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EMANCIPATORY LEARNING, OPEN EDUCATIONAL RESOURCES, OPEN EDUCATION, AND DIGITAL CRITICAL PARTICIPATORY ACTION RESEARCH

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ABSTRACT

Given that we must prepare students for the future workforce today, how can we use the power of Open Educational Resources (OERs) and Digital Social Science research to improve student learning and help students develop technical skills needed for the high-tech workforce? In this article, we use transformative learning theory (Mezirow, 1978) and Digital + Critical Participatory Action Research (D+CPAR) to analyze the effectiveness of integrating OERs into a course and reflect on how we used OERs to support student learning and make civic engagement more equitable at an urban community college. In a criminal justice course analyzing the legal system as a social construct we found that students were better able to complete technical tasks that lead to practical learning, working both in teams and individually. Upon completion, learners had more opportunities for self-reflection, seeing their own personal contributions along with the other learners, which reflected emancipatory learning. This article stresses the importance of collaboration and forming long-term relationships and argues the benefits of OERs can be evidenced through open pedagogical practices that provide a holistic vision of the process beyond the classroom.

Keywords: Mezirow, transformation theory, learning theory, open educational resources, digital critical participatory action research, civic learning, open pedagogy, open education, radical

INTRODUCTION

The 21st century is here, and higher education must prepare students for it by teaching them to build a sustainable future, to be scholars of community change, and to engage as responsible workers and citizens in a world defined by diversity (Fakhari et al., 2013). One way higher education instructors have tried to move into the 21st century with students is through Open Educational Resources (OER) as transformational learning opportunities. While OERs have become more popular in the last few years, the pedagogical approach to integrating these digital tools has focused much more on the content and content-delivery systems than on how the classroom or educational process can be co-constructed (Lane, 2016) using these transformational digital tools¹ (Leggett, 2016.) In this article, I describe how a video game collaborative project with students, as an OER and open pedagogical practice, can be used to support student learning more equitably. This methodology serves as an alternative to other content-delivery learning systems in order to help prepare students for the future as scholars of community change and as responsible workers in diverse settings. I argue that OERs, beyond the textbook, provide an opportunity to revolutionize education through the practice of open pedagogy as a fusion with Critical Participatory Action Research with Digital Tools (D+CPAR).

Background

Like many of the educators, I found the traditional modes of learning, including the textbook, both

out of date and irrelevant to the goals and needs of learners, especially from underserved communities. I came to Kingsborough, the only community college in Brooklyn, N.Y., in 2010 and was an early adopter of the emerging online education efforts at the college. The students that come to the college represent over 100 national backgrounds as the area continues to be re-shaped and re-formed by immigrants (Semple, 2013, para. 8) and students who are the first in their family to attend college. As part of a national Bridging Cultures to Form a Nation grant with professional development support from the American Association of Colleges & Universities, I began a long-term course design process using Critical Participatory Action Research (CPAR) and looked for ways to integrate digital technologies. As a social science educator within a broader interdisciplinary department focused on humanities and civic engagement, I found this process to be a slow evolution that emerged into Digital + Critical Participatory Action Research (D+CPAR), focused on including students in a continuous design process of co-creating structured learning opportunities.

More broadly, D+CPAR is an attempt to begin defining a strand of the still-nascent field of Digital Social Science, where digital media and social media are integrated into critical participatory action research (Mayorga, 2014). In *Supporting Critical Civic Learning through Interactive Technology* (Leggett, 2016) I documented efforts to develop a “systems” approach to learning about legal studies and courts. Specifically, I defined a systems approach as a framework whereby students were

¹ See for example, Blackboard, MOOCs, Flip the Classroom, and Digication E-Portfolio; students do not have permission to access the creation side of these platforms generally but rather are dependent upon course enrollment.

given the opportunity to study the courts and law as a form of socially constructed relationships and a set of processes that can measure whether justice was applicable and accessible for all. Through that project I learned from students that individual uses of creative digital technology motivated most students to succeed in a way that the more traditional approaches of education did not. In short, I shifted the focus from how I could replace the textbook with digital materials (later associated with OER) to how I could facilitate an ongoing process whereby students engaged in the design of the learning process. This included opportunities for students to analyze existing learning materials and co-create new learning experiences.

From 2012–2016 I developed an approach to co-design learning opportunities that utilized a broad array of digital materials including maps, videos, interactive forms, and e-portfolio platforms. I was satisfied that students were able to provide course work through multiple platforms and could integrate a creative approach to evidencing their understanding. While this method was intensely differentiated and responsive to the needs of individual students, I wondered how to cross the individual learning and engagement threshold into a more dialogical and collaborative-based framework where students could work together on a common goal using digital tools. I began to envision a classroom experience that engaged students in a collaborative effort to construct knowledge that could lead to emancipation, agency, and action. From 2016–2018, I participated in a CUNY-wide

initiative to incorporate OERs and looked for digital tools and digital content that I could begin to work with to encourage collective learning and build on my previous CPAR work.

