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Time Travel, Labour History, and the Null Curriculum:  
New Design Knowledge for Mobile Augmented Reality History Games

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**KEYWORDS:** Mobile games; history; education; augmented reality games; disenfranchised groups; diversity; Jewish history; immigrant history; labour history; women's history; place-based games

## **ABSTRACT**

This paper presents a case study drawn from design-based research (DBR) on a mobile, place-based augmented reality history game. Using DBR methods, the game was developed by the author as a history learning intervention for fifth to seventh graders. The game is built upon historical narratives of disenfranchised populations that are seldom taught, those typically relegated to the 'null curriculum'. These narratives include the stories of women immigrant labour leaders in the early twentieth century, more than a decade before suffrage. The project understands the purpose of history education as the preparation of informed citizens. In paying particular attention to historical themes that endure overtime, the game aims to draw connections between historical and contemporary narratives of diverse and disenfranchised populations. The study discusses new design knowledge for addressing such narratives. Self-reflexivity, the technique of revealing the means of production of the game technology itself can be used to spotlight contemporary issues of disenfranchisement. Supra-reveals, historical thematic foreshadowing, can help establish key links between themes of disenfranchisement of diverse groups in the past and those in the present. These techniques used together, and the subsequent curriculum, brought focus to teaching issues of diversity and disenfranchisement typically written out of curriculum.

## **Part I: theoretical background and rationale for narratives**

### ***Introduction***

Harvey (2008), drawing on Smith (2006) understands heritage as not a thing and does not exist by itself - nor does it imply a movement or a project. Rather, heritage is about the process by which people use the past - a "discursive construction" with material consequences' (Harvey 2008, 19). Harvey goes on to note the potential power of heritage to transform, and that development and control of technology were directly related to how

heritage has been consumed and produced. He writes of the shift in recent years to focus on those who have been exploited, after a long history of heritage as a hegemonic practice. He also notes the importance of agency in the production of cultural memory (Harvey 2008, 32). This study, drawn from a larger research project by Gottlieb (2015), examines how technology can be leveraged by designers, educators, and learners to work through the processes of heritage, with a focus on the disenfranchised, but the agentic disenfranchised: those who organised and were agents of change at a critical turning point for the identity of many to come after them.

This article explores design processes for a mobile GPS augmented reality game (ARG) and simulation for teaching history to fifth to seventh graders. *Jewish Time Jump: New York* (Gottlieb and Ash 2013) takes the form of a situated documentary on location in and around Washington Square Park in Greenwich Village, New York. Its subject matter is early twentieth century American history at the nexus of women's history, immigrant history, labour history, and Jewish history. The article understands history education as critical in the process of heritage, and especially in heritage processes that would be counter to hegemonic forces. The game is both theoretically informed and field-iterated with learners. The project's design is predicated upon an understanding of the purpose of history education as civic education, upon a concern for addressing the null curriculum, and upon a commitment to addressing enduring themes in history. In so doing, it works to make inroads in teaching about disenfranchised populations in American history, in contemporary America, and across the globe.

This project begins with a particular understanding of the purpose of history education, that of researchers Keith Barton and Linda Levstik in *Teaching History for the Common Good*. For these scholars, the purpose of history education is 'to prepare students for participation in a pluralist democracy' (Barton and Levstik [2004] 2012, Preface, para. 4).

The initial choice of subject matter was informed by a consciousness of that which is not typically taught, what is left out of the curriculum, or 'the null curriculum'. The game presents seldom-told historical narratives that address issues faced by disenfranchised populations, such as Jewish, Italian, and Irish immigrant women garment workers, in the early twentieth century, nine to eleven years before suffrage, prior to safety laws that were only passed after massive loss of life. These and other narratives are uncovered by players within contexts of enduring historical themes including wider immigration, women's rights, and labour movements. The game narratives tie the historical event to contemporary events through these enduring themes. In so doing, the design objectives include informing learners about contemporary struggles of immigrants, women, and labour movements.

After discussing the underpinning history and civic education theories, the article will address specific spiralling design changes, or iterations. These iterations were based on gathering and analysing data from learners in the field with the game, returning to theory, and then re-designing. Specifically, this article will address two particular design elements as well as a curricular approach, all focused on connecting learners to issues of disenfranchisement: the use of *supra-reveals*, a *self-reflexive turn*, and a curriculum development project. *Supra-reveals* refer to an historical thematic foreshadowing, one that can help make key links between enduring historical themes of disenfranchisement of diverse groups in the past and those in the present. The *self-reflexive turn* is a technique of revealing the means of production of the game technology itself, and can be used to spotlight issues of diversity and contemporary disenfranchisement as they relate to enduring historical themes. Finally, a curricular project was developed after the game was complete to allow educators and learners to deepen learning from the game.

