Understanding the Needs of Student Users of Digital Smithsonian Resources (vol. 5 of 7)

Summary of Data: Student Observations and Interviews (Pittsburgh, Pennsylvania)

Prepared by
The Smithsonian Center for Learning and Digital Access

Presented
August 2017

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The Smithsonian Center for Learning and Digital Access (SCLDA) uses all the Smithsonian offers to empower learners to explore their interests and collaborate with others to bring ideas to life. The organization creates models and methods that make the Smithsonian a Learning Laboratory for everyone. Guided by the Smithsonian's mission of the increase and diffusion of knowledge, SCLDA was established to re-imagine and ultimately reinvent the way students, teachers, and lifelong learners interact with and use the Smithsonian's resources in the 21st century. Recognizing most will never visit Smithsonian museums, SCLDA set out to identify how it might best enrich education by making Smithsonian experts and collections accessible to everyone regardless of where they live.

This project was supported through a grant from the Smithsonian Youth Access grant program.

Cite as:
Smithsonian Center for Learning and Digital Access. (2016). *Summary of Data: Student Observations and Interviews (Pittsburgh, Pennsylvania).* Washington, D.C.

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Background

Since 2011, the Smithsonian Center for Learning and Digital Access (SCLDA) has strived to better understand and address the needs of educators utilizing digital assets through a variety of research and user testing studies that have led to the creation of a new digital learning platform, the Smithsonian Learning Lab (SLL)[1]. The Smithsonian Learning Lab provides access to the digital resources from across the Smithsonian's 19 museums, 9 major research centers, and the National Zoo, to be used as real-world learning experiences. With a repository of over 1.6 million objects and a new resource being digitized and added every 6 seconds, the Learning Lab provides specialized tools to aid in the discovery and creative use of its rich digital materials. For students using the Learning Lab, it is designed to aid in building lasting knowledge and critical skills that take learners from simply finding resources to thoughtful selection, examination, organization, and creation of new resources.

The SLL, as it currently exists, was largely informed by the input and practice of diverse and effective educators.[2] Therefore the goal of these Student Observations and Interviews, as a piece of a larger research effort, *Understanding the Needs of Student Users of Digital Smithsonian Resources,* focuses on the existing student use of the SLL, in classroom experiences mediated by teachers. While not intended to be a mere validation of SLL's features, the design for this review and summary report is to lend additional insight into how digital systems, tools, pedagogy and content, can be adapted to better meet students' learning needs. As educational psychologist Paul A. Kirschner[3] points out, "If the student is viewed as the end user… participatory design needs to include a more direct participation/contribution of the student in the design of (technology enhanced) learning environments". The overall project will assimilate the findings of these Student Observations and Interviews along with other research to address some key questions around methods or requirements for enhancing student motivation and engagement with digital content and tools.

1. What are the ways that students engage with digital content in academic settings?
2. What are the motivations for student use of digital content?
3. What are the interface requirements/scaffolds needed to enable and enhance student engagement with rich digital resources?

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[1] Milligan, D., and M. Wadman, M. 2015. "From Physical to Digital: Recent Research into the Discovery, Analysis . . ." <http://mw2015.museumsandtheweb.com/paper/from-physical-to-digital-recent-research-into-the-discovery-analysis-and-use-of-museums-resources-by-classroom-educators-and-students/>

[2] "smithsonian-digital-learning - Teacher Toolkit (Research Findings)." 2013. 28 Sep. 2016 <https://smithsonian-digital-learning.wikispaces.com/Teacher+Toolkit+(Research+Findings)>

[3] Kirschner, P. A. 2015. "Do We Need Teachers as Designers of Technology-Enhanced Learning?" <http://link.springer.com/article/10.1007/s11251-015-9346-9>

