managing student behavior. UtP may want to have on-going dialogue with the department that oversees museum security and work to build an understanding of the UtP program with the department and with individual security personnel.
- 3. Train and support UtP educators in consistently utilizing accommodations for ML students.** Teachers reported that the ML students in their classes were able to navigate the UtP program through translation from their peers or chaperones. Immigrant students also made connections between museum exhibits and their own culture. UtP has resources for accommodating ML learners, however, these were not observed by RFA or teachers participating in focus group. UtP leaders may explore the barriers that museum educators face in utilizing these resources and provide training or coaching on how to consistently integrate them into UtP activities.
- 4. Consider approaches to offering more autonomy in the museum tour.** Teachers saw the structure of the UtP experience as essential and part of what made UtP a successful experience for their students. They also found the unstructured, self-guided tour the most challenging part of the experience for student behavior. At the same time, some students would have liked more autonomy, specifically on the museum tour. This tension is a natural one for middle school students who, as a normal part of their developmental stage, desire greater autonomy. UtP may consider whether there

are ways to offer, as one focus group suggested, more choice for some groups of students within the structured activities of the gallery tour or free time at the beginning and end of time in each gallery for students to look around.

We also offer several recommendations to build on the situational outcomes students experienced at the museum and support longer-term impact.

5. **Work with classroom teachers to deepen alignment to the SDP curriculum for the benefits of sustained learning and engagement post-trip.** UtP content is aligned to the middle school social studies and ELA curriculum in the School District of Philadelphia. When students visited the museum in the middle of a relevant unit, teachers reported increased engagement in the unit post trip. However, classes visit at different times of the school year and their trip may not always align to the most relevant units. Students in one focus group reported that the trip did not align with what they were studying in school. While UtP educators work with teachers to understand their goals for the trip, they may more specifically explore the topics being covered in social studies, ELA or other subjects to find ways at the time of the trip, to ensure at least some portion of the trip speaks to classroom content. Also, UtP may consider assessing how the trip influences students' interest in classroom content and even post-trip learning outcomes.
6. **Incorporate more activities that connect to students' interest in learning about their own cultures.** UtP aims to help students see the relevance of UtP activities to their own lives, recognizing similarities or connections. The evaluation suggests that some students make these connections through their culture. Teachers reported that for immigrant students, it could heighten their sense of belonging to have other students see elements of their culture represented at the museum. At the same time, students in our focus groups reported recalling or remembering artifacts that related to their own cultures in the Africa, Asia or Central American galleries. Adolescence is a time when students begin to think about their own racial and cultural identities and UtP may consider more intentionally connecting to cultural interests to deepen the sense of relevance on the tour.
7. **Offer post-trip activities for teachers.** Research suggests that both pre-lesson and post-visit activities are important for ensuring that students benefit from a field trip. RFA asked teachers about their post-visit activities with students in the classroom. Teachers typically conducted a brief post-trip reflection about what students liked or didn't like about the trip. Some teachers were also actively engaged in a unit on ancient civilizations or another related topic that enabled them to continue discussing the museum visit. But this varied by the time of year when the field trip happened and by teacher. Many teachers did not conduct extensive post-visit activities. Penn Museum may consider providing teachers with follow-up activities that could help students to maintain their learning and support student interest and further learning.

Recommendations for Other Cultural Institutions

The UtP evaluation also offers lessons for other cultural institutions partnering with the schools in Philadelphia. Philadelphia teachers highlighted the practices of UtP that made it unique and effective for their students. Other institutions may consider incorporating these practices, as fits their setting.

- ▶ **Add pre-post visit activities:** Teachers and research literature highlight the value of pre-lessons in the classroom for student learning and engagement in the trip.
- ▶ **Balance the need for structure and autonomy:** Teachers praised the structure of UtP for fostering learning, as opposed to field trips that provide largely unstructured exploration time. The research literature supports a more structured approach for learning, though it must be balanced with discovery-oriented activities and some opportunities for autonomy for older youth.
- ▶ **Consider ways to support transportation to and from the institution.** UtP arranges and pays for buses for schools to visit the museum. Many teachers in focus groups commented on the importance of this free transportation for students and for the school in making the trip doable. It also simplified the experience for teachers, increasing the likelihood they would return the next year. Other institutions may consider fundraising to provide similar transportation services for Philadelphia schools, as a tangible step toward expanding access.
- ▶ **Adapt the experience for youth with learning differences.** Autistic support teachers reported that there were no other museums in the city that provided the type of accommodated experience for autistic youth offered by UtP. Other museums may consider offering these types of opportunities or creating greater awareness of the opportunities that exist.