EXPLANATORY LITERATURE

Digital tools provide a way in which learners can view the world differently². However, these digital tools are often seen in a more limited way, as free digital stuff or as ways to lower student costs. I argue these digital tools are better utilized in a more radical way — as an “opportunity to empower our students, to help them see content as something they can curate and create, and to help them see themselves as contributing members to the public marketplace of ideas” (DeRosa & Robison, 2017). Radical or revolutionary education then moves away from a study of a particular model of delivering information, where educator simply shares a point of view, a primary source, or a piece of interpreted information, to a process where teacher and student engage in “what they will dialogue about” (Freire, 1970). In the 21st century, this necessarily includes how to use digital tools in that dialogue.

Educator and technologist Dr. David Wiley has expressed the potential of digital technology for revolutionary or emancipatory learning many times. In a Ted Talk, Wiley posited that “education is right on the rickety edge of its own reformation... Will we use it to be open or will we turn it back against itself to do other things like keep the status quo?” (Wiley, 2010). Thus, the pedagogical significance of utilizing digital tools, like OERs, entirely

² For example, see: https://youtu.be/_29DGltK_fQ

depend on how those resources are used. Wiley defines successful educators as “teachers who share the most completely with the most students” (Wiley, 2010). How educators share with students is as important as what they share. Open educational resources and open pedagogy can carry many contested definitions but, in my view, pedagogy that is open provides an approach that focuses more on the process of co-creating knowledge for the purpose of sharing publicly and less on replacing content, like an OER textbook.

Open educational resources and D+CPAR, when fused together, provide a clear framework for how to integrate digital tools into the learning experience in a way that can be labeled open pedagogy. This mode of learning, as an accessible and open medium of education, is necessary in order to “change the practice of education” (Wiley, 2013). As Wiley explained in a blogpost, “[o]pen pedagogy is that set of teaching and learning practices only possible in the context of the free access and 4R permissions characteristic of open educational resources.”³ It is difficult to imagine how educators could have moved beyond the delivery of interpreted information (the banking model) to a pedagogical structure to teach students how to listen and how to hear one another (Hooks, 1994) without digital tools. While many educators have focused on structured dialogue in the classroom, this approach still lacks a documentary element that depends on a subjective feeling of what is going on in any given class discussion; digital technology can facilitate the documentation of what is going

on throughout the course and can be managed and directed by students themselves (see Leggett, 2016).

Still, there are those that argue that the rhetoric of emancipation through open education “is way ahead of the reality” (Lane, 2016). In my view, this contention largely stems from a lack of imagination of what education can do and begins with a point of view based in “emancipation” as a “fact or process of being set free from legal, social, or political restrictions” (Lane, 2016). Lane incorrectly concludes “prevailing social, cultural, and economic norms still place greater value on education arising through existing physical, political, and legal infrastructures” (Lane, 2016) as a reason for skepticism. It is precisely through these existing structures that education can and must empower individuals. We always operate within political conditions and relationships based in power (Luke, 2005). Further, the very definition of who is legitimated to do intellectual work is also politically contested and knowledge claims must satisfy political and epistemological criteria of the contexts in which they reside (Collins, 1990). Thus, education at large arises from existing structures that re-inforce powerlessness among learners, especially among disadvantaged populations. This is a problem of facilitating a legitimated dialogue with learners, within the restricted structure of a course, that must also continue, somehow, beyond the course term and must also foster a collective experience for the purpose of action. In this way, to study collective knowledge creation as an empirical research project, one needs to document the process of dialogue with students.

³ later 5R's: the ability to Retain, Reuse, Revise, Remix and Redistribute content for educational purposes.

In the sections that follow I describe the process of collective learning through video game design, a way of imagining the fusion of D+CPAR and open pedagogy using OERs.

Transformative learning through video game development: Collective knowledge

My thoughts on collective learning come from the idea that knowledge does not come from one single source (Manheim, 1949). Traditionally hierarchical and rigid classroom experiences, where the teacher transfers information to the students and students are expected to regurgitate the same information back, not only do not give students any room to explore, but these learning opportunities also do not create a safe environment where students feel comfortable speaking and sharing information with each other (Wlodkowski & Ginsberg, 2009). Emancipatory learning requires a transformation that is rooted in dialogue and participation (Taylor, 2007). Collective learning assists in the transformation by critically questioning the illusion that knowledge is dictated from an elitist point of view as a source of unquestionable truth. This emphasis is important when introducing new digital learning tools in a classroom to overcome initial fear or resistance because collective learning is not the norm in most higher education settings (Leggett, 2016). Part of the process of transformative learning is that it is unique to the individual and the learning environment (Taylor, 2007; also see Dewey, 2009). In sum, the learning environment must be structured in such a way that learners engage in

social organization to co-create knowledge (Dewey, 2009).

