

**Zine-making as Social Action:
Integrating Design and Self-Authorship in Civic Learning**

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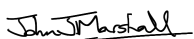
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Abstract

Traditional civic education is not taking advantage of design resources when preparing high school students, particularly Black, Indigenous, and People of Color (BIPOC) youth, in learning to see themselves as change agents – individuals who believe that they have the ability to transform society. Civics curricula of secondary schools that cater to historically marginalized communities tend to be hindered by district requirements, a lack of access to resources like design tools and techniques, and time limitations. These constraints limit teachers, students, and their communities' access to civic knowledge and participation.

In order to remedy this situation, this thesis developed, implemented, and evaluated a pilot zine-making workshop toolkit to elevate creativity and student voice around civics and provide accessible, low-cost resources that are easy for teachers to implement. This workshop toolkit, composed of guided activities and materials, serves as a supplementary resource to Equitable Futures, an existing project-based teaching and learning program for high school students in social studies to explore and understand the impact of social injustices in their local region and connect historical learnings to their own lived experiences.

In collaboration with Equitable Futures, two high school teachers, and students from Arts Academy in the Woods and Fordson High School in Metro Detroit, this thesis deployed a cross-disciplinary, integrative design approach that combined design-based research (DBR) from the field of education with co-design from the field of design to inform the development of a collaborative teaching and learning intervention in a local high school civics classroom. As a result of the pilot workshop, it was found that zine-making, used as a design method for inquiry and low-cost execution, provides an accessible way to foster creative freedom, new ways of learning civics, and communicating social justice issues through social action, making, and self-authorship.

Keywords

Equitable Futures, civic empowerment gap, civic learning, design-based research (DBR), co-design, social action, design-based learning (DBL), zine-making, zines

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Glossary

Action civics

Action civics is an instructional model where students develop their understanding of skills, knowledge, behavior, and attitude through participatory actions within a community. The goal is to increase civic participation and connect in-school learning to student's out-of-school interests.

Arts Academy in the Woods (AAW)

Arts Academy in the Woods (AAW) is a public-charter arts-based high school (grades 9-12) near Detroit in Fraser, Michigan.

Activity Theory

Activity theory is a framework to describe actions, the tools used to perform the act, and the outcome of activity in producing motivation in humans.

Civic empowerment gap

The civic empowerment gap refers to the disparities between race and class in civic knowledge and participation (ex. low-income, historically marginalized populations, urban/rural schools vs. affluent, white, suburban schools).

Civic participation

Civic participation refers to individual or collective involvement of citizens working to improve issues within a community.

Co-design

Co-design means creating with stakeholders in the design process and collaborating with partners to create within a particular context.

Design-based learning (DBL)

Design-based learning (DBL) is an approach that integrates the design process and creative problem-solving skills to generate ideas and improve real-world issues through iteration. It is an approach to project-based learning.

Design-based Research (DBR)

Design-based research (DBR) is a flexible methodology aimed to improve teaching and learning through an iterative design implementation in a real-world context.

Equitable Futures

Equitable Futures (EF) is a project-based curriculum for high school students in civic and social studies classrooms to explore and understand the impact of social injustices in their local region, and to connect students' historical learnings to their own lived experiences. Since 2016, the EF curriculum has served over three-thousand students across thirty-one schools in the metro Detroit area.

Fordson High School

Fordson High School (FHS) is a public high school (grades 9-12) in Dearborn, Michigan. Dearborn has the second largest Arab American population outside the Middle East.

Social Justice

Social justice is the fair and just behavior and treatment between individuals and society.

Zines

Zines are a do-it-yourself, low-cost, self-published work of text and images in a small format. Zines have a history in social movements and not considered mainstream media.

Preface

This thesis served as a focused opportunity to actively engage in integrative design, expand my design research capabilities, better understand what it means to learn and unlearn, and sought to uplift young people’s voices that are not often prioritized within schools and society. The inspiration for this work derives from personal community experiences and interest in design activism, printmaking, underground culture, social justice, and designing within government.

My own interest in zines, or small do-it-yourself “mini-magazines,” began in the advent of the Occupy movement in 2011-2012. During this time, I was involved with an Occupy group in Montana that focused on bank divestment campaigns, mutual aid, organizing free Skool events, building a tool library, food and land justice, learning the art of protest and action, and hosting critical discussions. Our space included a zine library collection covering a wide range of political, cultural, economic, ecological, technological, and social issues. In many of the zines, I learned about topics ranging from alternative economic models, debt resistance, prison abolition, bathroom politics, Indigenous wisdom, Black power, disability justice, LGBTQ+ history, radical mycology, to DIY hacking and more. As someone who grew up frustrated with my learning in school but loved education and creativity, this was the stuff I would have wanted to learn in high school, and this felt like the first time I understood civics, history, and government. I appreciated the tangible and accessible education that these zines offered. Equitable Futures (EF), a social-justice-oriented teaching and learning program in Southeast Michigan, presented an ideal, collaborative opportunity to explore means of design and zine-making as EF engages high school students in critical conversations around racial, economic, and social injustices.

A revolution that is based on the people exercising their creativity in the midst of devastation is one of the great historical contributions of humankind.

- Grace Lee Boggs

In the time of writing this thesis, 2020 swept in a global pandemic that has killed 118,000* people in the United States in a matter of months, collapsing the economy with record unemployment rates amid executive government inaction and systemic racism. The year 2020 also brought social upheaval and civil unrest in response to the unjust murders of Ahmaud Arbery, Breonna Taylor, George Floyd, and countless Black lives at the hands of police. This led to ongoing Black Lives Matter rallies, resulting in demands for abolition, defunding police, racial equity, and justice.

Both occasions have used informal learning, multimodal zines, and civic engagement through social media platforms. These means have aimed to connect humans despite limited physical human touch; share information in the face of uncertainty; raise awareness through empathy and support; and educate on current and historical injustices, anti-racism, safety protocols, activism resources, and voting information. With time, this collective energy will be tested in real change through active, ongoing civic participation.

This moment right now asserts the accessibility and importance of zines, design, and civic learning. The value of equitable education in the form of creative social action, making, and self-authorship in crisis enables everyday people to engage in co-creation, shaping decisions, and sharing perspectives. Radical dialogues have been pushed to the forefront with people seeking alternative options to living and working, examining the ways people co-exist in spaces that seek to value equity, public safety, health, education, labor, and celebrate personal and cultural identities. More than ever, it is time to reimagine and rebuild civic learning and action through design.

* As of May 2020.



INTRODUCTION

A healthy democracy requires participation by all for society to thrive.

Young people¹, growing up in what is considered the most diverse and largest generation ever (Fry and Parker 2018) want their voice heard—they are aware of important societal issues outside the classroom, but they may not have adequate educational tools to take part in community change efforts (Metropolitan Youth Policy Fellows 2017). A civic empowerment gap persists in supporting youth in education. According to Meira Levinson, professor of education at the Harvard Graduate School of Education and former urban school teacher, the civic empowerment gap refers to the growing disparities between race and class in civic knowledge and participation (2010). In an educational context, this means that only

¹ Young people (ages 14-18 years old) are currently growing up in the generation defined by marketers as "Generation Z," "Gen Z," "iGen," "Zoomers" or "post-Millennial." "Generation Z" is defined as those ages 8-23 years old in 2020.

particular students are learning to see themselves as change agents, or believing that they have the ability to transform society, and acquiring the knowledge they need in order to participate in basic civic actions such as public service, contacting elected representatives, protests, voting, community organizing, issue advocacy, and more (2012; Kahne and Middaugh 2008). Scholars have identified that white youth who attend affluent school districts receive more civic learning opportunities (Levinson 2013, 2012, 2010; Kahne and Middaugh 2008; Rubin et al. 2016). In contrast, Black, Indigenous, and People of Color (BIPOC)² youth and adults from low-income or low-resource school districts may not have access to the same civic learning that empowers students to engage in civic behaviors (Levinson 2013, 2012, 2010; Kahne and Middaugh 2008; Rubin et al. 2016).

2.1 Project Background

One educational initiative aimed to help youth take informed action is Equitable Futures (EF). EF is an existing project-based teaching and learning program for high school students, ages 14-18, in history, civics, and social studies to explore and understand the impact of social injustices in their local region and connect historical learnings to their own and others' lived experiences. Developed in 2016 by a team of educators at the Oakland Schools Intermediate School District and the University of Michigan School of Education, EF has served over three-thousand students across thirty-one schools of varying contexts in the metro Detroit, Michigan area.

EF has proven to be a successful social justice education initiative for high school students and teachers in Michigan's Oakland, Wayne, and Macomb counties. Many high school students in these counties experience more

conventional, textbook-driven instruction that does not address social justice issues attributed to Detroit's distinct racial and socioeconomic segregation in education, housing, and labor (Frey 2018). Research shows that students feel less personal connection and agency when their learning is not relevant to local and global issues (Zemelman 2016). EF student feedback shows that students in the program found value in exploring social justice issues in their own communities, and also enjoyed collaborative learning and connecting with students from other schools. EF student feedback identified that students wanted more time to work on final projects, freedom to choose an issue that matters to them, and transform their projects into action. This feedback informed design principles for the development of a pilot zine-making workshop.

Thesis Overview

In this thesis, I begin by identifying the problem of civic learning in education and my research aims to pilot a zine-making workshop in a local civics high school classroom. Partners Dr. Darin Stockdill of Equitable Futures and Brandon Moss with Arts Academy in the Woods, the research site, are introduced. The *contextual review* discusses the wicked problem of civic learning; action civics and project-based learning; zine-making's socio-constructivist relevance in education; design-based research's context driven-approach and co-design's contributions; and the outcome of diffusing design in the 21st century. *Methodology* defines the theory of methods, access and collaboration, a timeline of the project in four phases, descriptions of methods operationalized, and ethics and limitations. *Design process and findings* describe what happened in each phase with descriptions of data collection, design narrative, evaluation of the data, and a summary of findings. *Discussion* highlights the most significant findings and how the research questions have been addressed using an integrative design approach. *Conclusion* asserts the significance of this thesis within design, education, and Equitable Futures, and suggests recommendations for future work.

² Black, Indigenous, and People of Color (BIPOC) is a term that shifts away from the umbrella term "people of color" to recognize and dismantle anti-Blackness, Native invisibility, and white supremacy. Learn more about The BIPOC Project at www.thebipocproject.org.

Building upon the groundwork laid by EF and the overarching goal of equity and access in education, this thesis project developed, implemented, and evaluated a pilot zine-making workshop toolkit to improve learning outcomes for students around civics and provide accessible, low-cost resources that are easy for teachers to implement. This workshop toolkit, composed of guided activities and artifacts, serves as a supplementary resource to the curricular unit offering of EF. This zine-making workshop is dedicated to empowering high school students (grades 9-12) with design tools that help them to discover their values and amplify their voices on current events that matter to them. Through a workshop format, this thesis aimed to equip teachers with a design-based learning sequence that engages students in exploring the relationship between civics and current issues, in alignment with the district-approved College, Career, and Civic Life (C3) Framework for Social Studies State Standards (National Council for the Social Studies 2017). The workshop culminates with students developing and disseminating a zine (a self-published mini-magazine) that gives them a public voice on current events affecting their communities.

The research and development of this project case study lasted for fifteen months (February 2019 to May 2020) as part of my MDes in Integrative Design thesis work. This thesis used a novel integrative design approach that was cross-disciplinary, combining design-based research (DBR) from the field of education with co-design to develop and test a zine-making workshop in a local high school civics classroom. This approach served to mesh design and educational research to inform collaborative teaching and learning interventions. Specifically, as DBR in education continues to evolve, co-design can offer generative, hands-on design and collaborative strategies that enhance the effectiveness of DBR.

Finally, it is important to note that my integrative design research project is IRB approved (HUM00171388)— demonstrating how a human-centered design process must be informed by ethics and highlighting the relationship between the Institutional Review Board (IRB) and the rigid constraints that it poses on the fluidity of design research with human subjects.

3.1 Research Context

Partners

For my thesis project, I collaborated with partners in the education domain. Dr. Darin Stockdill and Brandon Moss provided their expertise in social justice education, design and implementation of curricula, and pedagogy. Stockdill and Moss served as official partners on my thesis committee. Education, in combination with my design knowledge and skills, provided an exciting partnership to explore the possibilities of design, collaborative practices, and learning through zine-making in and outside the classroom.

Dr. Darin Stockdill is the co-founder of Equitable Futures (EF) and Design Coordinator at the Center for Education Design, Evaluation, and Research (CEDER) at the University of Michigan School of Education. CEDER “supports the evaluation, design, and development of education curricula, programs, technology tools, and software for other units on campus and K-12 and informal learning settings in surrounding communities” (ceder.soe.umich.edu/about). Stockdill has previously served as a secondary school social studies and English teacher for several years in Detroit, community literacy program coordinator, youth violence and substance abuse prevention specialist, and curriculum coach. Stockdill was instrumental to this project by providing curriculum design guidance, connections to local schools and educators, educational design research methods, and support for the IRB application process, and as a fellow co-designer. This relationship was established in January 2019 when the MDes cohort IV collaborated with Equitable Futures for Studio III: Prototyping. The foundation of this project developed from two zine-making workshop iterations into the development of the pilot zine-making workshop for high school youth in civic and social studies education.

Brandon Moss is a high school social studies teacher (civics, economics, U.S. and global history, geography) and serves as the Union Chapter Chair for the Arts Academy in the Woods (AAW), a public-charter arts-based high school near Detroit in Fraser, Michigan. Moss has been teaching for

over ten years and continues to teach EF in his class. Moss' pedagogy offers a unique approach to teaching for social justice in the classroom and community supported by his school. In contrast, more traditional teaching is encouraged or enforced in other schools. Moss has participated throughout the project by facilitating the first cohort zine-making workshop, feedback on workshop toolkit development, and piloted the zine-making workshop in his civics classroom. His delivery of the workshop to his classes was instrumental to the study and helped account for particular co-design decisions made in the process.

Other Constituents and Stakeholders

Teachers and students are constituents, those who are directly impacted by the design outcome—a zine-making, educational workshop prototype. As the design researcher, I worked alongside the teacher, Brandon Moss, who implemented and facilitated the entire workshop. This participatory approach enabled us to co-design decisions during the course of the study. Student participants were constituents who could be considered users or audience of the working prototype and study. The workshop's design, delivery, and implementation directly affect student learning, engagement, and outcomes.

School administration, educational institutions, and community (as targeted audiences for student zine distribution) are stakeholders. Stakeholders are particular parties whose interests may affect the outcome of the “effectiveness of a program” (Frey 2018). By conducting this research study, student learning and empowerment, access to resources by secondary schools, design integration in secondary education, and fidelity of implementation of the workshop in the classroom were at stake in the process.

3.1.1 Research Site and Background

The first pilot zine-making workshop was conducted at Arts Academy in the Woods (AAW) and followed by a group interview at Fordson High School. Both schools are located in Southeastern Michigan, near Metro Detroit, Michigan. The two schools that served as research sites are communities with their own “economic, social, and political history” and context (Stockdill 2011). Two other teachers and five students participated in group interviews at Fordson High School in February 2020. Access to classrooms was provided by Stockdill, who suggested working with Equitable Futures teachers Brandon Moss and Angela Altomonte.