Testing Process Description

Classroom Observations

Systematic observations were conducted to capture student engagement with the SLL in teacher-created and mediated learning experiences. The sample consisted of pre-selected classrooms (selection of teachers and schools that are participating in other grant-related programs related to the SLL - the Grable Foundation Smithsonian Learning Lab professional development project, which focused on middle school social studies and the Carnegie Corp. of New York research project on teacher use of SLL). The sample included the classrooms of 33 educators located at 18 schools in the Pittsburgh, Pennsylvania area. The observation length was one classroom period. The unit of observation was the entire classroom. The observations related only to student activities where students directly interacted with the SLL on a device either individually or in groups. They did not relate to activities where students interacted with Smithsonian content but not on a device (e.g. print-outs from SLL provided by the teacher). The methodology followed best practice for peer observations by using a checklist and rating scale as well as an open-ended written response for observers to complete. Engagement was scored using a 5 point scale across five different categories including positive body language, consistent focus, verbal participation, student confidence, fun and excitement, and overall engagement. Participating teachers were first introduced to the SLL in the Fall of 2015. Observations were conducted between February 24th and May 2016 by two project staff. Observers completed 37 observations of which 27 met this project's requirements. Observations were done between one and three times with the same classroom dependent on the previously determined schedule. The observation data were analyzed through a simple descriptive statistical analysis for the closed-ended scales and by coding the open questions by emerging categories. Results were expressed by using counts (#), sums, and percentages (%).

Student Interviews

Interviews with students (age range between 11 and 14 years old, 6th–8th grades) whose teachers participated in the Grable Foundation/Carnegie Corp. of New York grant-related projects were conducted to document and evaluate student engagement with the digital content and tools on the SLL. The interview protocol consisted of 16 open-ended questions about students' experience and feedback on using the SLL, on other types of websites used for learning, and in what ways students would describe how they learn outside of school.

The interview subjects were selected using purposeful sampling/expert sampling, in which students could be enrolled only if they had specifically worked with the SLL and had parental consent. Classrooms of students were chosen based on: A) the type of interaction students had independently with the SLL (i.e., they must have used the SLL individually or in small

groups on individual devices such as laptops or tablets, rather than whole class use where the teacher presented content from the SLL projected on a screen) and B) the least amount of time lapsed between using the SLL in the classroom and the interview (to capitalize on students' memory). No more than 12 weeks could have passed between use of SLL and the interview. We obtained 15 individual interviews with students. Additional interviews could not be conducted due to sudden changes in classrooms' availability. The qualitative student interview data were analyzed through an an open-coding approach to identify emergent themes and nuances. Results were expressed as themes and trends.

Due to the small sample size, results from the interviews should be considered suggestive.

Results

Classroom Observations

Observations occurred between February 12, 2016 and May 12, 2016 and were conducted by two project staff (A and B). Out of 37 classroom observations, a total of 27 (73%) were included in this study as they met the above-stated criteria.

Table 1: Classroom Observations

	Data Observer A	Data Observer B	Totals (#)
Observations (#)	14	23	37
Observations which included student engagement (#)	10	17	27

Results showed that the observed classes were very highly engaged (n=13) or highly engaged (n=10). Only a handful (n=4) of observations scored overall engagement as medium. No classes observed were scored as low or very low on the overall engagement scale (Table 2).

Table 2: Overall Engagement Scores

Engagement level	# of observations (Observer A)	# of observations (Observer B)	Total # of observations
Very high	4	9	13, (48%)
High	4	6	10, (37%)
Medium	2	2	4, (15%)
Low	0	0	0, (0%)
Very low	0	0	0, (0%)

Each of the specific student engagement indicators consistently showed “very high engagement” scores except for verbal participation which had its highest number for “high engagement” (n=12 vs n=9 for “very high”)

Table 3: Student Engagement by Category N=27

	Positive body language	Consistent focus	Verbal participation	Student confidence	Fun & excitement	Overall engagement
Very High	14	11	9	14	14	13, (48%)
High	11	7	12	8	10	10, (37%)
Medium	2	8	5	5	3	4, (15%)
Low	0	1	1	0	0	0, (0%)
Very Low	0	0	0	0	0	0, (0%)

Green cells = highest number in that category, Yellow cells = second highest number in that category.