I wanted to work toward a co-designed structured environment that served the dual goals of facilitating the co-creation of knowledge and encouraging dialogue and cooperation. I had tried discussion boards, e-portfolios, and interactive forms but these tools did not satisfy both of my goals due to access, technophobia, and other resistance to new technology (Leggett, 2016). I had been working with many students and several community partners since 2012 in a variety of fields. Then, in 2016, a colleague and I were talking with a student, Rotislav, when he suggested we design a video game that would operate like a live simulation. The idea was that students could go through the various components of the political-legal systems and experience these situations from multiple points of view, historical and cultural, through video game characters. I was intrigued, although I had not had much experience with video games, and shared the idea with one of my community partners.

Using the principles laid out by Gee (2007) I began the process of creating a video game and sketched out how to work with students over multiple semesters as a type of in-class simulation. I first shared the emancipatory goal of critical participatory action research:

“Liberatory learning begins by recognizing the domination of masses by the elites is rooted not only in the polarization of control over the means of material production but also over the

means of knowledge production, including the social power to determine what is valid or useful knowledge” (Fine, 2008).

We then spent the first few weeks of the semester learning how to research together in ways that “reveal and challenge social injustice... to provoke action for a more just distribution of resources and dignity” (Fine, 2008). Once again, a student suggested a video game while pointing to an application on their mobile device and a chorus of students agreed that this platform would best meet our needs and be adaptable for future classes. I confessed I knew little about video games but had been thinking about how to incorporate this mode of learning into my classes. I had worked with two people previously who I knew had expertise and invited them into the design process in the third week of the semester. In the next section, I describe how this partnership came together and the subsequent steps we took to begin co-creating a video game.

HOW THE COMMUNITY PARTNERSHIP EMERGED

My community partner, Jay Wen, is a photographer and environmental activist from Brooklyn, New York. Jay earned a Bachelor’s Degree in Film and Media Studies at Hunter College (CUNY) and took a video game development course that made an important impression on her. In 2014, while working

on a food justice project together, she explained to me her desire to develop a video game based on an apocalyptic event caused by an environmental disaster. The players in the game would need to learn how to work together to first recover and then to begin rebuilding a sustainable community. Jay had also helped with community partnerships in other environmental and arts education events in an effort to provide a wide array of civic engagement opportunities at Kingsborough Community College beginning in 2013, including an after-school program at an elementary school. One criminal justice student at the time, Anthony, had expressed interest in volunteering at the after-school garden program where Jay worked with a science educator to integrate science and art into the garden program. Anthony took the initiative to make a short film about the science and arts program at the elementary school garden and related efforts to provide food justice education at a farmers’ market near his home in East New York, Brooklyn. He had no experience with either filming or editing film, but with our help he was able to produce this video and share it at our annual Eco-Festival⁴. From this first encounter in 2013 we began to wonder what other creative projects we could imagine using Digital Critical Participatory Research (D+CPAR). Even after Anthony transferred to a four-year college in 2015 the three of us continued to create course materials and experiences using digital technology,

⁴ These videos can be found at our Youtube channel at <https://youtu.be/Vk9FBdP267w>

which included the launch of a podcast and YouTube channel hosting various educational videos.

Then, in early 2017 while I was exploring potential OERs, Jay proposed to teach a video game development module over three one-hour classes in a legal system course. The initial goal of this particular co-designed class was to use the video game development project and required technology as a way to foster collaboration among students while they studied narratives from *Going South: Jewish Women in the Civil Rights Movement* (Schultz, 2001). In this way, students could apply the narratives from the Civil Rights Movement as they helped imagine characters and scenes for the video game story. Jay, Anthony, and I also wanted to observe how students worked together, both in the classroom and on the digital platform, to learn how to better design these structured learning opportunities for future classes.

For our study we chose two OERs: 1) Scratch, a programming language that makes it easy to create interactive art, stories, simulations, and games — and share those creations online — developed in the Massachusetts Institute of Technology Media Lab⁵; and 2) CUNY COMMONS, an online, academic social network for faculty, staff, and graduate students of the City University of New York (CUNY) system designed to foster conversation, collaboration, and connections among the 24 individual colleges that make up the university system⁶.

We hoped that the game design application and the commons website would allow us to re-mix the original game across courses and to collaborate with other Kingsborough classes and staff and potentially with other campuses.