Some limitations of this scope were time constraints due to travel, limited access to schools and particular classrooms, research protocol required by the schools, and challenges faced when implementing a pilot workshop. In order to better understand the research, it is essential to understand the context of each school and student participants.

Arts Academy in the Woods (AAW)

AAW Participants

Brandon Moss, thesis partner and social studies teacher, embraced the opportunity to pilot the zine-making workshop in his civics class at AAW in fall 2019. Approximately 85 high school students participated in the pilot zine-making workshop from mid-November to mid-December 2019 in Moss' four civics class. Each class period had approximately 20 student participants, ages 14-18 years old (sophomores, juniors, and seniors).

Arts Academy in the Woods (AAW) is a public-charter arts-based high school (grades 9-12) near Detroit in Fraser, Michigan. According to their website, AAW is open to any student in Michigan and chartered by the Macomb Intermediate School District (artsacad.net). The school was established in 2001, and approximately 300 students currently attend. The curriculum focuses on visual arts, performance arts, and music. Students partake in math, science, English, languages, and social studies.



AAW can be considered one of the many schools that are underfunded, but striving, schools within Michigan. The following AAW data is based on Common Core of Data (CCD) Public School data (2017-2018, 2018-2019) provided by the National Center for Education Statistics (NCES). AAW represents one of the 253 schools in Macomb County. AAW has 342 students and 21 full-time teachers serving grades nine through 12 (ages 14-18) (2017-2018). The student-to-teacher ratio is 16 to one. The ethnicity/race of the student body consists of approximately 55% White, 35% Black, 6% Multiracial, 3% Hispanic, and 2% Asian students (2017-2018). Females consist of 73% of the student body, while males account for 27% (2017-2018). As this is statistical data, it does not account for the number of gender-fluid young people in the school. In conversation with Moss, AAW is considered a “safe haven” for LGBTQ+ students, especially students who are gender fluid or transgender. Two social workers and one counselor are embedded in the school; however, there is no nurse or library on site. There has been an influx of social work and special education caseloads, especially with emotionally impaired (EI) students. The school faces funding limitations where each student is worth approximately the per pupil baseline of \$8,111 when the standard is \$9,590 (Arsen et al. 2019).

Many students do not drive to school. AAW is considered a commuter school where students arrive by car, dropped off by parents or carpools, or by bus reaching from various communities around Detroit. There are

no security guards. The halls of the school have vibrant student murals (figure 1) and bathrooms labeled “feminine” and “masculine.” This was established after students changed the gendered bathroom school policy with the principal. A hot lunch program was started four years ago and is delivered to the school by truck every day. Approximately 59.9% of students are eligible for the federal free and reduced lunch program (CCD Public School Data 2017-2018). A makeshift kitchen is established in the “cafegymatorium” (figure 1) where food is served and served as a location for the “Teen Zine Showcase” at the end of the workshop.



CONTEXTUAL REVIEW

This section presents information that underpins the project.

1. Problem Definition: Civic Education and Project-based Learning
2. Objective: Zines and Zine-making
3. Methodology/Method: Integrative Design Approach using DBR and Co-design
4. Outcome

4.1 Problem Definition: Civic Education and Project-based Learning

Education has the potential to provide a pathway for students to learn and apply the necessary knowledge to transform public life in a democratic society (Dewey 1923). Much like design, civic education's specific mission is to build the knowledge, skills, and attitudes for students to know how to best contribute in ways that shape the public realm (Kathleen et al. 2011, Carnegie Corporation of New York and CIRCLE 2003). As democracy depends on an engaged population, civic learning is intended to help young people and adults think critically, know their rights and responsibilities, and develop 21st-century skills to engage in civic actions (Rubin 2016, Levinson

2010). These skills include the 4 C's: collaboration, communication, creativity, and critical thinking (P21 2019, Soulé and Warrick 2015).

Schools serve as one of the few public institutions that provide an important potential space to educate youth for action on public concerns (Carnegie Corporation of New York and CIRCLE 2003; Zemelman 2016, 7). However, “the historical role of civic preparation has been further undermined by the disparities in opportunities for effective civic preparation that are available in schools” (Rebell 2018, 1). Teachers face everyday barriers and constraints in teaching while being inundated with increased pressure, especially when teaching social justice. Social justice education parallels civic learning with aims to “provide tools for examining how oppression operates both in the social system and in the personal lives of individuals from diverse communities” (Bell 2016, xxiii). Teaching civics through a social justice lens is further constrained by state requirements, mandatory standardized testing³, teacher-centered pedagogy (Picower 2011), time limitations, and lack of resources for more engaging educational materials (Dover 2013, Rebell 2018). The lack of resources can range from school funding for basic supplies, few ready-made and accessible curricular units, to curricula designed without learners’ needs or wants in mind (Dover 2013). Not having great resources affects the motivation of students to take part in civic engagement.

Traditional ways of teaching and learning social studies and civic education are not adequately preparing students to succeed in civic life, or the continual improvement of community and democracy, in ways that reflect their own identities. When in school, students commonly learn civics through a “pedagogical combination of textbook, lecture, and worksheets” (Blevins et al. 2016). This approach focuses more on the what rather than the how (Levinson 2014). Often, “students who don’t see the connections between what they are asked to learn and their own present needs often feel disempowered and bored in school” (Zemelman 2016, 7). This

³ M-STEP measures academic achievement in Michigan. For the purposes of this thesis, I chose not to expand on standards-based testing and instead focus on other ways to discuss knowledge.

is particularly true of students of color, who tend to not be represented in curricula and thus feel less connected (Moje 2007). There is a need to disrupt status quo learning by offering engaging, culturally relevant approaches and activities focused on contextualizing youth’s out-of-school interests into in-school learning.

Civic learning in the United States is a “wicked problem”⁴ — when less civic education is provided, fewer people are participating in democracy, fewer voices are heard. When fewer voices are heard, more people lack decision-making power in policies that affect their lives. This becomes a moral issue. The cyclical nature of unequal civic participation positions the educational institution as an oppressive force for BIPOC youth and adults, further amplifying racial and economic injustices in historically marginalized communities. Addressing this long-standing issue is complicated as “every wicked problem can be considered a symptom of another problem” (Rittel and Webber 1973). The complex systems in which humans live are a result of explicit and implicit design decisions that have created systems of oppression, injustices, and inequities (Carroll 2018). There are no set “solutions;” however, we can strive for an equitable “desired future state” through mindful, strategic efforts as there is “no right to be wrong” in improving educational interventions aligned with human rights (Simon 1969, Rittel and Webber 1973, Buchanan 1992). These efforts can be “mitigated through the process of design” (Kolko 2010) and must consider the context and consequences of such design decisions when seeking to transform civic learning.

What has already been done to transform civic learning?

Providing meaningful, experiential opportunities for students to expand their learning with social actions extends beyond the textbook and classroom. Experiential learning theory focuses on “learning by doing” and reflecting (Dewey 1923, Kolb 1984). This theory evolves from Jean Piaget’s constructivist theory of situated learning and Lev Vygotsky’s

⁴The term “wicked problem” was first introduced by design theorists Horst Rittel and Melvin M. Webber in *Dilemmas in a General Theory of Planning* in 1973.

(1978) social constructivist theory valuing social interaction, both of which emphasize the adaptive process of learning. For instance, project-based learning (PBL) engages students in interdisciplinary experiences in solving problems through hands-on approaches, thus promoting deeper learning, independence, and knowledge through “making” (Dewey 1923; Bell 2010; Nielsen and Andreasen 2014, 43; Evans 2019; Kingston 2018). Examples of PBL include Action Civics and EF.

Action Civics

Action civics⁵ is a student-centered PBL model that engages students in addressing and understanding real-world issues in their community through informed action (Levinson 2014). This model aims to improve civic education and the empowerment gap in specific communities across the United States. An action civics approach focuses on key elements to build youth civic knowledge, skills, and attitudes, summarized by the following stages of inquiry:

1. Voice: Students choose their topic,
2. Expertise: Students’ lived experiences and voice are prioritized,
3. Action: Engagement in and out of the classroom, and
4. Reflection: Reflections help log their “actions, successes, and challenges”

(Kolb 1984, Blevins et al. 2016, 347; Levinson 2014; Gingold 2013; actioncivicscollaborative.org)

This framework of “inquiry to action” has been successful in helping youth recognize their ability to increase motivation for social change and connection to decision-makers (Zemelman 2016, Levinson 2014, Blevins et al. 2016). Teachers who implement action civics often take great pride (Gingold 2013). From the classroom, to the local community, to leadership

⁵ The National Action Civics Collaborative (NACC) has helped foster initiatives such as Mikva Challenge, Public Achievement, Generation Citizen, Youth on Board, Earth Force, and Junior State of America across the United States.

panels, action civics has had a profound impact on youth who want to make change happen via transformative civic learning (Gingold 2013, Levinson 2012).

Equitable Futures

The Michigan Department of Education takes seriously that “as members of a culturally diverse, democratic society in an interdependent world, young people need to learn how to make informed and reasoned decisions for the public good” (2019). Learning modules like EF are a powerful way to harness teachers with local and global context social-justice-oriented materials and equip students with the tools and knowledge to better understand historic and future narratives to challenge power. If young people are to take part in a democratic society, teachers need to be supported through opportunities and resources to empower their students’ civic learning and engagement (Levinson 2010).

EF overlaps with some ideas and principles of action civics, even though developed independently⁶. EF’s inquiry-driven curricular unit was designed to encourage student agency in becoming knowledgeable, informed social actors. EF crafted a pedagogical framework to discuss controversial issues through trust-building, encouraging critical thinking, engaging in formative tasks, followed by a Socratic seminar, and a final project. The learning model scaffolds the process of understanding and discussing issues of equity, race, and history. EF’s project-based activities include card sorting exercises, graphic organizers, and modes of creative expression. The final project develops into an Awareness Raising Tool (ART) designed to inform audiences on an important social justice problem that needs to be improved. Culminating the five-weeks of social justice learning into a student-driven ART to showcase at EF’s annual “Youth Forum” event that has been held in Southeast Michigan every year since 2016.

⁶ Darin Stockdill, comment to author, January 2020.

Action civics and social justice implementation challenges

Implementing an action civics program or social-justice-oriented initiative like EF does not always come easy for teachers (Gingold 2013; Dover 2013). Curricula support for teachers on the design, delivery, and implementation of the programs is needed along with adequate time “to plan and teach” and assist during the activities (Levinson 2014). This includes professional development opportunities for teachers to train and implement new programs within the classroom which can be expensive, intensive, and require approval from administration. Enabling teachers to conduct these kinds of activities presents challenges because it requires extra effort to build understanding among different parties (Stables 2014, Dover 2013).

PBL like Action Civics and EF has proven to be engaging ways of learning when teachers are able to implement it in their classroom. There is room for both initiatives to expand in creative ways (Levinson 2010) that focus specifically on civic efficacy through making and the design process, in addition to user-friendly educational materials. With EF’s ART, students have options to create various media—posters, sculptures, or digital media. Zines, specifically, hold their own value in relation to design and civic learning as a tool for social action. In early 2019, the MDes Cohort IV proposed zines as one way for students to engage in EF content because of the historical nature of zines, opportunities for civic engagement, access to local knowledge and community resources. Civic and social studies education programs could benefit from more design-based approaches to enhance engagement and creativity while empowering both students and teachers in mutually beneficial ways.

4.2 Objective: Zines and Zine-making

“To understand the current crisis of education and project a better future for our children, we need to begin thinking about how our culture is shaped by the means through which we communicate: the spoken word, the printed word, and the images of the electronic media.”

(Grace Lee Boggs 2012)

One small way to address current civic inefficacy, or helplessness related to societal issues, in high-school age youth is with zines. Zines are compact, do-it-yourself, low-cost, self-published mini-magazines that illustrate ideas not typically discussed in mainstream media. Historically, zines have embraced subcultures throughout the decades since the 1920s ranging from communicating philosophical ideas, science-fiction, punk rock, feminism, activism, to personal narratives (Chu 1997, Wan 1999, Duncombe 1997, Honma 2016). As a form of freedom of speech, these small booklets provide multimodal opportunities for anyone to circulate their ideas in a tangible, participatory way (Kress 2010). They are a physical means of social media that can be printed or uploaded online for others to access and share. Zines can be used as literacy tools for learning in the classroom and community, making with others, challenging inequities in communication and media (DeJaynes and Hall 2019), and promoting personal agency within the written word and image. Literacy is driven by a range of social and cultural context, not just pertaining to the ability to read and write, but as means to make sense of the interaction that links students, corresponding texts, the activity, and the context in relation to social justice (Moje 2007; Stockdill and Moje 2013).

As a tool for social action, in recent years zines have served as an initial place to “support and promote emerging areas of culture” like #BlackLivesMatter, Occupy, Arab Spring, Climate Strike, LGBTQ+ rights,

situated to help students creatively think through issues they care about to incorporate into their zines. The process of designing asserts the role of design as a “subject of investigation” and “mode of inquiry” for active, rather than passive, learning (Davis et al. 1997, Lee & Breitenberg 2010). Through such activity, students benefit from the interaction between the motivation, tools, and outcome of DBL engagement.

The Activity of Zine-making: Theoretical underpinning

Design-based learning and the activity of zine-making translates well to activity theory. Lev Vygotsky⁹ and Aleksei Leontiev’s social constructivism theory (1978) attests to the benefits of experiential learning to support social interactions, and promote critical thinking (Powell and Kalina 2009). Based on ideas of social constructivism, (cultural-historical) activity theory is a framework to describe actions, the tools used to perform the act, and the outcome of activity in producing motivation in humans (Engeström 2001, 1987; Jonassen and Rohrer 1999; Engeström, Mietinen, and Punamäki-Gitai 1999). Jonassen and Rohrer (1999) situates “design as a mediated activity system” to produce as object (Bennett et al. 2017, 59). Bennett et al. (2017, 60) extend activity theory to position design as not just an object, but “tangible and intangible outcomes that aim to yield social change.” Figure 3 situates a workshop approach by connecting Engeström’s (1987) model of activity theory, Jonassen and Rohrer’s (1999) design as mediation, and Bennett et al.’s (2017) extension of design for social justice.

Activity theory can explain the usefulness of an object, like a zine, as an embedded part of culture with social significance. A workshop approach to zine-making positions the students as the subject, who engages in the zine-making workshop (tool), consisting of design activities, within the context or motivation of civic learning and social justice. The design activities adhere to rules (design principles, curriculum requirements, and civics content) mediated through division of labor, or those involved in the

⁹ Lev Vygotsky and Aleksei Leontiev were psychologists from Russia in the early 20th century known for their sociocultural theories and the role of interactions in creative learning and cognitive development.