Recommendations for the School District of Philadelphia

Continue to support connections between the city's cultural institutions and schools. The findings of this evaluation validate the support that the School District of Philadelphia already provides to connect schools and cultural institutions. The district works to connect cultural institutions with schools that could benefit the most from their programming. It also creates opportunities for teachers to receive professional development from various cultural institutions. The promising results of this evaluation suggest that these existing efforts be continued and expanded where possible. The district could also continue to support research that illuminates the connections between student learning on field trips and the district's curricular goals.

In conclusion, UtP provides a promising example of the ways in which museum experiences can benefit young people in Philadelphia. By continuing to leverage UtP and other similar cultural resources, schools in Philadelphia can enrich the educational experiences of their students and foster greater engagement in learning in the classroom and beyond.

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Appendix A

Survey Analysis Plan

Survey Design

Student Surveys

Students take a **pre-trip survey** prior to the museum's classroom pre-lesson and a **post-trip survey** within two weeks after their visit to the museum. The surveys include multiple choice, Likert, true/false, and scalar questions. Most of these questions appear in the pre- and post-trip surveys to measure the relationship between a student's perceptions before and after participating in the program. There are a few descriptive questions that appear in only one of the two surveys that collect demographic data and direct responses to questions about their visit.

The student surveys were developed by referencing the evaluation's research questions, the program's logic model, and specific outcomes of interest to the Museum. The resulting constructs are as follows:

- **Demographics:** Who is being served by the program? (RQ4)
- **Interest:** Do students exhibit an interest in their culture, other cultures, history, and/or content in the museum? (RQ1)
- **Making Connections:** Can students make connections between content in the program and their own lives? (RQ1)
- **Historical Empathy:** Do students have increased empathy for cultures other than their own? (RQ1)
- **Engagement:** Do students show active participation in the program content and activities? (RQ1)
- **Further Learning:** Do students actively seek to expand their knowledge? (RQ1)
- **Museum Interest:** Do students exhibit an interest in museums? (RQ1)

Teacher Survey

Teachers are asked to complete a **post-trip survey** within two weeks after their classroom participates in the museum visit. The survey includes multiple choice, Likert, true/false, and scalar questions about **the teacher's perspective on the engagement and learning opportunities for their students during the trip**.

Similar to the student surveys, the teacher surveys were developed referencing the evaluation's research questions, the program's logic model, and specific outcomes of interest to the Museum. The constructs from the student surveys are also measured in the teacher survey, along with the following additional constructs:

- **Learning:** Did students retain the information they learned during the program? (RQ2)
- **Learning Opportunities:** What skill-building opportunities did the program present for students? (RQ2)
- **Implementation:** Do what extent was the museum able to accommodate the needs of students?³ (RQ3)

All questions in the three surveys fall under one of the following constructs:

Table A1. Survey item constructs

CONSTRUCT	SURVEY(S)
Demographics	Both
Interest	Both
Making Connections	Both
Engagement	Both
Further Learning	Both
Historical Empathy	Student
Learning	Teacher
Learning Opportunities	Teacher
Implementation	Teacher

Target Population and Sample

The table below provides details on the number of schools, teachers, and students that were scheduled to participate in the program during the evaluation period, and how many we were able to collect data from.

Table A2. Survey sample size

	POPULATION	RESPONSES (PRE-SURVEY)	RESPONSES (POST-SURVEY)	RESPONSE RATE (PRE)	RESPONSE RATE (POST)
Schools	47	41	37	87%	79%
Students	3,659	2,170	1,443	59%	39%

Table A3. Survey matched sample size

	POPULATION	RESPONSES (PRE AND POST)	RESPONSE RATE
Schools	47	27	57%

Three samples are derived from data collected: student pre/post, student post-only, and teacher post. The student pre/post sample only includes schools in which the number of pre-responses is \geq the number of post responses/2 (or vice versa). In the student post-only sample, all schools with at least 1 post-survey response are included. In the teacher post sample, all schools with at least 1 teacher response are included.

