

Turning Privies into Class Projects

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The term co-creation is relatively new in archaeology, and it provides yet another avenue for archaeologists interested in partnering with communities to share archaeological knowledge. It has been widely popularized by Nina Simon's (2010) book *The Participatory Museum*. In her book, Simon defines co-creative projects as those that "originate in partnership with participants rather than based solely on institutional goals" (2010:263). Stated differently, the community is an equal partner in the project, with their needs and wants driving the project in tandem with those of the institution. Co-creation is different from collaboration because of the inherent equality in the process.

While a great deal of public archaeology is not necessarily co-creative, the overall objective is the same. As Karen Davis (1997:86) states, "The ultimate goal ... arises out of the ethical responsibility we have to make the past accessible and empower people to participate in a critical evaluation of the pasts that they are presented with." Although Davis specifically addresses exhibits, tours, and signage, her point easily encompasses the co-creation projects discussed in this special issue. Here we expand upon this idea to assert that both sides benefit when a co-creative framework is used for interpretation projects.

In 2012, the Calvert County Public Schools (CCPS) administration came to Jefferson Patterson Park and Museum (JPPM) with a request to work together to create a program for high school students that would go beyond a tour, a lecture, or a day working on an excavation. CCPS wanted to design a project that would allow students to work with professionals and gain proficiency in skills such as collaboration, critical thinking, and communication cited as necessary for graduates in the twenty-first century (Partnership for 21st Century Skills 2011). CCPS

ABSTRACT

Jefferson Patterson Park and Museum worked with a local high school class to conduct an analysis of artifacts from a nineteenth-century privy excavated more than 30 years ago. The project filled a specific request from the school system, which asked for help in creating an in-depth endeavor that would allow the students to develop new skills and expand their understanding of local history. For the Museum, it completed one small piece of a decades-old project and allowed us to live out our mission in a compelling way. Students and staff produced a community exhibit, posters, and the final research report on this feature. This paper explores the dynamic that empowers the co-creative process to construct not only a good end product but also demonstrable gains for those involved. It establishes that the strength of the co-creative process lies in the purposeful sharing of power and authority for the betterment of our community members.

El Jefferson Patterson Park y Museum colaboró con estudiantes de una preparatoria local para llevar a cabo un análisis de artefactos de un retrete del siglo 19, excavado hace más de 30 años. El proyecto cumplió con una solicitud específica hecha por el sistema escolar, en la que se pedía ayuda en la creación de una iniciativa que permitiera a los estudiantes desarrollar a profundidad nuevas habilidades para ampliar sus conocimientos en torno a la historia local. Para este parque y museo, esto consumó una pequeña iniciativa de un antiguo proyecto y nos permitió vivir nuestra misión con gran emoción. Los estudiantes y el personal hicieron una exposición para la comunidad, carteles y el informe final de la investigación acerca de este retrete. Este reporte analiza la dinámica que faculta al proceso de creación en colaboración para construir no sólo un buen producto final, pero también demuestra los beneficios para los involucrados. Este mismo establece que la fuerza del proceso de creación en colaboración reside en el compartir propositivamente el poder y la autoridad para el mejoramiento de nuestra comunidad.

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came to JPPM because a strong relationship was already in place due to previous in-depth student projects and a partnership that brought every fourth and sixth grader in the county to the park and museum to learn about archaeology. In this paper, the resulting project is used as a case study to demonstrate how a co-creative project produced useful outcomes for all of the participants. The initial project occurred during the 2012–2013 school year. Based on the success of this initial year, it was decided that we would repeat the program the following school year. With a few noted exceptions, this case study examines the first year of the program.

PROJECT PLANNING AND DEVELOPMENT

When CCPS requested a new program, Dr. Patricia Samford, the Director of the Maryland Archaeological Conservation Laboratory (MAC Lab) located at JPPM, mentioned that she had started working with a collection from a site in Baltimore and offered a radical suggestion: Why not let the high school students analyze the collection? On its face, the suggestion may not seem terribly radical. Volunteers of all ages have been working on archaeological sites for decades with a particularly large expansion in public outreach projects in the early 1990s (Wertime 1995:66). JPPM has run its own public archaeology program for almost 20 years, which offers volunteers the opportunity to work on an active excavation or in the lab cleaning artifacts recovered from the site. As a general rule, JPPM volunteers do not have a hand in sorting pottery types or performing analyses such as minimum vessel counts, much less completing the report for a feature of the site. But these latter activities were exactly what Samford was suggesting.