FROM INSTITUTIONAL-BASED PLATFORMS TO IDENTIFYING AND UTILIZING OERS

I am a certified hybrid and online instructor and a digital native born among the so-called Millennial generation. I have enrolled in online-based courses, participated in the design of online-based teaching materials, and manage a variety of websites and social media platforms. From 2012–2016, I sampled many learning platforms that were promoted by various members of the college administration. A colleague told me about Scratch and I decided to move from institutional-based platforms toward an OER that gave me control over the content we produced. Scratch is a free program developed by MIT that allows users to create games, interactive stories, and animations. As the developers describe it, Scratch⁷ helps young people learn to think creatively, reason systematically, and work collaboratively—essential skills for life in the 21st century. Students retain a copy of their work in the form of physical papers and documents before they are uploaded onto the Scratch website. These representations are then placed within the application to be

⁵ For more information please see: <http://scratched.gse.harvard.edu/>

⁶ For more information please see: <https://commons.gc.cuny.edu/about/about-the-commons/>

⁷ For more information please see: <https://scratch.mit.edu/about>

coded. The resulting game simulation is available by web link. The game is re-usable to play again, it can be remixed by creating a different version using similar components of the existing game, or it can be revised by changing the existing structure of the game. It can be redistributed to share with others to view or play. The Commons website works with Scratch to share the process and project goals. This approach to open pedagogy allows everyone to participate, collaborate, and contribute to a topic or a project throughout the semester at their own pace. Video games present an active way of learning through the mechanism of signal, choice, and consequence. Choices must be designed and characters can represent different points of view. This helps students experience the world in a new way from multiple points of view. Educator James Gee observes, “games recruit smart tools, distributed knowledge, and cross-functional teams just like modern high-tech workplaces” (Gee, 2007). Gee’s work underlines the need to integrate new user-based technology into higher education and into collaborative social science research,

“Many baby boomers think that being smart is moving as fast and efficiently to one’s goal as possible. Games encourage players to explore more thoroughly before moving on, to think laterally, not just linearly, and to use such exploration and lateral thinking to reconceive one’s goals from time to time. Good ideas in a

world full of high-risk complex systems” (Gee, p. 217).

Thus, while we read and critically examined narratives of change in civil rights history, we considered how we might build a social environment where injustice was reduced or eliminated into the game. The end product, the video game, provided an abstract representation of our collaborative inquiry. As a collective we could point to the work done in order to create the first scene of the video game as a social relations project and an example of group action. You can view our preliminary work on our academic commons website⁸.

DISCUSSION: METHODS, OPEN PEDAGOGY, CONDITIONS FOR EMANCIPATORY LEARNING

Our inquiry involved a need to consider under what conditions emancipatory learning was possible using digital tools. Under any definition of the term “emancipatory,” the self-awareness of one’s agency to make change within a collective, must be included. Learners are always situated within a singular classroom and other course-by-course environments. The disruption of other learning habits through the collective process leads to conditions that engender the competence needed to document the emancipatory process in dialogue with others. I knew that by changing the structure of the course using a collaborative approach to designing a video

⁸ <https://imagine1civic.commons.gc.cuny.edu/67-legal-studies-video-game/>

game workflow we would also need to learn the course material in a different way. Our co-created video game started from “scratch” and simply sought to create structured learning opportunities to co-create knowledge about social relations under a rule of law. However, this change also led to the conditions for emancipatory learning.

I use a definition of emancipatory learning that emphasizes that in order for the structured environment necessary for emancipatory learning to exist, there must also be the structured opportunity for critical reflection of the material sought to be learned (Mezirow, 1981; Habermas, 1971). Digital tools allow for a capture of our work as collaborators for emancipatory learning that includes all learners in the process. In this case, the work necessary to complete our goal of creating the first scene of a simple video game together was more work than any one person could manage. In response, students volunteered to work in one of three groups generated from our class dialogue with Jay and Anthony. The three groups were: 1) students who had an interest in drawing and coloring character sketches and backgrounds; and 2) students who had an interest in writing the stories and dialogue for the video game level; 3) students who had an interest in writing the code and designing the scene using the computer and digital tools. All students had to check-in and work together while Jay and I spent time with each group organizing their action research plan. When I examined the work produced by these three groups and our community partners, Anthony and Jay, it was evident that the

conditions for emancipatory learning were present. Emancipatory learning also led to technical and practical forms of learning that were interrelated (Dewey, 2009).

To measure our progress toward a more collaborative and participatory structured learning environment, we utilized transformative learning theory (Mezirow, 1978). This theory explicitly examines emancipation as a process of learning (Taylor, 2007). I was also mindful to look closely at the process by which students re-entered the learning space when we presented a new tool to learning that was vastly different from their other classroom experiences in the criminal justice program. We also wanted to talk with students about how the surprises, puzzlements, and hunches that structured self-reflection experiences enhanced their own motivation to make sense of things we might otherwise bury in classroom routine (Mezirow, 2000). In other words, we wanted students to participate in the process of ongoing course re-design with the understanding that this was intentionally different than other classes with the hope that we could solve these collaboration challenges together. It is in this sense that digital tools and D+CPAR allow for an OER, beyond the textbook, as an opportunity to co-create the conditions necessary for emancipatory learning.

We appreciated the way this learning theory measures the effect of structural change in the way we see ourselves and our relationships (Mezirow, 1978). We hoped that this learning theory would help us better teach students that the legal system

can alter the way we see ourselves and relationships and is subject to change. Ultimately, we hoped this method would increase students' motivation to act and get more involved in the process of rights-based activism as Jay, Anthony, and I responded to the emerging group through dialogue.