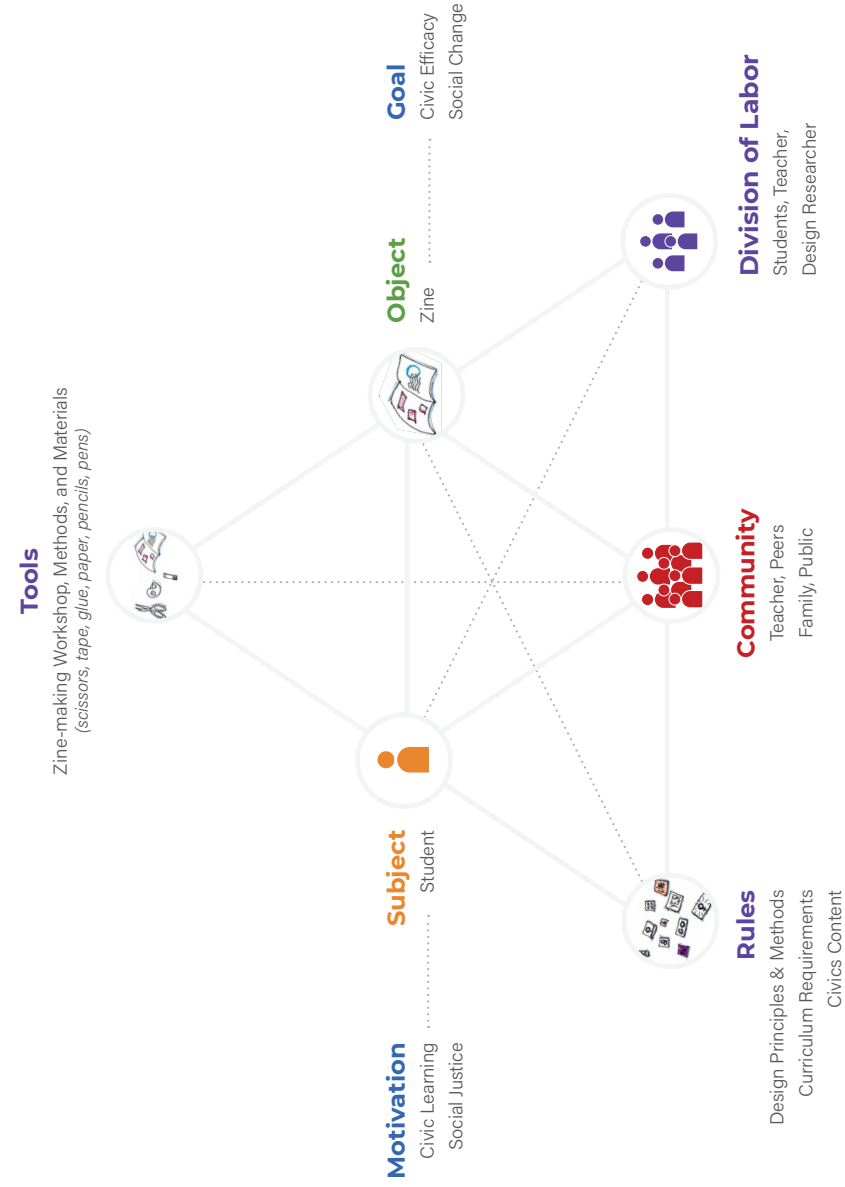


Figure 3. Activity Theory. The zine-making workshop approach is situated within activity systems informed by social constructivist learning using activity theory (adapted from Bennett et al. 2017, Engeström 2011, Jonassen and Ronrer-Murphy 1999).

activity. The object then expands their mindset (Bennett et al. 2017). In making zines, beyond the satisfaction of a grade or teacher requirements, students come to understand their tools and action have a real-world public audience and social impact (community). This “construction of meaning” (Vygotsky 1978) allows teachers and students to challenge industrial-era pedagogical boundaries between subject (students), community, and division of labor.

Desyllas and Sinclair describe zines in the classroom as a “pedagogical tool for awareness, education, empowerment and transformation” (2014). In consideration of the amount of already accessible zine-making workshop resources, I curated a set of zine-making principles expanded on Desylla and Sinclair’s claim to inform the design of the workshop.

These three workshop principles show what zine-making offers in the realm of designing to address public issues: zines as a pedagogical tool for social action; zines as a generative tool for making; and zines as a transformational tool for self-authorship (figure 4). Zine-making provides such tools in hopes to build student and teacher empowerment, offering one way that learning can be democratic, creative, and socially engaged (Sanders and Stappers 2012, Illich 1975).

Zines as a Pedagogical Tool for Social Action

Zines can serve as a pedagogical tool to promote student agency (Desyllas and Sinclair 2014, Jacobi 2007) by making visible “alternative information in the voices of [themselves and] their peers, rather than the more distant voice of the text book or journal article” (Wan 1999). Teaching and learning for social action encourages teachers to step back to allow students to take the lead in decision-making and honor “crucial conversations as they arise” (Zemelman 2016). In embedding zine-making into their classroom, Desyllas and Sinclair found that “the process of zine-making...equalized power hierarchies among teacher and students, facilitated classroom connection, and led to critical consciousness raising and action for social change” (2014, 297). Critical consciousness (Freire 1973) is “an awareness of the systematic forms of oppression that limit one’s capacity for self-



Social Action



Making



Self-Authorship

Figure 4. Zine-making Workshop Principles.

Zines as tools for social action, making, and self-authorship were evidenced as students engaged in the AAW “Teen Zine Showcase,” EF Youth Forum, and AAW pilot zine-making workshop.

determination and thus ability to address the conditions of oppression” (Ginwright and Cammarota 2007, 699). This iterates that “by infusing [minority] students’ voices and worldviews in the classrooms, educators legitimize their role as a stakeholder in their own education and prepare students to ask and answer questions and design solutions” (Khalil and Kier 2018).

The teacher’s role becomes both facilitator and participant during a classroom zine-making workshop. This dual role encourages teachers to take a horizontal approach (Freire 1973) to learn alongside students. Desyllas and Sinclair (2014) suggest that when zine-making is positioned in a student-centered way, the power relationship between teacher and student is changed which opens new possibilities in the classroom. The teacher is able to witness students’ problem-solving methods and let them take the lead in their own learning through curiosity and creativity (Davis et al. 1997).

Zines as a Generative Tool for Making

In PBL and DBL, zines can be used as a generative tool for making to enhance the curiosity and creativity of students engaged in the process. The term, generative, describes the development and application of ideas. Design researchers, Sanders and Stappers, deem generative design research as a way to explore, create, and inspire others when designing (2014). Through the hands-on design technique of making a zine (zine-making), students experience a tangible way to explore content. There is “serious symbolic work in the production process” (Chu 1997) in translating ideas through making—assembling visual content via inexpensive materials and methods (paper, markers/pens, glue, scissors, mixed media, photocopying). Such visual thinking in zines breaks aesthetic rules not confined to orderly principles of graphic design. This interaction of the mind and hand (figure 5) is “driven by an iteration of thought and action and a determination to take a hazy starting point of an idea and relentlessly pursue it through to a fully developed prototype or outcome” (Stables 2014). The process integrates design-based civic learning through making,

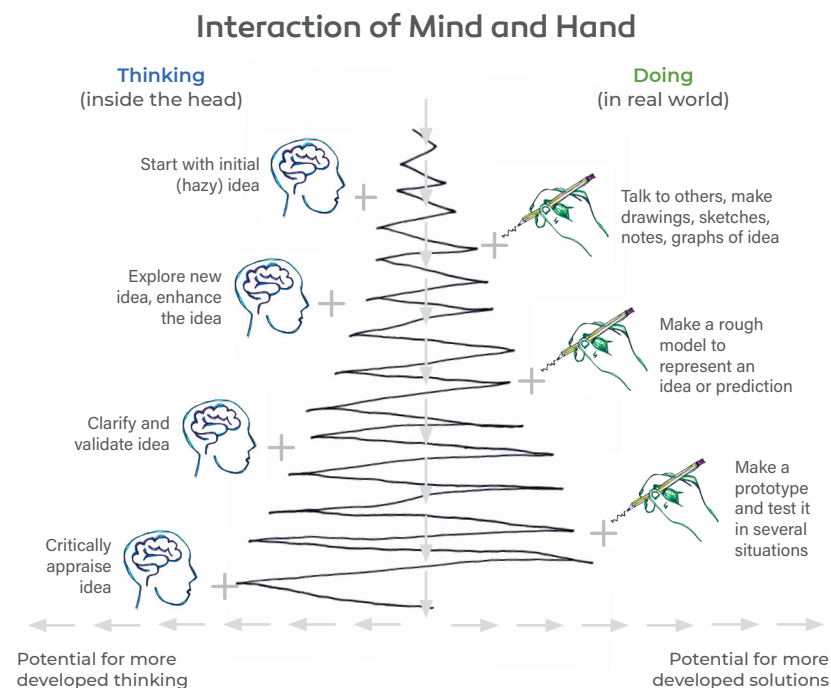


Figure 5. Interaction of Mind and Hand.

The APU Design & Technology model of process (Kelly et al. 1987) describes the way in which thinking (mind) and doing (hand) complement each other when engaging in a hands-on activity.

increasing creativity and innovative thinking (Lee and Breitenberg 2010) that can empower young people who confront grand challenges in their communities and personal lives. Zine-making asks the maker/author to think and interpret for themselves, cultivating creativity from within and co-design their values.

Zines as a Transformational Tool for Self-Authorship

Such interpretation builds *self-authorship*, which refers to “the internal capacity to define one’s beliefs, identity and social relations” (Kegan 1994; Baxter Magolda 2008); and, it plays an important role in the transformative act of zine-making. Zinesters, those who make zines, practice self-authorship by crafting the “content of the message” and visual language, but gain their own personal development when integrating

domains of knowledge to potentially unlock activism (McCarthy and Almeida 2002, 103).

Media often leaves out the voices of “students who occupy peripheral spaces because of their gender identity, sexual orientation, race/ethnicity, social class, (dis)ability, interests, or any other marker of individuality” (Lonsdale 2015). This sense of ownership in creating zines enables youth to declare “control over the tools of representation” (Chu 1997) and validate their voice, opinions, and perspective. Pushing forward, “in our current landscape of persistent inequality, the efforts of marginalized people to author themselves in order to be heard, seen, and noticed—to assert that their lives matter—has the potential to contribute not only to a new activist imagination but also to the making of a new world” (Stornaiuolo and Thomas 2017, 352).

Zines won’t cure inequities in civic participation, but they offer a potential localized opportunity for students to learn and challenge power within themselves to build community within and beyond the civics classroom. Stephen Duncombe in *Notes from Underground* says “zines aren’t the revolution” in response, zinester Tad Hirsch suggests:

“At their core, zines are about expression and communication. In a society when neither are encouraged, creating and publishing a zine represents a revolutionary act...[the act of] establishing human interaction...They can lead to a community of creative, intelligent people in open discussion, without the intervention of commercialism or any real institutionalism¹⁰.”

(Duncombe 1997, 196-197).

Despite the limitations of physical distribution and contradictions of bringing zine-making into classroom (Jacobi 2007), an institutional

setting—I argue that the utilitarianism, or practicality, of zines made in the classroom elevate the voices of young people speaking out on issues that matter to them outweighs the strongly held belief to keep them underground.

When youth are learning to see themselves as change agents, they are not only cultivating their civic capabilities but designerly capabilities as well. Design and civic learning both aim for individuals and communities to understand their contributions in society and agency, to engage in changing undesirable situations into preferred ones (Simon 1969) as well as *designing* for the well-being of others (Stables 2014). This “designerly well-being” refers to “value for individuals and society [in] the development [and unleashing] of the design capability inherent in all humans” (Stables 2014, 9). In this case, zines are praxis in the transformation for students to believe their power to enact change within themselves and on the basis of civic learning. Praxis liberates inquiry into action as a theory of “reflection-in-action” evolving from Dewey (1933), Schön (1983), and Friere (1970). The workshop principles—pedagogical tool for social action; generative tool for making; and transformational tool for self-authorship—further iterate the potential process of cultivating creativity and providing the necessary space, often missing in school.

¹⁰ That is if the zines live beyond the confines of the classroom establishment.

4.3 Method: Integrative Design Approach using DBR and Co-design

To ensure that an educational intervention, such as a zine-making workshop, is suited for teachers and students (stakeholders and users) it must be tested through implementation and evaluation. More often educators, researchers, and designers are collaborating to devise better methods for teaching and learning. Expanding the role of designers in the research role in education enables the domain to expand its ability to improve educational participatory practices (DiSalvo et al. 2017). The role of a “professional designer” can be democratized and diffused to encourage the exchange of interdisciplinary knowledge (Manzini 2015).

This research project used a novel integrative design approach that was cross-disciplinary, combining design-based research (DBR) from the field of education with co-design to develop and test a zine-making workshop in a local high school civics classroom. This approach served to mesh design and educational research to inform collaborative teaching and learning interventions. Specifically, as DBR in education continues to evolve, co-design can offer generative, hands-on design strategies that enhance the effectiveness of DBR.

Design-Based Research

Historically, classroom learning and teaching practices used to be assessed in laboratory-like settings. While the setting allowed educational researchers controlled data, it didn’t mimic the complexities or “synergistic” life that shapes a classroom (Brown 1992). In effort to remedy this issue, design-based research was established. Design-based research (DBR) is an emerging methodology developed in the early 1990’s to shift educational research from sterile, rigid laboratory-like methods to focusing on real contextual variables of the classroom that shape content, learning, and student engagement through iterative processes of educational interventions (Rubin 2016, The Design-Based Research Collective 2003).

This shift in methodology was championed by Ann Brown (1992) coining “design experiments” and Allan Collins (1992) with “design research.” Design experiments focus on testing and refining educational designs through goals and principles.

“To design is to devise courses of action aimed at changing existing situations into preferred ones”

(Simon 1969).

This movement evolved from the origins of design science. Herbert Simon, a multidisciplinary social scientist, in *The Sciences of the Artificial* connected natural and artificial sciences of design to create design science (1969, Collins et al. 2004). Design science refers to methodologies used systematically by design disciplines. Collins et al. said that Simon’s analysis of design science did not cover the context of education so they wanted to term design research¹¹ to “investigate how different learning-environment designs affect dependent variables in teaching and learning” (2004, Collins 1992). This allowed design to influence the learning sciences through DBR.

DBR has continued to become a guiding approach for improving educational interventions through practice and theory. In any intervention, “the goal of design is to make these decisions in the best possible way given the constraints of the design context” (Edelson 2002). There is potential that DBR studies are able to shift instruction and improve learning outcomes (Anderson and Shattuck 2012). Although DBR has been commonly applied to learning sciences, science, technology, and math content areas, there is a need for more DBR studies in language arts/ literacy and social studies classrooms (Rubin 2016, Anderson and Shattuck 2012). One challenge is that researchers often collect so much data that only a limited amount of data can be analyzed. Rubin argues that DBR must include the sociocultural context of diverse settings, especially

¹¹ “Design-based research” and “design research” are often used interchangeably in educational research. For this paper, I intentionally use “design-based research” or DBR to resolve confusion regarding design research within the design discipline.

regarding civic learning and inequities that exist beyond the classroom (2016). Since DBR is so context-driven and many variables need to be considered, the findings across designs cannot be generalized (Burdick 2009, Collins et al. 2004).