Of the 27 observations, classes most often used collections (a learning activity made of groupings of resources and instructional annotations) made by the teacher themselves (n=14) while a smaller number used collections made by someone else, such as project staff. There were 5 observations that found students creating their own collections as part of the activity. Of the classes where the teacher made the collection, 8 classes scored very high on the overall engagement scale, 5 classes scored high, and 2 classes scored medium. Of the classes using collections made by someone besides the teacher 2 scored very high on the overall engagement scale, 4 scored high, and 2 scored medium. Where collections were made by the students 4 scored very high and 1 high. Though the sample size is small, this could indicate increased engagement when collections are made by the teacher or student themselves. When students made the collection 80% showed very high engagement, where teachers made the collections 57% showed very high engagement, and where collections were made by someone other than the student or teacher 25% showed very high engagement (Table 4).

Table 4: Origin of Collection Used

Students were using:	# of observations	Breakdown by overall engagement
Collection made by the teacher themselves	14	• Very High=8 (57%) • High=5, (36%) • Medium=2, (14%)
Collection made by someone else (Learning Lab instructional coaches, etc.)	8	• Very High=2 (25%) • High=4, (50%) • Medium=2, (25%)
Collection made by students	5	• Very High=4 (80%) • High=1, (20%) • Medium=0, (0%)

In the collections used during the observations, 24 consisted of Smithsonian (SI) resources and 3 consisted of only outside non-SI resources. Of the 3 that did not include SI resources, 2 scored very high on the overall engagement scale and 1 scored medium.

Table 5: What resources collections used:

	# of observations
SI resources	24, (89%)
Outside resources only	3, (11%)

Of the 27 observations, 6 specifically mentioned the use of SLL tools such as quizzes, hotspots, discussion questions, etc. It is important to note that observers were not asked to specifically document SLL tools used so this number could potentially be higher.

Table 6: Were SLL tools used:

	# of observations
Collection included use of LL tools (quiz, hotspots, etc)	6, (22%)

How students used the SLL

A little more than half of the observations (n=14) included the students using a paper worksheet, Google Doc, and in one case a collage software to complete the activity. While approximately one-fifth (n=5) used the SLL system to complete the activity (submit work, answer quizzes, etc.). A handful (n=4) of the observation activities used neither a worksheet nor the SLL to have students complete work. In these circumstances, the students were asked to look through the teacher-created collection of non-SI materials.

In comparing engagement through the lens of location activity completion, 9 classes (64%) that were observed using a worksheet, etc. had scored very high on the overall engagement scale while 4 scored high. Those classes who used the SLL system had 2 score very high and 3 scored high. Though the numbers are small, this data shows that students were more likely to be highly engaged while completing the activity outside of the SLL system (Table 7).

*Table 7: Where completion of activity happened**

	# of observations	Breakdown by overall engagement

Students used the SLL system to complete work	5	Very High=2, (40%) High=3, (60%)
Students used worksheet, paper or Google Doc	14	Very High=9, (64%) High=4, (29%) Medium=1, (7%)
Outside software	4	Very High=2, (50%) High=2, (50%)
Neither/unknown	4	Very High=1, (25%) High=2, (50%) Medium=1, (25%)

* Completion of activity could happen within the SLL or external to the SLL through a worksheet, etc.

Student Interviews[4]

All interviewed students remembered using the SLL in class. For the majority of students, the interval between the use of the SLL and the interview was two weeks. For a very small number of students, the interval was 12 weeks.

When asked to describe the SLL, the most prominent description was 'a website that included history information and artifacts'. Fewer described it as 'pictures with information, links, and the ability to save'. Some remembered it as an 'online lab that had projects/assignments from teachers', and described the activity completed in the SLL rather than what the SLL was itself. A few described the ability to be creative.