The research design for this multiple-semester collaboration utilizes a “motivational framework” (Wlodkowski & Ginsberg, 2009) that begins with critical examination and analysis of student work, including participation, to improve teaching and learning. As a culturally responsive pedagogy, structured assignments and assessments were designed in response to early student work to measure individual motivation and relevance (Leggett, 2016). Further, the design process was necessarily collaborative; CPAR allows a teaching and learning process that includes all learners in research because we begin the work together (Fine, 2008).

The integration of technology was absolutely necessary to the successful implementation and documentation of the course design process because it allowed for multiple researchers to upload data, share and edit text and presentations, and to communicate beyond the classroom (Leggett, 2016). Students participated in structured discussions about how we could imagine what co-constructed knowledge would look like on the website while also including course material and social science research done by them individually in the process of designing the video game with our community partners Jay and Anthony. I had encountered resistance to both new technology implementation and collective learning generally in the past so I chose to scaffold this integration into three pieces

after developing a dialogue with each learner individually. The first assignment involved a broad introduction to the game design application Scratch with Jay. The second session involved applying our course readings to design characters and scenes for the game without digital tools. The third involved the coding and uploading of our work using computers in the classroom.

Why transformative learning theory?

Jay, Anthony, and I agreed that this approach to learning provided students with the choice of how they could participate and let them choose how to best evidence course learning. This theory also provided us with a framework to scaffold our three lessons into a sequence that fit within the broader goals of the course. We also appreciated that this theory emphasized the participatory, or sometimes called deliberative, nature of democratic engagement. In pertinent, Mezirow (1981) turned to the work of Jurgen Habermas to devise a critical theory of adult learning and adult education within a democracy (Kitchenham, 2008). Habermas (1971) had proposed three domains of learning: 1) the technical, 2) the practical, and 3) the emancipatory. Technical learning is learning that is rote, specific to a task, and clearly governed by rules. Practical learning involves social norms. Emancipatory learning is introspective as the learner is self-reflective and experiences self-knowledge.

Our use of Transformative Learning Theory applied Habermas's three domains of learning explicitly. Technical tasks took place within three self-selected groups (visual designers, computer coders, and script writers), with the understanding

that each group would contribute these pieces to be used in the final video game design. Practical learning involved learners working in teams, and at times individually, on something they had a skill or interest in with our assurances that they would get guided support. At the end of the semester, when all the components of the video game were displayed, learners had an opportunity for a written self-reflection and a final class discussion. When learners saw their individual and group contributions along with the other contributions, they were able to see the process of emancipatory learning. The co-production of knowledge was facilitated by the video game design process, guided by Transformative Learning Theory, and the final product of that collaboration was visible on the commons website. The D+CPAR in process also provides evidence of the challenges of cooperation which can be analyzed during or after the semester. This approach allows for the group of learners to come together around common goals and then later analyze the work using digital tools.

Our end-of-the-semester discussion and reflection letters showed a strong sense of satisfaction for the collaborative approach in a learning environment. More importantly it also provides evidence of learning itself. The learners were able to see the result of their collaboration — a draft of scene one for a learning video game. Students were highly supportive of one another and we participated with them in what educators call “flow” (Wlodkowski & Ginsberg, 2009), whereby students lose track of time and often were eager to continue working on the project outside of the prescribed three-class sessions. In this way, emancipatory

learning engenders the learner’s ability to use their educational opportunity to define their inquiry. The participatory condition of this research process requires dialogue with other learners. The structured self-reflection helped learners integrate their learning into their new understanding of social relations within the structured learning environment. We agreed that the dialogue and openness that fosters long-term relationships necessary for collaboration are necessarily foundational for truly revolutionary open pedagogy.

D+CPAR, open pedagogy, OERs, and methodologies

In 2012, I had utilized an educational framework for culturally responsive teaching (Wlodkowski & Ginsberg, 2009) to assess whether the integration of digital tools (pre-OER) had an effect on critical participatory action research (Leggett, 2016). Through that research, I learned: 1) creative uses of technology allow for individuals to see the world in a new way; 2) digital tools move the burden of teaching and learning from me to the collective as a joint project; and 3) technology must be integrated into critical course work in the humanities so that students can engage with social, political, and legal institutions and behavior (Lane, 2016). This framework can also be used alongside transformative learning theory to develop a participatory methodology that emphasizes the process of learning as an interpretive event, not an isolated variable, in order to show causation of a particular set of learning outcomes related to content competencies. The problem is that linear, instrumental conceptions of causality are inadequate tools for explaining the

dynamic, indeterminate, contingent, interactive processes of judgment, choice, and reasoned intentionality of people in action (McCann, 1996). While studies that measure causation as it relates to the use of a new learning tool and individual

learning are important, I was interested in how our group perceived the process of D+CPAR.