Samford's proposal stemmed from a desire to fulfill JPPM's mission of connecting people to the past in a deep and meaningful way. JPPM strives to do this in a multitude of ways—through school programs, exhibits, lectures, tours, and our public archaeology program—but a project such as this asks the participants to give at least as much as they are given, if not more. The proposal also stemmed from the understanding that the MAC Lab houses collections that have never been properly researched. The MAC Lab is the state repository for Maryland's archaeological collections and currently holds over eight million artifacts. These collections came from all over the state in a variety of conditions when the lab opened in 1998. Of those eight million artifacts, the collections manager estimates that approximately 10 percent need to have some cataloguing work done (Rebecca Morehouse, personal communication 2015). Perhaps having students do this work would bring greater meaning to what is an everyday task for professionals.

To the archaeology community's credit, there are abundant examples of archaeology programs for students that provided us with a starting point. The largest and most well-known of these include the United States Forest Service's Passport in Time program and Project Archaeology, which is jointly run by Montana State University and the Bureau of Land Management. The National Park Service, Crow Canyon Archaeological Center, and the Center for American Archaeology provide outstanding programming, as do countless colleges, universities, and avocational organizations. A wealth of smaller examples can be

found throughout the literature (see Jameson 1997; Jameson and Baugher 2007; Little 2002; Sabloff 2008; Smardz and Smith 2000). Within the field of archaeology, the drive for such projects stems from the recognition that archaeology benefits from an involved and informed public and has an obligation to share its knowledge (Jameson 1997:12–13).

Until 2007, an excellent example of a co-creative partnership existed in the form of the Center for Archaeology, which was funded for over 20 years as a program through the Baltimore County Public Schools. This program, which worked in part with high school students excavating, analyzing, and exhibiting their finds from the Oregon town site, had an archaeologist on staff to collaborate with educators in devising lesson plans and activities for schools throughout the district, working with students in their classrooms and on the excavation site (Brauer and Jeppson 2007; Jeppson and Brauer 2007:231–232). While most archaeology programming for schools involves teacher trainings, lesson plans, site visits, or short-term projects, the Center for Archaeology's deep relationship with the county schools and long-term projects for older students make it a good analogy for the project that will be described here. As Jeppson and Brauer (2007:236–237; see also Jeppson 2010:64–65) assert repeatedly, archaeology programming for schools is best when created by archaeologists and educators working together. In other words, it is best done as a co-creative project. Only a handful of other programs exist that foster similar partnerships between archaeologists and a K-12 classroom.

Project Planning

With this in mind, we held several meetings with Jeff Cunningham, our partner teacher at Huntingtown High School, during the spring and summer of 2012. We discussed what he wanted his students to learn during the project and what we hoped the students would accomplish. We covered logistics, such as regular entry into the classroom for JPPM staff, what tools would be at our disposal, and secure storage for the artifacts when not in use during class time, and we discussed the fieldtrips we wanted to take along with the logistics required to organize those trips. We created a syllabus for the students that included a mission statement, a brief overview of the archaeological site under study, and a general schedule for the year, as well as a short bibliography of readings they would find useful in their research. We also devised some activities to teach the students about object analysis prior to working with the artifacts. Portions of the documents and activities created were generated by JPPM, while Cunningham created others, but each party reviewed and revised all documents before we agreed upon a final product.

The Site

The artifacts used in the project came from the Federal Reserve Site (18BC27), which was excavated as part of a salvage operation in 1980 (McCarthy and Basalik 1980). That year, the government began construction on a new Federal Reserve Bank on the south side of Baltimore. Archaeologists were called in when backhoes and scrapers uncovered brick foundations and impressive amounts of material culture.

The site encompassed three city blocks and another previously documented site known as the Hill Street Site (18BC25). Excava-



FIGURE 1. Huntingtown High School students cataloguing artifacts.

tions uncovered 54 cultural features composed of five types: privies, wells, drainage features, cellars, and other structural features. Privies accounted for the majority of these features. They tended to lie at the back of the 24.4 m (80 ft) lots near property lines and so may have been used by inhabitants from multiple lots (McCarthy and Basalik 1980:III–1).

Excavations began during a wet and cold February in Baltimore. The archaeologists were given two months to recover as much material as possible. However, the funding for the project did not include analysis of material culture. Archaeologists did what they could: took copious notes and photos, drew maps, washed and bagged the artifacts, and then put the objects with their associated paperwork on a shelf in Baltimore, where they remained until 2006 when they were transferred to the MAC Lab.

The artifacts from Feature 47, a privy, filled three-and-a-half banker-style boxes and, keeping time constraints in mind, were chosen as a reasonable number of artifacts for the students to analyze. These artifacts were also chosen because they offered a representative sample of objects found throughout the site and because this feature appeared to contain artifacts that would allow the students to determine a time frame for the use of the privy. The students were asked to complete three main deliverables: (1) a report that would pull together all of the information from their research and analyses of the artifacts; (2) Curator's

Choice posters that would each examine one aspect or object of the feature and present the information in four to five easy-to-read paragraphs; and (3) an exhibition that would be the public culmination of their research. Their syllabus included a schedule that was designed to be somewhat loose at the beginning, since it was unclear how quickly the students would acquire the skills needed for cataloguing. This proved to be good planning, as we did end up revising the schedule with specific dates in the latter half of the year.