Other descriptions included:

- describing the icons and Smithsonian's sunburst logo
- "making a collections of artifacts that are in the Smithsonian Museum"
- "like a scavenger hunt"
- "a more creative and modern way to learn"

> "...It was basically just a database where we could find information about our subjects." 8th grade male

All of the students interviewed remembered using the SLL in class and could describe the activity in which they used it. The activities that the SLL was used for with this group of students included:

[4] Due to the small sample size, results from the interviews should be considered suggestive. For more detailed information on individual responses, please see tables in the appendix.

- an activity about the U.S. presidents and used tools such as hotspots in what they created.
- to search for and learn information on different subjects in history (presidents, suffrage, slaves, Rome, Egypt)
- as a writing prompt
- to earn extra credit
- an assignment to look at pictures and answer questions
- for projects and research in general

In describing what they liked best about the SLL, themes that emerged:

- ease of using and finding pictures
- ability to see information and pictures at the same time
- lots of pictures
- interactivity and ability to manipulate content
- ability to use it independently
- all-in-one website
- ability to learn about an object without having to see it in person [at a museum]

  "I like that you could learn about the artifact and still see it and you don't have to see it in person but you can just see a picture and really learn about it." 8th grade female

  "I liked that it was hands-on and how you could, once you picked your artifact you could kind of add a hotspot, add information to it and then reflect on the artifact and how it worked, what the artifact's impact was." 8th grade male

In terms of what was most interesting about the SLL, themes included the amount and variety of information and resources available. Other answers about what they found most interesting about the SLL were:

- the amount and variety of information and resources available
- the ability to learn about history online with pictures
- not having to be an in-person experience
- adding hotspots
- that you can do whatever you want with it
- to be able to see what's in the Smithsonian
- that there's surprising information.

The biggest challenges about using the SLL varied among the students. The largest issue appeared to be related to the school internet connection speed rather than to the SLL itself. A major theme to emerge was that students would have benefited by having more instructions and "how-to information" to help them use the SLL. Other issues included specific actions within the SLL, such as saving hotspots, assignment-related issues, navigation, registration

issues, and figuring out what the icons meant. It was also mentioned that the SLL could be confusing due to too many possibilities, that it could have been hard coming up with ideas, and that sometimes there was not enough information.

It was not a trend among students to use the SLL outside of the classroom. Those that did said that they used it either for conducting research for another class or to look up specific information to inform a conversation with their parent regarding U.S. presidents. Of those who did not use it outside of the classroom, trends included not using it because it was not required to use it, they didn't think of it, and lack of time to be able to use it.

A major trend was the desire to use the SLL in class again next year. Reasons for wanting to use it again included that it was like being at a museum; an interesting and different way to learn; a good website for history; user friendly and fun to work with; access to a lot of information, documents, and artifacts; the ability to work independently; reliability of resources; and online learning is better than reading a book.

> [Why do you think it's good in your classes?] "Instead of just using the old write a paper, it's just kind of like getting artifacts and almost being at the museum and looking at artifacts and learning by a way of being at the museum instead of just being in your classroom learning from your teacher." 8th grade male

Many said they would not change anything about the SLL. Changes that were requested to the SLL included:

- more instructions
- more background information
- better navigation
- ability to see right and wrong answers in assignments
- more collections for each subject by their own teachers.

All said that they would recommend the SLL to other people. When asked who they would recommend it to, they said (in descending order):

- Classmates
- Teachers
- Other schools in general
- Friends
- Anyone interested in history.

> "If my friend was learning about something I was learning about I could show them the one I made on there and they could learn from it or they could make their own." 8th grade female

> [Why would you recommend it to other teachers?] “Because like I said it’s not just a lecture or taking notes or doing a worksheet, it’s something a bit different to shake it up I guess.” 8th grade female

Trends surrounding why the SLL would be recommended included: easier to use than Google, a different way to learn, a way to find out about history, abundance of information, that it was fun, that there was the ability to share what they learned, and the reliability of the resources.

A major trend on how students learn outside of school included through using the internet or Google. Other trends included reading books, learning from parents, and speaking with other people (such as friends). Websites that were named as sites used for learning included: Google, school website, quiz sites, Wikipedia, history websites, and game websites.