The iterative process of DBR varies in interpretation from various scholars, but stays consistent with the design inquiry process. The design process begins with problem identification, collaboration between researcher and practitioners informed by theory and definition of research questions aligned with the context, designing and implementing an intervention, evaluate and redesign based on insights, and iterate again to test and report findings. Figure 6 adapted Reeves' "design research approach in educational technology research" (2006, 59) to illustrate the iterative nature of refinement through which context, development, prototype, and reflection contribute to improvement of learning design frameworks. Christensen and West (2017) summarized the most common characteristics of DBR frameworks from a variety of scholars:

- "DBR is design driven and intervention focused
- DBR is situated within an actual teaching/learning context
- DBR is iterative
- DBR is collaborative between researchers, designers, and practitioners
- DBR builds theory but also needs to be practical and result in useful interventions"

To strengthen the context, this process embraces the collaborative knowledge of the practitioner(s) and research participants (The Design-Based Research Collective 2003, Armstrong et al. 2018), or "co-participants" (Barab & Squire 2004) and "co-investigators" (Collins 1992). Anne Burdick suggests that "the most significant aspect of DBR for designers is that it provides an argument for how *the act of designing can be used to generate knowledge*—models and theories—not only within design but in other fields as well" (2009, 5). As DBR is highly focused on the process, researchers have noted one area to improve are the

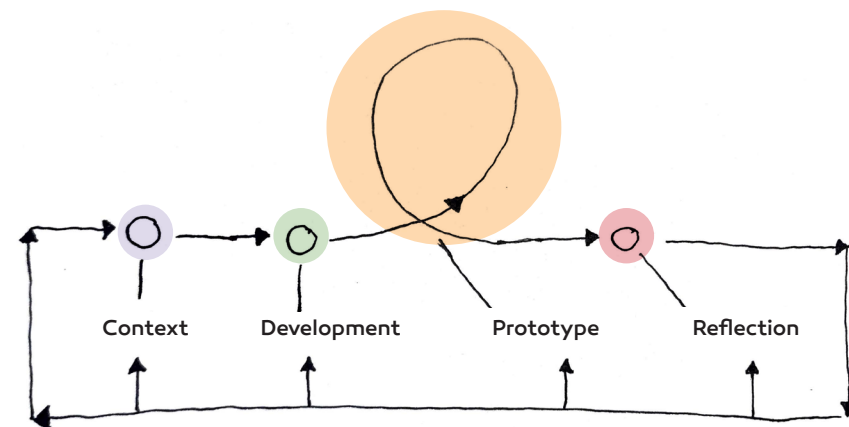


Figure 6. Design-based Research (DBR) Iterative Process. The design-based research process is iterative in nature, working to refine context (problems in collaboration), development (solutions situated by design principles), prototype (iterative testing of the design using methods), and reflection (reflect on design principles and refine as needed) (adapted from Reeves 2006).

aspects of collaboration and communication, especially for the roles of designers and researchers working with educators as each provide their own perspective (The Design-Based Research Collective 2003, Kwon et al. 2003, Christensen and West 2017, Penuel et. al 2007). A proposed way to further support collaboration and practicality of the implementation is through co-design which offers a creative approach when utilized with DBR (Barbera et al. 2017).

Co-design

Co-design means creating with stakeholders in the design process in partnership to co-create for preferred outcomes within a particular context (Mulder 2018). Through such collaboration, the positioning of designers and researchers working with educators and students allows the ability to surface "tacit knowledge," (Schön 1983) or information that is challenging to communicate, from all contributors to better inform design decisions made together when innovating to best suit the needs of the users (Kolko 2010). Co-design originates from an approach under the umbrella

method of participatory design. Developed in the 1970s in Scandinavia, participatory design evolved from democratic approaches to mutually learn and understand ways to improve workplace systems (Spinuzzi 2005). This collaborative approach derives from Schön’s “reflection-in-action” (1983) and Dewey’s reflective thinking (1933) rooted in constructivism under Vygotsky’s social learning (1978) and activity theory.

In co-design, designers are no longer “expert” but diffuse the agency of designing through creative ways of problem-solving (Manzini 2015). The co-design process aims to democratize the roles of the designer, researcher, stakeholders, and users to collaborate on creative strategizing, making, or theorizing as illustrated in figure 7 (Sanders and Stappers 2008). However, Peneul et al. challenges the claim of democracy by stating that the “accountability and ultimate responsibility for decision making rests with the project leaders, who are ultimately responsible for the quality of the educational resource being produced” (2007). Bringing together different perspectives and goals brings benefits and challenges in collaboration. In education, this approach “relies on teachers’ ongoing involvement with design of educational innovations” where educators and students are “active participants” thus empowering them in the process (Peneul et al. 2007). A common challenge is that co-design can be time-intensive for educators on top of their busy schedules and that the innovation must be practical for implementation (Westbroek et al. 2019, Penuel et al. 2007).

DBR and co-design have proven to be useful collaborative approaches for developing and assessing educational interventions. The roles and facilitation between researcher, designer, students, and educator all inform the outcome of the design (figure 2). Emphasis should be made on the active participation of educators and students throughout the process, assuring that their voices and needs are embedded in the final toolkit that can be used successfully beyond research testing and evaluation.

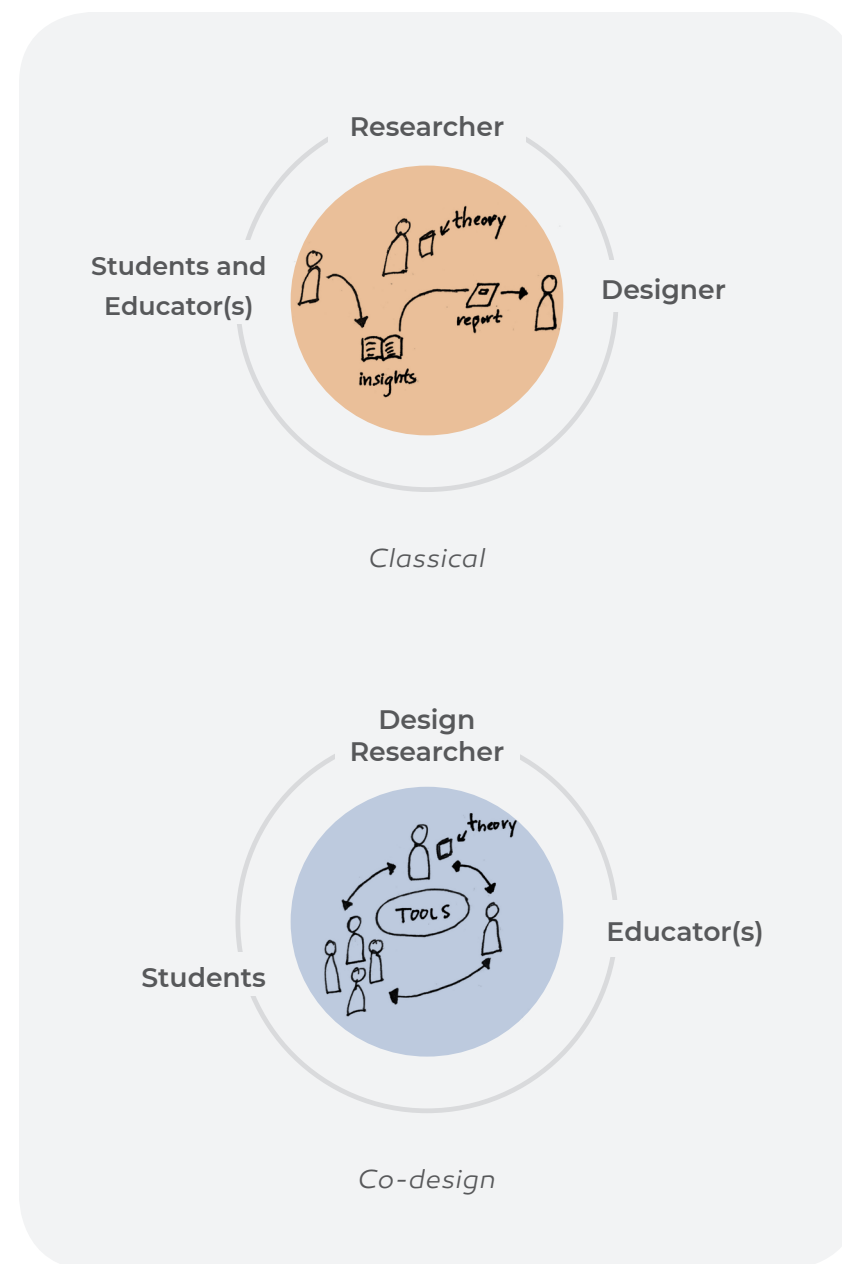


Figure 7. Co-design Method. Engagement via co-design consists of the horizontal positioning of the designer, researcher, and users (educators and students) working together to inform design decisions (adapted from Sanders and Stappers 2008).

4.4 Outcome

“In our democratic society, students must not only think about ideas but debate and clarify their visions, and then act responsibly on their ideas. In our experience, creating zines has become an effective way to accomplish educating students towards participation in a democracy.”

(Congdon and Blandy 2003)

Between the theory, practice, and research, this contextual review aimed to highlight the strong value of design and education informing each other’s community of practice (Wenger 1991) through DBR and co-design. The primary benefit of such an integrative design approach is that it enhances the roles of all participants in diffusing design between domains of knowledge (Manzini 2015) to improve civic learning in the 21st century. The integrative design approach introduced builds upon a platform of educators and students benefiting from creative tools and resources, real-world implementation and assessment, and the collaborative research process.

As youth are learning to see themselves as change agents, three principles—pedagogical tool for social action; generative tool for making; and transformational tool for self-authorship—situate the design process of zine-making, into social studies or civic education to build students’ designerly capabilities (Stables 2014) to better understand the capacities in which design can affect social change, not just through visual means but powerful, tangible connections and experiences with others and self (Stables 2014). By democratizing the tools and resources in which design can promote capacities and diffuse design modes of engagement, the ultimate hope is that these approaches eventually promote civic efficacy within youth to participate and lead in a thriving democracy representative of all identities and lived experiences.



RESEARCH QUESTIONS

I posit that design-based civic learning through zine-making in a workshop format can provide an avenue for secondary teachers to encourage interest in activism and facilitate civic participation in high school students.

The questions that I sought to address in this thesis are:

1. How might we use zines to empower students to become civic participants who communicates about social justice issues?
2. How might we supplement teachers' existing pedagogy with low-cost and accessible design activities that facilitate their students connecting in-school civic learning to outside interests creatively?



METHODOLOGY

This section defines the theory of methods used in this thesis, access and collaboration, a timeline of the project in four phases, descriptions of methods operationalized, and ethics and limitations.

Theoretical Framework

Design in the 21st century calls on designers to expand responsibilities to become facilitators, partners, collaborators, and educators. Working within this multifaceted realm, this thesis draws on cross-disciplinary research methodology and theory to weave a human-centered, integrative design approach to study the problem of civic learning related to teacher and student empowerment. Cross-disciplinary research refers to the partnership and “integration of knowledge from other disciplines” to “co-design outcomes” (Muratovski 2016). Subscribing to one discipline, like design, can limit one’s worldview. During a cross-disciplinary partnership, one might “become aware that their field is bound by cultural or material expectations that they have not previously been able to see or articulate” (Crouch and Pearce 2012). This awareness draws from Bourdieu’s theory of ‘habitus’ and ‘field’ in which one’s actions and values systems (habitus) are determined by the standard, or field, in which it is confined to (Crouch and Pearce 2012, 8). Further, integrative design transforms the praxis, or perspective, by “designing across disciplines” (Muratovski 2016) to best address “wicked problems” (Rittel and Webber 1973). I leveraged this opportunity in partnership with educators and students to consider the impact in which the social and cultural contexts exist when designing in alignment of research, practice, and theory. Such positioning is aligned with the sociocultural aspect of activity theory. The foundation of activity theory rests on the nature of activity as constructivist and hands-on. A workshop on zine-making as social action is situated within a constructivist paradigm that looks specifically at the sociocultural impact of learning through activity.

Analytical Framework

The integrative design method that I deployed under this methodological framework combined design-based research (DBR) from the field of education as analytical framework and co-design method from the discipline of design. It should be noted that activity theory was used as an analytical framework later in the thesis process, although it wasn’t used in the beginning. In the phases outlined within this section of my thesis,

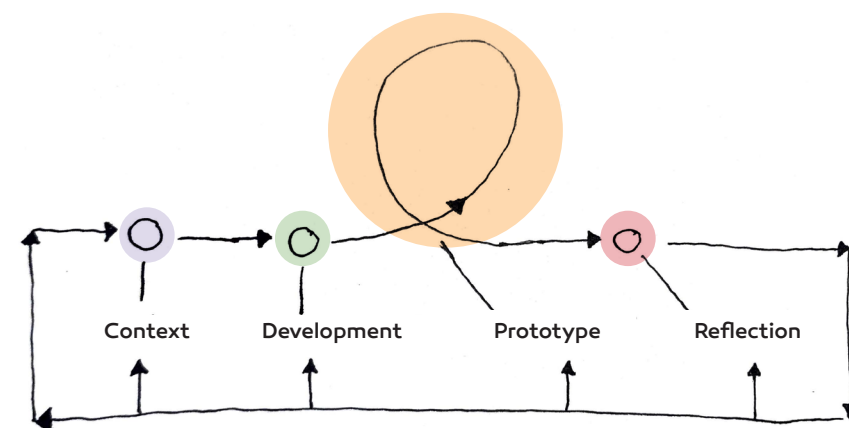


Figure 8. Design-based Research (DBR) Iterative Process.

The design-based research process is iterative in nature, working to refine context (problems in collaboration), development (solutions situated by design principles), prototype (iterative testing of the design using methods), and reflection (reflect on design principles and refine as needed) (adapted from Reeves 2006).

the pilot workshop case study sought to improve learning outcomes, like creativity and voice, for students and provide accessible, low-cost resources that are easy for teachers to implement.

As a flexible methodology and one that lends itself to the process, DBR was used as an analytical framework aimed at improving the workshop prototype through an iterative design implementation in a real-world context (Sandoval and Bell 2004, DBRC 2003). DBR is driven by “progressive refinement of actual designs in context so that the outcomes are grounded in the complex and messy issues that impact learning in an actual classroom setting” (Burdick 2009, 5). Data was analyzed in its own sociocultural context and variables considered the climate of the classroom, learning strategies, and system variables like ease-of-use, resource support, setting, nature of learning, and the teacher training for implementation (Collins et al. 2004).

The decision to use design-based research in my integrative design approach was informed by my research partner Stockdill, who is the co-founder of EF. Stockdill suggested the use of DBR for the case study

CONTEXT	DEVELOPMENT	PROTOTYPE	REFLECTION
ITERATION I			
PHASE ONE: Initial Prototypes	PHASE TWO: Workshop Development	PHASE THREE: Pilot Workshop	PHASE FOUR: Evaluation
February; May 2019	June - August 2019	September - December 2019	January - May 2020
ITERATION II			

Table 1. Phases situated within the thesis and DBR process.

and has previously used DBR to implement and evaluate education interventions. As a designer in practice and research, this decision was intentional to practice a methodology rooted in education while informing it with my co-design expertise.