PROJECT IMPLEMENTATION

We began the project by introducing the students to the concepts of archaeology. Cunningham is the archaeology teacher at Huntingtown High School, and we felt comfortable letting him cover the basics while we provided more detailed information about their project site. We worked with the students on sorting the artifacts, setting aside pieces to be labeled. We taught the students how to label artifacts and the theory behind our methods (Maryland Historical Trust 2005:10–12). We spent a fair amount of time working with Cunningham and the students, teaching them how to catalogue artifacts and complete the cataloguing form correctly (Figure 1). We taught the students how to mend artifacts and create minimum vessel counts (Figure 2). The teacher took a strong role in leading the students by



FIGURE 2. Student mending a chamber pot from site 18BC27.

helping them formulate research questions, dividing them into working groups, setting intermediary goals, and ensuring that those goals were met.

Archivists, archeologists, and museum professionals played another role during field trips. At the National Archives, students researched historic maps for clues that would lead them to the name of the property owner and provide a better picture of the crowded neighborhood. They visited the National Museum of American History's exhibit *Within These Walls...* to assess an existing exhibit, ascertaining what they did and didn't like, and assessing elements they might want to replicate in their own exhibit. We chose this particular exhibit, co-curated by Lonny Taylor, Shelley Nickles, and William Yeingst, because it would provide an example of how a major museum interpreted family life using artifacts from the household. The students also visited JPPM to tour the storage facility and public archaeology site and to talk with the archaeologists who work with historic materials every day.

Although the teacher had never created an exhibit, we jointly led the students through the process with JPPM staff, outlining the needed elements. Cunningham provided the scaffolding that allowed the students to generate a design. Our process for the research paper and Curator's Choice posters was the same: JPPM staff provided the framework and the teacher guided the students toward an end result. Throughout this process, students continued to complete their research, which informed their final products. Everything produced by the students was peer reviewed, then reviewed by the teacher, and finally, reviewed by JPPM staff. All of the deliverables went through a minimum of four to five iterations before everyone agreed that they were complete. This is significant because, as Elaine

Davis (2005:110) points out, "It is only through active intellectual engagement with the past that learners ... are able to build their own understandings and think critically regarding the constructions of others."

What the Students Accomplished

The 13 students in the 2012–2013 Historical Investigations class at Huntingtown High School participated in the project as the major component of their class time. They completed three deliverables with guidance from their teacher and JPPM staff: a final research report on their findings, an exhibit for the local community (Figure 3), and posters on specific objects that would be made accessible to the wider world via the JPPM website (Jefferson Patterson Park and Museum 2013; e.g., see Figure 4 [Cimoli 2014]). The research report, with its accompanying catalog, was a necessary addition to the MAC Lab collection catalog (Samford 2015). The exhibit and posters filled a single goal but for two different audiences, one local and one national. The partners in this project wanted to create an outcome that benefitted people outside of the class. To that end, the exhibit was displayed in the Prince Frederick Library of Calvert County, which is frequently visited by the local community, receiving maximum exposure. The posters are featured on JPPM's website, making them available to a much wider contingency beyond southern Maryland.

The students became the curators of this collection, breaking into teams to study questions such as: Can we put a date on the privy? What do we know about sanitation in Baltimore at the time? Can we figure out who lived here? Do we know what they ate and the tools they used for eating? Students came to an understanding that the objects were not important in and of themselves, but for the stories they revealed about people who lived in the past. This questioning phase was the most important part of the program because it is not enough to teach students the skills involved in archaeology. If we want them to come to an understanding of the past they must reflect upon the work they have done (Davis 2005:113–114).

Archaeologists know that the answers to the above questions will likely be found during their analyses of the objects. But for the students, every answer was a revelation that drew them deeper into the project and allowed the objects to become a part of a larger story. Even though the students elected to take this class, they did not expect to learn the intimate details of the lives in a nineteenth-century Baltimore household. They didn't know they would leave the class understanding what a working class family ate, how they dressed, what they drank, what ailed them, or how they tried to cure themselves. This was also the area where we most valued the expertise of our partner teacher. Cunningham has been teaching students how to do historical research for almost two decades. He guided the class with a skill and knowledge that allowed the students to continually move forward in their work. Based on the success of the first year, we decided to repeat the program the following year with similar goals and outcomes using a different feature from the same site.

What Was Gained?

