

Civics! An American Musical in the Classroom

Report on a Classroom Evaluation Study

June 30, 2021

William Tally, Ph.D.

Tally Education Research Consultants

I. Introduction

Civics! An American Musical is an online game that inspires students to research the civic struggles of the past and take part in civic struggles of the present. Created by Fablevision with the support of the Library of Congress, the game is designed to build upper elementary and middle school students' skills in using primary sources as they study the past and take action in the present. In the current version of the game, students step through the process of producing a history-based musical on one of four topics: the Chinese Exclusion Act, conservation efforts in the early 1900s, advocating for healthy food and drugs in the Progressive Era, and school desegregation in the 1950s. After gameplay, it is hoped that teachers will lead students in classroom extension activities and discussions that deepen understanding of the history, and invite students to identify an additional civic struggle they feel strongly about, research it via primary sources, and make a creative product about it.

In Spring 2021, educational researcher William Tally, Ph.D. conducted a classroom study of *Civics! An American Musical* to determine its classroom usability, appeal for teachers and students, and educational effectiveness.

Research questions. Research questions fell into three categories:

Student Learning

After playing and discussing the game, do students show evidence of:

- Increased historical knowledge?
- Increased skill in using primary sources?
- Increased interest in taking civic action?
- Increased interest in musicals as an art form?

Feasibility for Teachers

- To what extent are teachers able to deploy the game effectively as part of teaching?
- What adaptations do they make, and why?
- How do they use Teacher Dashboard, and what feedback do they have on it?
- What technical and/or pedagogical implementation issues arise, if any?

Student Appeal

- To what extent do students like the game and want to play more?
- Does student age or grade influence appeal? (What is the best target for the game?)
- What additional topics, or changes, might make it more appealing and engaging?

II. Sample and Methods

To examine these questions, Dr. Tally worked with Fablevision and its partner Maryland Public Television (MPT) to identify three middle school teachers interested in using the game with their students over 1-2 weeks, and willing to participate in a brief research study. Table 1 shows that the 168 participating students were a racially diverse group attending schools in largely middle income communities. Two communities were in Maryland, one in Virginia.

Table 1: Study Participants (Total = 168)

School	Class	Grade(s)	# Students	Student Population	Community	Focal Topic of Musical
A	Enrichment	6, 7, 8	30	History Day students 70% White 30% Black	Middle income Small town MD	Chinese Exclusion Act
B	World History	7	111	Gifted Program Students Predominantly Black	Middle income Small city MD	Chinese Exclusion Act
C	Study Hall	8	27	Catholic School Predominantly White Students	Upper middle income Suburb VA	School Desegregation

Implementation

All three teachers attended a 50-minute online orientation session led by MPT, and then taught with the game over 3 class periods, administering a questionnaire to students before and afterwards. All schools were on a hybrid schedule due to the pandemic, with most students attending in person, but a handful remaining online. Many, but not all, students experienced the game, and pre- and post-game discussions, in person. In the first session, teachers administered the pretest and introduced the game; in the second session students played the game and teachers consulted the Teacher Dashboard; in the third session teachers led discussions and extension activities aimed at deepening understanding of the topics. (Tally and MPT and Fablevision colleagues observed the debriefs where possible). A week later, students completed the post-test questionnaire, and Tally interviewed the teachers about their experience. As a thank you for participating, teachers received free classroom licenses to the full suite of Fablevision games.

Data Collected

Three kinds of data were collected:

Pre-Post Questionnaire

Teachers administered a pre/post online questionnaire to students before and after the game and discussion. The questionnaire mixed closed- and open-ended questions designed to measure change in the following targets:

Target	Closed-ended Questions	Open-ended Questions
Content Knowledge (Chinese Exclusion, eg)	3	0

Skill Using Primary Sources	3	3
Civic Awareness / Orientation	3	2
Engagement / Appeal (post-test only)	4	2

Observations

The researcher was able to observe teacher-student interactions in two of the three schools, via Zoom. An observation protocol was used to capture teacher-student talk, peer discussion, and student feedback on the game.

Interviews

The three teachers were interviewed before and after using the game about their interest and experience with civics and history games in teaching, the way they implemented the game, pedagogical or technical issues that arose, their use of the Teacher Dashboard, and their observations of student engagement and student learning.

III. Results

This report presents top-line results from an analysis of all data in the four main areas of concern re students:¹

- A) Content knowledge learning gains
- B) Gains in skills using primary sources
- C) Change in civics awareness and attitudes
- D) The appeal of the game for students

In addition, the report summarizes teachers' response to the game and the Teacher Dashboard.

A. Content Knowledge Gains by Students

*Student knowledge improved in each of three areas probed by the pre/post measure. After playing and discussing the game students were better able *define* the Chinese Exclusion Act, to identify its *causes*, and to identify actions by Chinese Americans that sought to *resist* or *change* anti-Chinese sentiment in the US (though they showed only slight improvement in the latter).*

Figure 1 shows the pre-post change in students' ability to identify what the Chinese Exclusion Act was and sought to accomplish. Students needed to consider whether the Act a) made it illegal to import Chinese goods b) stopped Chinese workers from coming to the US c) prevented Americans from moving to China or d) put Chinese people in U.S. labor camps. The percentage of students able to identify the Act correctly rose from 61% to 87% (N=125). This suggests that the game, and especially the video overview, are effective learning tools.

¹ Findings about learning outcomes are based on data from Schools A and B only; data from School C, a suburban Maryland Catholic school, was excluded from the analysis because the game was implemented under circumstances that inhibited student engagement with the material. (More about this in the Teacher Section). Analysis is thus based on responses from 131 students in Schools A and B, all of whom played the Chinese Exclusion Act game, "*The Exclusion Delusion*."