Table A4. Demographics of schools represented in survey data

SCHOOL DEMOGRAPHICS	SDP	SCHOOLS SERVED	IN STUDENT POST-ONLY ANALYSIS	IN STUDENT PRE/POST ANALYSIS	IN TEACHER POST-ONLY ANALYSIS
# Schools	250	47	37	27	36
% Black/AA	49%	55%	48%	45%	53%
% Hispanic/Latinx	25%	19%	23%	24%	19%
% EL*	21%	14%	17%	18%	14%
% IEP	20%	24%	25%	25%	25%

*Data not available for charter schools

Statistical Methodology

Test Selection

Aside from descriptive analyses performed for the teacher surveys and certain questions from each student survey, the main analysis of this evaluation is a Proportion Ratio (PR) test performed at the construct-level on the percentage of positive responses on student pre- and post-program surveys.

A PR test is appropriate for evaluating whether the proportion of individuals responding positively to survey items differs significantly between the pre- and post-program surveys. Although a paired analysis would be more appropriate for pre- and post-program survey data, this is not possible due to the lack of identifiable information collected by the instrument. Because of this, responses are treated as independent samples.

Hypotheses

This analysis will be conducted with the null hypothesis that no meaningful difference exists between the proportion of positive responses on the pre- and post-trip surveys.

$$H^0: pr(pre) = pr(post)$$

The alternative hypothesis is that there is a significant difference between the proportion of positive responses on the pre- and post-trip surveys.

$$H^a: pr(pre) < pr(post)$$

Data Analysis Procedure

Data Preparation

Survey data is first downloaded from Qualtrics and loaded into Stata as a .csv file. The following cleaning steps are then performed on each separate dataset:

- Questions are recoded as binary variables, for example:
 - Likert scale responses of 4 (“Agree”) or 5 (“Strongly agree”) are coded as a 1, and other responses (“Neither agree nor disagree”, “Disagree”, and “Strongly disagree”) are coded as a 0.
 - True/false questions are recoded to values 0 or 1.
- The data is analyzed at the student level.

Descriptive Analysis

Descriptive analyses will be performed in Stata on the following questions relating to the specific outcomes requested by the Museum. These results will include all schools that submitted at least one student/teacher post-survey response.

PR Test Analysis

A PR test will be performed at the student level on the following questions relating to both specific outcomes of interest and broader impacts outlined in the program's logic model:

Table A5. Matched survey items

CONSTRUCT	RQ	QUESTION
Interest	1	I like learning about my own culture
		I like learning about other cultures
		I like learning about people who lived a long time ago
		I want to learn more about the objects at the Penn Museum
		I want to learn more about the people and cultures displayed at the Penn Museum
		History is important for students to learn
		I would like to visit a museum in my free time, outside of school hours
Historical Empathy	1	I can imagine what it was like to live a long time ago
		We do things today that are the same as people who lived a long time ago
Museum Interest	1	I would visit a museum in my free time, outside of school hours.

Reporting

Significance Threshold

Findings will be reported for all significance levels (1%, 5%, and 10%) due to the minimal consequences of incorrect conclusions. The study aims to report on the general impacts of an educational program and guide adjustments to improve outcomes, therefore a broader threshold will allow the analysis to identify potential effects without limiting findings due to the possibility of a false positive, which in the context of this study is not a serious threat.

Interpretation of Results

Descriptive Analysis

The table below describes each type of question included in the descriptive analysis and how responses will be reported:

Table A1. Survey item reporting details

QUESTION TYPE	REPORTING STRUCTURE
Likert (Descriptive)	Distribution of responses (e.g. 15% answered "1 – Not true at all")
True/False	Percentage of respondents (95% answered "True")
Scalar (1-10)	Average score (Respondents rated this a 9.5/10, on average)

PR Test Analysis

PR tests performed at the question level will be reported through the following metrics:

- Proportion of students answering positively on pre-program survey items,
- Proportion of students answering positively on post-program survey items,
- P-value, and
- Whether the findings are significant, and at what level.