Specifically, I wanted to examine with my community partners and my learners exactly how we think about co-creating knowledge using digital

Anthony Chatman, a former student, finished his Master's Degree at John Jay College of Criminal Justice with a focus on Policing and Digital Technology. Anthony started at Kingsborough Community College in the Criminal Justice Program at a time when we were trying to integrate civic engagement and liberal arts outcomes directly into classroom experiences. He was instrumental in turning our attention to the use of video games among learners in his generation. We decided to ask the class at the beginning of the semester about Anthony's recommendation and we found that all of the students had played a video game and knew them well. Anthony also alerted us to the use of online videos used as tutorials where fellow students learned about games and how to play the games. These insights were invaluable and support our core belief that OERs and D+CPAR foster long-term relationships inside and outside of the classroom that have implications in our communities. When Anthony speaks of making a difference because of "hearing different perspectives on certain issues", he is speaking for a collective of learners who are sharing information while pursuing empirical understandings. He is a representative of that PAR collective. Anthony became a content creator through the process of Open Pedagogy and D+CPAR, defying my own expectations, and continues today.

"While working with Professor Jason Leggett, using technology really brought things into perspective. In 2013 I felt using technology would help others learn, but it also helped me learn things in the process each time I was tasked with using technology, whether it be learning to use a camera, a new computer, or with the different types of software applications. Perhaps my best example is how using digital technology literally helps you view the world differently. When I was editing my videos I started to notice things I wouldn't normally have seen without the camera. Even something simple like zooming in on a subject helped me to think about how details contributed to both the product I was making and the process I was engaged with.

The editing process can be tedious but I was motivated to learn how to make the video what I wanted it to be. I think it makes the project speak volumes to what main point I was trying to make. Editing helps that message become clearer. Using technology has also helped with understanding certain criminal justice and social justice topics by seeing them in a different light, because each person has a unique idea on how they feel. I especially learned this while behind the camera interviewing others and then during editing where I would pick up on something I did not hear the first time. It also helped with opening my mind with seeing and hearing the different points of views while also understanding their way of thinking when asked about a certain topic.

tools. Digital + Critical Participatory Action Research provides a way to collect empirical data that can be analyzed to improve teaching. I wanted to facilitate an environment for radical or revolutionary education whereby students confronted political-legal institutions as co-researchers of injustice with the goals of individual and group

action. I think it is important that educators who try to engage with emancipation through open education focus more on the constitutive relationship formed in the classroom using norms that promote participation and dialogue than on proving causal relationships between content and information processing. At the root this kind of open pedagogy

Using technology and being able to have the opportunity to take part in self-cultivation has led me to want to use it as a focus when I eventually transition to my career in law enforcement. At the start, I never thought or even considered using technology as a career but only in terms of writing reports, filling out applications, and sending emails. Since this experience, my research is now focused on how technology can be used to help solve various problems of crime and building safer communities. My proficiency with technology has only grown over the years and with the constant advancements in technology I feel like I can make a difference because working on projects and hearing different perspectives on certain issues has really broadened my approach of how I view things. There will always be a need for the use of technology and since I've continued to use it and unlock the secrets that come with it, I just want to continue using it to the best of my abilities.

Without the use of digital tools, I would never have been motivated to continue my tasks at hand or open my eyes to view the world differently. If there wasn't a primary task with the requirement to use digital technology I don't think I would have been influenced as much since there would have only been a one-sided point of view of how certain things were being portrayed. Digital technology allowed me to see things from multiple points of view to get all sides of a story. The motivation that came with this fascination just added to the desire to learn more and see what else digital technology had to offer the more I kept using it. Digital technology enhanced my perception of a vast majority of subjects and certain issues in society, which ultimately increased my learning abilities in the process.

Based on my experience with video games, two key aspects that make or break it for me are the story and the characters. The story has to keep me engaged and be compelling enough so that it makes me want to see the game through until the very end. Sometimes, based on the story, I was able to critically think depending on a certain plot point and strategize the next plan of attack as the story develops over time. The reason characters are another important aspect of video games is because similar to technology I am still able to see different points of view from a protagonist(s) and even the antagonist(s). I am able to put myself in their shoes and have that sense of understanding of why they do what they do in the story itself. Then I am able to come up with my own judgements based on how they were able to handle things based on a situation within the game. It put a lot of things into perspective since this allowed me to see what motivated them to be that type of person in-game. Character development is important so knowing the qualities that each character has within the story can be essential to being able to relate to them. Although they're fictional, a bond can still be formed."

is the objective to co-create knowledge, including what to dialogue about and research.

Like Maxine Greene, I agreed that “I wanted to release students to be personally present to what they see and hear and read” and to remind students and educators of the need to “develop a sense of agency and participation” (Greene, 1995, p. 104). In response, I moved away from the information delivery method — to students from educator — to a situation in which I had created an environment where institutional educator, community partners, and students could engage in dialogue to bring out our separate realities and understanding of our world around us through the video game design sequence. In a final note about methodology and the fusion of OER and D+CPAR, I quote Dr. Michelle Fine at length:

“Classic social science is measured, in part, by the extent to which “experts” consider the design and constructs to be valid. PAR stands on the epistemological grounds that persons who have been historically marginalized or silenced carry substantial knowledge about the architecture of injustice... in PAR collectives, these rugged deliberations are fundamental to method; a crucial element of question generating, data gathering, analysis, and conversations about products and actions” (Fine, 2007).