Figure 1: Students' ability to identify the Chinese Exclusion Act

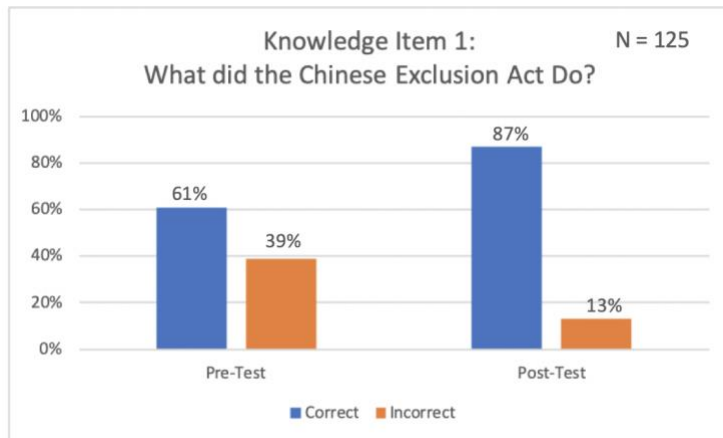
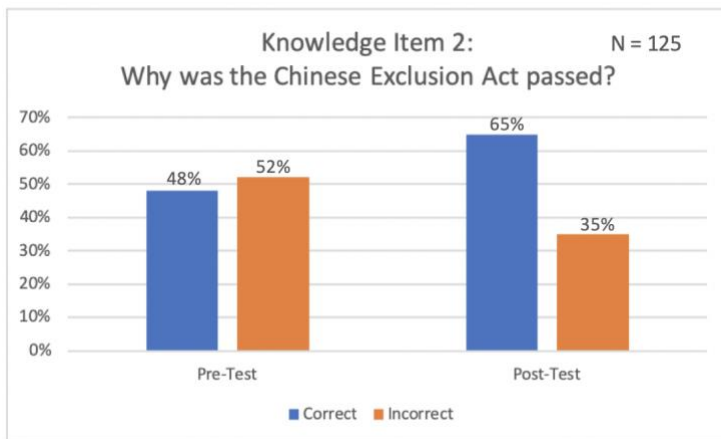


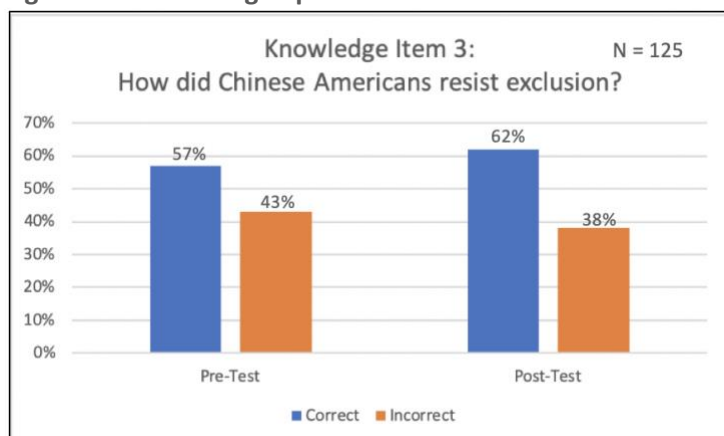
Figure 2 shows students' improved ability to identify the reasons Americans passed the Chinese Exclusion Act (from 48% correctly identifying the reasons to 65% correctly identifying the reasons). Students needed to say which of the following was NOT a reason Americans passed the Act: a) Americans believed Chinese workers took their jobs b) Americans held racist stereotypes about Chinese people c) Americans preferred hiring Japanese laborers or d) Americans did not trust foreigners, who they thought were strange.

Figure 2: Students' knowledge of the causes of the Chinese Exclusion Act



Students' ability to identify the ways Chinese Americans resisted exclusion and discrimination was only slightly better after playing the game. Figure 3 shows that student awareness of resistance strategies improved only 5% points, from 57% to 62%. This may be due to the fact that "Exclusion Delusion," the only resistance strategy explicitly modeled in the story is a Chinese American writer's effort, in his publications, to counter myths and stereotypes held by Americans. Most students likely do not see this as a form of resistance or protest (though some did, as discussed under Civic Attitudes, below).

Figure 3: Students' grasp of Chinese American resistance to the Exclusion Act



B. Gains in Skill in Using Primary Sources

Even more important than content knowledge in the game designers' goals is building students' skill in working with primary source materials. The game tries to foster these skills in several ways. To begin with, the game introduces and has students practice using the Library of Congress' three-part schema for analyzing sources — Observe, Reflect, and Question. Second, in each of the game's core activities players deploy these actions as they help crewmembers examine a small set of primary sources and select the one that best fulfills certain criteria. This may require a search for specific content (a photo showing how rural Black students in the 1950s dressed), attention to chronology (e.g. captions showing the date), or an effort of corroboration (e.g., seeing if a text document or interview transcript supports a playwright's claim). Players' performance on these tasks is scored, and displayed for both student and teacher.

Preliminary analysis shows that *students showed measurable improvement in their skill with documents after playing and discussing Civics! An American Musical*. While it will take more time to code open-ended document analyses, based on closed-ended items, students showed 1) greater clarity in distinguishing Observations, Reflections and Questions, and 2) an improved ability to draw reasonable inferences from a photograph, and especially to attend to captions and dates as part of their analysis.

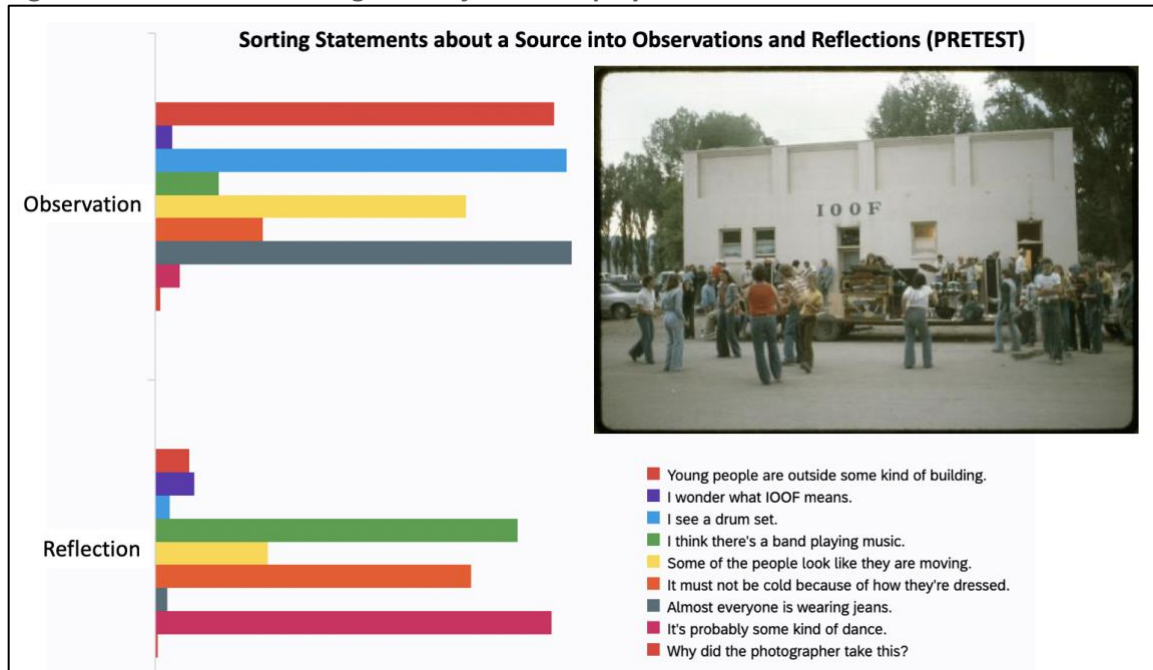
1. Ability to distinguish Observations and Reflections

Figures 4a and 4b on the next page show how students sorted statements about an historical photograph into Observations and Reflections (or guesses, interpretations) before and after playing and discussing *Civics! An American Musical*. While the images were different, the statements about them were carefully constructed in parallel form.