### ***The null curriculum and disenfranchised groups***

There are numerous paths by which media designers and educators have approached challenging representations of disenfranchised groups in historical narratives and present-day representations. These range from multiplying and diversifying representations of a historically disenfranchised group (see Riggs 1992) to the support and creation of indigenous filmmaking (see Ginsburg 2003) How might digital and multimedia forms be leveraged to deepen these representations? An essential point of departure in this discussion is to interrogate that which has not been represented in curriculum, that which has been kept out and ignored, which is often the case for narratives of disenfranchised groups.

Eisner (2001) used the term 'Null Curriculum', to refer to what schools *do not teach*: '... the options students are not afforded, the perspectives they may never know about, much less be able to use, the concepts and skills that are not part of their intellectual repertoire' (Eisner 2001, 107 as cited in Flinders, Noddings, and Thornton 1986). Also relegated to the null curriculum are affect: values, attitudes and emotions. Eisner considers affect a sub-set of intellectual processes, while Flinders et al. consider that affect may be the primary and most important single aspect of the null curriculum, as it is often values, attitudes, and emotions that people wish to remove from the classroom and that this becomes a guiding factor in the selection of content (Flinders, Noddings, and Thornton 1986, 35, 36).

What stories are not being widely shared? How could these stories address historic themes with enduring relevance, and how might the telling of these stories through a compelling, affective medium enhance understanding of disenfranchised groups both yesterday and today? These were essential questions at both the early and later stages of developing *Jewish Time Jump: New York*. I focused on the Uprising of 20,000 in 1909 (I will sometimes refer to the event as the 'Uprising'), the largest women-led strike in U.S. history. Only a handful of factories did not unionise after the strike, one of which was the Triangle

Factory. Two years later, in 1911 the Triangle Shirtwaist Factory went up in flames and 146 people, mostly young Jewish and Italian women, perished.

By centering on the narrative of working class women immigrants during the Uprising in 1909, the game could focus on historical narratives that were not only seldom told, but they were seldom told to young people. The narratives centred on groups that were disenfranchised, and given the connection to the shirtwaist factory fire and the subsequent labour movement advances in changing laws, these events could be linked to wider enduring themes in history. The Uprising was in many ways a signal of the possibility of a fire like the one that would eventually engulf the Triangle Shirtwaist Factory, and the conclusion of the game would feature the fire, as players play on location at the Brown Building on today's New York University Campus.

Early in the design of the pilot of the game, the work *Common Sense and a Little Fire* (Orleck 1995) became an initial jumping off point for narratives about the Uprising in 1909 and The Triangle Shirtwaist Factory Fire in 1911. While the fire has been the subject of numerous books and covered in school lessons and in museum tours such as the Tenement Museum, there were very few re-tellings of the Uprising. Once the base narratives were determined, it was important to focus again on the wider purpose of telling these narratives, the purpose of history education.

### ***Informed citizens in a pluralist democracy***

The researcher stance in this project includes the supposition that the purpose of history education should be 'to prepare students for participation in a pluralist democracy' (Barton and Levstik [2004] 2012, Preface, para. 4). This stance then begs the question: what kind of participation? For what kind of citizenry should history education aim? I drew an understanding of citizenry from Westheimer and Kahne (2004), and more recent work of

Stoddard, Nemachek, and Banks (2013). Specifically, I was concerned with what Westheimer and Kahne call participatory and justice oriented approaches to citizenship.