Limitations

There are notable limitations to this analysis, the most prominent being the lack of a controlled data collection process and environment. Students are asked to take the pre-lesson survey prior to the program and the post-visit survey no more than two weeks after their museum visit, but within these guidelines there is much room for variation. Below are some examples of variation that may occur:

- The amount of time students are given to complete the survey,
- The time of day in which students are asked to complete the survey,
- The amount of time that elapses after a student's trip before they complete the post-trip survey,
- Whether a student is given time during the school day to complete the survey, or if it is assigned as homework or independent work, and
- Whether or not a student is given any type of reward for completing the survey.

Additionally, this analysis relies on the assumption that the same (or a similar) group of students is represented in both the pre- and post-visit surveys within a school. Due to the lack of personally identifiable information collected, there is no way of confirming whether the same group of students who completed the pre-survey also completed the post-survey.

Finally, the teacher surveys are subject to similar variations in data collection as the student surveys, including:

- The amount of time that elapses after a trip before they complete the survey, and
- The role of the individual teacher in planning and attending the trip.

Appendix B: Observation and focus group methodology

Sampling for student observations and focus groups

RFA worked with UtP to select four schools for class-level observations and student focus groups. Schools were selected because they were typical of the schools participating in UtP, and teachers and principals agreed to support the research. In addition, we selected school trips that were led by teachers that had participated in UtP in the past. Three of the schools were SDP schools and one was a charter school.

Between 86-100% of students in each of the schools were economically disadvantaged. In three of the four schools, 50% or more of students identified as Black. However, fifty-eight percent of students at one school identified as Latinx students and 52% were classified as EL students. One school reported mid-range academic performance with 50% of students scoring advanced or proficient on the PSSA English exam while the other schools reported less than 50% proficiency on this exam. School profiles are displayed below:

Table B1. Case study schools: Receiving UtP observations and a student focus group

SCHOOLS (ALL SCHOOLS ARE RETURNING FROM LAST YEAR)	TRADITIONAL DISTRICT OR CHARTER SCHOOL	% OF STUDENTS ECONOMICALLY DISADVANTAGED IN SCHOOL	%ADV/ PROF ON PSSA ENGLISH	BOOKING TEACHER'S SUBJECT AREA	% ML	SCHOOL DEMOGRAPHICS
School 1 (Oct. 2024)	District	100%	32%	Social Studies	52 %	58% Hispanic, 19% Asian, 14% white, 7% Black
School 2 (Nov.2024)	District	100%	50%	Social Studies and ELA	7%	50% Black, 26% white, 11% Hispanic, 7% multi, 4% Asian
School 3 (Dec. 2024)	Charter	90.3%	20%	Social studies	0.8 %	93% Black, 3% Hispanic, 3% multi
School 4 (Mar. 2025, General Education and Autistic Support)	District	86%	39%	Social Studies	1%	67% Black, 25% white, 4% Hispanic, 3% multi, 1% Asian

Observations

Twelve structured observations were conducted using two scales –Scaffolding Learning and Academic Skill-Building-- from the Youth Program Quality Assessment (YPQA)-Academic version. The YPQA is an established rubric for assessing quality programming in out-of-school time settings. RFA chose to use scales from this rubric after conducting informal observations prior to the start of data collection and considering one goal of the observations was to examine cognitive skill-building opportunities. In addition, RFA added two items based on UtP interest in assessing opportunities for literacy skills and observation skills. Finally, RFA created a seven-item engagement scale based

on a review of other classroom-based engagement assessments. Details and examples from the observations are shared in Appendix E below.

The observations followed five classes through their UtP experience, observing five pre-lessons, five museum tours and five paint-making lessons. Researchers took fieldnotes during observations of the activities and scored the observations, using the YPQA rubric, for four of five classes. The team did not score the observations for the autistic support classes because the tool is not adapted to assess quality activities for this population. In addition, researchers wrote a descriptive summary of each activity. Activity summaries were coded in Dedoose along with the focus group transcripts.

Focus Groups

Student Focus groups

RFA conducted focus groups with students from the four general education classes that were observed participating in UtP. Focus group students were selected on a first come, first serve basis by teachers who distributed parental permission forms to students. The first six-eight students who returned their consent forms were included in the focus group. A total of 23 students participated in the focus groups. Focus groups took place during students' lunch period and RFA provided pizza for students as they discussed their experience with UtP. The focus groups were recorded and transcribed with Otter AI and then coded in Dedoose. Focus groups typically lasted 45 minutes. The focus group protocol is shared in Appendix F below.