Comparison of the two figures shows an overall reduction in 'noise' from A to B — that is, after playing the game, students were more successful at sorting statements about an image into observations (statements based on what is visible) and reflections (statements that are

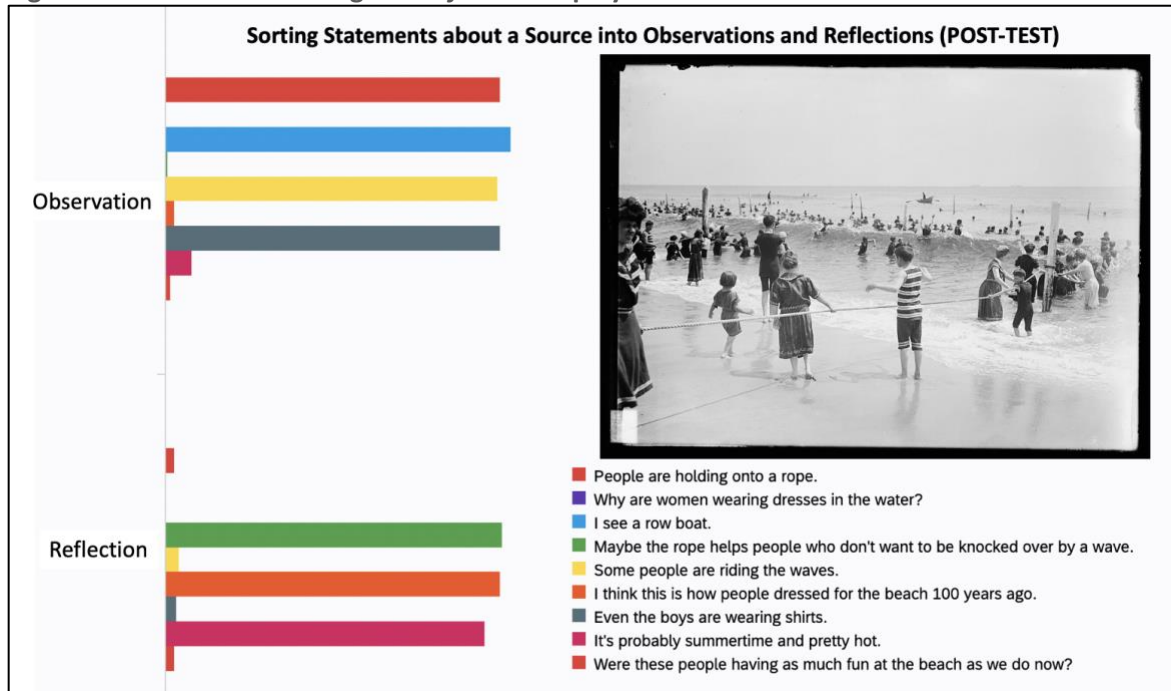
inferences or interpretations. (Questions were equally well identified pre and post, so these data are not presented.)

Figure 4A: Statement Sorting Task *Before* Gameplay



Note the 'noise' present in 4A above, and missing in 4B below. Students were better able to distinguish Observations and Reflections after playing the game.

Figure 4B: Statement Sorting Task *After* Gameplay



2. Drawing Inferences from Primary Sources

After playing *Civics!*, students showed substantial improvement in their ability to identify an inference that is supported by an accompanying visual source. This suggests that the game's core tasks are helping students practice visual and intellectual comparisons that are useful the kinds of inference-making from sources that appear on many document-based assessments.

Figures 5A and 5B show students' performance on an inference task before and after the game (N = 125). 22% of students identified the correct inference before, and 70% did so after.

Figure 5A: Inference Task, Pre-Test

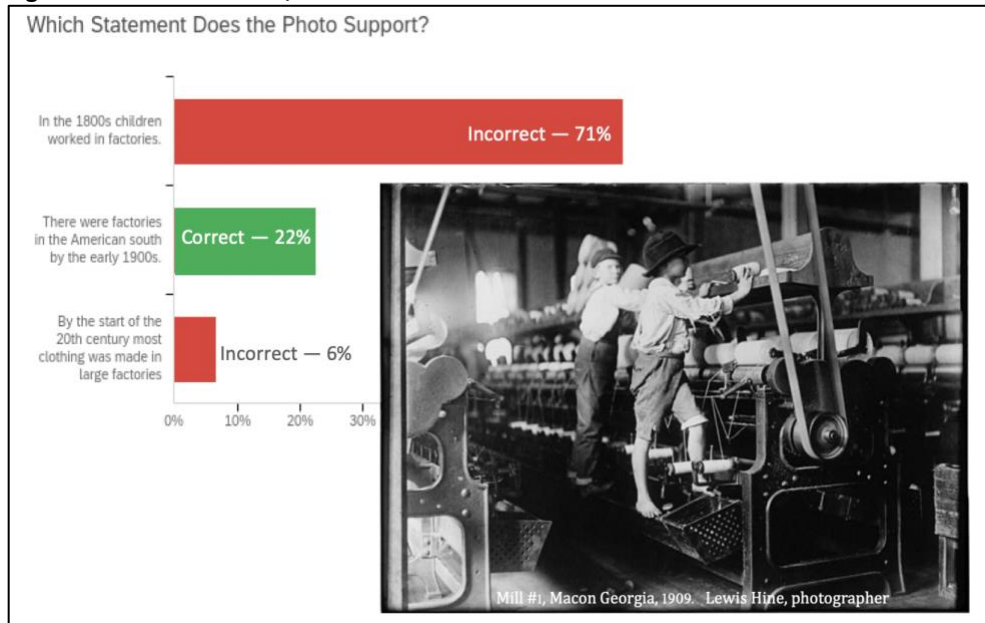
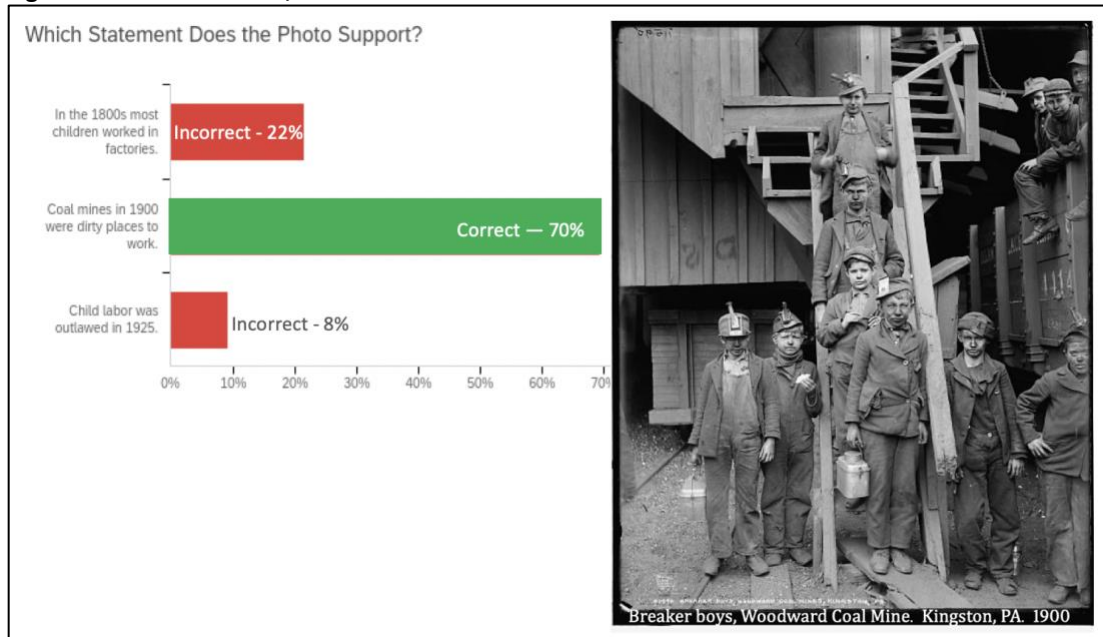