Westheimer and Kahne's framework of citizenship includes three models: personally responsible, participatory, and justice-oriented citizenship. The personally responsible citizen obeys laws, works and pays taxes, is responsible in her/his community, and volunteers. To 'solve social problems and improve society', one must be personally responsible and be law-abiding (Westheimer and Kahne 2004, 240). The participatory citizen knows how government works, organises community care efforts, and understands strategies for collectively working on tasks. In this model, solving social problems and improving society is based on citizens' active participation, including taking leadership roles within already established community systems and structures. Justice-oriented citizens critically evaluate economic, political, and social structures, looking for root causes. They address injustices and understand democratic social movements, collective and community-based action, and the process of making systemic change. In this model, solving social problems and improving society requires debate and the changing of systems that reproduce patterns of injustice (Westheimer and Kahne 2004, 240). Westheimer and Kahne point out that a 'personally responsible citizen' is not necessarily democratic, as totalitarian regimes also expect their citizens to work, pay taxes, and volunteer, so the authors concentrate on differences in educating the participatory citizen and the justice-oriented citizen (Westheimer and Kahne 2004, 244, 245). In considering addressing issues of diversity and disenfranchisement, the participatory and justice-oriented approaches to citizenship were most appropriate for the game. Such an approach would also mean entering into the realm of what is most often the null curriculum. This would be both an opportunity and a challenge. While Westheimer and Kahne provide examples of justice-oriented approaches to citizenship education, they are uncommon. The rich narratives around the Uprising of 20,000, at the intersection of labour,

immigrant, and women's history could serve as relevant narratives to both participatory and justice-oriented approaches to citizenship. For example, both workers and manufactures engaged in issue-based organising—the workers through the IGLWU, the International Ladies' Garment Workers' Union, and the owners through the Manufacturers Association (a business association). And through the themes of labour and workplace dangers, the narratives provide resonance and relevant connections to contemporary labour issues both globally and locally.

### *Designing for enduring historic themes*

What do we mean by enduring themes?' Barton and Levstik ([2004] 2012) argue that history must address significant themes and questions.

If history helps us think about who we are and to picture possible futures, we cannot afford a history curriculum mired in trivia and limited to a chronological recounting of events. Instead, we need a vibrant history curriculum that engages children in investigating significant themes and questions, with people, their values, and the choices they make as the central focus. (Barton and Levstik [[2004] 2012] Chapter 1, Section 3, para. 1)

The authors describe the kind of themes that they consider particularly suited to teaching history for the 'common good' and for preparing learners to participate in a pluralist democracy: "The earliest and most enduring historical themes students encounter at school should revolve around the varied peopling of what is now their country and the efforts at full participation by those diverse groups' (Barton and Levstik [2004] 2012, Chapter 3, para. 12). Among the numerous key themes and stories that Barton and Levstik list as important are immigration to America, women's suffrage, and the labour movement (Barton and Levstik [2004] 2012 Chapter 3, para. 12). From its earliest stage, *Jewish Time Jump: New York* consciously addressed all three narratives (women's organising is a key precursor to and

element of suffrage). Yet addressing the historic moments alone would not ensure the essential aspect of an 'enduring' theme.

Not only must the themes be significant in and of themselves but also the notion of an 'enduring' theme must speak to the importance of connecting the historic to the present day. In addition, 'enduring' implies that better understanding the present day requires exploration and investigation of history.

Frederick Jackson Turner, for example, maintained that the aim of history 'is to know the elements of the present by understanding what came into the present from the past.' For Turner, studying the past without connecting it to the present was antiquarianism, not history: 'The goal of the antiquarian is the dead past; the goal of the historian is the living present.' Similarly, John Dewey argued that history is significant only when it helps explain the present and that 'the way to get insight into any complex product is to trace the process of its making - to follow it through the successive stages of its growth'. (Barton and Levstik [2004] 2012, Chapter 4, para. 3)

How is the history in the game relevant today for learners? The early design of *Jewish Time Jump: New York* intended for these issues to feel immediate and relevant, connected to today.

### ***Antecedents: Dow Day and Tenement Museum***

Two antecedents to *Jewish Time Jump: New York* were particularly important predecessors regarding the use of enduring historical themes that relate to diverse and disempowered groups. The design and research for James Mathews's mobile situated documentary *Dow Day* (Mathews 2005; Mathews and Squire 2010) served as an inspiration

for *Jewish Time Jump: New York*. Mathews, studying under Squire and alongside Minfong Jan and other colleagues (Squire and Jan 2007; Squire et al. 2007), developed a mobile ARG to be played by high schoolers on the grounds of the University Wisconsin-Madison. *Dow Day* covers protests and police beatings in 1967 when Dow Chemical arrived on campus for recruiting. Student protests broke out over Dow's recruiting on campus because of that company's role in producing napalm for the war in Vietnam. *Dow Day* places learners in the role of a reporter. The game tasks players with collecting varying perspectives and opinions from digital non-player characters. It overlays media triggered by GPS locations, including stills and film footage from 1967 (drawn from a previously produced documentary).