The exhibit, posters, and report are the tangible items that we show the archaeology, museum, and school communities



FIGURE 3. Two students display newly installed exhibit.

as proof of the program's success, but the real proof lies in the students themselves. In February 2014, the students were presented with the Maryland Preservation Award for Excellence in Education. In her acceptance speech, student Christy Nisbet mentioned all of the things she gained from the project, specifically mentioning her unexpected insights into the intimate details of the household members' lives through archaeology. She also mentioned that the project increased her love of history, led her to complete an archaeology internship, gave her the opportunity to become a published author, and led her to choose archaeology as her major as she headed off to college the following fall. Needless to say, the audience at the awards event, and the JPPM staff, were wowed.

EVALUATION—SUCCESS?

While not everyone in the class chose to change their career goals to archaeology or history, they did gain an appreciation for the research and work being done. We know this through a short, qualitative survey completed by the students at the end of the project. In it, we asked five questions:

1. Tell us one thing you learned about Baltimore history during this project that you didn't know before it.
2. Do you think archaeology is important? Why or why not?

3. What were the best and worst things you did during this project?
4. If you had a chance to do it over, would you still choose to take this class?
5. If we decide to do this project again next year are there things we should change?

The project evaluations revealed that the students in the 2012–2013 class definitely learned something over the course of the year. Specifically, they had a much better understanding of sanitation, immigration, medical treatments, and diet in nineteenth-century Baltimore. The students said that they felt like they understood why archaeology was important and could now understand why people wanted to save historic structures and archaeological sites. They also told us that, if they had been better at managing their time, they could have done more. The most difficult part of the class was the editing process and the task they liked least was cataloguing. Even so, they unanimously felt it was one of the best classes they had taken. In short, we walked away from eight months of work having students tell us that, for them, the class was a success and that, given the opportunity to do it over, they would have worked harder.

Success for JPPM?

Was it a success for us? Absolutely. The co-creative process did not lead us down a path that will clear out JPPM's collections

Curator's Choice

J.C. Baker's Genuine Essence

By: Benjamin Cimoli,
Huntingtown High School's Archaeology Class

In the 19th century, one pharmaceutical remedy popular among the masses was essence of peppermint. Peppermint essence as it was also called, was generally sold as a mixture of pure peppermint oil in alcohol in a 9:500 ratio due to the potency of the oil, but could also be found in a mixture with 47 times the strength. Peppermint oil was obtained by distilling it from freshly picked peppermint leaves, grown on vast plantations in England, France and the United States.

The essence was used as a sort of cure-all remedy, and was advertised to help with stomach pain, flatulence, nausea, sickness, headaches and many other ailments, and sold for as much as four dollars for a mere one ounce bottle. Peppermint essence could also be used as flavoring in baking and candy production to produce mint flavored sweets. Many people would take medicine "swimming on a glass of peppermint water," which was simply water mixed with a bit of the essence, in order to combat the less-than-appealing taste of the time's other medicines. It was so common a remedy in and of itself that it could be found sold out of a barrel on the streets.

This bottle in particular was filled with peppermint essence manufactured by J.C. Baker, a pharmaceutical company of the time. The bottle is a "blake" style bottle, characterized by the height, rectangular shape, and taper of the top of the bottle. It is a mold-blown bottle, meaning a lump of molten glass would be placed on a tube, placed in a bottle mold, and then blown to fill the mold. This is evident by the "pontil scar" on the bottom of the bottle, which is caused by the removal of the blowing tube.

The bottle is embossed with the lettering "Genuine Essence" which was labeled as such to assure consumers that the contents were genuine essence of peppermint oil. The bottle itself is manufactured by the Whittall Tatum Company, a popular bottle manufacturer of the time, established in 1806 in Millville, New Jersey and closed down in 1938.

Found in Baltimore during an excavation in the old Otterbein neighborhood, this specific bottle was probably used for the aforementioned reasons and can be compared to some over-the-counter products today. Peppermint essence is still used as a remedy today, but only for small issues such as stomach problems, although it can and is used sometimes to induce labor in pregnant women. While it is still sold as a remedy, it is in no way as effective a "medicine" as once thought, but is nevertheless one of the few medications of the time period that actually had an alleviatory effect.



J.C. Baker's Genuine Essence bottle found in Baltimore during an excavation in the old Otterbein neighborhood.



Complete example of a Genuine Essence bottle, (Private collection)



Partially shattered bottle that was found in Baltimore during an excavation in the old Otterbein neighborhood.

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Jefferson Patterson Park and Museum is part of the Maryland Historical Trust, an agency of the Maryland Department of Planning, Baltimore.





The Maryland Archaeological Conservation Laboratory (MAC Lab) is a state-of-the-art archaeological research, conservation, and collections storage facility located at the Jefferson Patterson Park and Museum.

FIGURE 4. One of five Curator's Choice posters completed by the Historical Investigations class (Cimoli 2014).

backlog; however, it was never intended to do so. Instead, the class fulfilled our mission of “connecting people to the past through history and archaeology,” while simultaneously chipping away at a portion of our collection still in need of attention.