Teacher Focus Groups

RFA conducted four virtual focus groups with teachers. Two focus groups took place in December and two at the end of February. In addition, the team conducted individual interviews with teachers who could not attend the virtual focus groups. All teachers who attended the UtP program between October and the end of February were invited to participate through a recruitment email. Additional targeted recruitment emails were sent to teachers of autistic support classrooms to ensure they were represented in the sample. A total of 15 teachers participated including 11 general education teachers and four autistic support teachers. Of the eleven general education teachers, two taught only ELA, three taught only social studies, five taught ELA and social studies and one taught art. 14 of 15 teachers taught in the School District of Philadelphia and one taught at a charter school.

Focus groups typically lasted 60 minutes while individual interviews ranged from 20-40 minutes. Two teachers were interviewed in-person in their classrooms.

Data analysis

Focus group, interview and observation activity summaries were coded in Dedoose. The research team developed a set of codes that were based on the research questions and the programs logic model to capture aspects of implementation, participant experience and short-term outcomes. Thematic analysis was conducted for each code and themes were summarized with supporting data in analytic memos. The student and teacher focus group data for participant experience and outcomes was analyzed separately to highlight themes emerging from student voices. Within the thematic analysis, we looked for exceptions or outliers to the emerging themes and offered those counter examples in the analysis as well.

Scored observation data was averaged across observations and examined descriptively to highlight strengths and areas for improvement. Data across different data sources was triangulated. Focus group data was used to help explain and illustrate findings that were derived from the survey data.

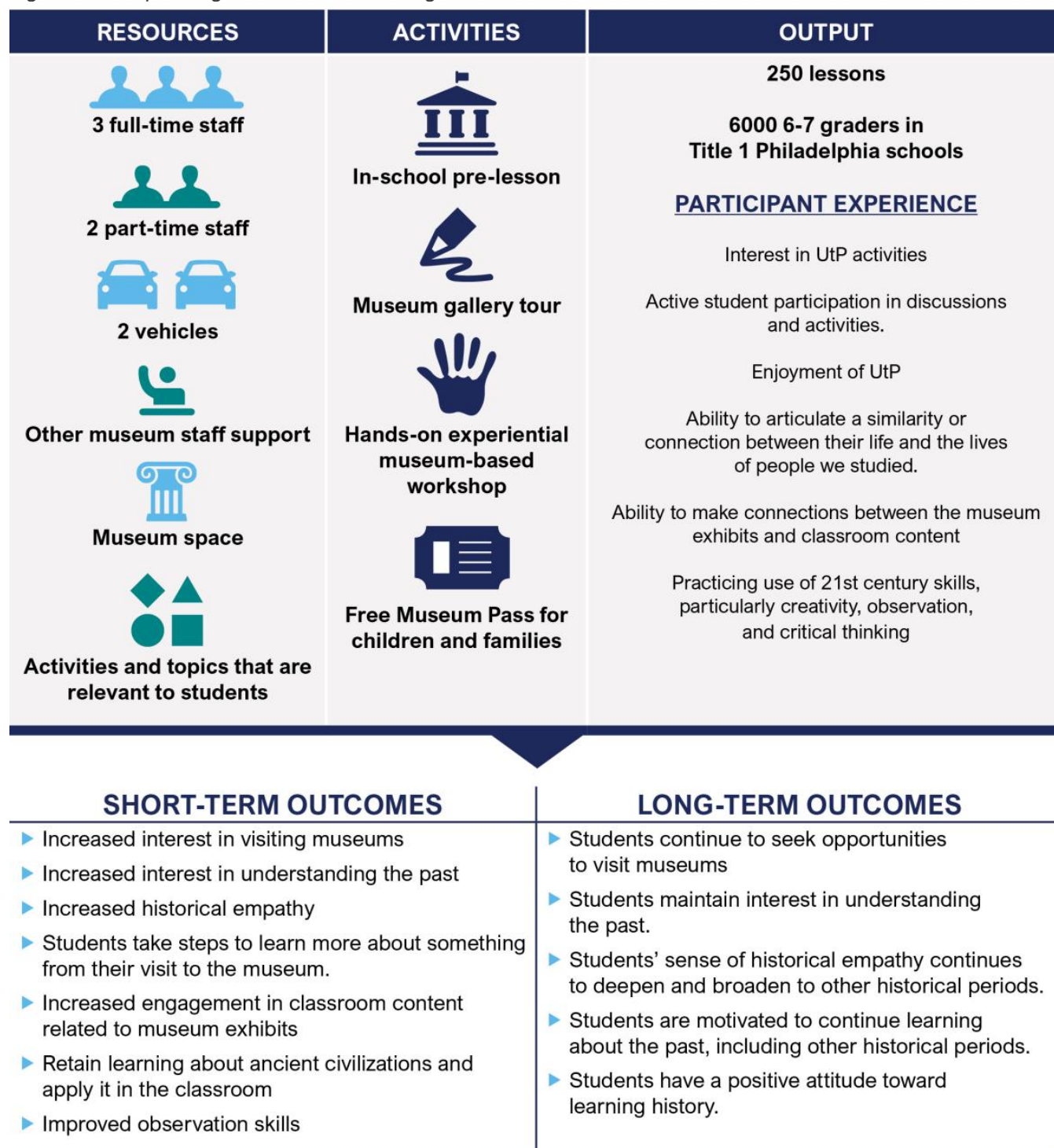
However, focus group data was a primary source of data in the sections on additional benefits and program implementation.