Among a variety of pedagogies, including a central concern regarding place-based learning, Mathews also draws from notions from Lockwood and Harris (J. M. Mathews, personal communication, July 25, 2012) regarding the use of teaching values in connection to teaching social responsibility. In their curriculum, Lockwood and Harris (1985) focus on specifically delineated democratic values that are often in tension: authority, equality, liberty, life, loyalty, promise keeping, property, and truth. In addition to the goals of fostering social responsibility, Lockwood and Harris have particular goals of guiding students to be more effective group discussants of ethical issues who demonstrate increased respect for individual rights and responsibilities, increasing the students' ability to identify ethical values and analyse situations involving those values. Their goals also include developing increasingly complex and systematic reasoning about decisions involving democratic values (Lockwood and Harris 1985, 4-5).

Here, some of Mathews's own inspiration for pedagogical approaches to *Dow Day*, revealed in interviews with me, helped to form ways of approaching values in *Jewish Time Jump: NY*. Democratic education, also called civic education, was an important bridge for me to values orientations regarding addressing issues of diversity and disenfranchisement often

relegated to the null curriculum. *Dow Day* is a realised proof of concept of the genre of situated documentary that deals with contested ideas and places, uses twentieth century archival media, is concerned with civic and democratic education, and was used in the field with students. It set the stage for *Jewish Time Jump: New York*.

The Tenement Museum in New York City provided another important influence, in particular for an example of how to tie historical narratives to contemporary events through enduring historic themes. While I attended the outdoor tour of the Lower East Side as well as an tour inside the restored/preserved tenement building itself, it was the film in the lobby of the museum, *An American Story*, (Brennan n.d.) that directly emphasised the connection between the stories of the immigrants of the late nineteenth and early twentieth century and the immigrants of the Lower East Side today, sharing stories not only of Jewish, Italian, and other immigrants from years past, but also stories of recent immigrants from China and the Dominican Republic.

In her article describing the Kitchen Conversations programme at The Tenement Museum, co-founder and at the time, president of the museum, Ruth Abram writes that the Tenement Museum is committed to 'the proposition that historic sites must function as places of civic engagement, using the history they interpret as a starting place for dialogue on related contemporary issues' (Abram 2007, 59). The Kitchen Conversations programme specifically focused on this concern and its goals included:

to help participants gain new perspectives on contemporary questions by looking at how they were answered in the past ... to develop in visitors a heightened awareness of their own involvement with contemporary immigration issues, and ... to inspire visitors to become more active in learning about contemporary immigration issues.

(Abram 2007, 60)<sup>1</sup>

This was the orientation that was represented in the film *An American Story*, and provided an example of linking early twentieth century New York immigration narratives to contemporary labour and immigration narratives.

## **Part II: case analysis**

In this section of the article, I will look closely at design iterations around two techniques for addressing enduring historical themes. First, I will lay out the basics of the narrative of the situated documentary and the methods for the research. Next, I will explain the initial theories beyond the use of a self-reflexive turn for linking historical themes across time, from past to present. I will then describe the series of design iterations which led from initial use of the self-reflexive turn to the field-tested use of a supra-reveal in the mobile placed based game. Finally, I will briefly discuss the curriculum developed for the game which also seeks to tie historical themes to contemporary related concerns.

### ***Overview of the game: Jewish Time Jump: New York***

*Jewish Time Jump: New York* is a mobile ARG and a 'situated documentary' played at the historical site, in Washington Square Park and its surroundings in Greenwich Village New York City. The game runs on the ARIS platform for iPhones and iPads. In the game, which is targeted to fifth to seventh graders who sometimes are accompanied by family members, players take on the role of time travelling reporters. Their task is to retrieve a story 'lost to time'. Players 'travel back through time', with their mobile device serving in the role of time-travel device and narrating travelling companion, Hank the Chronometer. After jumping back in time, players receive imagery based on their GPS location from over a hundred years in the past. For example, standing at the arch in Washington Square Park, they view imagery from 1909, when horse drawn carriages roll through the arch and the fashions of the day are

visible on those around the arch: men in bowler hats, women wearing long flowing frilled dresses and shirtwaists, an ornate baby carriage.