Figure 5A: Inference Task, Post-Test



What explains students’ improvement on this task? It is likely the game helped students become more attuned to the *captions* on sources, and to use this information in reasoning about the source. An essential element of this task is what Sam Wineburg and his colleagues call *sourcing* – noting when a source was created, and using that information in reasoning about its meaning. In particular, the task required students to *read and use the photo’s caption*—noting particularly the year in which it was created—and to use this information in evaluating the three statements offered.

Students were more attentive to the source’s caption and date after playing Civics! In the Pretest, 71% of students ignored the caption and date, and simply focused on the image’s content — children working in a factory. In the Post-test, 70% of students used the document’s caption and date — 1900 — to select the appropriate statement.

This is significant because it is well-known that elementary and secondary students frequently ignore or underuse text features such as captions, headings and subheadings when making sense of texts; Civics! encourages players to attend to and use document captions, including dates, in its matching and reasoning tasks, and it is a fair conclusion that the game helped students become better at reading and using captions in reasoning about sources.

C. Changes in Civic Awareness and Attitudes

Another goal of the Civics! game was to foster greater civic awareness and even action by youngsters. This goal met with mixed results in this study. On one hand, to the question of whether they recognized a social problem in two turn-of-the 20th-century photographs, and what that problem might be, the vast majority of students both before and after the game said they did see a social problem, and correctly identified it as ‘child labor.’ They were already sensitive to the photographic depiction of child labor as a social problem before they played the game, so we did not see measurable gains in their recognition of a social problem from pre- to post. On the other hand, when asked to suggest ways Americans tried to *solve* the problem of child labor, students responses *after* playing the game were different from those before. Specifically, as Table 2 shows, after playing the game students were more likely to imagine solutions that involved *the actions of ordinary people* — actions from below, as it were — rather than simply actions of legislatures, executives and courts.

Table 2: Number of students suggesting that ordinary citizens helped end child labor

Pre-Test		Post-Test		Change
38 (N=195)	19%	53 (N=168)	32%	+ 14%

Table 3 below offers examples of students’ ideas about civic responses to child labor before and after playing Civics! An American Musical.

Table 3: Students’ ideas about civic responses to child labor

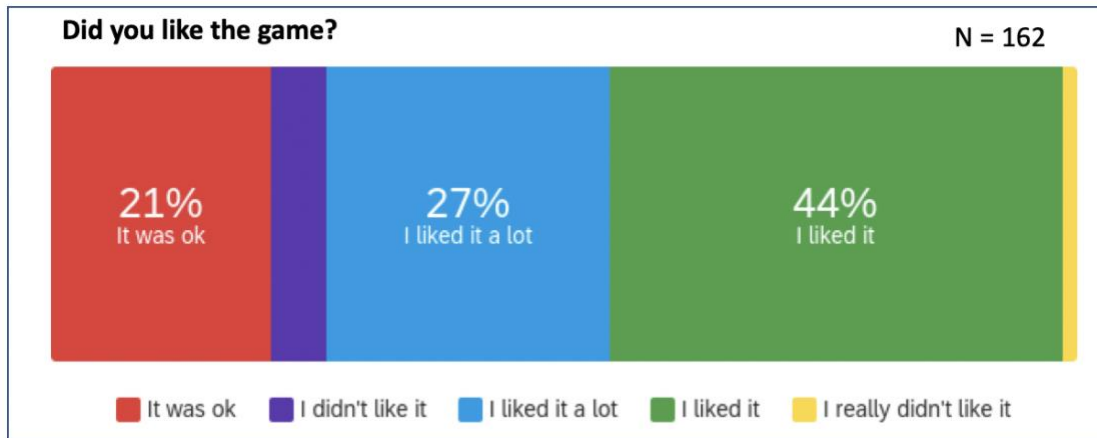
Before playing	After playing
<p><i>The government passed a law so kids don’t have to work</i></p> <p><i>They made mining and mining equipment safer. Making child labor laws. Making more schools.</i></p> <p><i>Make laws and amendments.</i></p> <p><i>They might have passed laws to end child labor.</i></p>	<p><i>Some ways that people have tried to bring change to fix the problem is by protesting, and trying to make change even with small actions.</i></p> <p><i>I think some people tried to spread awareness about the dangers of coal mines, and protested against child labor in order to get it outlawed to bring about change.</i></p> <p><i>They took photos of the bad conditions of the places where the kids were working and put them in the newspaper to show the public people</i></p> <p><i>Protesting, people can use their voices together to strike for change. The kids can also go on strike and refuse to work until conditions change.</i></p>

As these examples suggest, after playing Civics! students were more likely to think about the role that ordinary citizens can and do play in social change, through direct action (protests) and by using photographs and other media to call attention to social needs and problems. This makes sense, since the Civics! scenarios stress the roles that ordinary citizens — a Chinese immigrant, school children, and others — play in making change happen.