To situate four phases that my research took place I adapted Reeves' "design research approach in educational technology research" (2006, 59) in figure 8 to illustrate refinement of context, development, prototype, and reflection through iteration to better understand ways that the zine-making workshop prototype can be improved. Collaboration throughout each phase contributed to a better understanding between involved parties. My thesis encapsulates one iteration of the DBR cycle as shown in table 1.

Both DBR and co-design are collaborative, contextual, and seek to improve interventions through an iterative process. Specifically, as DBR in education continues to evolve, co-design can offer generative, hands-on design strategies that enhance the effectiveness of DBR and expand ways to incorporate the voices and experiences of the researcher, stakeholder, and users. Co-design specifically focuses on the roles of individuals to "collaborate, cooperate or connect their knowledge, skills, or resources

in order to engage in a design task" through "negotiation, creation, and development" (Zamenopoulos et al. 2019).

Access and Collaboration

Using a socio-constructivist underpinning, DBR, and co-design methods, most of this thesis focuses on a pilot zine-making workshop case study (discussed in *Phase 3: 7.3 Workshop Development*). This pilot workshop is a hybrid design-based and classroom style instructional workshop. In education, a workshop is neither "a curriculum or program" but an approach to frame a way "to enable student choice, simultaneous pursuit of a variety of tasks, and individualized help by teachers" (Zemelman 2016, 103). A pilot case study is "a preliminary case study aimed at developing, testing, or refining the planned research questions and procedures that will later be used in the formal case study" (Yin 2014). A case study aims to investigate "a contemporary phenomenon within its real life context, especially when the boundaries between a phenomenon and context are not clear and the researcher has little control over the phenomenon and context" (Yin 2014).

Specifically, I studied the constraints and affordances of an existing program, Equitable Futures (EF), that is already used in participating schools and one that I wished to emulate in this thesis case study. I initially designed the pilot workshop was initially in coordination with my co-partner Stockdill and local, high school teachers, Moss and Altomonte, who have implemented the existing program, Equitable Futures, in their social studies classroom. Moss and Altomonte were invited to participate in the case study voluntarily with no incentive, other than the opportunity to expand their pedagogical toolbox and engage their students in dynamic activities. Moss and Altomonte provided access to students at Arts Academy in the Woods and Fordson High School with confirmation from each Principal before conducting research and activities on-site. This selection of participants is considered convenience sampling, defined by ease-of-access to participants due to time limitations, availability, and location (Merriam 2009). For teachers, engagement through co-design was

applied through particular ways. In doing so, co-design helps to discover ways that the project sought to afford civic education (teachers) to take advantage of design resources, bounded by the C3 framework.

Their students did not inform the initial zine-making workshop prototype design. However, students' participation in the design activities count as co-designing as they inform the analysis of the workshop delivery, teachers and student engagement, and sociocultural context of the classroom and school. For students, the co-design activities utilized design methods to connect civics content (Bill of Rights) and communicate social justice issues. Both teacher and student participation contributed ways to improve each prototype iteration.

6.1.1 Timeline

This project consisted of four phases as illustrated in figure 9:

- I. *Initial Prototypes*: First, initial zine-making workshops were co-designed and implemented in a high school classroom and EF Youth Forum to investigate how students communicate issues that matter to them and to provide proof of concept.
- II. *Workshop Development*: The second phase developed a comprehensive zine-making workshop framework with the EF team and feedback from educators and design experts helped to inform the viability of the workshop implementation in a classroom.
- III. *Pilot Workshop*: Third, logistics were arranged to implement, test, and evaluate the pilot workshop prototype case study in Brandon Moss' civics classroom. DBR and co-design methods were used.
- IV. *Evaluation*: After collecting all data and artifacts from the pilot workshop, the fourth phase synthesized data to draw meaning.

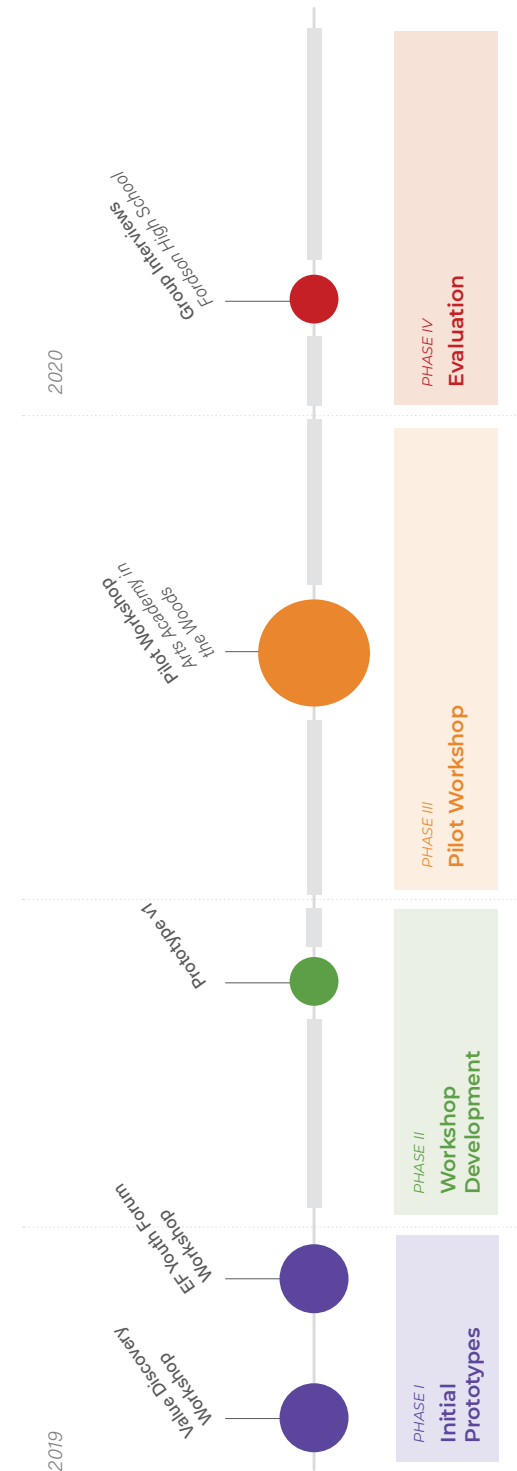


Figure 9. Thesis Project Timeline. The project timeline for this thesis, starting in February 2019 and concluding in May 2020. Each circle represents the size of significance for prototypes, implementation, and events that occurred during the thesis process. Only one iteration of the pilot zine-making workshop was fully tested and evaluated in phase three.

6.2 Research Methods

All phases entailed different data collection and analysis methods. Below, I define and describe the methods that were operationalized. Addressing the wicked problem necessitated the use of qualitative methods to collect and analyze data. This case study is informed by (1) semi-structured interviews, (2) participant observation, (3) workshops (prototypes), (4) surveys and questionnaire, (4) sensemaking tools, (5) literature review, and other techniques.

Triangulation was utilized to collect data using complementary methods to justify evidence or lack of evidence through comparison of different perspectives and “interpretations of perceptions” (Merriam 2009, 166). Data collected informs future workshop iterations to cater to the needs of teachers, student learning, and satisfies curricular considerations anticipated to become an asset of EF’s program offering. The next section, *Design Process and Findings*, expands on the methods operationalized in action through the analytical framework of DBR and engagement through co-design with teachers and students as my integrative design approach.

6.2.1 Data Collection

1. *Semi-structured Interviews and Conversations*

Semi-structured interviews are a method that helps the researcher ask relevant open-ended questions that allows the researcher to “respond to the situation at hand, to the emerging worldview of the respondent, and to new ideas on the topic” (Merriam 2009). The participant’s role in any session was to share experiences and opinions, both positive and negative. In doing so, I was able to better understand the participant perspective through auditory means. Compared to more formal or structured interviews, it is important that the researcher is asking relevant questions to the problem in order to streamline the conversation while being flexible. I considered dialogic conversations as semi-structured interviews consisting of

in-person conversations, digital communication (verbal, video chat, and text messages), and emails. With the verbal and written consent¹² of participants, I audio recorded in-person and video-chat interviews and used Rev.com transcription services to supplement interview notes. Field notes were recorded on paper and Google Docs.

2. *Participant Observation*

Participant observation is a method where the researcher situates themselves within the activity that is being studied (Merriam 2009). This kind of observation occurs with full disclosure of the observed participants using semi-structured techniques that allowed for flexibility in criteria and unexpected situations (O’Leary 2017). Observing teachers and students in the classroom during the workshop was essential to understand contextual variables and fidelity of implementation. In doing so, I was able to better understand the participant experience through visual means. To record observations, I used a combination of paper notes, Google Docs, photography, and sketches as fieldnotes.

3. *Workshop (Prototype)*

The workshop itself was a prototype created in this thesis. A prototype is considered an initial model of something in anticipation of addressing a problem. Prototypes can exist in tangible and intangible forms. Or prototypes can be high or low fidelity. A workshop is an organized interactive, iterative, and qualitative activity involving a researcher and participants that can be conducted from one to multiple sessions. As an iterative method, tracking design decisions based on user interactions and feedback (Muratovski 2016, 149). Design refinements of a workshop

¹² I provided a disclaimer at each session, stating “You can opt-out of this interview at any time and/or refuse to answer any questions. Your responses will be used to evaluate the effectiveness of the workshop, promote the workshop, or contribute to generalizable knowledge through publications like my thesis manuscript, journal articles, and books. Any identifiable or personal information will be removed to ensure confidentiality.

prototype entailed recording digital and analog field notes based on observation, interviews, sketches and sensemaking.

4. *Surveys and Questionnaire*

Surveys are a quantitative or qualitative method that analyzes “what is” in order to describe variables and patterns in a certain context (Merriam 2009). Pre- and post-workshop surveys¹³ and one questionnaire were used during the pilot workshop to assess learning and feedback based on the experience. Trend surveys were used to capture student and teacher participants evolving attitudes over time (O’Leary 2017). Pre- and post-workshop surveys were administered and collected from all students and teachers taking part in the pilot workshop before and after implementing the unit. Surveys were completed on paper to ensure access and ease for participants. The surveys used a Likert scale (strongly disagree (1), disagree (2), neutral (3), agree (4), and strongly agree (5)) to measure data patterns. Another method could use digital means of surveying, however, since time was limited to each 50-minute class session this was not possible. There are limitations and considerations when using surveys to collect data.

5. *Artifacts*

Physical artifacts are considered evidence and gathered through observation or collection (Yin 2014). Physical artifacts, also considered visual artifacts, can contribute to the communication principles of the investigation of words, object, and interaction (Muratovski 2016). Assessing artifacts is often subjective and limited to the bias of the researcher, so it is important that the assessment aligns with the research objectives (O’Leary 2017). Throughout each phase, student and teacher work was collected at the end of each workshop activity and analyzed by identifying themes and patterns in the content to inform the improvement of the workshop prototype.

6. *Sensemaking tools: Affinity diagramming, Stakeholder map, and Other Techniques*

Sensemaking refers to the process to externalize what “people automatically go through in order to integrate experiences into their understanding of the world around them.” (Kolko 2010). This is a way for individuals to share tacit knowledge. Affinity diagramming is a method in which ideas and observations can be grouped together to formulate themes based on the content (Hanington and Martin 2012). This method was most often used in all four phases to code, sort, categorize, and theme distinct elements of the research, theory, and practice. A stakeholder map is a visual tool to map the connections between stakeholders (those who care), constituents (those who are directly affected), and partners involved with a particular entity (Stickdorn et al. 2011). I sought to visualize the systems and relationships between EF, students, teachers, and the roles of collaboration. Mindmapping is a way to visually organize associations between concepts to “consolidate, interpret, communicate, store, and retrieve information” (Hanington and Martin 2012). Mindmapping, along with other mapping methods, sought to visualize categories and themes related to different dimensions of DBR, collaborative relationships, co-design, and artifacts. These tools provide better contextualizing of data, people, and services related to education and design contexts.

7. *Literature Review*

A literature review is an overview and synthesis of relevant information to a research topic. Drawing from a body of literature, this approach “can identify gaps in the research, solicit thinking about a topic, and encourage discussion” (McAllister and Furlong 2009). It is important to consider the validity and reliability of the journal articles, books, and materials referenced to ensure that they are credible and peer-reviewed. My contextual review included relevant literature related to the civic empowerment gap, civic

¹³ See appendix D for survey sample.

learning, action civics, zines and zine-making in education, activity theory, design-based research, and co-design. Secondary research in the form of a literature review establishes precedence to the legitimacy, relevance, and credibility of the primary research.

6.2.2 Data Analysis

In alignment with a qualitative research approach, a range of analytical approaches were used to make sense of the data collected from the pilot zine-making workshop conducted at AAW. Table 2 shows which analytical approach was used to evaluate each type of data gathered during the different phases of the research process. Data analysis helped answer my research questions and inform future iterations of the zine-making workshop prototype. Below, I briefly describe how data was collected. The next section, *Design Process and Findings*, will describe what and how data was analyzed within the sociocultural context of activities and interactions and DBR framework.

Pre- and Post-Surveys Constant Comparative Analysis

A constant comparative analysis of pre and post-survey data was conducted to explore possible attitudinal shifts. Surveys were developed to explore students' experiences and attitudes with respect to social studies and civic learning, student agency, and creative capacities. Basic patterns and trends in the data were described with descriptive statistics and then I searched for items that had significant relationships with each other (correlational analyses). This meant looking at the possible connections between the variables using the Likert scale correlations (strongly disagree (1), disagree (2), neutral (3), agree (4), and strongly agree (5)). Finally, I scanned to figure out if certain variables explain a difference in relationships between the pre- and post-workshop experience (hierarchical regression) to test my hypothesis. Overall, these analyses assisted in understanding and explaining attitudinal patterns about in-school civic learning and student interests both before and after the workshop.

Table 2. Research methods operationalized in each phase of the thesis project.

Phases	Data Collection	Data Analysis
PHASE ONE: Initial Prototypes February; May 2019	<ul style="list-style-type: none"> • Prototype • Artifacts • Participant Observation 	<ul style="list-style-type: none"> • Coding, Categories • Memos
PHASE TWO: Workshop Development June - August 2019	<ul style="list-style-type: none"> • Semi-structured Interviews • Free-form Comments (Google Docs) • Questionnaire (Email) • Prototype 	<ul style="list-style-type: none"> • Coding, Categories • Memos • User Response Analysis¹⁴
PHASE THREE: Pilot Workshop September-December 2019	<ul style="list-style-type: none"> • Artifacts (student and teacher work) • Semi-structured Interviews (teachers, students) • Participant Observation • Surveys (pre- and post-workshop) • Questionnaire (Paper) • Sensemaking tools and other techniques 	<ul style="list-style-type: none"> • Coding, Categories • Memos • Affinity diagramming
PHASE FOUR: Evaluation January - May 2020	<ul style="list-style-type: none"> • Artifacts (student and teacher work) • Semi-structured Interviews (teachers, students) • Sensemaking tools and other techniques 	<ul style="list-style-type: none"> • Coding, Categories • Memos • Affinity diagramming • Constant comparative analysis

¹⁴ User response analysis is a design method to organize and "analyz[e] participants' responses to understand patterns and derive insights" (Kumar 2013, 144).