In the next section, I present our findings as a collective learning process as we tried to facilitate the kind of emancipatory or liberatory educational experience defined throughout this paper and

grounded in the co-production of knowledge that was important to the collective.

RESULTS — WHAT WE CAN LEARN FROM VIDEO GAME DESIGN AS OPEN & D+CPAR

Initially, students exhibited fear about the expectations and steps needed to create the video game because they thought each person was solely responsible for an entire game. We discussed how, in many collaborative assignments, students are still individually responsible for their work to earn a passing grade. When Jay explained that we were all going to work on only one scene of the video game, we saw relief throughout the room, and we began to see smiles and excitement. Jay and I had not talked about how this project would be graded and had to navigate this discussion very carefully.

We decided to remove the singular goal of earning a grade through exams or paper writing to overcome the vastness of choice about what students could write about. We were experimenting with video game design as a way to collaborate and dialogue about the course material. Therefore, we were more focused on the collaborative aspect of this project. With class participation we decided to scaffold the three one-hour module classes as follows. First, Jay explained the premise of the video game, enabling the learners to think in a specific framework — that the game was intended to promote collaborative problem solving. Second, Jay introduced the principles of video game construction and showed them how to get players to interact with the game online. Finally, Jay worked with

three groups where each learner chose the group that they were interested in, or skilled in, to create the first scene in the game. The three groups focused on skills the students identified they had: 1) coding; 2) drawing; and 3) writing.

The initial goal of this particular co-designed class was to use the video game development project and required technology as a way to foster collaboration among students while they studied civil rights narratives. Jay, Anthony, and I also wanted to observe how students worked together, both in the classroom and on the digital platform, to learn how to better design these structured learning opportunities for future classes. We hoped the game design application and the commons website would allow us to re-mix the original game across courses and to collaborate with other Kingsborough classes and staff and potentially with other campuses.

There was no question that the Commons website and video game application greatly increased ongoing and sustainable collaboration. In the final reflection discussion, learners freely shared with us. Some students stated that they were more comfortable communicating with others through technology, using Scratch dialogue, coding sequences, message boards, and email. They even preferred it to person-to-person communication because of shyness, not wanting to speak in front of the entire class, or that they were able to articulate better in writing. In the process of the video game development students were able to display their often more-hidden artistic, creative, and technological talents. For example, we were surprised by the nine students who were experienced drawers and one

student who had a previous career in graphic design.

I now begin courses by encouraging students to use these skills with us no matter what the class content is as a way of making the course work relevant to course and academic goals. What is more, many future jobs will require some knowledge of how to use technology (Jordan, 2015). By learning how a piece of software or program works, the learner can see what the software can do and how they can manipulate it, creating a new technological literacy that they can apply to new programs and future classes.

Finally, in the last session, the class completed the opening scene and we all reflected on the process of game development and talked about what interesting components can be added to make a more engaging game. This final discussion evidenced learning that transcended the course and showed a transformation of identity and ability to advocate for the common good. For example, one student suggested that each game player should be able to create their own avatar to enter the game and another suggested adding a map that allows the players real-time interactions and to tailor the game toward mobile devices. As we reflected on the last class, we saw that we provoked co-researchers and collective learners to rethink and reimagine current arrangements, something that Greene (1995) calls “social imagination.” We observed that there were a lot of hidden talents that were revealed in just these short three sessions. This collaboration with and between students exposed them to a new way to think about how they can use their

talents to get jobs (transformative learning) and a new technological literacy that they can use for the future (career advising). The digital products of our collaboration provide student work that others and I can analyze that can also contribute to open education theory and practice.

Benefits of using D+CPAR and OERs: A holistic approach

We conclude this article by examining the process of integrating OERs to teach D+CPAR through the point of view of each of our community partners. I provide Jay and Anthony's point of view for several

This fusion of OER and Open Pedagogy began with Jay Wen, who facilitated an urban farm after-school program in 2013 where Anthony and two other Kingsborough students volunteered afternoons. As a digital artist and activist, Jay agreed with Anthony that a series of educational videos using digital tools was a worthwhile project for D+CPAR. I was able to integrate this digital work into structured learning opportunities within my current courses. CUNY Commons, a WordPress platform free for educational use, allowed me to effectively display the educational videos that are currently undergoing the necessary Creative Commons licensing. The combination of student-directed educational content and instructor-managed digital tools led to the need for a community partner to engage a larger audience, a need in a politically-situated urban community college for civic engagement. Jay was this partner and she instilled a common theme of collective learning using digital tools as a way to transform learning, or the sharing of information that informs a new point of view by engaging with others.

