mobile media learning

amazing uses of mobile devices for learning

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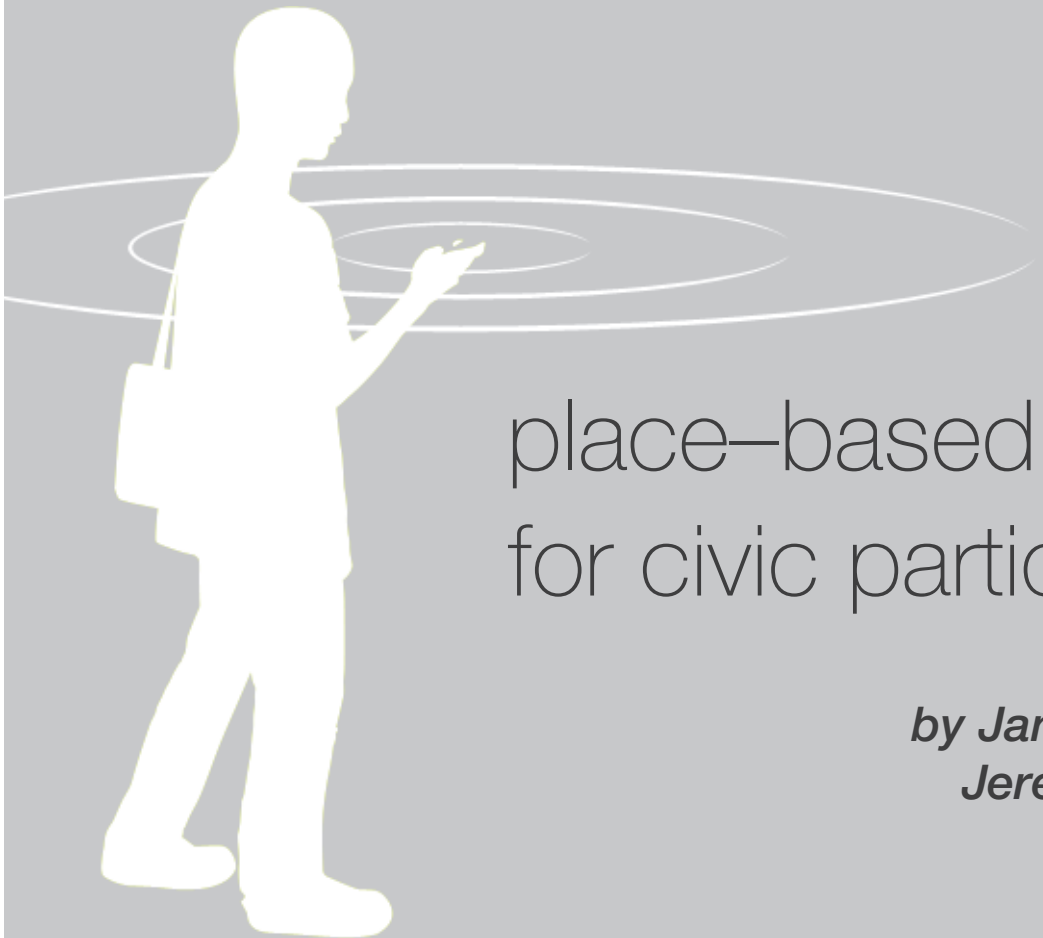
CHAPTER 8



place–based design for civic participation

by James Mathews
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Over the past three years we have partnered with a group of teachers, educational researchers, and community members to collaboratively teach a place–based high school course called People, Places, and Stories (PPS). One of the key goals of PPS is to engage students in identifying and researching cultural and ecological themes and issues in their local community, then designing media and events (e.g., documentaries, photo exhibits, games, community events, and digital stories) to share their findings and personal perspectives on these issues. In recent implementations of PPS, mobile technologies have emerged as key tools for supporting students' fieldwork and shaping the media products and experiences they design throughout the class.

At the end of each semester of PPS, we interview students about their learning experiences. Here are some typical responses:

> *"Nobody ever really pays attention to what goes on in their community, just themselves ... [this class is] kind of teaching you to actually pay attention."*

> *"We're playing [place— based] games and designing some games too. And I think that if other kids got to experience that, it would help them learn a little bit better because we learn while we are building the games. So we are putting it together and learning at the same time ... Instead of just reading it or just looking it up."*

> *"Well the game got other people's attention when it came to what was going on*

in the conservancy ... Maybe after they played the game they wanted to get involved or paid more attention to what was going on in the conservancy."