The “people” we connected to the past were not just the students in our class. It was their teachers, who would stop us in the hall to ask how the project was going. It was the other students, who would ask us about the objects on the cart as we pushed it through the school, and the students’ families, who thanked us profusely for all of the work we did with their children. The “people” also included the southern Maryland community members who learned about the project in the local newspapers, attended the exhibit opening, and continued to view the exhibit over the summer. It also engaged a much broader community who read about the project in newspaper articles and blogs or heard about it on the radio when one of our students was invited to interview my colleague about the project for a local NPR affiliate (Monaco 2013; Samford 2013; Samford and Morehouse 2013; WYPR 2013).

Was it a Success from the Educator’s Perspective?

In addition to conducting evaluations with the students, I also asked our partner teacher, Jeff Cunningham, to give an unflinching review of the project. Even before he answered my questions, he had made it known throughout the course of the project that he was thrilled with the direction it was going and the type of work it required of his students.

In retrospect, Cunningham noted that it was sometimes a challenge to make sure that everyone—including both the students in his class and the adults facilitating the project—was on the same page as far as planned activities, schedule changes, and topics. The reasons for this were three-fold. First, archaeologists and museum professionals are not constrained in their scheduling in the same way that teachers and students are. Second, coordination among the students was a challenge when pulling the various pieces of the deliverables together to create coherent final products. Finally, communication was difficult due to vastly different schedules, preferred means of communication, and technical difficulties.

Table 1 illustrates the differences between our original schedule and the rate at which we actually progressed. We had anticipated that many of the tasks would get done more quickly than they did largely because we had based our timeframe on the amount of time that professionals would need, with a little padding added. We quickly discovered that “a little padding” was not enough, and, thankfully, we had built in additional time for unforeseen contingencies.

Despite these obstacles, Cunningham lauded the program for what the students gained. He particularly cited critical thinking skills, which are a cornerstone in the Common Core standards (Common Core 2015), as the most important element of the project. Cunningham stated, “I think if you look at the way the new Common Core standards ask students in social studies to critically think, evaluate, and analyze in the world of Historical Investigations, it is hard to find something else that outperforms this project” (Jeff Cunningham, personal communication 2015).

In this context, critical thinking most closely aligns with the notion of “deducing and inferring conclusions from available facts” (Willingham 2007:8) and “communicat[ing] effectively with others in figuring out solutions to complex problems” (Paul and Elder 2007:4). Stein (2014) makes the point that critical thinking is one of a handful of skills that are vital to the success of students in the twenty-first century, as both employees and citizens. This correlates both with the necessity of these skills for future archaeologists and the with need for archaeologists to foster these skills in co-creative projects with schools.

Cunningham also mentioned that he felt that the project imparted a sense of professionalism to his students (Jeff Cunningham, personal communication 2015). We often heard him reminding students that this was their chance to do work that would be seen by the community and judged for its execution. He would remind them that, if they really worked hard on this project, there was more than a good grade waiting for them when it was over. They were making connections with archaeologists, archivists, and museum staff on a professional level in a significant way. Building such professional relationships had the potential for lasting impacts and opportunities in the future. In the near-term, such relationships could and did lead to letters of recommendation and internships. In the evaluation, Cunningham noted that two former students went on to get summer positions based on the connections they had made through projects completed with JPPM. Three other students went on to become anthropology majors in college, all citing this project as the impetus for their choice.

Finally, Cunningham lauded the program for increasing students’ connection to Social Studies and reinforcing archaeology’s importance to society. Students commented that they had a much better grasp of Maryland’s history after completing the project and a greater appreciation for the historic structures and archaeological sites they heard about in the news. The second class that completed this project even went on to raise funds for restoration work at a historic church in the project area through their national student Social Studies organization, Rho Kappa.

What Students Gained

It seems obvious that this type of project gives students a deeper connection to the subject matter, but is that actually true? An interaction with one of the students from the 2013–2014 school year provides an excellent example. Ben is the type of teenager who generally looks a bit bored, and maybe a little sullen. But in those moments when he is truly engaged, one cannot help but notice what an intelligent, articulate person he is. This became obvious one day when Ben asked if I could bring a black light to the next class. When I asked why, he led me over to the computer where he had been working. He indicated the picture on the screen, which was a complete version of the bottle that he was reassembling. Ben then launched into an explanation of what the bottle was used for, who made it, where it was made, and why he needed the black light. He had discovered that the company switched away from leaded glass just 10 years after the bottle first went into production and then continued with the same style of bottle for only another 15 years. If we could determine whether the bottle was made with leaded glass, we could narrow the production date down to a 10–15 year period in the mid-1800s.

TABLE 1. Original Versus Revised Project Schedule.