Qualitative Data Analysis

Qualitative data was analyzed inductively using constant comparative analysis to inform theory (Glaser and Strauss 1967) and abductively through sensemaking (Klein et al. 2006). An initial analysis of pilot workshop data began by identifying concepts and themes related to students' selection of social justice issues, their development of identities and skills related to visual communication, civic engagement, and commitment to social change, and the instructional practices that support student learning. This was supported by sensemaking tools such as affinity diagramming and mindmapping. Qualitative data (interview transcripts, field notes, and artifacts) were analyzed inductively using line-by-line coding to search for and label conceptual categories and thematic units (Merriam 2009) and abductively using mixed-methods triangulation. Abductive reasoning brings together all findings to synthesize a "best explanation" for a scenario (Douven 2017).

Once data was labeled and broken down, I reorganized it, searching for patterns, and applied a constant comparative method (Glaser and Strauss 1967). Throughout the study, all qualitative data collected were summarized with reflective and analytical memos. Data collection and analysis occurred as iterative processes, with each stage of analysis helping to inform data workshop design and collection methods to navigate the research in new directions.

6.3 Ethics & Limitations

A research study protocol was submitted and approved (HUM00171388) by the University of Michigan's Institutional Review Board (IRB) to ensure that all participants, especially youth, were protected.¹⁵ Before the pilot workshop, informed youth assent, parental permission, and adult

¹⁵ It was important to practice ethical design research, especially with participants under the age of 18 years of age who already have limited legal rights. It was a chance to honor their own right to decide whether to participate or not.

consent forms were provided to the teacher and students to be signed and returned. The forms explained the study, activities, participant legal rights, and included media permission for photo, video, and audio recording in the classroom.

A breach of confidentiality noted the possibility of identifiable information contained in zines and student participants' decision to partake in the process was voluntary. At this time, no adverse effects or harm occurred for student or teacher participants. Data security, retention, and storage plans for all student and teacher work documentation, photos, video, and audio recordings (and related transcripts) detailed procedures for data management.¹⁶ I ensured that the use of secured University of Michigan's data services complies with laws, regulations, policies related to personally identifiable information, and student education records (FERPA).

Limitations

Many limitations occurred during the study. Limitations are the "design characteristics or constraints that may have an impact on the generalizability and utility of findings" (O'Leary 2017). The implementation and evaluation¹⁷ of the workshop were limited in time, contextual variables, and a small sample size. Implications of these limitations influence the results and therefore only represent contextual case studies and do not contribute to generalized knowledge. As Darin Stockdill explained it best, "Schools themselves are a limitation as they are highly structured and regimented, and can kill creativity." Learning outcomes cannot be measured within the allotted time as it would require an extended amount of time and research follow-up beyond the workshop to note progression over time. Learning outcomes can only be assumed based on data collected through triangulation.

¹⁶ "All data is maintained and stored on the researcher's secured computer's Google Drive at U-M and will be destroyed after 2024."

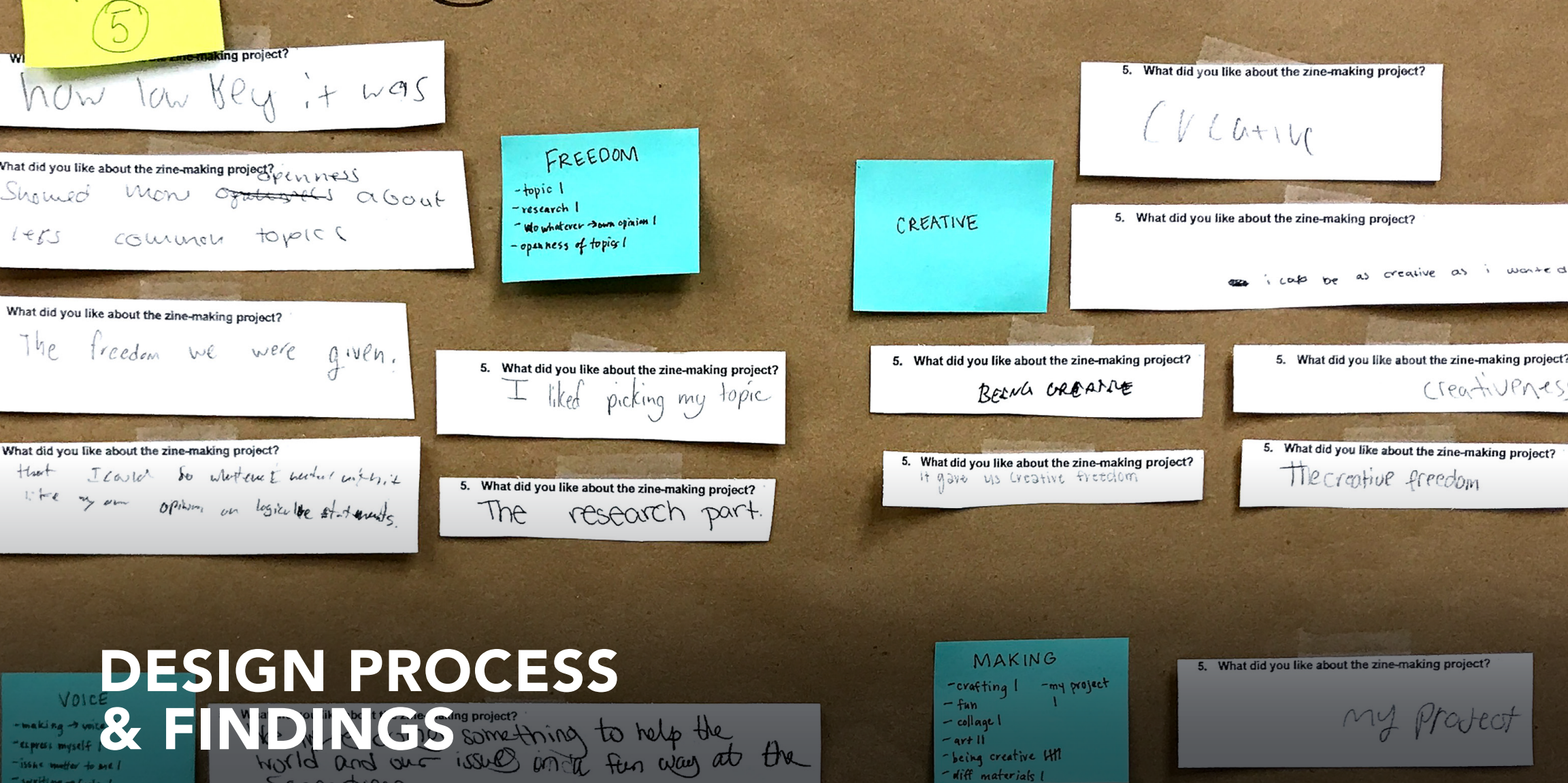
¹⁷ This case study is limited to one iteration. It is acknowledged that novice research skills and pilot implementation takes more time, thus the power of iterative processes. Only a small sample of educators were interviewed. Not all artifacts were able to be collected from teachers and students.

The researcher's positionality is important to acknowledge and affects the research process and results. My own domain of knowledge is a limitation. As a trained designer, I am not a high school teacher, nor an expert in education curriculum design or context. I am an adult white woman from a small-to-medium town and otherwise rural upbringing in Montana, a contrasting socio-cultural context from urban regions of Michigan. I was also not present for all activity sessions. It is reasonable to note that my own biases influence the participants, their engagement, and my own degree of subjectivity during the case study.

The pilot workshop case study demonstrated how a human-centered design process must be informed by ethics, highlighting the relationship between the Institutional Review Board (IRB) and the rigid constraints that it poses on the fluidity of design research with human subjects.

IRB or institutionalized research protocols can limit the possibilities and unknowns in design research (Christensen and Kolodner 2016).

The process was beneficial in expanding the limits and pushing for more fluidity in the protocol to enable such design investigations and honor creative decision-making.



This section describes what happened in each phase with descriptions of data collection, evaluation of the data, and a summary of findings. Each phase will share the story of design refinements throughout the process, describing

what was learned, what was changed, how the questions were answered, and how zine-making impacted the findings. Activity development is discussed, leading up to the main pilot zine-making workshop case study, and followed by evaluation.

7.1 Phase One: Initial Prototypes

Phase one developed and implemented zine-making workshop prototypes in Brandon Moss' Futures class at AAW and at the EF Youth Forum annual gathering to investigate how students communicate issues that matter to them and to provide proof of concept.

Equitable Futures Introduction

In early 2019, MDes cohort IV partnered with Dr. Darin Stockdill and Stacie Woodward of Equitable Futures (EF) to envision ways to help expand and promote EF in schools. Our initial interview meeting identified several opportunities¹⁸ for collaboration with EF. Initial suggestions included ways for teachers to get creative with materials, design an interactive component of the Youth Forum, or how to scale up for EF's expansion in Southeast Michigan. The cohort repositioned the initial task to understand young people and incorporate social justice oriented creative learning.

The cohort chose zines as one way for students to engage in EF content because of the historical nature of zines, opportunities for civic engagement, access to local knowledge and community resources. While other accessible zine-making workshops exist online, this initial concept aimed to promote intercultural collaborations across schools, digital/analog platform affordances, and use as Awareness Raising Tool (ART) at the annual EF Youth Forum. Stockdill and Woodward were excited about incorporating zine-making as a potential way to expand EF's program offerings.

AAW Zine-making Workshop

Beginning in February 2019, the MDes cohort co-designed and conducted a two-part value discovery and zine-making workshop with approximately fifteen high school students, ages 14-18, in Moss' 50-minute

¹⁸ There were other needs and ideas looking at opportunities to address student feedback regarding wanting more connection and action; how to determine what students want to exchange and how to facilitate this exchange; how to tell the story of the program to different audiences: funders, educators, and potential participants; and identify way for teachers to meaningfully search and use resources.

“Futures” elective class at AAW (see figure 10). Data was collected from conversations, observation, and artifacts (zines and value discovery posters). The “Value Discovery” session used affinity diagramming, facilitated by Moss, and a rapid zine-making prototyping with the prompt, “What’s missing in the world?” facilitated by the MDes cohort. “Value Discovery” asked students to identify frustrations, optimism, hopes, and inspirations.¹⁹ The zines surfaced themes of fear and frustration related to human inaction on issues such as pollution, global warming, homelessness, bad attitudes, voting, and animal cruelty. One student discussed that this activity made them feel like “someone is actually listening to [their] ideas.” In reflection, many of the students found it engaging and impactful.

While successful in a short time, students articulated issues in simple and creative ways using text and illustration to create their mini-zine. One shortcoming of this action was not further iterating in another classroom or follow-up with another activity. I pursued the opportunity to iterate another zine-making workshop with a larger group of youth, in partnership with the Equitable Futures team.

Equitable Futures Youth Forum

Due to the well-received response from Moss and students at AAW, another zine-making workshop prototype was developed. In May 2019, Stockdill, Woodward, and I co-designed a 75-minute zine-making workshop at EF's annual Youth Forum gathering. Stockdill and Woodward facilitated the workshop, as I was not present. This event brought hundreds of students and teachers from around Metro Detroit together to address “What can we do now to create a more equitable future?” By the end of the day, participants²⁰ co-created inside spreads for the first EF Youth Forum zine compilation as seen in figure 11.²¹ Participants voiced concern

¹⁹ The MDes cohort was not present during the “Value Discovery” session.

²⁰ Participants included students and teachers from Arts Academy in the Woods, Avondale Academy, Clarenceville High School, Clarkston Junior High, Detroit School of Arts, and Fordson High School.

²¹ Download and view the Youth Forum Zine Compilation and collaborative zine template at bit.ly/EF-YF-2019.



Figure 10. AAW Zine-making Workshop.

As part of MDes cohort IV's research in February 2019, the cohort collaborated with Moss and students from his Futures class at Arts Academy in the Woods (AAW). High school students engaged in MDes Cohort IV's zine-making workshop in February 2019. Students responded to the prompt "What's missing in the world?" in their mini-zine prototype and surfaced themes of fear and frustration related to human inaction on issues.



Figure 11. Equitable Futures Youth Forum.

In May 2019, high school students from Metro Detroit take part in Equitable Future's Youth Forum Zine-making Workshop with the prompt "What can we do now to create a more equitable future?" Groups created layouts for a zine compilation. (Photos courtesy of the University of Michigan's School of Education)

and awareness on a variety of topics: mental health; LGBTQIA+ equality; gender equality; cultural representation, race, and violence issues; and the environment.

Data was collected from conversations and the artifacts (zine page templates). The zine page templates were analyzed by coding titles and visual themes. Then they were sorted and categorized into themes based on social justice issues noted above. A follow-up conversation with Stockdill and Woodward said that the event went well, however, using collage in such a short amount of time wasn't time efficient. To allow more time generating concepts, they suggested not using collage in future gatherings as it seemed distracting for students. Use of materials and time consideration informed the next zine-making workshop iteration.

Summary of Phase One: Early Prototypes

Phase one developed and implemented zine-making workshop prototypes in Brandon Moss' Futures class at AAW and at the EF Youth Forum annual gathering to investigate how students communicate issues that matter to them and to provide proof of concept. Both workshops, at AAW and EF Youth Forum, elicited valuable knowledge on how students were able to generate creative thinking in a short amount of time with much enthusiasm for zines as a tool for expression and social action. The workshops prototypes provided evidence that zines engaged and motivated students to voice social-justice-oriented concerns and to express themselves in this medium. While successful, time was a constraint for each intervention. Evidence from fieldnotes, observation, semi-structured interviews, and artifact analysis helped establish understanding of student agency, engagement, and workshop facilitation. Inspired by the previous workshops, I intuited an opportunity to develop a comprehensive zine-making workshop in conjunction with EF's program framework and other learning content embedded in a scaffolded design process. Moving forward, timing and use of material considerations were leveraged in the development of a comprehensive zine-making workshop.

7.2 Phase Two: Workshop Development

Drawing from the proof of concept from the initial prototype, workshop design principles drawn from EF data analysis helped shape a comprehensive zine-making workshop framework with the EF team. To test with subject matter experts, feedback from educators and designers helped inform and validate the viability of the zine-making workshop implementation in a classroom.

Development of the Workshop

To further understand reception of EF's program framework, the first step toward developing a longer-format workshop examined EF open-ended post-survey data²² collected from year two and three (2017 - 2018). An online post-survey asked students and teachers from participating schools for their thoughts and ideas after implementing EF in their class. Through coding and categorizing the data, I analyzed open-end responses from students and referenced an EF data brief write-up with responses from teachers informed by the following questions: "What did you like about the Equitable Futures project?" and "How could we make this learning project even better?"