"It's kind of like we're making our own history not just learning about other's history."

As evidenced through these quotes place– based mobile games and stories have become central media for engaging students in exploring and representing important people, places, and issues in their local community. It is important to note, however, that while we sometimes design mobile games and stories for our students to play, a central component of PPS involves students designing their own mobile media. To exemplify what this process looks like, we now present two projects that emphasize students as designers.

PROJECT 1: THE NEIGHBORHOOD GAME DESIGN PROJECT

The Neighborhood Game Design Project (NGDP) was implemented with assistance from Mark Wagler, a folklorist, teacher, and educational researcher (Mathews, 2010). NGDP included three curricular components that unfolded over a three month period. The first was a series of place– based inquiry activities where students used mobile media to identify and investigate contested places and issues in their city. As part of these investigations students engaged in basic fieldwork activities (e.g., mapping, interviewing, photography) and generated questions about what they might investigate further. The second component included a series of mobile design workshops where students individually and collaboratively designed games and stories using mobile devices. Workshop goals included introducing basic design processes, learning the features of different mobile game and story platforms (e.g., Scvngr, MITAR, ARIS), and exploring how these tools might be used to engage others in thinking about the contested issues and places under investigation. The third component was a sustained design project where the entire

class collaboratively researched a community issue and designed an Augmented Reality (AR) story to teach other students and community members about the issue. In this example students designed the AR— story To Pave or Not to Pave, organized a kick– off event to officially release their design, and facilitated a research activity that assessed changes in users' perspectives surrounding the debate.

topic selection

After an initial brainstorming session aimed at generating potential topics, students decided they wanted to learn more about a recent proposal to redesign the local nature conservancy. A key feature of the proposal called for paving one of the main paths through the conservancy — an option many found disagreeable. Because it runs adjacent to their school, many students felt a sense of ownership over the path. Additionally, students believed the city was moving forward with the plan despite strong public opposition. Having identified a topic, students brainstormed possible design ideas, eventually settling on a place– based mobile story.

place– based mobile design

Students decided that their final design should present multiple perspectives surrounding the proposed plan and encourage users to reflect on their own perspective about whether the path should be developed. The story would raise other students' awareness about the issue and contribute to the debate. It would end with players having an option to sign a petition asking the city to place a moratorium on future development in the conservancy. To achieve this vision, students quickly realized they needed to learn more about the development plans, identify key issues and perspectives surrounding the debate, conduct fieldwork and documentation in the conservancy, and learn more about mobile storytelling and the associated technologies.

As students moved forward on this project, their design– based learning occurred across four interconnecting components of PPS:

1. Fieldwork: Students conducted interviews and user surveys; engaged in mapping activities; and gathered video and photographic documentation at the conservancy.
2. Open Lab: Students researched relevant web– based and print resources; communicated with community members via email; created and organized media; built prototypes; and engaged in informal critique and feedback sessions.
3. Design Meetings: Students discussed and voted on core design decisions, reported on their progress, and made plans for next steps.
4. Playtest Sessions: Students presented and tested design prototypes, then discussed ideas for refinement.

mobile– based interactive story

As a result of the mobile design workshops, students produced an AR place– based story called To Pave or Not to Pave. In this interactive story visitors to a local nature conservancy meet a "concerned citizen" who informs them about a city plan to pave a path in order to create an off– road transportation route. He then asks if they would like to sign a petition opposing the development, suggesting they learn more about the issue before doing so. As visitors walk the remaining sections of the path they watch videos and interact with virtual characters who share their perspectives on the development plans. These characters, all of whom are based on real people the students interviewed, also share their knowledge about the conservancy's history, ecology, and use. At the end of the path visitors learn it is too late to fight the development plan, but are asked to sign a petition asking city council members to pass a resolution restricting similar development in other parts of the conservancy. This real– world petition, which was created by students in the class, demonstrates two key points about the team's design choices. First, it shows students commitment to representing the debate from multiple perspectives instead of producing a story that was explicitly persuasive. Second, students hoped the story would lead to an immediate action, with visitors making an informed decision whether or not to sign the petition.

research and release event

In addition to the AR design, students planned and hosted an event where other students at the school played To Pave or Not to Pave, then engaged in a discussion about whether or not the conservancy should be protected from future development. At this same event they used pre– and post– surveys and focus– group interviews to test the impact of the design on user's knowledge of the conservancy and their opinions related to future development. The students used this feedback to reflect on their design and make recommendations for how it could be improved.