Conclusions

Through the classroom observations we learned that students' overall engagement with the SLL was very high or high. Only a handful of classes scored as medium engagement. No classes observed were scored as low or very low on the overall engagement scale. The high level of engagement was additionally supported by the finding that all of the interviewed students remembered using the SLL in class and could describe the activity in which they used it. Furthermore, all of the interviewed students stated that they would recommend the SLL to other people. A large number of them reported that they wouldn't change anything about the SLL and wanted to use again next year. Students would recommend the SLL because it was easier to use than Google, it was a different way to learn and to find out about history, it contained so much information, it was fun, allowed sharing what was learned and it was a reliable resource.

As the SLL was used during social studies classes, interviewed students described it as a website with history and artifacts, pictures with information, links and the ability to save, and as an online lab that had projects and/or assignments from teachers. To note that, in alignment with one of the primary goals of the SLL to encourage creativity, the ability to create was one of the themes that surfaced through the students' descriptions. Students were impressed by the sheer number of resources and amount of information contained within the SLL as well as the ability to manipulate that information. They also appreciated being able to learn about history in particular by using digital resources and not having to necessarily have an in person experience in a museum.

Observations revealed that classes most often used collections made by the teacher themselves while a smaller number used collections made by someone else. While very few observations found students creating their own collections as part of the activity, data suggested that the overall engagement was higher if activities were based on student- or teacher-created SLL collections.

Rather than using only the SLL, the majority of teachers blended low and high tech having their students use worksheets or other means to complete activities. While, through a parallel research project, we learned that teachers expressed concerns and the need for better clarity on how to create and manage rosters in the SLL, observations suggested that the students' overall engagement was higher when completing an activity by using different means than the SLL (see Table 4).

From the interviews, challenges about using the SLL varied among the students. The largest issue appeared to be unrelated to the SLL itself but rather inadequate school internet. Most of the other concerns were related to specific actions within the SLL: e.g., saving hotspots,

assignment-related issues, navigation, registration issues, figuring out what the icons meant. Students mentioned that the SLL was hard to use without instructions and that they would have benefited by having more instructions and how-to information. When using the SLL, confusion surfaced due to the many possibilities as well as difficulties to come up with ideas when working within teacher-constructed activities.

Not surprising given where they experienced it, the students associated the SLL with school. None said that they would recommend it specifically to their parents and very few reported using the SLL outside of the classroom. Those who did used it for conducting research. The large majority who did not use it mentioned they were not required to use it, or that they did not think of it, or the lack of time to be able to use it.

Students reported that they learn outside of school through the internet or Google, by reading books, from their parents, from talking with other people and friends, by making mistakes, from the news, from experience, by challenging themselves, and from museums. They named various websites they use for learning with many citing Google, their school websites, and other information based sites such as Wikipedia, History Channel, and PBS.

Main take-aways

While the study revealed that students are already highly engaged with SLL, it also exposed areas for further investigation and suggestions for improvement. Specifically:

1) While students valued the amount and the quality of information accessible through the SLL, they also mentioned the need for more directions and instruction to make use easier and learning possibly deeper. This data was supported by similar teachers' feedback in earlier observations.

2) The correlation between student-created SLL collections and engagement requires further investigation. With this group of students a more teacher-driven model was used. The data suggest that if SCLDA wants to encourage more engaging student use of the SLL, there is a need to build in support and examples directly targeting this age group.[5]

3) Students associated the SLL with an educational website used for school work with activities controlled by their teachers. Further investigation on characteristics and features of museum resource-based digital experiences inside and outside the classroom and their correlation to achieve meaningful learning experiences is required, as already identified by other investigators.[6, 7]

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[5] Randi, Judi, and Lyn Corno. 1997. "Teachers as innovators." *International handbook of teachers and teaching*: 1163-1221.