Players soon discover that they have landed on the eve of what will one day be referred to as The Uprising of 20,000, the largest women-led strike in US history. Players interview digital characters that appear on their devices, learning of the different perspectives of labour leaders including Rose Schneiderman and Clara Lemlich, strikers, and manufacturers Isaac Harris and Max Blanck, the owners of the Triangle Shirtwaist Factory. Depending on how they play, they may encounter Abraham Cahan, editor of the *Daily Forward* newspaper. Players have the ability to select different garb from their digital device, which alters play. If mistaken for a striker, they will have to evade *shtarkers*, Yiddish for 'tough guys', hired by manufactures to attack strikers. If mistaken for a boss, they are invited to a meeting at which the manufactures are organising against the labour unions.

They may encounter wealthy women from the Mink Brigade who travelled alongside striking women in their finery to prevent the Tammany Hall police from beating the women. Players receive various primary source documents and ephemera in their digital inventory which they can examine, looking more closely using the pinch and zoom capability of the iPhone. They can also call up descriptive details on the artefacts. These digital items include newspapers in English or with translation from Yiddish, a pamphlet circulated to strikers, more photographs, and perhaps even Clara Lemlich's union membership card from the International Ladies' Garment Workers' Union.

In the second and concluding chapter of the game, players jump ahead to 1911 and are on location for the event of the Triangle Shirtwaist Factory fire which claimed 147 lives, mostly young Jewish and Italian women. The fire escapes were faulty; the factory doors had been locked. There are even suggestions that the building had been made more fire-prone for insurance purposes (Drehle 2004). The aftermath of the fire and the worker safety legislation

that followed make this moment in history one of the foundational moments in American Labour movement. The players return to the present, and their editor. In the present day, they encounter contemporary commentaries and documentary footage about the events in the game, as well as a news item regarding global events resonant with the historic themes of the game.

### *Methods for iterations*

This study uses methods under the umbrella of design-based research (DBR). DBR is suited for any 'rich contextualized setting in which people have agency' (Hoadley 2013). DBR is an iterative, proto-theory-testing approach to developing learning theory and design knowledge. Designer-researchers prototype a learning environment or intervention over the course of a number of iterative cycles comprising design, field trial, data gathering, analysis, and return to theory and re-design. Learning theory is used as a starting point for design, and that theory is held suspect during investigation (see Barab and Squire 2004; DBRC 2003; Hoadley 2004a, 2004b).

The particular methods used in this study included participant observation with video and audio observation, pre- and post-surveys, semi-structured interviews, and server log data. The server log data provided player movements and actions. This log data includes specific locations of players at specific times, and listed all game events players completed, characters with whom they interacted any digital item they picked up into their digital inventory.

Triangulation of data was conducted by matching player logs to survey, interview, and observational video. For example, observational video could be matched with players choices in the log data to compare choices with discussions on the video. From a design perspective, I could see how many players reached certain points and what actions they took at each point. I could answer questions such as: how many players reached a certain character

or a certain newspaper article? How many players stopped to talk to the Max Blanck character? After design shifts, did that exposure change? What choices in-game did the girl who commented about human rights make after meeting Clara Lemlich?

Given that the context in between iterations shifts in the case of this study, there is not a control group; however, consistent findings across multiple contexts can bolster suppositions regarding outcomes.

### ***Game days and sample***

*Jewish Time Jump: New York* game days took place over the course of eight months with five supplementary Hebrew schools. Prior to play on location, learners took a pre-survey, then were given a tutorial in the game system in a nearby staging area. Play was recorded using observational audio and video. Also, player movements were tracked and recorded on the back-end of the system through server logs. Following game play (approximately an hour), students returned to the staging area, took a post-survey and participated in discussion and semi-structured interviews. Additional follow up interviews were conducted following individual game days.

Forty-five learners in fifth, sixth, and seventh grade learners from supplementary Hebrew schools participated in gameplay over the course of six game events and three design iterations (some game days occurred within a few days of each other to allow for more players in each play session, or, in one case, close single-player observation). Group sizes ranged from 18 players to one player (DBR can be conducted even with individual learners). The single player was followed in a closely monitored late-stage iteration game. The average group size was seven players. In all, 24 girls and 21 boys participated.

### ***Iterating, from self-reflexivity to supra reveals***

For a variety of aspects of the game, the process began with theory, progressed to pilot stage, and then went through iterations. The following set of iterations focused on establishing enduring historical themes and building connections between historical narratives and contemporary concerns in a mobile place-based game.