Appendix C: Original and revised program logic model

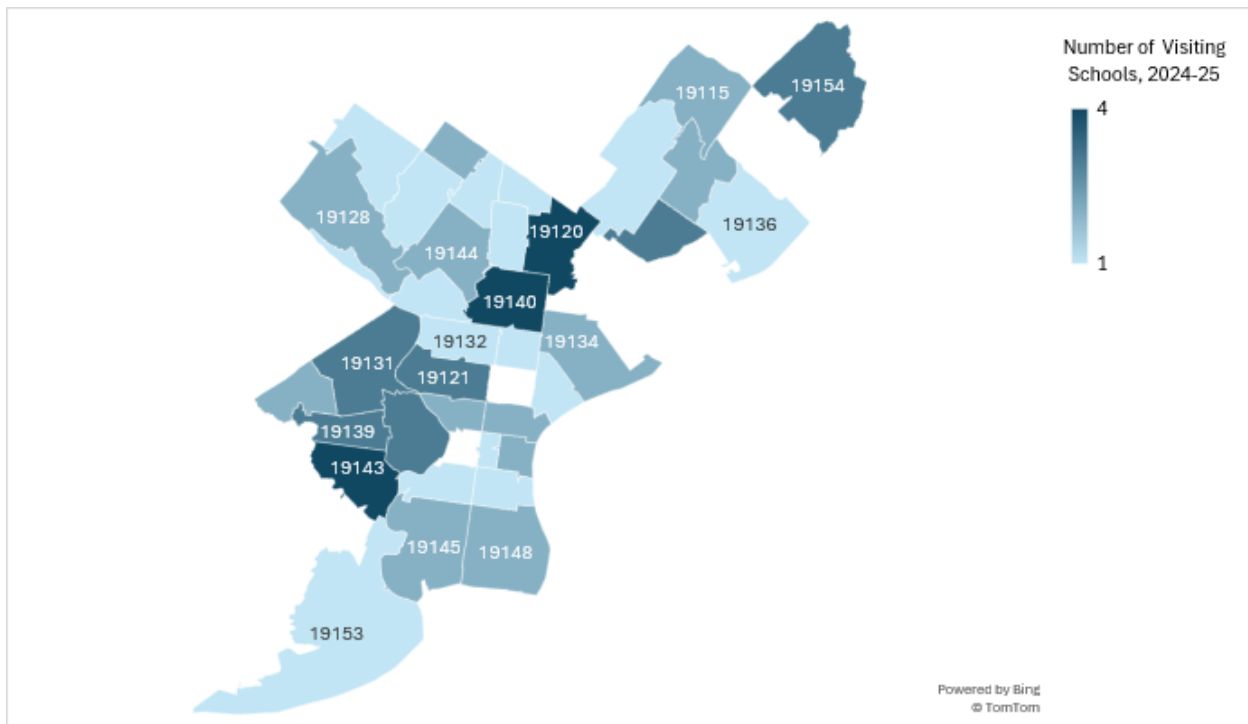
Figure C1. Unpacking the Past Original Logic Model