D. The Appeal of Civics! for Students

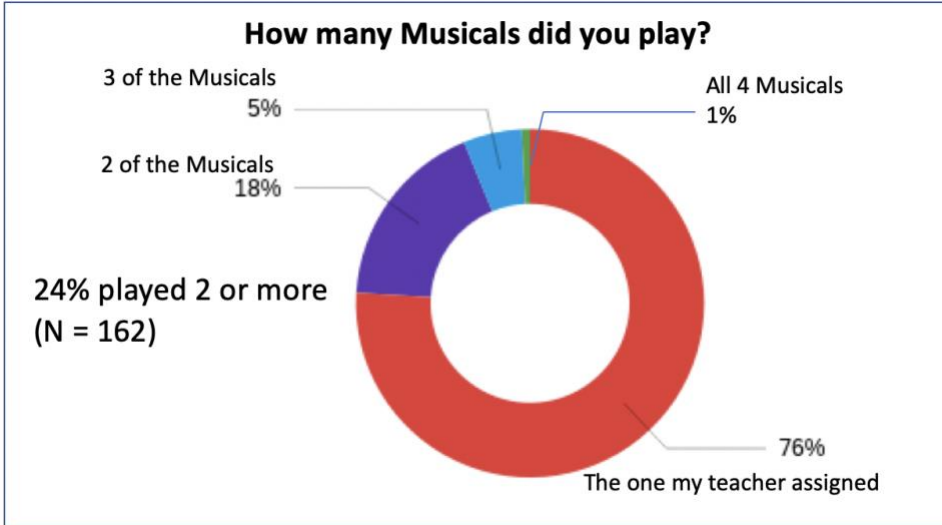
Students found *Civics! An American Musical* very appealing. Figure 6 shows that 73% of students (N=162) said they ‘liked’ the game or ‘liked it a lot’. Only 6% said they didn’t like it.

Figure 6: Three fourths of students ‘liked’ the game or ‘liked it a lot’



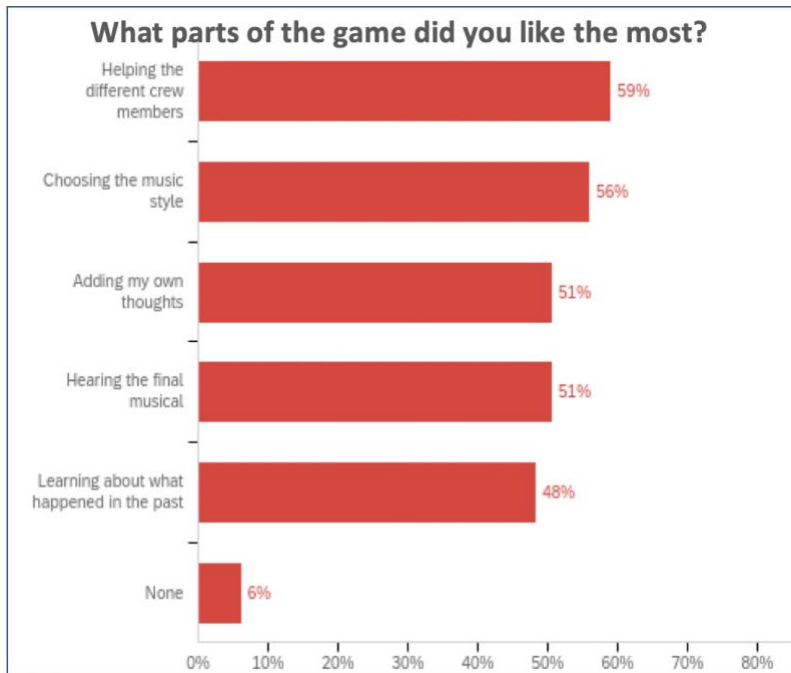
One indication of the game’s appeal is that *a quarter of students played one or more additional Musical games on their own, outside of class* (see Figure 7).

Figure 7: A quarter of students played more games on their own, outside of class



Students rated all the major elements of the game experience as highly appealing. See Figure 8.

Figure 8: Key elements of the game experience were all appealing



The most appealing features of Civics!

In interviews and the post-game questionnaire, students had a lot to say about what made the game engaging and enjoyable, and also what would make it better. Thematic analysis of their comments suggests that the *most appealing aspects* of the experience were:

1. Helping design a Musical
2. The culminating performance
3. Learning history
4. The game's aesthetics
5. Real history and real documents

1. Helping design a Musical

Above all, middle school students liked the core premise of the game — helping to create a musical — which they found engaging and fun:

- *I liked it because I really learned a lot and seeing how Broadway could look, how many months it takes, and doing fun games until opening night. It was a blast!!*
- *I really liked that you got to pick the set designs, costumes, the lyrics and the tune, based on your answer to the questions.*
- *I think picking the lyric and having it sung is what topped everything.*
- *I liked it because you got to help with pretty much everything backstage; I think there was something everyone playing the game could enjoy, and it helps show how many different departments there are in musical theater.*
- *I liked it because the game was very engaging and I like how it allowed the player to choose their own topic and organize their own play regarding the topic. I also enjoyed how the making of the play was organized into guided stations, eventually creating a play made by you.*

2. The culminating performance

Seeing and hearing the song at the end of the game was a highlight for many students:

- *I loved hearing the songs at the end.*
- *I was fun to see the play at the end and getting the play ready for opening night.*
- *I enjoyed having all my efforts be put into something at the very end.*
- *Honestly, I liked how it all came together in the end and I like the little trivia questions in between.*

3. Learning history in an accessible way

A substantial number of students said they enjoyed learning new things about the country's history, in a way that was accessible for them. Several called out how the game made challenging history easier to grasp:

- *I liked the musical because it was very interactive and customizable, and I also learned a lot. I was able to choose my topic, analyze sources, create my music, theme, and costumes and much more. It helped me be more engaged and more interested in my topic without it being boring. I have heard of Brown vs Board of Education before, but it was kind of confusing for me to understand until I chose it as a topic in the game.*
- *I like that it helped me learn about my topic.*
- *I liked it because I was learning in a way that made me want to pay attention.*
- *It was fun about learning the chinese evolution act (sic) in a game*
- *I liked it because you learned about historical events in sort of segments, and got to know more about the event.*
- *It was interesting to learn about these different situations where people came together to fix a problem that the government wouldn't.*
- *It got me interested in topics I otherwise wouldn't have been.*

4. Aesthetics

Several students said the animation and music appealed to them:

- *The art and music were amazing.*
- *I liked the scenes and backgrounds.*
- *The animations and play was really fun.*

5. Real history and real documents

Finally, a handful of students cited the game's focus on primary sources as something they appreciated:

- *I really liked how they incorporated real history and showed real documents so we could make accurate lyrics, costumes, and props.*
- *I liked how you got to look through the documents and pictures, like you're an actual professional researcher.*
- *I liked the way ... the game presented the primary sources, that you had to look at carefully*

Age / grade differences in the game's appeal

While not definitive, there is some evidence that Civics! appealed more to 5-7th graders than to 8th graders.