In reviewing the data, students and teachers positively concluded that they "appreciated the opportunity to engage in inquiry around real world problems connected to their communities; they enjoyed collaborating and discussing with peers; and they enjoyed networking with students from other schools and communities and finding audiences for their work beyond their own classroom" (EF Post-Survey 2017-2018). Teachers found EF valuable to extend the real-world relevancy and connection into other class content. Students identified that while they enjoyed learning and exploring real-world issues with other students, they would like longer time to work on projects, more freedom to choose their own topics, and ability to take action within the projects. Some teachers noted that time

²² These questions were also asked in a questionnaire towards the end of the pilot zine-making workshop at AAW.

Design Principles

The following principles were used to measure success of the pilot zine-making workshop toolkit in hopes to improve learning outcomes for students and provide accessible, low-cost resources that are easy for teachers to implement. The principles and findings included:

- It must address social justice issues.
- It should provide more time for students to work on projects.
- It should provide students freedom to choose an issue that matters to them.
- It should transform student projects into action.
- It should help students to feel equipped to become change agents through their in-class learning.
- It should afford civic education (teachers) to take advantage of design resources.

Table 3. *Design principles were established to inform the development of the comprehensive zine-making workshop.*

is a challenge, especially with curricular requirements. These principles informed the development of the comprehensive zine-making workshop as noted in table 3.

Learning the Context

Informed by the design principles identified in the EF open-ended post-survey data analysis, I developed two zine-making workshop prototypes, using the Bill of Rights as a guiding example. I collaborated with Darin Stockdill and Stacie Woodward of EF through video-chat and email conversations. I conducted secondary research by evaluating curriculum design, best practices for teaching, zine history and examples, and design

principles to devise an educational intervention. The first prototype plotted a lesson plan with activities in accordance to week number, title, overview, lesson objectives, materials, lesson sequence, addendum, and notes. In review with Stockdill and Woodward, I learned that many schools they work with in Oakland, Wayne, and Macomb counties focus less on tasking students with homework. This finding informed the next prototype to ensure homework was avoided.

A new zine-making workshop prototype informed by a design process was produced. This prototype was reviewed for feedback from three high school teachers, Brandon Moss (AAW), Angela Altomonte (FHS), Zuzu Feder;²³ two design experts; and a learning design coordinator, Dr. Darin Stockdill. The reviewers commented on the workshop document through 'free-form comments,' a questionnaire via email, and semi-structured interviews. I synthesized the participant responses from the email questionnaire and Google doc free-form comments via user response analysis by coded patterns and themes with pen and highlighter.

Drawing on themes through user response analysis, educators found the zine-making workshop valuable for students and their own teaching practice. Altomonte commented, "We as teachers would love to do things like this but the time to create something like this [zine-making workshop] is not in the cards all the time." High school teacher, Zuzu Feder, illuminated an important consideration regarding available resources about the workshop design. This workshop didn't require many materials or access to technology – making it adaptable for use as noted by Zuzu:

"My first high school job was at an extremely low-income school where there was no way we ever would have been able to mass-produce this project...this could be done without having to mass-produce student zines. Teachers working in resource-poor schools can get very discouraged trying to work within the

²³ Zuzu Feder, an acquaintance, is a high school teacher in Texas who teaches English literature and language arts classes.

constraints they have...It's a great project that students in all schools would enjoy, even if ultimately they can't mass-produce their work."

However, the 50-minute design activities were underestimated. More time, such as doubling time or allocating time from other activities, was suggested. Directions and guiding examples within the workshop were embedded while being flexible enough for novice and seasoned teachers to facilitate the activities.

7.2.1 EF Zine-making Workshop Design

The workshop toolkit is a supplementary resource for teachers to use when teaching EF, civics, or social studies. It was designed to be flexible for teachers as they are held to state standards, curriculum requirements delegated by school districts, and as a way to infuse their own learning content within a creative framework. The zine-making workshop proposes a sequence of design-based activities and methods for high school students to explore ways to research through visual thinking and communicate social justice issues.

These activities align well with C3 Framework for Social Studies' dimension of informed action and emphasis on project-based learning (Lo 2018). The activities were originally designed as 50-minute sessions each, but after consultation with educators, were extended to one to three sessions each stage in the process. The curated design method(s) used in the activities are familiar in design and some education practices, but serve well for experiential learning like PBL and DBL. The methods are not meant to be prescriptive or formalized but rather adaptable and approachable. Each of the design activities were chosen as a dual-purpose scaffolding technique for teachers to implement and students to explore ideas through creative means. For example, if a teacher wanted to cover a unit on the Bill of Rights over six weeks, each week would dedicate one to two days per week for the activity involved in each step and provide enough time before the

Workshop Design

Connecting phases derived from IDEO (Design Council's Double Diamond).

- **Value Discovery**
Discovery (Discover) - Exploring values (divergent)
- **Mindmap Remix**
Interpretation (Define) - Choosing the topic (convergent)
- **Storyboarding Futures**
Ideation (Develop) - Sketch scenario(s) (divergent)
- **Collage Communication / Zine Prototype**
Experimentation I/II (Deliver) - Thinking and Making (convergent and divergent)
- **Reflect & Evaluate/Celebrate & Disseminate**
Evolution I/II (Evolve or Outcome) - Share final zines and disseminate (convergent and divergent)

Table 4. Alignment of phases between EF zine-making workshop, IDEO, and Design Council's Double Diamond frameworks of divergent and convergent thinking.

next activity for students to pace themselves, educators to continue with curriculum or EF content, and allow adequate time for students to plan for the zine gathering event. As this linear workshop process is situated within a sociocultural context, it lends itself nicely to find within activity theory. This will be further explained in *Discussion*.

Scaffolding, known to build inquiry in steps, aligns well with the design processes, as it follows the natural trajectory of learning. The workshop framework (figure 12) was informed by divergent and convergent approaches, otherwise a balance of exploration of ideas and figuring out the best way to communicate those ideas as outlined in table 4. The

Workshop Process

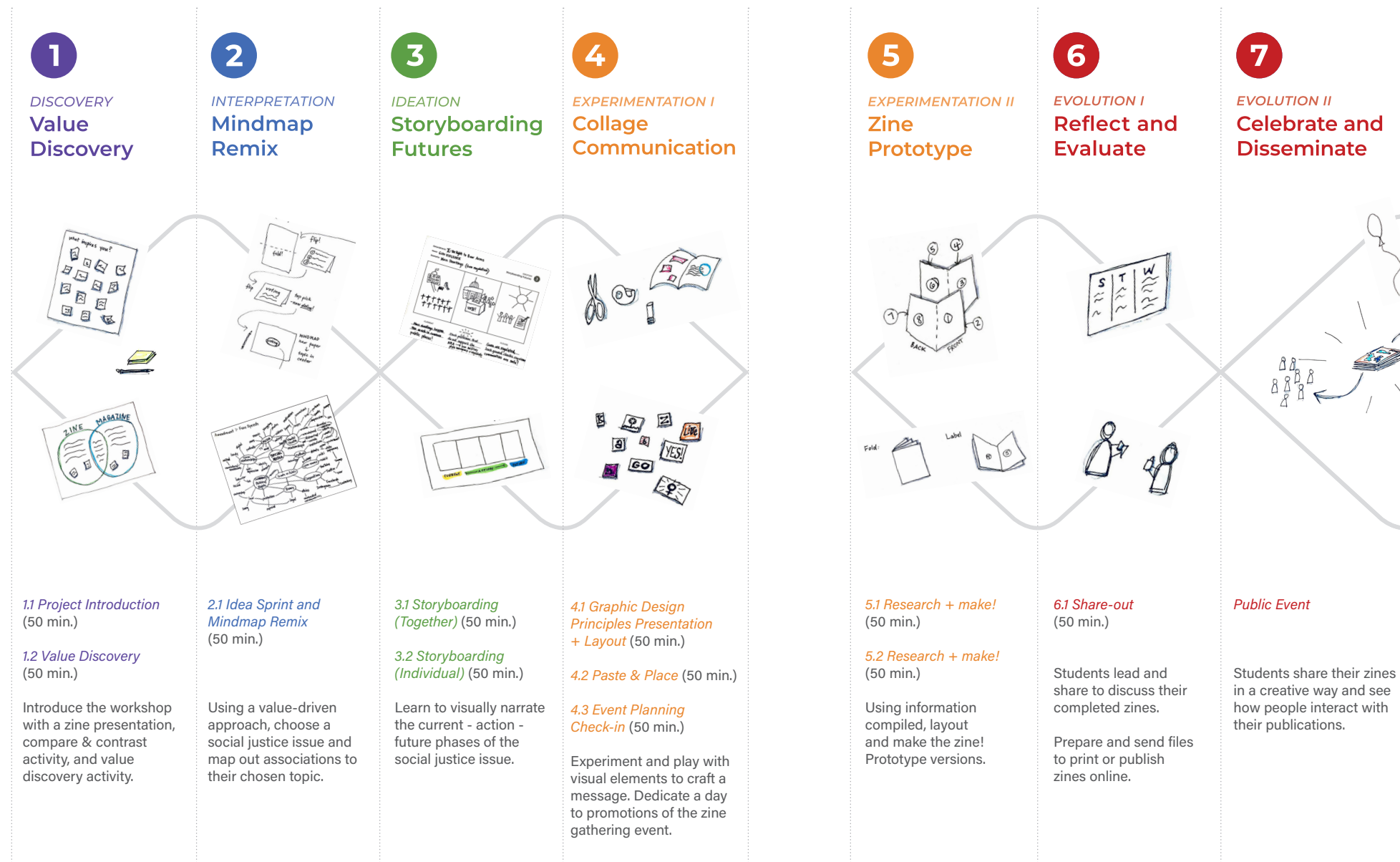
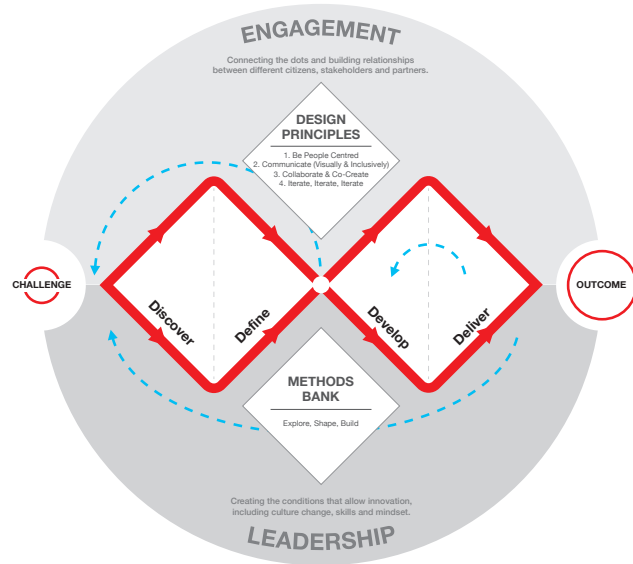


Figure 12. EF Zine-making Workshop Framework.

The diagram illustrates design activities for each step within a design process framework informed by Design Council's *Double Diamond Framework* (2019) and IDEO's *Design Thinking for Educators* phases (2013) in table 4 and figure 13.



PHASES	1	2	3	4	5
	1 DISCOVERY	2 INTERPRETATION	3 IDEATION	4 EXPERIMENTATION	5 EVOLUTION
	I have a challenge. <i>How do I approach it?</i>	I learned something. <i>How do I interpret it?</i>	I see an opportunity. <i>What do I create?</i>	I have an idea. <i>How do I build it?</i>	I tried something new. <i>How do I evolve it?</i>
STEPS	1-1 Understand the Challenge 1-2 Prepare Research 1-3 Gather Inspiration	2-1 Tell Stories 2-2 Search for Meaning 2-3 Frame Opportunities	3-1 Generate Ideas 3-2 Refine Ideas	4-1 Make Prototypes 4-1 Get Feedback	5-1 Track Learnings 5-2 Move Forward
	<p>The Design Thinking process oscillates between divergent and convergent thinking modes. It can be helpful to be aware of the mode that corresponds to the design phase you are working through.</p>				

framework drew from the *Double Diamond Framework* developed by Design Council (2019) and informed by a design process outlined by IDEO's *Design Thinking Educator's Toolkit* (2013) illustrated in figure 13. The toolkit provides alternative ways to conduct each activity. These options cater to the adaptability of each classroom in consideration of time, alternative resources, scale-up features, and reflective ideas.

Summary of Phase Two: Workshop Development

Phase two workshop development gained insights from educators and design experts in designing for the classroom and conceptually driving the design of the entire zine-making workshop toolkit.²⁴ As no two schools are the same, the sociocultural context is important. No homework and consideration of time for the activities shaped the viability of the workshop design. The low-resource and minimal digital technology was appealing to teachers and engages students through inexpensive, highly experiential ways. High school students were not involved in the creation or input on the design of the workshop framework. This limitation weakened the consideration of student voice. This phase established the groundwork by creating the EF pilot zine-making workshop toolkit ready for implementation in Moss' four civics classes in fall 2019.

7.3 Phase Three: Pilot Workshop

After the design and development of the zine-making workshop framework, phase three became the established pilot zine-making workshop. I worked with educators and the IRB approval process on logistics to implement and test the pilot zine-making workshop toolkit in Moss' civics classroom. Engagement through co-design occurred between Moss, students, and I as seen in figure 14. Phase three illuminated gaps within the workshop framework and students engaged in the process.

²⁴ This project was created as a result of my Prototyping Studio course, it was not yet determined to become a thesis. In August 2019, it was decided to move forward in implementation as thesis.

Figure 13. Design Council's *Double Diamond Framework* (2019) and IDEO's *Design Thinking for Educators* (2013). These frameworks illustrate divergent and convergent thinking in their design processes represented by the diamond-like shapes in each phase.

Preparation of the Pilot Zine-making Workshop

Both Moss and Altomonte²⁵ agreed to implement the pilot zine-making workshop in their classrooms for fall 2019. To better understand classroom dynamics and inform the design prototype implementation, I conducted semi-structured interviews with Moss and Altomonte, along with classroom observations at AAW. Through interviews, observation, and my own notes, I triangulated multiple perspectives during the study. Noting one's presence during observation is important to lessen the possibility of a researcher's presence influencing the results (O'Leary 2017). Participant observations familiarized myself with students at AAW before the pilot workshop. Through triangulation, I could identify the nuances between each perspective by drawing on abductive reasoning to inform the preparation of the pilot workshop toolkit before implementation. For instance, in conversation with one educator, when asked if they practiced a student-led or teacher-led approach in the classroom, they answered "student-led." When observing the classroom, I found that the educator led most of the class time. When seeking to improve teaching and learning, using complementary methods is valuable to illuminate gaps. In this case, this finding informs how the zine-making workshop design can suggest ways for teachers to step back and let students lead.

There was a need to better understand the civic empowerment status at AAW and FHS. To acquaint myself with the educator perspective of students' interests and engagement with civics, I conducted semi-structured interviews with Moss and Altomonte. When asked about the civic empowerment gap, Moss described the varieties of poverty that exist in the student population at AAW. As AAW is a commuter school, students come from many areas of Metro Detroit to attend school in Fraser, Michigan—representing no particular localized area. Moss emphasized that there are many students who are "well equipped to acknowledge their power and actually practice and use it," those that are just trying to survive, or students who don't understand or think he is silly when he says they have power.