[6] Ito, M. 2008. "Living and Learning with New Media - Digital Youth Research." <http://digitalyouth.ischool.berkeley.edu/files/report/digitalyouth-WhitePaper.pdf>

Appendices

Student Engagement Classroom Observation Protocol - 2015 YAG

For the 2015 YAG, "The Smithsonian Learning Lab: *Understanding the Needs of Student Users of Digital Smithsonian Resources"*, systematic observations[8] will be conducted to capture student engagement with the Smithsonian Learning Lab (SLL) while using it with a teacher-created and mediated learning experiences. Systematic observations are used to gather data on specific behaviors (in this case engagement with the SLL) as opposed to naturalistic observations in which all is captured with no predetermined behaviors in mind. The sample is made up of pre-selected classrooms (selection of teachers and schools that are participating in other grant funded projects related to the SLL - the Grable Foundation Smithsonian Learning Lab professional development project and Carnegie Corp. of New York research project on teacher use of SLL). The sample includes the classrooms of 33 educators located at 18 schools in the Pittsburgh area. The observation length is a classroom period. The unit of observation is the entire classroom. The observations relate only to student activity where students are directly interacting with the SLL on a device either individually or in groups. It does not relate to activities where students are interacting with the SLL but not on a device (tablet or computer) e.g. print-outs from SLL provided by the teacher. The methodology follows best practice for peer observations by using a checklist and rating scale as well as an open-ended written response for observers to complete[9].

Observations will be conducted between February 24th and June 2016 by two Smithsonian employees based in Pittsburgh. Observers will complete approximately 25 observations in this time period and collect the following data:

Demographics:
Observer:
Date:
School:
Teacher:

Use of and engagement with the SLL (all questions will be used only if the students are using the SLL on a device)

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[7] Chung, Janine, and Felix B Tan. 2004. "Antecedents of perceived playfulness: an exploratory study on user acceptance of general information-searching websites." *Information & Management* 41.7: 869-881.
[8] Hintze, John M., Robert J. Volpe, and Edward S. Shapiro. 2002. "Best practices in the systematic direct observation of student behavior." *Best practices in school psychology* 4: 993-1006.
[9] http://teaching.colostate.edu/guides/peerobservation/bestpractices.cfm

1 Are students using the learning lab directly - hands-on (either individually or in groups) on a device?
Yes
No

2 What type of SLL artifact(s) did STUDENTS use?

- **Individual artifact of artifact(s)**
- **Collection created by someone else**
- **Collection that the teacher created themselves.**
- **Other: (please describe)**

3 How did the students use SLL during your visit?

4 If yes, please complete the following scale regarding student engagement while working with the Learning Lab:
.

	Very High (90% or more of the students exhibit this)	High	Medium (approximately 50% of the students exhibit this)	Low	Very Low (10% or less of the students exhibit this)
Positive Body Language Students exhibit body postures that indicate they are paying attention to the teacher and/or other students					
Consistent Focus All students are focused on the learning activity with minimum disruptions.					
Verbal Participation Students express thoughtful ideas, reflective answers, and questions relevant or appropriate to learning.					
Student Confidence Students exhibit confidence and can initiate and complete a task with					

limited coaching and can work in a group.					
Fun and Excitement Students exhibit interest and enthusiasm and use positive humor.					
Overall Level of Student Engagement					

Source: International Center for Leadership in Education
http://images.pcmac.org/Uploads/BradleyCounty/BradleyCounty/Divisions/PagesLevel2/Documents/sus2.pdf?bcsi_scan_2687365ababd2c82=0&bcsi_scan_filename=sus2.pdf

5 Please describe overall student engagement in the classroom as the students are using the LL:

After observations are completed the data will be entered by the observers into a google form and will analyzed by SCLDA evaluators for themes and correlations. Observation data analysis will be shared with the contractor for this YAG project, Navigation North to inform student prototyping.

Student Interview Protocol

This project will conduct the research with students necessary to make the Learning Lab as useful to them as it has been designed to be for educators. Serving this audience has always been part of the long-term vision for the Lab. The educators involved in the original research stressed the importance of the platform working well not only for them, but also for their students. One reason for that view is that the Common Core State Standards require that all students become proficient in conducting research, using media tools, and presenting what they have learned to others; skills that prepare them for college and the workforce (see the Common Core State Standards Connections section below). The Lab can address that need and make Smithsonian digital resources more useful to students.