PROJECT 2: THE CAPITOL PROTESTS

The Capitol Protests originated from students' interest in studying a series of protests occurring in and around their state capitol building. The project was implemented with the help of Jeremiah Holden, a teacher educator, researcher, and former civics teacher. Like the Neighborhood Game Design Project, the Capitol Protests included three curricular components that occurred over four weeks. The first was a series of inquiry activities where students studied and discussed ongoing protests occurring at the capitol building in response to pending budget legislation. The second component included fieldwork whereby students visited the protests as citizen ethnographers and documented the events using a variety of media and methods. The third component was a series of Augmented Reality design workshops, where students first played Dow Day, a situated documentary about anti– Vietnam War protest in their city, then prototyped several similar AR designs aimed at representing some of the core perspectives, debates, actions, and experiences associated with the current protests. In describing these curricular components it is important to note they were not enacted in a linear progression. For example, documentation and design often generated new questions, leading in turn to additional inquiry discussions, online research, and fieldwork.

topic selection and initial inquiry

When we held one of our initial meetings to decide what topics or issues students were interested in studying during the semester, the protests quickly emerged as a primary concern. Due to the local political actions and prominent national media attention surrounding the state budget legislation and negotiations, most students were quite familiar with the protests and a few had participated in them with friends and family. A few students, however, knew very little about the political issues or related civic activities. Regardless, the consensus was that the budget legislation and the protests were important events worthy of our attention. Additionally, the students felt they were uniquely poised — if not responsible — to document the events because they were happening then and now, in their backyard. PPS provided the infrastructure, scaffolding, and flexibility for students to act.

Having chosen to focus their research inquiry on the protests, students first constructed a timeline of events, identified key political issues and politicians, developed a set of inquiry questions, and compiled relevant web– based and print resources. The conversations and discussions that emerged during this inquiry stage were quite dynamic, in part because students were eager to share their own perspectives and experiences. With little prompting, the students asked clarifying questions, gathered additional background information, and identified key issues and questions they wanted to explore through fieldwork, documentation, and additional online research.

fieldwork and documentation

A primary goal of fieldwork and documentation was for students to develop a better understanding of the state budget legislation and related political protests. To meet this goal students visited the state capitol as citizen ethnographers. In this role they were trained to conduct interviews with protesters, gather video and photographic documentation, and employ other field research methods. Engaging in ethnographic work at the Capitol provided a unique opportunity for the class to experience the protests from a different perspective. For example, one student who had protested at the capitol viewed this

visit as an opportunity to interview people about their own stories related to the protests. For another student it was an opportunity to see with her own eyes what was happening without having to rely on the media or friends' stories. She particularly tuned into how the unique constraints of television shaped how the events were being reported. An important aspect of students' experiences as ethnographers was that it helped them generate new questions and encouraged them to experience the protests from multiple perspectives, both of which later informed their discussions, insights, and decisions as media designers.

augmented reality design

Students' fieldwork and documentation set the stage for their follow– up design activities. After sharing media, themes, and questions that emerged from their fieldwork, students voted on whether or not they wanted to continue their inquiry and use their findings as the basis for designing a mobile– based game or interactive story. In the end, three students decided they wanted to do this for their final project for the semester, while others chose different questions and issues to pursue.

Like To Pave or Not to Pave, students' AR design work was scaffolded through a series of studio– based workshops. To initiate this process students began by playing Dow Day, an ARIS– based situated documentary about anti– Vietnam War protests which occurred in their city in 1967 (Mathews & Squire, 2009). Playing Dow Day introduced students to the functionality of ARIS and AR design, including increasing their familiarity with features such as quests, characters, and items. As a group, students first produced a simple mobile experience based upon their fieldwork. In this first iteration there was no narrative arc; rather, students created items and characters based on what they learned through their documentation as citizen ethnographers. For some students this encouraged design experimentation as they "translated" field– based interviews into ARIS– based characters and dialogue. It also provided an opportunity for them to reflect on and share their own perspectives on the protests. A second series of design activities were organized for students to

conceptualize and prototype an ARIS– based mobile story aimed at teaching others about the protests. As a result, students designed a narrative– centric AR game where players had to survive a week at the protests. The students borrowed heavily from their own gaming experiences, as well as their experiences as protesters and ethnographers to produce a game that focused on key events, issues, people, and perspectives surrounding the protests.