Month	Original Schedule	Revised Schedule
October	Visit MAC Lab for discussion of project; assign readings; lab tour; train in artifact types and cataloguing; label artifacts as needed; begin cataloguing	Visit MAC Lab for discussion of project; assign readings; lab tour; train in artifact types and cataloguing; label artifacts as needed
November	Complete cataloguing; begin mending ceramics and glass; create Minimum Vessel counts; begin research into specific artifact categories by teams	Complete labeling; begin cataloguing; begin mending ceramics and glass; create Minimum Vessel counts
December	Complete any remaining mending; write up artifact category—peer editing and review by teacher and JPPM staff; choose artifacts for Curator’s Choice poster and research	Complete cataloguing; continue mending; begin research into specific artifact categories by teams.
January	Brainstorm exhibit theme, design and begin writing exhibit text; complete text for Curator’s Choice posters and choose images	Complete mending; write up artifact category—peer editing and review by teacher and JPPM staff; choose artifacts for Curator’s Choice poster and research
February	Review/revise Curator’s Choice posters and exhibit text; work with designer on layout; pull together sections for research	Brainstorm exhibit theme, design and begin writing exhibit text; complete text for Curator’s Choice posters and choose images
March	Send Curator’s Choice posters for printing; review/revise research paper; install exhibit	Review/revise Curator’s Choice posters and exhibit text; work with designer on layout; pull together sections for research report
April	Complete final draft of research report; distribute posters and publish on the JPPM website; exhibit opening	Send Curator’s Choice posters for printing; review/revise research paper; finalize exhibit details; fabricate and install exhibit
May		Exhibit opening; complete final draft of research report; distribute posters and publish on the JPPM website

For me, that moment was the essence of the co-creative process. In the early stages of cataloguing, Ben had learned about using black lights to differentiate leaded glass from more modern forms of clear glass. Ben took that knowledge and applied it to his personal research; he grasped the importance it would have in narrowing down the date of our feature.

REFLECTION: SHARING AUTHORITY AND CO-CREATION

Sharing authority, in this context, means creating the conditions for others to succeed in becoming an authority in their own right, in one narrow slice of the larger picture. In the time we spent with them, we could never teach the students in our charge all there is to know about nineteenth-century archeology in America, on the east coast, or even just in Baltimore. To tackle a project of that magnitude would have reduced our role within the class to that of lecturers and the students to rote memorization of facts. The information would flow only in one direction. Co-creation demands that the process is a dialogue.

One of the best ways to know that a student has really internalized their newfound knowledge is to have them explain their findings to someone else. This learning framework has been successfully implemented, and its efficacy thoroughly researched, by the Exploratorium in San Francisco through their Explainer program (Diamond et al. 1987:653). Explainers are high school

students employed by the museum to engage visitors and encourage interaction with exhibits. Explainers might demonstrate lasers to other teenagers or conduct a cow eye dissection for hordes of families on any given Saturday, which means that they must have a solid understanding of the topic. They are teenagers who hold immense authority in complicated subject matters (Bevan and Librero 2006:186).

By demonstrating his command of the information regarding the bottle, Ben became the authority and I the learner. While I may possess broad knowledge of archaeology, Ben has obtained deep knowledge of this one particular artifact.

When students are pushed to demonstrate their knowledge—as our project required them to do via the exhibit, posters, and report—they develop newfound confidence in their abilities and a pride in their accomplishments. Perhaps pride and confidence are not the first things that spring to mind when developing an informal learning environment, but they are an implicit component in the six strands of learning in informal education settings identified in a recent study released by the National Research Council of the National Academies (Bell et al. 2009:4). These strands specifically address science learning, but as Satwicz and Morrissey (2011:199) demonstrate, they can be easily modified to become analytic tools for considering the social aspects of learning in other fields like history.

TABLE 2. Six Strands of Learning in an Informal Education Setting.

Strands of Science Learning ^a	Strands of History Learning ^b
Experience excitement, interest, and motivation to learn about phenomena in the natural and physical world	Experience excitement, interest, and motivation to learn about people, ideas, and events of our world
Generate, understand, and use concepts, explanations, arguments, models, and facts related to science	Generate, understand, and use concepts, explanations, and facts to explain history
Manipulate, test, explore, predict, question, observe, and make sense of the natural and physical world	Manipulate, test, explore, predict, question, observe, and make sense of change over time
Reflect on science as a way of knowing processes, concepts, and institutions of science and on their own process of learning about phenomena	Reflect on history as a way of knowing and learning about oneself, one's relationship to the world around one, and one's connections to the worlds that came before
Participate in scientific activities and learning processes with others using scientific language and tools	Participate in historical research, interpretation, and inquiry with others using language and tools of historical inquiry
Think about themselves as science learners and develop an identity as someone who knows about, uses, and sometimes contributes to science	Think about themselves as history learners and develop an identity as someone who knows about, uses, and can contribute to the historical record and process

^aData from Bell et al. (2009).