As part of this project, interviews with students will be conducted in Pittsburgh to document and evaluate student engagement with the digital content and tools on the Learning Lab. The interview subjects will be selected using purposeful sampling/expert sampling (http://dissertation.laerd.com/purposive-sampling.php#typical) which means that we will be selecting students based on their specific use working with the Learning Lab.

We aim to obtain 20 interviews with students (one student at a time) whose teachers are participating in the Grable/Carnegie funded projects. Students will be chosen based on the level of interaction they have had independently with the SLL and the least amount of time lapsed between using the SLL in the classroom and the interview. Interview subjects are between 11 and 14 years old (6th–8th grades). Interviews will be conducted during the class period and should take approximately 10-15 minutes each. In consultation with Kate Harris, Linda Muller, and Ashley Naranjo who are working on the Grable-funded project in Pittsburgh the following schools were suggested to request interviews from (based on timing and use of the SLL): Avonworth, Pittsburgh CAPA, and Wilkinsburg (with Shaler and Moon as back-ups as they have already been tapped for many other requests for PR, etc.) SCLDA project staff believe it would be best to collect the interviews the weeks of May 16th and May 23rd based on the classes use of the SLL. Parent Consent forms will be distributed in the teacher's classes participating in the project at these schools. Students will be selected based on the pool of students who have parental consent. If there are more consents than interviews needed the students will be selected randomly.

Student Focus Group and Interview Questionnaire

Data to be attached on Interview Data Collection Log:

- Date:
- School:
- Teacher:
- Interviewer:
- Grade:

- Age:
- Gender: M/F
- Last time the student used the LL in class

Turn on recording device (iPhone using voice memos)

(Repeat school, teacher, grade, age at beginning of interview.)

1. Do you remember using the Smithsonian Learning Lab in class?
2. Can you describe it to me? (Can you describe to me what it is?)
3. Can you tell me how have you used the Smithsonian Learning Lab (SLL)? (have laptop to jog their memory)
4. What did you like best about using the SLL?
5. What were the biggest challenges (hardest thing about) using the SLL? (was there any part that you didn't know what to do)
6. What was the most interesting thing about using the SLL in your class?
7. What would have helped you when using the SLL?
8. Have you used the SLL outside of the classroom? Y/N
9. If Y, How did you use it? If N, why not?
10. Would you like to use it again next year in your class? Y/N
11. Why or why not?
12. What would you change about the SLL? What improvements would you suggest for SLL?
13. Would you recommend SLL to other people? Y/N To whom? (teachers, friends, classmates or your parents) Y/N
14. Why or why not?
15. How do you learn outside of school? Can you give me an example?
16. What other websites do you use (in school and outside of school) for learning?

Thank you so much for your feedback. It will help the Smithsonian improve the Learning Lab for students like you.

(turn recording off. Label file as soon as possible with school, teacher and interview #, upload to folder "student Interviews" on Google Drive.)

Data Collection Log

Interview #	Date	Interviewer	School	Teacher	Grade	Age	Gender M/F	When did they last use the LL?

Student Interview Data Tables

Can you describe the SLL to me? (Can you describe what it is?)

Website with history, artifacts, make flashcards	n=5
Pictures (with info, links, folder to save and edit)	n=3
Describes activity, not Learning Lab	n=2
Online lab for Smithsonian, projects/assignments from teachers	n=2
Mentions icons, sunburst:	n=1
Make collection of artifacts in SI museum	n=1
Like a fun scavenger hunt	n=1
More creative, modern way to do learning	n=1

(3 mention creative in some way)

Can you tell me how have you used the Smithsonian Learning Lab (SLL)? (have laptop to jog their memory)

Found pictures of presidents and put hotspots on	n=7
To learn about presidents, suffrage, slaves, Rome, Egypt, artifacts (click on to learn, pick new ones for assignment)	n=5
Looked at pictures (political cartoons, artifacts) and wrote what they were/meant	n=2
Used it for assignment to earn points	n=1
Assignment (looked at pictures, answered questions)	n=1
For projects and research	n=1

What did you like best about using the SLL?