Students				
Resources	Activities	Output	Outcome	Impact
<ul style="list-style-type: none"> • 3 full-time staff • 2 part-time staff • 2 vehicles • Other Museum staff support • Museum Space • Activities and topics that are relevant to students.... <p>During the program, students will be actively engaged in learning evidenced by their participation in activities and answering/asking questions.</p>	In-school pre-visit lesson to prepare students to feel knowledgeable and comfortable at the Museum.	250 lessons 6000 6-7 graders in Title 1 Philadelphia Schools	At least 80% of students will report that they enjoyed UtP (Unpacking the Past) 90 % of students actively participate in discussions and activities. (evidenced by asking/answering questions – verbally, or using body language, evidenced by students actively doing the work of the activity.)	Students will want to visit museums after the program to continue learning and have another positive experience.
	Museum gallery tour to model techniques for how to learn from objects and to spark curiosity and empathy about people different than themselves.	250 lessons 6000 6-7 graders in Title 1 Philadelphia Schools	At least 65% of students will be able to articulate a similarity or connection between their life and the lives of people we studied.	Students have increased empathy for cultures other than their own and interest in understanding the human experience.
	Hands-on, experiential museum-based workshop to spark curiosity, empathy, and love of learning.	250 lessons 6000 6-7 graders in Title 1 Philadelphia Schools	At least 65% of students will be able to identify something they want to learn more about based on their program experience	Students are motivated to be active participants in their own learning.
	Post-program Museum pass is given to every student and teacher participating in the program.	5% of students return to visit Museum	Program piques interest in the Museum and the opportunities for students encourages them to return	Students want to visit museums.

Figure C2. Unpacking the Past Revised Logic Model



Appendix D: Map of participating schools



Appendix E: Observation Details

Table E1. Scaffolding Learning Practices Observed in Unpacking the Past

PRACTICE	# OF ACTIVITIES IN WHICH PRACTICE WAS OBSERVED AT LEAST ONCE	EXAMPLE FROM OBSERVATIONS
Staff breaks down tasks into smaller, more manageable steps	11/12	When staff explain the artifact activity, they walk through the steps using an example artifact on the slide. They ask students what colors they see and show them where, on the worksheet, they would indicate their response. Then the educator asks them to determine how it was colored and shows them where to write that response. Finally, the educator asks why they think it was colored in that way and shows where to write that response, explaining it can be short answers not full sentences. The worksheet also lists out the steps for the groups.
Staff models skills during the activity.	At least once (6/12) More than once (5/12)	Staff modeled how to read the exhibit label before youth entered the Asia gallery. The educator drew youth attention to the label and discussed the information contained on the label, focusing on the time period. Then they checked students understanding of time periods and provided additional information about the way in which Asian dynasties defined time periods.
Staff actively monitor the level of challenge and adjust support as needed to maintain the level of challenge.	12/12	Staff circulate during the paint activity, noticing students who are struggling with one of the steps (crushing the rock, finding the right consistency, etc). The educator helps them decide on the right choice to resolve the issue (more water, more glue, etc).
Staff asks questions to guide youth in discovering an answer to a problem or guides youth initiative problem-solving.	Frequently (8/12) Sometimes (4/12)	Staff frequently asks questions and makes comments that guide youth to discover answers or solve problems such as "Why do we only have a few really old artifacts?" "What does the worksheet tell us about what the Greeks found important?" "What do you notice about the artifacts in this exhibit?" When one youth asks a question about an exhibit, staff responds, "let's look at the label" and see if that can answer the question.