place– based mobile storytelling and civic participation

Three key themes relevant to student learning and civics education emerged across both projects. First, students exercised choice about what they learned, which cultivated a sense of ownership over the learning environment and media they designed. Second, aligning media design with local issues opened opportunities for students to share their voices and participate in public discourse. Third, perspective recognition, a core skill associated with democratic participation, emerged as an important part of students' inquiry and design work.

choice and ownership

The design of PPS's classroom environment and curriculum, particularly its emphasis on democratic participation, encouraged choice and ownership to emerge as normative elements of teaching and learning. Not only were students involved in co– designing their learning experiences (e.g., by helping decide the places and issues we studied), they also had autonomy when determining the content and goals of their final designs. In order to support these ideals, we developed protocols to guide group decision– making and allow students to move between the classroom and the community as needed.

PPS's democratic practices provided opportunities for students to manage much of their own learning and pursue personal interests. Some focused upon a particular skill or media practice, such as video production or game design, while others were able to study a particular topic or issue they found mean-

ingful. In one instance a student used PPS as an opportunity to further explore his interest in photography. Another student's work with the conservancy project aligned with an interest in birds; she used the AR design as an opportunity to learn more about local bird populations and migration patterns. For a student whose family worried about the impact of proposed budget legislation, design work during the Capitol Protest project became an opportunity to share her family's story. Following personal interests deepened students' sense of ownership over their learning, led to increased care about the quality of their final designs, and promoted the overall success of the learning environment.

Not surprisingly, many students referenced choice and ownership when comparing PPS to more typical school– based learning experiences. As one student remarked about the Capitol Protest project:

> *"I think for years and years students have been asking their teachers, 'How am I going to use this in the real world?' Teachers either brush it off or try to come up with excuses. I feel like this is actually very applicable. I think the moment you take something and make it matter in a person's life they'll be much quicker to jump on it and participate. So I think social relevance is extremely important and why this class is so appealing and the flexibility of it. Just because we're doing this project on the protests doesn't mean that we would have to. We could be doing anything. Just the knowledge that you have that power to choose what you are studying and how you're studying makes it a much more hands– on experience. I think that's why it's that much more enjoyable. I think that's why it's important."*

This is not to suggest that students always agreed on topics and designs, or that the decision making process was conflict free. On the contrary, it was not uncommon for the whole class, or smaller groups of students, to confront conflict when negotiating rights and responsibilities, choosing topics of study, and making design decisions. One student mentioned this as one of the most challenging parts of the class:

"I think the hardest thing [about the design process] is trying to get a mutual consensus with a lot people. You know one person wants to do this, the rest want to do this. It's like, 'What do we do to make it in the middle?"

As a site of democratic practice the PPS classroom was frequently contested, as students, teachers, and community members deliberated, worked to understand conflicting perspectives, and made shared (albeit not always equal) decisions. Though design experiences characterized by choice and ownership were messy and often time consuming, we believe they are critical because they provide opportunities for students to engage in, rather than simply talk about, democratic practices.

relationship between Voice and Design

The second theme to emerge across both projects was the centrality of student voice in the design process. Students were eager to share their personal experiences and perceived media design as an opportunity to develop and voice their own stories, opinions, and perspectives. In particular, students were concerned with the representation of youth voices. This expression of voice arose from students' perception that youth were often excluded from local decision–making processes. In response, students approached their design work as a means to educate other youth about local issues and include them in public discourse. In the Capitol Protests project, for example, students noted how their documentation and media products could teach other youth about the protests. As witnesses, many expressed a sense of responsibility to document and share insights and interpretations. One student described the intended influence of the Capitol Protests design by noting:

"A year from now the kids in this class may have heard about it but they might not have been able to do much. Even in a few years from now, there will be people who are in middle school or elementary school and they heard about it, but they might not know exactly what was going on or have experienced it the way that we are. So to have that way of showing them this is what we saw, this is what was done, this is what the people were saying is a huge thing."

In design meetings students often referenced youth as the ideal audience for their products. They believed their designs were educationally relevant to their peers and capable of shaping present and future perceptions of contested community issues.