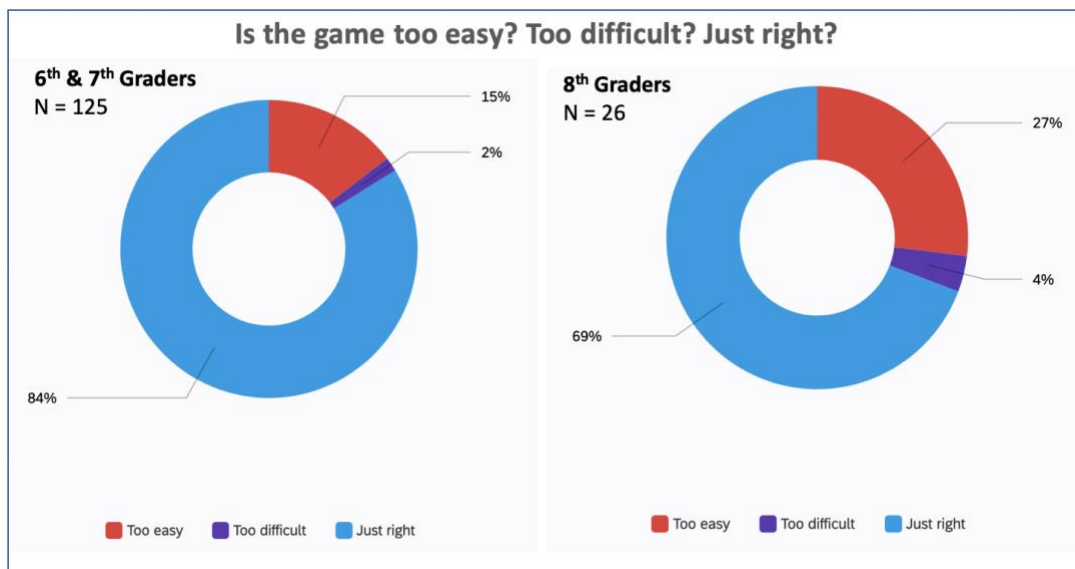
8th graders in the sample were more likely than younger students to:

- Rate the game as 'ok' instead of that they 'liked' or 'really liked' it (1/2 of 8th graders said 'it was ok', and 1/2 said they 'liked or really liked' it; the ratio was 1/4 to 3/4 for younger kids)
- Say the game was 'too young' or 'boring' in their open-ended questionnaire responses.

The Difficulty Level of the Game

Also related to age/grade were students' assessments of the difficulty of the game. While most students of all ages said the game was "just right" on the Goldilocks scale, 8th graders were more likely to say it was "too easy"² (see Figure 9).

Figure 9: Student's assessment of game difficulty



The following comments from mostly 8th graders (with some 7th grader comments) indicate how some older students felt:

- *I thought that it was a little young for me.*
- *The overall game was much better than other educational games but it seemed a little young and repetitive.*
- *They can use bigger words because it seems like they were going towards an audience 5-9.*
- *Maybe making it a little more challenging, but while you do that make it more fun and creative in a way.*
- *I think that the lessons are generally for everyone but I think websites like this are going to be more enjoyable for kids 1-4 maybe 5th.*
- *It was too easy and repetitive.*
- *It seems like it's for younger kids kind of.*

² Note however: One part of the game that students of all ages saw as difficult was the text documents in the Writers' Room (see 'Student's Suggested Improvements' below).

E. Students' Suggested Improvements

Students suggestions for making the game better reflect their high level of engagement with the game. They want:

1. More topics, and more musicals
2. More choices in creating the musical
3. More opportunities for customization
4. More room for student input and 'voice'
5. Help with the one difficult part of the game: Writers' Room Documents
6. Less 'background noise'

1. More topics / cultures / musicals

Students, like teachers, say they'd like to see Civics! offer more topics and musical games to choose from. They see Civics! as a fun way to learn about academic subjects, and would like more opportunities for this kind of support.

- *You can improve the game by making more topics about world history, instead of just focusing on the United States. You can also add topics about LGBT history as well as women's history.*
- *I like the game a lot. Maybe add more non-American history. Try Asian culture, African and Indian culture.*
- *Add more historical topics like the Holocaust, Mexican-American war, etc.*
- *I'd like more options of musicals – if the musicals were actually about something we had to learn.*

2. More choice in creating the musical — music, lyrics and cast

Students were taken with the idea of helping create a musical, and not surprisingly, many wanted more creative options in regard to the main components — the cast, the music, and the lyrics.

- *I think they should add more musical genre choices, and give students more choices for the lyrics.*
- *More music and lyric choices.*
- *Add more song genres.*
- *Probably add more music choices.*
- *I'd like to choose our cast members, or have them audition, and you be the director.*
- *They should definitely add the entire lyric when we are able to pick lyrics.*
- *I was disappointed by the music at the end, because I wish we got to choose our own music genre.*
- *You should be able to choose from a larger library of songs for the musical or be able to choose custom family-friendly songs to play. That would make the game more interesting for teens.*
- *It would be good to add dance moves or something like that.*

3. More opportunities to customize – characters, costumes, backgrounds

Students asked for more chances to customize the visual elements of the production, characters, costumes and backgrounds.

- *Maybe you could make it able for people to make their own characters.*
- *If possible, add more crew members to help out, or more options for us to choose from when it comes to like clothes, background, music.*
- *I would add far more customization, and the ability to view other people's shows.*

- *There should be more options for music/costumes.*
- *Let us pick the outfits colors and styles more and by letting more than one prop on the stage.*
- *Maybe we could design the costumes a little more, like hair, shoes, shirt and pants. Also click sentences to create the lyric of the musical.*
- *Make more options for music/clothing.*
- *I think Fablevision can improve the game by putting more clothing options for the costume section of the game.*

4. More room for student input and “voice”

Most students were engaged by the topics, and entered into the fantasy of creating a musical. It makes sense, then, that many wanted more opportunities to share their own thinking. They found the current ways of doing so too constraining.