An important plan for the pilot of the game was to take advantage of a self-reflexive turn for the purposes of connecting the historic themes to the immediate premise through the medium of the game itself. The finale of the game would reveal that the mobile device upon which learners had played the game is *itself* is the site of labour disputes. The game runs on the ARIS platform for iOS devices, specifically iPhones and iPads. At the finale of the game, players received a contemporary news story discussing the workers at Foxconn in China who build iPhones and iPads, the recent disputes over worker mistreatment and unhealthy conditions, and Apple's moves to improve conditions (Reuters 2012).

The theory behind these design choices draws on narrative techniques used previously in video games and cinema. In games, the narrative device of emotional, surprising, late-stage reveals implicating the player's own ethical choices or complicity is exemplified by Warren Spector's video game *De us Ex* (Spector and Smith 2000; as discussed by Gee 2007) and in Brenda Braithwaite's board game and meditation on the Holocaust, *Train* (2009). In *Train*, players work to move trains with cargo to their station, only to later discover where the trains are headed - to concentration camps; the realisation as to where the trains are heading usually concludes the game (Brophy-Warren 2009). It is a game about, among a number of themes, complicity. That complicity is delivered through the procedural rhetorics (Bogost 2007) of unaware action or action-in-denial and its potentially horrific, even evil, consequences. Here, the game mechanic and game play themselves bring about the historical critique: just as players are complicit, so are historical actors. The game turns in on itself as well as on history. The self-reflexive turn in cinema that draws attention to the medium itself is exemplified by

films including Dziga Vertov's *Man with a Movie Camera* (1929), Assayas' *Irma Vep* (1996), and Block's short film *No Lies* (1973). In *Man with a Movie Camera*, the filmmaker turns an entire sequence of the film on itself as he reveals the techniques of the film editor. *Irma Vep* explores film history in a self-reflexive story about a filmmaker. *No Lies* broke ground in terms of ethically implicating the film viewer in fraught acts of viewing and intrusion, as the viewing of *No Lies* itself reproduces a violation of its subject (a woman interviewed about an assault) and as the film itself violates the audience's implicit trust (all is not what it seems). This history of games and films making self-reflexive turns paves the way for such turns in mobile ARGs and situated documentaries.

I theorised, following the lead of the aforementioned models, that using a narrative self-reflexive turn to the mobile device itself should tie the historic moments to the immediate present through enduring themes and controversies (Gottlieb 2016). In addition, such a turn should, in theory, implicate the player personally in the historic moments, as the themes of labour disputes, employment, and production shift from the historic shirtwaist workers and factory owners in 1909-1911 into the present and the global. The player is informed that the device she or he is carrying may have been built in China by people working in conditions that would not be acceptable in the United States and that have been blamed as the cause of the workers' deaths. Such a moment should raise questions and provide educators the opportunity to raise such questions as how is one implicated or active in history, even when unaware? How should we pay attention to where our products come from and how they are produced? Having all the players reach that experience was not so straightforward.

### ***In the field***

The place-based game has a sprawling nature with more than 40 digital characters, as well as numerous events, locations, and primary sources. Learners can, by design, immerse in

various historical artefacts, such as sit and read period newspapers translated from the Yiddish. They can choose various strategies of play, some of which extend play. But unlike a game like *Deus Ex*, that can be paused, the place-based game was an event, with a limited time. Because of this sprawling nature, only a few students completed the game, and those students who did not complete the game never received the news story at the end of the game.

### ***Iteration one: immediate problem solving***

In the first iteration, the game structure was tightened, but in addition, I added an *Afikoman*, referring to a hidden bonus or special event, based on the idea of the 'Easter Egg' in video games. The Afikoman refers to a game played during the Passover seder in which a piece of matzah is hidden, and the seder may not be complete until it is found or returned by the children. The Afikoman in this case was made up of contemporary videos about the 100th anniversary of the Triangle Fire, commentary by a great granddaughter of one of the survivors, commentary by an investment banker giving modern business perspectives, as well as the news article about Foxconn. In this way, all players who did not reach the conclusion of the game, would be granted the Afikoman by the educators at the end of play so that they could experience them.

### ***In the field***

In field testing of this next iteration, I found that some students picked up, viewed, but did not read the article, and jumped ahead to complete the game. Even when presented with a second chance to read and review the article along with students who received the Afikoman, one girl's short answer in the post-game survey reveals a lack of connection to the enduring historical themes:

[crossed out]: I was kind of rushing to finish, but I think it had to do with the difference between Jewish rights today and 100 years ago [end cross out]. Jewish rights today are very different from 100 years ago. Human rights in general were different! Some people were so high up the hill, they thought they had more rights than other people! Bosses treated workers like scum and would do anything to earn money, even risk lives of workers!