^bData from Satwicz and Morrissey (2011).

The sixth strand states that learners “think about themselves as history learners and develop an identity as someone who knows about, uses, and can contribute to the historical record and process” (Satwicz and Morrissey 2011:200; see Table 2). This is particularly compelling when viewed from the perspective of developing co-creative projects. By including students in the process of curating these privy objects, are we providing young people with the confidence to recast their identity to that of a person who knows history? Someone who doesn't just know it, but who does history and has something worthwhile to say?

Brian Fagan (2002:5) has lamented about the state of archaeological instruction because the literature “is virtually unintelligible even to those who have spent a lifetime working with the sites and artifacts involved.” The co-creative process outlined in this paper is one possible avenue for creating an archaeology class that “makes people want to learn about the past, not avoid it because it is incomprehensible” (Fagan 2002:7). It is one more avenue to explore when heeding Jeremy Sabloff's call to action, demonstrating archaeology's “potential to be practically useful to the world today” (2008:16). As we have seen through this case study, co-creative projects also have the power to make students willing stewards of the past.

Recommendations for Others

In the following section, I would like to outline some recommendations, based on our experiences, for those seeking to initiate similar co-creative projects. Some of the following suggestions may seem obvious, but I would hope that they are taken to heart when bringing an archaeology project into a school setting. It is all too easy to dismiss the obvious because of the arrogance in thinking that we (the archaeologists and the teachers) are professionals and know what we're doing. While that is true, it is also very easy to forget small but critical details when we have our focus trained on the larger goal.

Aim to Finish Early. Don't bite off more than you, the students, and the teacher can chew! It can be difficult to know in advance exactly how much is too much, especially with projects that span an entire school year. After many years of doing this and similar projects, I can safely say that it is better to finish early than push a deadline with students. There will always be more polishing of the project to do, more work that can be done getting the word out to the community, more items to add on to increase the amount of work done for an institution and for the students' understanding, and more time for reflection.

Archaeologists and museum professionals are not constrained in their scheduling in the same way as teachers and students. Working with a high school class meant that we had a 50-minute period each day in which to meet with the students. This may sound like a fair amount of time until you take into account school constraints such as holidays, vacation days, snow days, all-school events, and testing, and JPPM constraints such as staff meetings, other job responsibilities, and illness. Additionally, JPPM is located in a fairly rural area of Maryland, requiring a significant amount of travel time to work with the students. This limited the number of trips we could reasonably make to the classroom to one or two times each week. JPPM staff met with the class approximately 42 times over seven months, for a total of 35 hours of class time and 28 hours of travel time.

One way to avoid an unfinished project is to build in a minimum of a month of extra time at the end of the school year—two months is even better. The end of the school year means the last week of school for the seniors working on the project. Additionally, it is impossible to predict hurdles that may pop up as the project moves forward. Once the schedule gets bumped, school breaks, testing, and other scheduling conflicts often tighten the schedule even more. Taking on too much will cause everyone to walk away unsatisfied.

Have Support in Place. If approaching the local school district with a long-term project such as that described above, be prepared to fully support the project. Support refers to two things: project design and funding. As much as some teachers love these projects for what they bring to the students, the projects are a hardship for them. The type of teachers willing to take on such projects tends to be, in my experience, the most passionate and involved of the teachers in the school. By extension, this means that they are already dealing with a bigger load than their peers, and will give all of what little time and energy they have remaining to make a project work. Archaeologists should be prepared to step up not only with a plan, but also with all of the little details in place that will make the plan run smoothly.

Even though JPPM's project was modest in certain respects—a small exhibit in the local library, posters we could print up in-house, and a report—we still needed to secure some funding. We wanted not only to bring the kids to our site to get a sense of the professional setting in which this work usually takes place, but also to take them on a field trip to Washington, D.C. (in the 2012–2013 school year). Field trips cost money; one has to consider funds for buses, substitute teachers, and any possible admission fees. We also had exhibit materials and printing costs. Archaeologists should be prepared to bring the funding with the project.

Teach the Teachers. Build in time to work with the teacher before the school year begins to give them a primer on archaeological method, cataloguing, and any tasks that will be part of the project with which they are not already familiar. This will allow the introduction of these same concepts to students to run more smoothly, and allow the teacher to work on aspects of the project when archaeologists cannot be in the classroom to guide them.

Let the Teacher Teach You. The teacher may or may not know much about archaeology, but they will know pedagogy and their students. They can likely suggest the best way to teach certain concepts, provide scaffolding for various activities, and pinpoint students who can be leaders and help to pull the various pieces of the project together. Guest lecturers often have an easy time coming into a classroom because they are a novelty that can hold students' attention for a short period. But you will not be a novelty after the first visit, and as the students become more comfortable with your presence, you will need to employ the methods the teacher provides so that you can work in tandem, moving the project forward.