"In 2013, I volunteered to work at an after-school garden program at P.S. 126 Manhattan Academy of Technology with a science teacher. I was curious to see how the elementary school science teacher was incorporating science, technology, and gardening to the program for students ages 8–11 years old. Together, we created lesson plans to help students document their learning and let them form small groups from 2–4 people to complete activities and fill out work sheets together. The students were more collaborative since they were allowed to work with their friends. For example, I overheard one group ask another group to see if their answers were similar or correct. I started to see that this way of teaching felt more open and organic because everyone was communicating and learning with each other.

In our efforts to document the after-school program I saw Anthony take on a leadership role using the video camera and editing software even though he hadn't used either piece of technology before. He was given free range on how he wanted to document the program and I saw his creativity flourish while capturing different close up shots, wide shots, and setting up shots with students interacting with each other. When he began to edit the video footage, he really put all the pieces together and learned how to tell a great visual story. As a digital photographer I recognized his latent talent by how easy it was for him to be able to pick up these new skills because he was given the opportunity and creative freedom.

reasons. First, it is uncommon to see the impact of a teaching innovation at the end of a student's educational journey. We have been fortunate that Anthony has been a part of this redesign process since we first met in 2013 and was able to assist us in the integration of video games and OERs. This relationship informs our second reason for including his narrative — OERs and D+CPAR have enhanced the student-teacher and classroom-community relationship by allowing us to continue working with each other after the semester has ended and

influencing how we continue to build on our previous work. This ongoing collaboration among the three of us continues to create innovative products for use in the classroom and in our community. For those of us who believe that civic learning and democratic engagement are important educational outcomes, this has far-reaching implications. Finally, while we admit Anthony's story may be an outlier, he has provided a roadmap for course design that puts the students' voices and experiences first, which I continue to utilize in all my classes.

I learned from the students in the after-school program and working with Anthony that there was potential for a new way of collaborative learning incorporating technology. While many students already used some form of technology they did not necessarily use it with other people or use it to make a new product. In order to generate a common product, I wanted to create an opportunity for students to develop a collaborative video game as an assignment. From 2013–2015 I worked with students on storyboards for video games and developed photo-essay assignments with Prof. Leggett for his students. Then in 2018, we discussed the possibility of designing a video game with students using Scratch, an OER that allowed for basic video game production.

I wanted to make the video game development simple, let the students work at their own pace, and let them have creative freedom. Working, I overheard each group exchanging ideas on how they could make the characters come to life. I noticed the sketch group and script group really worked together to pinpoint the unique characteristics of Dottie, Ella, and Debra, individuals from the course reading materials, according to what they learned in previous classes. The sketch team used specific wardrobe choices referencing old photos and props they found on the internet that defined the characters' roles in the game. The script team wrote lines that embodied how the characters would really be based on the dialogue in the readings. I started to see the way they were communicating and collaborating together between groups was similar to the students from the after-school program and began to term this collective learning, a way of engaging material that produces new ways of understanding the material by applying it in real-world scenarios.

I explained to the students that the video game was going to be continued to be developed in future semesters. They were excited to share ideas on how to incorporate more ways to make the game more playable by adding different challenges, making the game for mobile devices, and how the future students can help to make it so. This showed me that they welcomed new changes and new ideas of how other people could work on the collective game.”

In reflection, I want to push the discussion about OERs and Open Pedagogy further toward the co-construction of knowledge. I believe D+CPAR allows this to happen, inside and outside of the classroom, on two levels: 1) the ability to co-create structured learning opportunities with students and community partners is built-in to the framework itself, which engenders transformational learning as a necessary process learning outcome; and 2) the digital aspect allows for a more objective measure of what is actually going on in the classroom and can be designed in such a way as to measure particular outcomes like civic engagement, better understanding of content, or specific interventions. This article does not seek to address whether the incorporation of OERs or open pedagogical practices leads to a deeper understanding of course material nor a measurement of test scores or overall comprehension of a particular discipline. In fact, the pedagogical goal of this paper is to shift the focus away from learners as objects to study and toward learners as the co-creators of what we want to study. In this way, I have provided both a theoretical framework to operate within Transformative Learning Theory and a set of practices rooted in Culturally Responsive Teaching. Success is measured by our understanding of this process, how it pushed our project forward, and how we formed new ways of thinking about knowledge as a result.

I have been able to replicate this process and scale the experience using OERs and D+CPAR in ways I never imagined when I set out to re-design courses at Kingsborough Community College. I am now working with other professors and dozens of

student co-researchers each semester to solve the challenge of bringing our work together. Anthony has been an ongoing help in this process. In closing, our latest effort has been to develop a series of videos that promote students' views on a wide variety of social justice and community issues. These engaged creative efforts continue to amaze us and to center students' lives in the educational process. We invite you to measure these narratives against our co-created work found online.

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