The design process also fostered new interactions with people and places in the community and provided opportunities for student to engage in public discourse and express their opinions. This was evident for one student who worked as a videographer on To Pave or Not to Pave. Reflecting upon his documentation and media design, this student discussed the importance of being able to speak directly with the city administrator and consult community members who used the conservancy:

> *"… pretty much our entire classes' opinions got heard because we discussed it with the city administrator, and then emailing people about it or emailing the city administrator and actually talking to people in the conservancy. Like they'd say their opinion and then you could say yours and I did a couple of times and I know that my voice was heard."*

This student's growing fluency with video further amplified his voice; his video work facilitated contact with additional community members and resulted in media that was included in the final AR story. This student's experience exemplifies a confluence among voice, design, and place. As he developed an interest in local places he used media design to share his ideas, which in turn further immersed him in his community. This student's learning trajectory illustrates the potential of place– based design to develop students' sense of place:

> *"I never really thought about anything before … I'd go to the skate park and home and work and that was it, and now it's got me more interested in learning about local issues. I don't think I ever would have thought about [the conservancy] though if I hadn't taken this class."*

Students also used design to assert independent thinking and decision–

making. In a unique instance, one student leveraged his media design as an opportunity to demonstrate a personal capacity to form critical opinions in response to others:

> *"I know that personally my dad is against unions so it's been an interesting experience in my house trying to remain objective and dealing with stuff when I am someone who is maybe not necessarily of that same opinion or viewpoint. I think that just further proves that I can have my own opinions. I can handle this. It's not like it's above my head. That's how I felt too about how students are portrayed in the media. There's this image we're getting of being ignorant and people just looking for a good time ... I think one of the things about this program we're working on is that we will give it a much more clear and unfiltered view of how students are actually dealing with the political climate rather than a news person telling you."*

This student's perspective demonstrates how design is closely tied to a sense of self. For him, engaging in design represented an act of agency and a reaction to both his personal experiences within his family, as well as mainstream media portrayals that cast teenagers as incapable of independent thought and easily manipulated by parents or teachers.

perspective recognition

The third theme related to place– based mobile storytelling and civic participation, perspective recognition, concerned students' ability to examine controversial issues from multiple perspectives. The development of perspective recognition as both a skill and disposition is necessary for participation in a pluralistic society (Barton & Levstik, 2004; Hess, 2009). Significantly, in both projects students had to consider whether their final design would be explicitly persuasive or take on a more nuanced, multi– perspective style. Because they ultimately chose to produce media that represented multiple perspectives and honored a plurality of voices, the students had to actively seek a range of opinions and perspectives as part of their inquiry. This also required them to make decisions about how to effectively and accurately present these multiple

perspectives in their final design. Both inquiry and design encouraged students to recognize the nuance and complexity of local civic issues. In some instances this required them to reflect upon their own perspectives, question assumptions, and even change their opinions — all practices that develop a disposition towards perspective recognition.

In To Pave or Not to Pave students reported that design decisions shaped their thinking about whether or not paving the path was beneficial, and why both decisions had value. Throughout the inquiry and design processes, students were encouraged to analyze issues and related tensions, often requiring them to examine data and perspectives initially considered irrelevant. As students imagined how different users might see the controversy, some of their initial opposition towards development softened. As evidenced by the following three quotes, learning content associated with multiple perspectives informed students' opinions as they proceeded through the design process:

> *"I was against the path for a while because I only heard people in our class saying, 'It's ruining this; it's going to do this, it's going to do this.' Then I heard people for the other side and I was like, 'What am I going to do? I don't know any of these opinions or anything.' I read articles and stuff and as I was reading it, they were making really good points."*

> *"I didn't really think about the different aspects like the environmental things such as runoff and washout. I didn't think about those at all. It was more like runners and bikers and I didn't think about accessibility at all either, like people in wheelchairs or strollers. I didn't think about any of that. So it's like there are a good amount of pros that I see ...."*

> *"[I] wasn't thinking about how you know, handicapped people could get around or that maybe bikers should be able to go through even though some people are talking about how it scares away the birds ... so now, I'm kind of like in the middle."*

Aspects of perspective recognition were similarly exhibited by students in the Capitol Protests project. After investigating the proposed budget legislation and related political activity as citizen ethnographers, students chose to design a mobile– based game that was "more objective." This decision required students to consciously distance themselves from personal opinions during various stages of the design process. Intentionally distinguishing among opinions demanded that students not only develop awareness, but also refine a capacity to manage multiple roles and respect divergent viewpoints. Students' experiences as citizen ethnographers reflected this sense of distance and respect for varied opinions:

> *"If you go on your own time, you're going for what you believe in. You're going to stand up. You're going to protest. We didn't go to protest. We went to document. We went to ask questions. We went to see in depth. A lot of people don't do that."*

> *"... it definitely changed my views a little bit and made me want to learn more about what's really going on. I'm still not taking sides on anything though."*

place– based design education

Both of these projects exemplify a pedagogical and curricular approach that differs significantly from traditional models of social studies and civics education, and students' often uninspired experiences of the discipline. From our perspective as teachers, we believe that People, Place, and Stories presents a unique synthesis of three core values: place– based learning, design– based learning, and democratic participation. While other educators may share similar values, we believe that integrating them into a coherent whole produces a distinct framework that foregrounds design as a means of supporting students' participation in the civic fabric of the classroom, school, and community. We call this framework Place– based Design Education, as presented in Table 1 *(page 146)*.

Place– based Design Education provides unique opportunities for students to reflect on and participate in their local communities. In particular, it foregrounds design as a method for actively critiquing, rebuilding, promoting, and shaping local cultural and ecological traditions. This action, or practice— oriented, approach positions students as presently capable of, and already, engaging in the civic fabric of their community. By situating learning around ill— defined and real— world civic issues and problems, place— based design education promotes democratic participation and citizenship as fluid rather than static endeavors, and emphasizes the importance of learning by doing. Based upon our pedagogical commitments, learning by doing becomes synonymous with participating by designing.

reference

Apple, M. & Beane, J. (2007). Democratic schools: Lessons in powerful education (2nd ed.). Portsmouth, NH: Heinemann.

Barton, K. & Levtstik, L. (2004). Teaching history for the common good. Mahwah, NJ: Lawrence Erlbaum Associates.

Hess, D. (2009). Controversy in the classroom: The democratic power of discussion. New York, NY: Routledge.

Mathews, J. (2010). Using a studio— based pedagogy to engage students in the design of mobile— based media. English Teaching: Practice and Critique, 9(1), 87— 102.

Mathews, J. & Squire, K. (2009). Augmented Reality gaming and game design as a new literacy practice. In K. Tyner (Ed.), Media literacy: New agendas in communication (209— 232). New York, NY: Routledge.

Smith, G. & Sobel, D. (2010). Place— and community— based education in schools. New York: Routledge.

Squire, K. (2009). Mobile media learning: multiplicities of place. On The Horizon, 17(1), 70— 80.

TABLE 1: FRAMEWORK FOR PLACE— BASED DESIGN EDUCATION

Core Value	Relevance to PPS	Student Voices
Place— based Learning: an educational approach that emphasizes the study of local cultural, ecological, economic, and political systems (Smith & Sobel, 2010).	Place allows students to draw from their personal experiences and provides a real— world context for learning. Students' inquiry and design experiences change their perception of their local community and foster a sense of place. Students care about and can see the immediate results of their work.	"I think if you're living in a certain area, you should want to be a part of that and make it the best living space for you, for your family, a safe community and a community that you want it to be ... I felt if you speak up for something you believe in, you're putting in that effort to make your community what you want to live in."
Design— based Learning: a constructivist approach that engages students in defining and solving open— ended challenges, through iterative, non— linear cycles of design and inquiry in which they envision, build, and evaluate products, events, and learning experiences.	Design guides students' learning experiences and engages them in creating media that is personally relevant and reflective of their own interests and experiences. Students' design experiences open unique opportunities for interacting with one another and place and deepens their understanding of core content and concepts.	"I think the designing part is where you learn the most. I think we got more out of it than a regular class. But, if we designed it and then played it [ourselves] it wouldn't have been any fun because we were trying to teach other people about an issue that we already knew about."
Democratic Participation: an approach that emphasizes students' right to make decisions about their own learning trajectory and fosters student voice through deliberation and shared decision— making (Apple & Beane, 2007).	Democratic participation cultivates student ownership over learning in the classroom and community. Students co— design the course by shaping the questions, issues, people and places we study.	"Like after we finished something and he says what would you like to do next? Would you like to work more on this? Would you like to move on? ... We had the option. If I really wasn't into something very much, I could do a little bit more work on it, but if I wanted to move on, I felt comfortable enough raising my hand and saying, 'you know, we've done a lot with this, I think we should start moving forward more'."