Go to the Top First. Previously established working relationships with local teachers are very helpful. Even so, teachers will need approval from their principal and administrators to build the project into a course (if the project takes place during school hours) or to acquire space and approval for an after-school project. They will need to have any field trips approved, and there might be technology needs that the school system will have to step up and fill. Securing approval from the top before the project begins means that all of these needs will be met with support rather than questions.

Look Internally. Make sure that your institution and the school administration support the project. This project would have been impossible without the support of JPPM and the Hunting-

town High School administration. From the director and principal on down, every department supported this endeavor. They did this in a myriad of ways, from processing the grant dollars to assisting students with their exhibit design and coming into the classroom to teach the students to mend pottery. It was a big effort, with everyone contributing a small piece.

Plan for Communication and Review of Work. Since we didn't have a presence in the school on a daily basis, patience was required in our efforts to stay in communication and keep everyone moving in the right direction. Modern technology helped. Between email and [Edmodo.com](https://www.edmodo.com), a Facebook-like site for schools, we could ask questions, review student work, and provide guidance. However, there were drawbacks to both of these methods of communication. Cunningham generally could not respond to emails during the school day, which created a lag in the planning process. We discovered that the students had email accounts, but rarely accessed them and preferred text messaging as their primary means of communication. We also discovered that, even though all of the students had [Edmodo.com](https://www.edmodo.com) accounts, they would only access them while in school, and if a teacher directed them to do so, which created another lag in communication. The video-conferencing platform, Skype, was seriously considered as a means to have a more regular presence in the classroom, but technical difficulties at JPPM made it impractical.

Thus, it is important to set up a system for communication early and to ensure that everyone has access to that system. Make it known that comments and questions are expected on a particular day each week and that responses will be communicated via the agreed upon platform. Also, clarify with the teacher how student work will be received. For our project, a significant portion of written work needed multiple revisions before it could be disseminated to the public. We had discussed with the class many times how their work would be critiqued as the project moved forward and explained that we would share any comments and revisions through [Edmodo.com](https://www.edmodo.com). Therefore, we were somewhat stumped when approximately half of the students handed us handwritten paragraphs on loose-leaf paper for their first assignment. Coming from a professional setting, we had not considered the possibility that high school students in 2013 did not type up their work for submission as a matter of course. If we had thought to address this issue up front, we would have avoided this particular snafu.

Be Willing to Make Changes. Flexibility is the most significant asset in embarking on a long-term co-creation project. From schedule changes to unforeseen technology issues, flexibility in the project will make it easier to change course, if need be.

Be Enthusiastic! Archaeologists often begin interactions with the public by pointing out that *real* archaeology is not like Indiana Jones, essentially communicating to their audience that real archaeology is boring or mundane. We do this despite the fact that we love our work. Do not fall into this trap in front of students. You, and they, will be uncovering the lives of people long dead and building their stories from the objects you study. This is exciting, and your enthusiasm will affect the enthusiasm level of your students.

Fulfill the School's Needs. One idea underpins all the recommendations in this section, and that one thing will make or break the project: archaeologists must be able to demonstrate to teachers and administrators that the project will fulfill their teaching goals. At this point in time, in most states, curriculum goals emphasize skills crucial to the Common Core Standards. But regardless of the dominant teaching paradigm of the moment, if teachers and administrators do not feel that their teaching objectives are being met, a project will not get off the ground. Educators simply do not have spare time in the school day for projects that do not fulfill state or federal standards, regardless of their personal opinion of its worthiness. Having an equal partnership with the school should ensure that everyone's needs are met.

CONCLUSIONS

Co-creation is at its most powerful when both sides gain and benefit equally from the process. Ideally, this benefit derives from both parties contributing to a meaningful outcome that is recognized by the wider community. In the project outlined here, JPPM fulfilled its mission and cleared one more set of objects out of its store of un-catalogued artifacts, while the students gained knowledge, critical thinking skills, and a new perspective on archaeology. In addition to the Maryland Preservation Award, the project also received a heritage award from the Calvert County Board of Commissioners, as well as receiving praise from the media and producing three graduates who have chosen to pursue degrees in anthropology. Long-term projects like ours can be daunting at the outset, but with willing partners, a clear plan, a manageable amount of materials, and reasonable expectations, there are clear rewards for all involved.

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Data Availability Statement

All materials related to this project are on file at Jefferson Patterson Park and Museum and may be obtained by contacting Patricia Samford, Director of the Maryland Archaeological Conservation Lab (email: patricia.samford@maryland.gov; telephone: (410) 586-8541; mailing address: Patricia Samford, c/o JPPM/MAC Lab, 10515 Mackall RD, St. Leonard, MD 20685).

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