- *I'd like to have more parts where we can add our opinion.*
- *The part where you agree or disagree with the message of the play, there were only 3 options, but it would've been better if I could agree with both, rather than disagree with both or agree with only one.*
- *When I was getting interviewed in the game the typing portion word count maximum I think is very short. It was very irritating for me having to keep on rephrasing my sentence because it kept on cutting me off.*
- *I think when we get asked about our own thoughts, we should be able to have more space to write and a bigger character limit.*
- *The one where we answer a question there isn't a lot you can say in only 140 characters because they ask very loaded questions.*
- *Maybe add something more so people can add their own thoughts into it.*

5. Help with Writers' Room Text Documents (the one difficult part of the game)

While the game overall was not rated as difficult, there was one part of the game that students of all ages (and at least one teacher) called out as far more difficult than the others: The document reading task in the Writer's Room.

Students appeared to find this task challenging for two distinct reasons: First, it is the one part of the game that demands that they *read a primary text document* of any length, and do so well enough that they can corroborate a related statement. Compared to scanning images, this was challenging for students, and demanded a different level of attention and effort they were not prepared for. Second, students found the *tools* for reading — the scroll bars and especially the magnifying glass — awkward to use. Their comments and suggests reflect this:

- *I found the part where you had to get facts checked and had to read entire news articles to find the correct answers very boring and hard.*
- *On the part where I had to read some of the newspaper, etc., I think maybe you guys could not put so much reading on it.*
- *Take out the articles – they're hard.*
- *Change the section that makes you read an article. Either highlight an area to read, or remove it.*
- *I noticed that whenever you had to look through text it would be fairly difficult to use and that the magnifying glass was a bit weird to get working*

- *I think you should make people look at the source with a zoom tool though still give them a specific place to look at for the needed information.*

These comments reflect students' need for *more and better supports for reading and understanding text documents* in the game. Historical text documents and images present a different order of magnitude of challenge to students; reading, and even more, sense-making and corroboration, are skills that need greater support. Whether such supports are compatible with a game of this type is, of course, an open question.

6. Less 'background noise'

A substantial number of students called out the background audio as 'noisy' and distracting.

- *Sometimes when you interact with the characters the sounds in the background are annoying and distracting, maybe you could make them appear less frequent.*
- *The stage sounds in the background didn't sound realistic.*
- *Take away the background noises backstage.*
- *Maybe they could record actual stage sounds, for the sounds to become realistic.*
- *I liked the play and creating it but the background noises were annoying.*
- *Less background noises, or get rid of the background noise.*
- *It was a fun way to learn, but the music hurt (sic) my ears.*

Individual Suggested Tweaks

Because kids are often sophisticated consumers of software products and games, and like sharing their feedback, a number individual students had very specific suggestions that may or may not be actionable, or even desirable, but are interesting nonetheless. They're offered here in that spirit:

- *One thing I didn't like was when you load up an musical after your first one, you have to go through the tutorials of each crew member, and that didn't seem very fun over and over again.*
- *Possibly adding a way to go back and watch your previous musicals would help improve the game.*
- *I would like to see a more improved and refined progression system, where at any time you can exit the tab, and then come back to it saved and ready to go where you left off.*
- *I think that each crew member should have a unique activity/task to complete, instead of 2 or 3 of them having a board to put things on if you got the answer correct.*
- *Maybe add options for different game modes for those who don't like musicals. Lastly maybe you can have people pick the era and genre of the article*
- *I think the narrator should have a talking animation, and the characters could have an idle animation added to the game.*

- *Maybe have a certain point counter, like you can only go up to 1000 points per-say and in the end it tells you how many points you got out of the maximum amount. For example: 900/1000*
- *I think that Fablevision can improve the game by changing up the game slightly and possibly adding a villain or negative punishment of some sort to up the stakes.*
- *When you finish the game and try to exit to the main screen it simply replays the previous audio that's a kink that needs to be fixed.*
- *I think that the final play should incorporate more of what the stations included. By this I mean more scripted songs that create more of a plotline throughout the musical. I say this because when I played the game, only one song was provided in the end and I felt as if some information I learned and put into the stations were left out from the play.*

F. Teacher's Response to *Civics! An American Musical*

1. Overall teacher response

All three teachers liked the game, found it easy to deploy as part of their teaching, and appreciated how it gave their students an alternative way to learn history, one that was less text-heavy, and deeply engaging for them.

Comments by a 7th grade World History teacher capture this mix of engagement and learning that teachers valued:

When kids and parents heard "Musical" they got really excited. I noticed that some kids who were playing at home had their parents sitting alongside. One parent said her child was singing Hamilton songs as she played. And some kids enjoyed it so much they went and played the other games on their own time. At the end [of the game], kids loved hearing their musical – everyone was so quiet you could hear a pin drop.

And it wasn't just fun— I felt that kids really learned history. I had purposely not given them too much background knowledge on Chinese Exclusion, and they came out of this being able to say, 'This is what it was, here's what it was connected to, and who it mattered to.'

-- Teacher 2 (7th grade World History)

2. The curricular fit of the game

Civics! An American Musical proved to be adaptable to different teaching styles and purposes. This said, teachers agreed that the game functioned best surrounded by a curricular context — e.g. a social studies class in US or World history. The one regular classroom teacher, a World History teacher (Teacher 2) used it effectively as an introduction to the topic of Chinese Exclusion. As his comments above indicate, he found that in the context of his class, where

students were studying migration and nation-building, the game helped students learn about Chinese Exclusion.

Teacher 1, an Enrichment teacher, used the game as a culminating activity. She felt that the game was better used this way than as a primary teaching tool, because while the sources were interesting, she felt the game did not offer enough context for students to actually understand the historical issues and content. As an Enrichment teacher, not a regular social studies teacher, she felt most comfortable teaching about the Chinese Exclusion first, using Youtube videos and readings, and then having students play the game:

When we talked about it afterwards, students saw the game as more of an end result, a culmination, than a mode of learning. I kind of agree. The reason is that just having the primary sources, the pictures and the letters, doesn't give the context and the building blocks that kids need to attach them to. Next time I think I'd use this as part of a regular social studies class, not Enrichment.

Teacher 1 (6th & 7th grade Enrichment Teacher)

A third educator (Teacher 3, really a Library Media Specialist) had 8th grade students play the game during a Library breakout or 'special' in the cafeteria; she found that, without a classroom curriculum context, the 8th graders had difficulty focusing, were distracted by 'senioritis' and did not engage sufficiently with the game for it to be a fair test. (For this reason, her students were excluded from the learning analysis, though not the appeal analysis).