Table E2. Practices to encourage higher order thinking observed in Unpacking the Past

PRACTICE	# OF ACTIVITIES IN WHICH PRACTICE WAS OBSERVED AT LEAST ONCE	EXAMPLE
Staff asked youth to deepen knowledge: Analyzing, making comparisons, inferences, predictions or applying knowledge and generating solutions.	At least once (3/12) Two or more times (9/12)	After learning about the ways in which artifacts are colored (natural color, painted, dyed and glazed) students, in small groups, are given museum artifacts and asked to examine them and make inferences about how they were colored. They are asked to write down their answer as well as why they believe this, i.e., the evidence they have to support their answer.
Making connections to their own lives	12/12	On at least six occasions, the museum educator asks young people to make connections between the lives of ancient people and their own lives. For example, they are asked to find ancient homework, an ancient drinking straw, an incense burner and a board game in the gallery.
Evaluating their own work against criteria or standards	8/12	The educator presents an image of what good paint looks like and asks students to test their paint and compare it to the example to see if its ready or if it needs more water.
Encouraging creativity	8/12	The paint activity involves creating magnets with individual designs and the museum educator encourages youth to add something unique.

Appendix F: Student and Teacher Focus Group Protocols

Student focus group Protocol

Participant Background and Participant Information

1. Say your first name and if this was your first time visiting the Penn Museum.
2. Have you been to other museums? If so, which museums?

Program experience and engagement

3. Before you went to the museum, someone from the museum came to your classroom to do a lesson about the museum. On a scale of 1-10, how interesting was that lesson and why did you give it that number?
4. What, if anything, did you learn from that lesson?
5. Did that pre-lesson make you feel more or less excited about visiting the museum? Why?
6. Tell me about your visit to the museum – what did you do while you were there?
7. Which part did you like the best and why? Was there any part that you didn't like?
8. Was the museum what you expected? What, if anything, surprised you?

Program outcomes

9. What was the most interesting part of the museum visit? Why was it interesting?
10. What else did you want to learn more about when you left the museum?
 - Did you do anything after your visit to learn more, for example, look something up online or ask your teacher?
 - Did visiting the museum make you want to learn more about the history of your own culture? The history of other cultures?
11. What in the visit or the activities could you most relate to, i.e., it reminds me of something in my life?
12. Would you like to visit the museum again? Why/why not?
 - Would you like to attend other programs at the museum?
13. Do you think other students in your school or in the school district should visit the Penn Museum? Why/why not?
 - Do you think visiting the Penn Museum helps students learn social studies or history? Why or why not?

Program implementation

14. What did Penn Museum teachers do that helped you to be interested in the museum?
15. What did your classroom teacher do to help you prepare for the trip?
 - Did the museum trip relate to anything you are studying in school?
16. What suggestions do you have for making the program better?

Teacher Focus Group

Introductions: Let's go around and share your name, the school where you teach and the grade level of your students.

1. Do you teach students who are English Language learners or have any special educational needs?
2. Have you taken students to UTP before this year? How many years have you been coming?
3. Why did you decide to bring your students to UTP this year?
Follow-up: How, if at all, is UTP connected to your curriculum?
4. Have you participated in any of the professional development offered by Penn Museum?
5. How do you help students prepare for the visit?
6. What if any post trip reflection do you do with your class?

Participant Experience

7. How did your students respond to their visit to the Penn Museum?
 - What did you notice about how your students interacted with the museum exhibits or staff?
 - What did you hear from your students about the trip when they came back from the museum?
8. What, if anything, surprised you about their response?
9. What parts of the visit engaged your class the most? Why?
10. Where were there any parts of the trip that did not engage them? Why?
11. Which students were most interested or engaged in the visit? Why?
12. How, if at all, do you see students making connections to their own lives?
13. How, if at all, did the Unpacking the Past Program connect to student cultures?
14. How welcome did you and your students feel at the museum? What did Penn Museum staff do or what could they have done differently to welcome your class?
15. How effective were Penn Museum staff with your students? Why or why not?

Outcomes and benefits

16. What do you think your students gained from participating in Unpacking the Past? Can you give examples?
17. How, if at all, do you think the museum experience supports their classroom learning?
18. What, if any long-term benefits or impacts do you think this program has for students?
19. How, if at all, did this program influence your teaching practice? If yes, provide examples.

Implementation

20. How was this trip for you as a teacher to plan and organize? What did UTP staff do well and is there anything else they could have done to support your trip organizing?
21. What would you tell other teachers about this program?
22. What if any suggestions do you have for Penn Museum in improving the program?

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