It is possible the learner is not connecting the global present day labour issues with those of the past. Regarding the humane treatment of workers, she writes, 'human rights in general were different [100 years ago]'. It is also possible that the article regarding Apple working to improve its conditions provided a contrast to owners' disregard for worker safety in the years prior to the post-Triangle fire labour laws. Given this learner's dual opportunity for exposure to the article, both during gameplay and again during the Afikoman following main play, the persistent lack of connection to the enduring theme signals the need for a better design solution to reach the educational goal.

### ***Iteration two***

No changes were made to this aspect of the game in full-game iteration two because the potential solution set took longer to develop. Other changes were made to the game based on other learning goals not covered in this article. Observation of the learners during this period continued to show that not all of the learners reached the end goal, though at this point, all learners were viewing the Afikoman.

### ***Iteration three: return to theory and design changes***

In the next iteration, I took a different approach, based on Levstik and Barton's ([2005] 2010) alternative strategies of 'start locally, connect globally', and 'start globally,

connect locally' (Chapter 6, Sections 2 and 3). In this case, I tried what I call a supra-reveal. Rather than the giving away the reveal at the end of the game which was a local to a global strategy, I added a global starting point to frame the entire game. At the beginning of the game, the learners receive an article in the form of a clue prior to meeting their editor. They receive a 2013 article in their digital inventory about a recent garment factory collapse in Bangladesh and the resulting 1,100 deaths (Yardley 2013). Learners are guided to read just the first two paragraphs of the article and then move on to find their editor. The first two paragraphs of the article are as follows:

DHAKA, Bangladesh - Not even two months after the collapse of the Rana Plaza factory building claimed more than 1,100 lives, a team of engineers arrived to assess another factory in the center of the capital. It was named Al-Hamra Garments, and it was one of hundreds of factories undergoing post-disaster inspections as Bangladesh sought to prove that its critical apparel industry was safe.

But this inspection, conducted in mid-June, was startling. The two engineers discovered that the eight-story factory was partly propped up by temporary cast-iron pillars placed on the ground floor. Several original beams and columns were cracked or disintegrating. And the factory was open for business, with more than 1,000 workers producing clothing for a Bangladeshi apparel conglomerate whose customers include Walmart and Gap. (Yardley 2013)

Because the majority of the game deals with the Uprising of 20,000, and given that the opening cut scene does not hint at the Triangle Factory fire but only discusses the disagreements between workers and owners, it seemed that this reveal would only foreshadow and not 'spoil' or reveal the late stage of the game that includes the fire.

*In the field*

Prior to heading to Washington Square Park, players prepare in an indoor staging area. Here the phones are charged, software is downloaded, the cut scene is viewed, and, beginning with this iteration, the first 'Quest' begins - to see this news article about Bangladesh that has arrived in inventory. My own recollection of the conversations in the room (these discussions were not recorded on video as they were part of the tutorial session) included learners and parents reading aloud and discussing the article about Bangladesh. They asked questions regarding the relationship of the article to the upcoming game about the strikes in the early 1900s (having just watched the cut scene, which set the scene as a time of turmoil and unrest in Jewish American history, showing photos from the time of the strike). What does this article have to do with Jewish history? What is the date on the article? I was also able to oversee and overhear learners actually reading the first two paragraphs of the article as they were not yet under pressure to move quickly to the end of the game. They read about the deaths of the workers, which are foregrounded in the article. They had not yet moved to the park, and their next quest - to find their Editor in Washington Square Park - did not appear until they left the article, having at least opened it.

As gameplay in the park quickly followed, the initial conversation ended and players concentrated on gameplay in 1909 and 1911. Some played through to the conclusion and some received the final elements of the Afikoman after play. Unlike prior play, there was no evidence in either interviews or open-ended answers on post-game surveys of lack of awareness of the contemporary global issues of worker safety. Neither was there evidence of such a confusion or misunderstanding in the video footage. On the basis of the out-loud pre-game readings and questions and the lack of discontinuing cases of unawareness of contemporary labour struggles, it appears that the use of a supra-reveal prior to or at the early

stages of play in a mobile ARG can offset issues of lack of attention to contemporary cases as well as provide a conscious frame for the game to come.