3. Teachers' implementation of Civics! An American Musical

A. Launching the game

The value of the 'Hamilton' Connection. Making reference to the musical Hamilton was an effective way to prepare students for *Civics! An American Musical*. One of the three teachers (Teacher 2) introduced the game by playing the opening song from Hamilton (a "clean" version, which disappointed the kids), and asking students: How do you think Lin Manuel Miranda prepared to a historical musical?

I started off by playing them a Hamilton song, and then I asked kids what they thought went into him [Miranda] making that musical. We brainstormed a long list of things – research, reading, set design, songwriting, casting. And I explained that through the game, they were going to help create a musical using some of the same ways. This really worked to get kids excited and prepared.

- Teacher 2

Another teacher who didn't make this connection was quickly met with dismay — some mock, some real — when she announced the class was going to make a musical:

They said, 'Oh no — I can't sing, and I can't dance!' I'll be terrible, etc. I quickly explained that it was a pretend musical, and they weren't performing, but helping design it.

- Teacher 1

B. During gameplay

Teachers noted the following things as kids were playing the game:

- *Engagement.* Two of the three teachers said that students were very engaged while playing. One teacher (the Library Media Specialist) found that her 8th graders were not as engaged (see note above).

Kids were very engaged. Most were very determined to do well – get three stars. They were talking and bragging about it. ‘I got three stars.’ ‘I got two – how did you get three?’ If they didn’t get three stars, they went to play again; If they did get three stars, this encouraged them to play one of the other games.
- Teacher 1

- *Duration.* Teachers were surprised by how quickly students went through the game. It took most students about 20 minutes. Some students who finished quickly went back to play again, to try and increase their score. The few who straggled were able to save the game and come back the next day.
- *Technical issues.* Teachers noted few technical challenges overall, but there were some minor ones. Teacher 3 reported the following with two students using Chrome books:
 - *I ran into some trouble getting into the game with one of the students, user 3342. We both tried his credentials that I had pulled up on my computer, but we could not get him into it. I told him that is part of testing.*
 - *The musical play also froze for user 3355. I’m not sure if it was a glitch with his Chrome Book or something on the game end, but the progress report shows that he completed his parts.*

C. After the game — the value of the Extension activities

Teachers followed up on the game in different ways. Teacher 1 held a class discussion, using the suggested discussion questions. Teacher 2 used an Extension activity for the Exclusion Delusion to extend students’ understanding of exclusion. Teacher 3 asked students to share their reactions to the game itself.

The Extension activity proved to be successful for Teacher 2:

We did the extension activity on Anna May Wong and the Chinese exclusions. I chose it because we were coming out of Women’s history month. This was something I didn’t know about before, so I learned too. The kids were fascinated. When they heard about “Yellow Face” they made a connection to Black Face. In our discussion they were bringing in their prior knowledge from the game. I was very happy about that.
– Teacher 2

4. Usability of the game

Overall, teachers found the game quite easy to use and deploy, despite a few bugs that they reported to the game developers.

Overall it was actually pretty easy to use. There were a couple of hiccups, but not bad.
– Teacher 2

A. Registration process

Teachers tended to register students ‘by hand’, rather than use the CSV Class Roster upload feature. While this worked fine, their comments suggest it might be good to create an option for students to register themselves using a Class Code.

I didn't use the CSV. With only 30 kids I just typed their names myself, using uniform passwords. I appreciate that the system doesn't ask kids to put in their school-issued Gmail account, since this is not allowed unless a program has been school-approved. [Would a class code work for you?] If I had a class code and students could use it to create their own user name and password, this would work fine — as long as the info showed up on her Teacher page when kids forgot their passwords.

- Teacher 1

With 120 students, the hardest part [of registration] was inputting all the names and the passwords. I didn't use the CSV, because he thought that would take more time. Still, registration was more time-consuming than I wanted, because I had so many kids. If you have several teachers or a grade level use the program — like if there are 1,200 kids instead of 120 — it would be easier to have kids create their own accounts, using a class code.

- Teacher 2

B. The Teacher Dashboard

B1. Teachers valued the Teacher Dashboard, saying it gave them the most pertinent information they needed about student progress in a generally clear, easy form.

It's great having the reports right there at my fingertips. I could see the kids who were virtual, and how they were doing.

-- Teacher 1

I could see the answers [students] were putting in while they were playing the game — this was a great feature. As they were playing, it was so helpful to me to see that I have two kids that are on a completely wrong game. I could go over and say Hey I noticed you're on a different game — please correct that!

-- Teacher 3

B2. Teachers found the progress reporting clear and helpful

It's pretty cool — I like that it color codes it so that I can see the struggling students are yellow and red. This tracks with my experience of these students, so that makes sense.

-- Teacher 3

When I look at their performance, I can see they did well on #1, sorting; more mixed on #2; and it looks like they struggled on #3, Dress for Success. I'm not sure why, maybe because they don't know what the dress looked like at that time.

-- Teacher 1

B3. Teachers also noted a few bugs or glitches that occurred in features such as:

Progress reporting

I noticed the Dashboard was a little buggy. Like, I was sitting next to a student who was finished, and the dashboard said she had completed only 20%. — Teacher 1

Playtime reporting

In the Reports it says total play time: For some kids it says 15 hours for some kids. But then when I drill down on each game, I see that their time was much less. — Teacher 1

*It marks the amount of time spent on the games. But [the display] is indicating hours for some of the kids who just logged on with their new credentials. I'm not sure if it is combining time from January/February with today, but we did use completely new credentials today so it should not have combined them. In reality, it took them about 20 minutes — which tells me that they were not really spending time with the material because it took me longer than that. But in any case, the time is off.
- Teacher 3*

B4. Suggested improvement

One teacher noted that for Section 6 on the Dashboard, where teachers can click “Read” to see students’ typed input, it was difficult for her to evaluate what they wrote without knowing what question they were answering:

For 6 – ‘Read’ – I have a hard time evaluating kids’ writing without knowing the question. Their answers are all over the place! If there was a way to click and see what the prompt was, that would be great. -- Teacher 3

5. Changes or additions teachers would most like to see in the Game

Like students, teachers were most interested in having more topics, and more musicals, to choose from.

I would love to see other units — I teach ancient history. There are plenty of topics that you could argue. Ancient Egypt. — Teacher 1

*World history topics would be great — we can only use the game in 8th grade now, because that’s the only grade where we do US history. We do world cultures and world geography in 6th and 7th.
— Teacher 2*