Easy to use, find pictures	n=5
Seeing info and picture (and hotspots) at the same time	n=3

Lots of pictures	n=2
Interactive, being able to edit and manipulate artifact	n=2
Being able to use it independently	n=2
All in one website	n=1
Really learn about object without seeing it in person	n=1

What were the biggest challenges (hardest thing about) using the SLL? (was there any part that you didn't know what to do)

Wifi issues, Sometimes needed to refresh to make it work, Freezing up (non LL issues)	n=3
Saving hotspots	n=2
Assignment-related issue	n=2
Navigation issues	n=2
Hard to use without instructions	n=1
Confusing because so many possibilities	n=1
Coming up with ideas	n=1
Not hard	n=1
Registration issue	n=1
Figuring out what icons meant	n=1
Sometimes not enough information	n=1

What was the most interesting thing about using the SLL in your class?

Lots of information and resources, variety of things (pictures, documents, etc.), Pictures with information	n=7
Ability to learn about history online (not in person, Learning with pictures,	n=2
Adding hotspots instead of text below	n=1

That you can do whatever you want with it	n=1
To see what's in the Smithsonian	n=1
All interesting	n=1
Surprising information	n=1

What would have helped you when using the SLL?

More instructions (tools, icons), Introductions, how-to	n=9
Don't know/nothing	n=2
Easier vocabulary	n=1
More information about objects	n=1

Have you used the SLL outside of the classroom? Yes (n=2) No (n=13)

If Y, How did you use it? If N, why not?

yes	
Research for another class	n=1
Look up info for conversation with mother re: presidents	n=1
No	
Didn't have to	n=6
Didn't think of it	n=3
No time	n=2
Don't know	n=1

Would you like to use it again next year in your class? Yes (n=13) No (n=1)

Why or why not?

No →	n=1 overwhelming
Yes ↓	

It's like being at the museum	n=8
Interesting way to learn, different	n=4
Good website for history	n=2
Fun to work with/user friendly	n=2
Lots of info, documents and artifacts	n=2
Ability to work independently	n=1
Reliable resources	n=1
Because teacher will use it	n=1
Online (better than) reading	n=1

What would you change about the SLL? What improvements would you suggest for SLL?

nothing	n=7
More instructions	n=2
More background information	n=2
Don't know	n=1
Navigation	n=1
Ability to see what answers you got right/wrong in an assignment	n=1
(teacher controlled) collections for each subject	n=1

Would you recommend SLL to other people? Yes (n=15) No (n=0)

To whom?

Classmates	n=6
Teachers	n=4

Schools	n=4
Friends	n=3
Anyone interested in history	n=1
Parents	n=0

Why would you recommend the SLL?

Easy to use/easier than Google	n=5
Different way to learn, Way to extend learning, Creative way to learn, Making learning interesting	n=4
To find info on history	n=2
Background info/so much information	n=2
Fun	n=2
Share what you learned	n=1
Reliable resource	n=1

How do you learn outside of school? Can you give me an example?

Internet (Google)	n=7
Books/read	n=3
Parents	n=3
Talking with other people, friends	n=3
By making mistakes	n=1
News	n=1
Experience	n=1
Challenging myself	n=1

Museums	n=1

What other websites do you use (in school and outside of school) for learning?

Google	n=10
School website (with links to other sites), Library database webpage, teacher/class site	n=5
Quizlet/Study Island (quiz sites)	n=2
Wikipedia	n=2
History websites (history channel, etc.)	n=2
Games website (Kahoot, Sheppard's Learning Zone)	n=2
Prezi	n=1
Animation website	n=1
Candidate websites	n=1
.org websites	n=1
Mr. Klem's math website	n=1
PBS	n=1