### ***Gleanings***

The use of a self-reflexive turn points the player to the implication of both the device and player in the wider historical narrative. In this case, the player is a consumer of a product that is also the site of a labour dispute. Placing that turn late in the narrative also has the opportunity to function as a reveal, as in *No Lies* and *Dues Ex*, one that in this case places the player in a space of questioning their role in the historical themes of labour and disenfranchisement. That said, mobile place-based ARGs are site-specific and time-limited. They are games that cannot be easily paused or replayed, but are usually part of group outings. The iterations revealed the importance of techniques to insure that players actually encounter that turn, and that there should be additional context, or even an early frame, or foreshadowing, such that, from the beginning, players are aware of connections to the present. The supra-reveal technique allows for the framing and foreshadowing of the narrative without 'spoiling' the self-reflexive reveal. Working together, these techniques can work to emphasize the connection of the historical theme to contemporary settings throughout while eventually directly implicating the player in the history.

### ***Curriculum***

In addition to the game highlighting historical themes of labour and disenfranchisement through interrogating the medium of the device upon which it is played, and illustrating the continuities of enduring historic themes about disenfranchisement, a curriculum was also developed to accompany *Jewish Time Jump: New York* (<http://jwa.org/teach/jewishtimejump>). The curriculum was funded by a Signature Grant from

the Covenant Foundation and developed after the game had been iterated and released. The curriculum was a joint project of ConverJent: Jewish Games for Learning, an organisation which I run, and The Jewish Women's archive.

Consisting of four modules and a Parent and Teacher Guide, the curriculum seeks to include subjects that often remain in the null curriculum. It was designed for fifth to seventh grades in Jewish supplementary schools and the wider community, and addresses issues of disenfranchisement in the workplace, issue-based organising, and tying historical themes to contemporary labour issues and currently disenfranchised populations both local and global. Because it is focused on Jewish heritage education, it also looks to Jewish wisdom texts relating to labour as well. The modules, designed for use before and after gameplay are:

- The Immigrant Experience in NYC, 1880-1920 (Module #1).
- Strikes and Unions (Module #2).
- Judaism, Text Study, and Labour (Module #3).
- Contemporary Labour Issues (Module #4).
- Parent and Teacher Guide (Component #5).

Embedding the game experience in a wider curriculum provides many more opportunities to delve deeply into the subject matter, to reflect, to engage in continued discussions, activities, and questions. The modular approach allows educators, parents, or learners to engage with the curriculum at four separate points of entry and includes an additional component that is a guide. While there is not always an opportunity to build such a curriculum around a game, I believe that in dealing with linking historical themes to contemporary issues, especially regarding issues of diversity and disenfranchisement, such a widened pedagogical approach can help move the engagement with the material beyond the game. Ideally, games for learning could always be embedded in a wider curriculum.

## Conclusion

This article begins from three premises. First, heritage processes can, and have in the past, reproduced hegemonic forces and therefore we must require thoughtful approaches to history education. Second, the purpose of history education is to prepare students for participation in a pluralist democracy, and third, that enduring historical themes are crucial to investigate because they tie history to contemporary concerns. Given that context, how might those creating history learning interventions approach the treatment of histories seldom told, of diverse populations, and the disenfranchised? This article provides an example of such an approach from a multi-media, game-based perspective, specifically that of the mobile place-based ARG. The iterative design research suggests that the technique of turning the medium in upon itself can be a mode of implicating the player in the historical situation, using the means of production as evidence of the historical theme. At the same time, it is important in understanding the medium of the mobile place-based game to provide framing and support for a self-reflexive turning point late in the game. By combining techniques of a foreshadowing approach while maintaining a late-stage player-device implication, designer-researchers-educators maybe able to augment the individual approaches. By highlighting the means of production in the game system itself, and grounding that connection to contemporary labour and production issues while providing an historic context, learners have the chance to experience the fullness of historical narratives and their relevance today. Beyond even issues of labour, which the particular case above addresses, the self-reflexive turn on the medium of interactivity can also touch upon issues including technology and society, wealth inequality, access to education and technology, contemporary modes of communication, and any number of relevant themes upon which modern interactive media touch. Turning to consciousness of the medium in the context of history can allow for pulling

narratives of diverse and disenfranchised populations out of the null curriculum and into today's formal and informal heritage learning environments.

### **Note**

1. see also Bader (2013), Christensen (2011), and Russel-Ciardi (2008).

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