²⁵ Implementation plans with Altomonte's class FHS didn't work out.

Altomonte also attested to the empowerment gap from her experience teaching government and social justice classes at Fordson High School (FHS) in Dearborn, Michigan, a large Arab-American community outside of Metro Detroit. Altomonte suggested that from many students' perspectives and knowledge about civic action, they sometimes feel powerless, don't have civic knowledge, or those who are involved in social activism. Altomonte attested that mainstream media makes students feel cynical about social change in dominant narratives. To alleviate such attitudes, she tries to inspire them to see something different. Interviews with Moss and Altomonte provided a limited, but informed, perspective of their students learning to see themselves as change agents.

Pilot Zine-making Workshop at AAW

After IRB approval, the pilot zine-making workshop was launched at AAW.²⁶ Beginning in November 2019, the first iteration occurred on consecutive school days for five weeks.²⁷ Moss' four civics classes participated with approximately 18-20 students per class during their Bill of Rights unit, pictured in figure 15. The zine-making workshop was originally designed to be one to two times per week over six weeks for teachers to progress through their own content throughout the majority of the week, while incorporating the method from the design activity throughout the week. I assumed that this schedule would also allow time for students to pace themselves to research, work on their projects, and provide adequate planning of the zine event gathering. Zine-making workshop design activity summaries are described in 7.3.1.²⁸

Communication was key throughout the duration of the pilot zine-making workshop. Before implementing the workshop toolkit, Moss and I discussed design decisions throughout the process to situate the workshop depending on the delivery of content. Moss facilitated the activities

²⁶ A research application to Dearborn Public Schools delayed the opportunity to implement the workshop at FHS.

²⁷ A break, November 26 - December 1 was included in the five weeks, making the consecutive length longer in duration.

²⁸ See appendix F for the pilot workshop protocol.

PILOT ZINE-MAKING WORKSHOP CASE STUDY I

Arts Academy in the Woods

Arts-based Public Charter High School

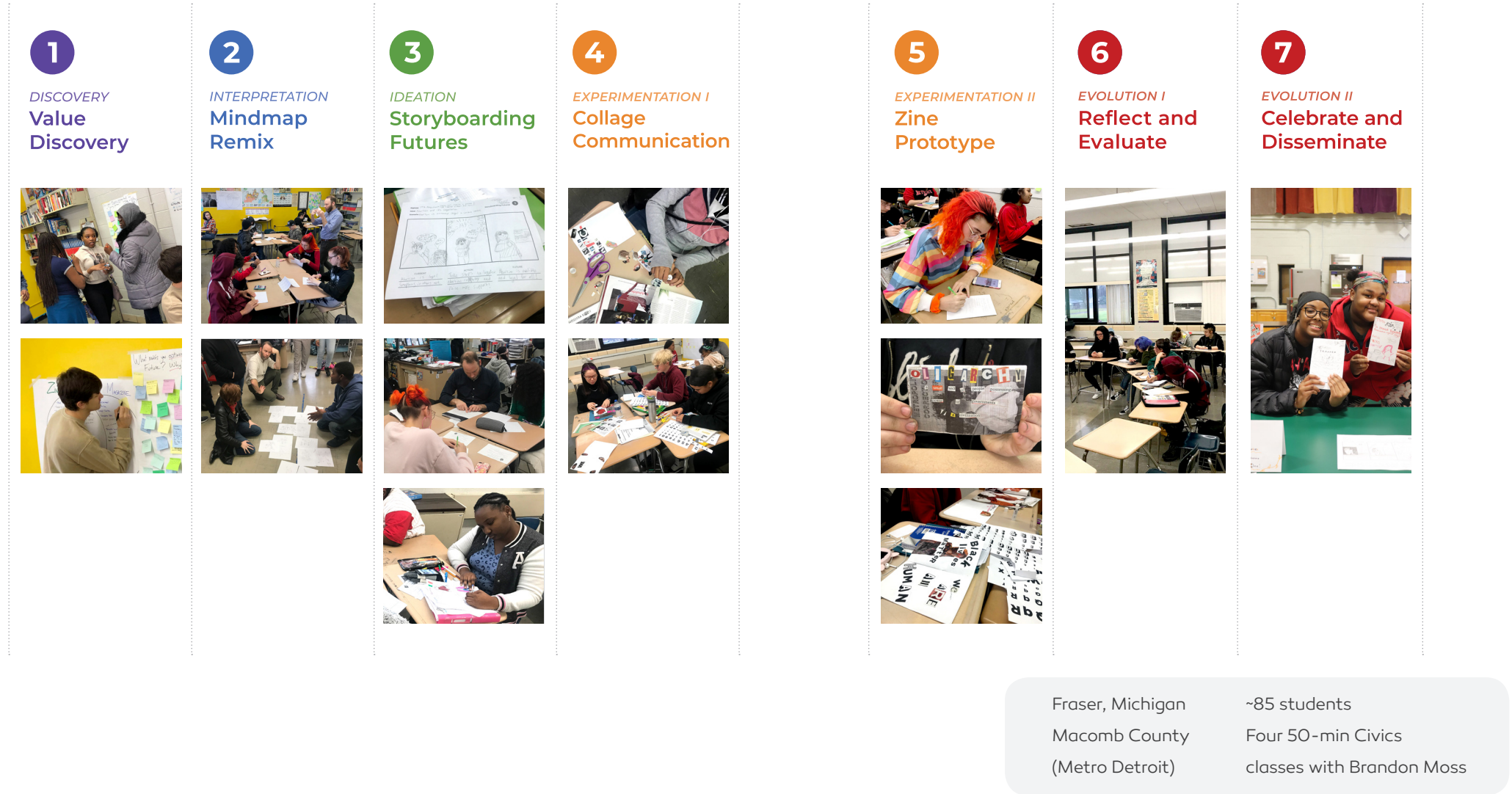


Figure 14. Engagement Through Co-design at AAW. Students engage in design activities situated within each step of the pilot zine-making workshop at Arts Academy in the Woods (AAW) in fall 2019.

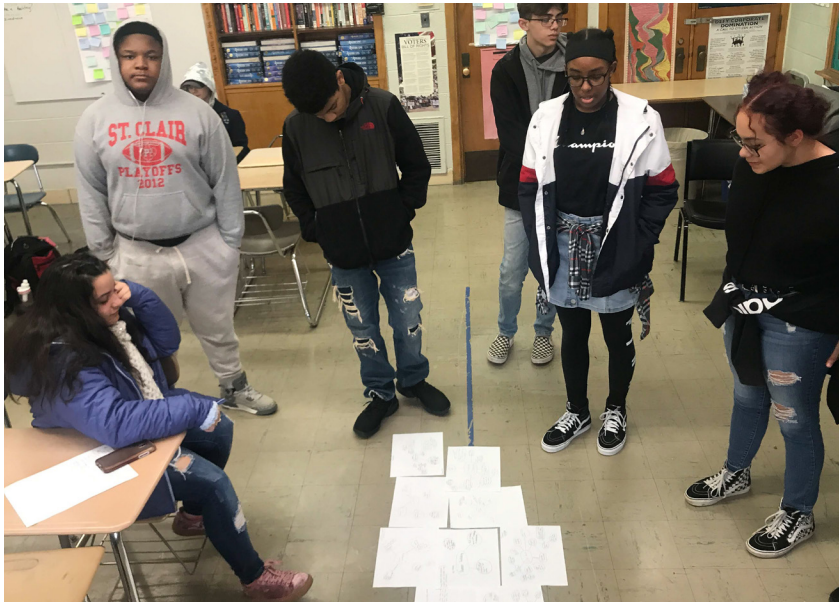


Figure 15. Student Activity Engagement.

Beginning in November 2019, the pilot zine-making workshop occurred on consecutive school days for five weeks. Moss' four civics classes participated with approximately 18-20 students per class during their Bill of Rights unit. Pictured are students at AAW engaging in design activities *Value Discovery*; *Mindmap Remix*; *Idea Sprint*; and *Collage Communication*.

while I evaluated the workshop design as a designer and researcher. Our engagement of co-design elicited tacit knowledge about teaching, learning, and design in the process of making design decisions. These decisions determined the format of each day, the needs of students, how to best articulate the activities, and how to enable students to lead without interference. We used both asynchronous and synchronous communications such as emailing, calling, in-person, texting, and video chat to facilitate design decisions throughout the process.

Participant Observation

Participant observation²⁹ occurred prior to and during the pilot workshop to make my presence familiar to students and understand the dynamics of the classroom (figure 16). I sat in various desks to observe the class activities to experience different perspectives, without disturbing students unless they engaged with me (pictured in figure 16, top right). Observations helped identify patterns and differences in the implementation of the workshop, students' interactions with the content and learning activities, and similarities and differences in social dynamics, instruction, and learning. To record observations, I used a combination of paper notes, Google Docs, photography, and sketches as field notes. One method used a printed template of desk placements in combination with a timeline to note activity and dialogue during class as seen in the top left image of figure 16. Typing and writing by hand was more intuitive to record thoughts and reflections. Observations helped see and hear the ecology of the classroom—noting behaviors like students lining up to the door at the end of class, group dynamics when students sit together, or witnessing students' interactions with Moss, which were often very positive. In a short time, I was well-acquainted with students as a participant observer.

²⁹ I was not present at all four classes everyday.

Semi-structured Interviews and Conversations

Semi-structured interviews were conducted at different points throughout the workshop with 3-5 students (10-15 minutes each) and with Moss (20-30 minutes each). These interviews focused on students' and teachers' views on the workshop and challenges of engaging in project-based teaching and learning. Interviews and conversations with Moss occurred in-person during class sessions and prep hour, while digital communication (phone, video chat, emails, and text messages) at any given time. Student interviews and conversations occurred in-person during class sessions for about 15-20 minutes with a small sample of about five students and the class as a group. Students were selected based on smaller engagements, for example, when I'd ask someone about their visual layout or if they said something provoking during the activity session (figure 17). Informal conversations with students brought valuable insight as questions were intuitive and allowed them to lead the conversation.

In design, participant observation and interviews serve as valuable ways to understand user needs. Between participant observation, semi-structured interviews, fieldnotes, and photos I concluded themes in general:

Students liked expressing their thoughts, reflections, and hearing from their peers.

- Gamifying activities encourages active participation.
- Phones are used throughout class.
- Unstructured time was challenging for some students.
- Students felt like they had creative freedom.
- Lack of research support in the pilot workshop framework necessitated more one-on-one time with students.
- Visual diagrams shared with Moss helped with activity delivery.

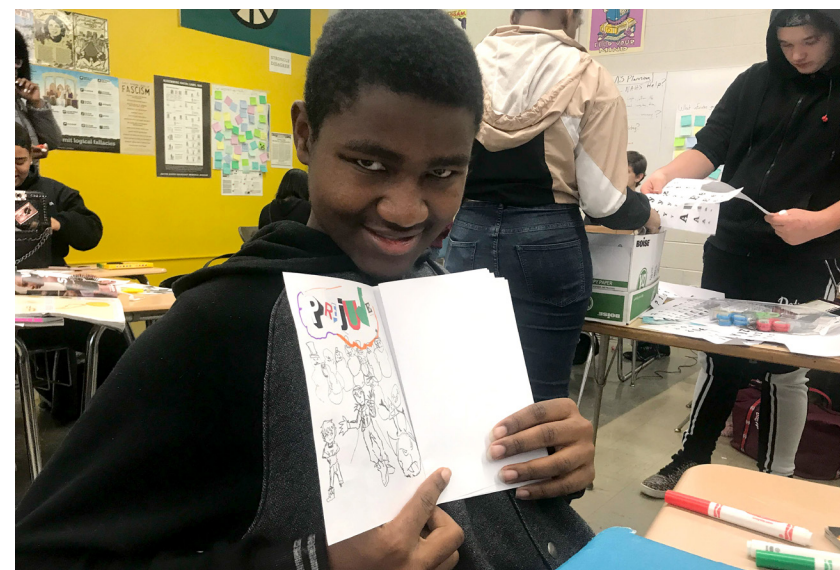


Figure 17. *Semi-structured interviews and conversations.*

Conversations occurred with students and Moss during the pilot zine-making workshop at AAW. These interviews focused on students' and teachers' views on the workshop and challenges of engaging in project-based teaching and learning. Student interviews and conversations occurred in-person during class sessions and interviews for about 15-20 minutes. Students were selected based on smaller engagements, for example, when I'd ask someone about their visual layout or if they said something provoking during the activity session.

7.3.1 Workshop Activity Summaries

At the beginning of the workshop, a brief explanation about the pilot study was given to ensure the students knew their rights to participate or not. I shared the research protocol and handed out permission forms for students to declare their decision, and their parent’s permission if under age 18, to be involved in the study. Table 5 is a summary of the activities, methods used to collect data, and findings from each activity paired with an insight.

Summary of Phase Three: Pilot Workshop

After the design and development of the zine-making workshop framework, phase three became the established pilot zine-making workshop. Based on observations, interviews and conversations, and artifacts, the pilot zine-making workshop was a successful iteration to understand the sociocultural context, or messy, exciting, and challenging nature, of a high school civics classroom. In addition, understanding the impact of the design process with activity engagement through co-design with Moss and his students.

During the pilot workshop, time persisted as a challenge, students expressed that they felt creative freedom, gamifying activities and reflections increased active engagement, topic selection scope was narrow, and research support was needed. The most significant findings from this phase informed phase four which analyzes and synthesizes artifacts and data collected during the pilot zine-making workshop in order to inform the next workshop prototype with design refinements.

Table 5. Workshop Activity Summaries.
A pilot zine-making workshop summary describing the co-design activities, methods utilized within the workshop and research, findings, and insights.

Activity	Summary / Methods	Finding (Insight)
<p>1. Value Discovery</p> <p><i>Value Discovery</i> was conducted in three parts over two sessions: a brief presentation introduction about zines with zine examples; an activity comparing and contrasting magazines versus zines; and value discovery activity to find common ground and identify civic values.</p>	<p>Informed by the workshop in February 2019, students identified their values, finding common ground through a process of brainstorming to organization. Affinity diagramming, or sometimes known as “list-group-label” or “generate-sort-connect-elaborate”, helps students sort and group similar ideas to identify themes and patterns among their responses.</p> <ul style="list-style-type: none"> • Participant Observation • Interviews/Conversations • Artifacts (presentation, magazine vs. zine posters, (root tree), value discovery posters, permission forms) • Pre-Workshop Survey 	<p>Due to limited time, affinity diagramming and reflection was not possible. This created a gap from <i>Value Discovery</i> to <i>Mindmap Remix</i>.</p> <p>(Emphasizing reflection and encouraging students to sort through ideas is critical to develop ideas for their zine, especially to ground in personal experiences and opinions.)</p>

Activity	Summary / Methods	Finding (Insight)
<p>2. Mindmap Remix <i>Idea Sprint - Mindmap Remix - Mindmap Review</i></p> <p><i>Mindmap Remix</i> was conducted in three parts in 1-2 sessions: an idea sprint activity to generate a list of ideas in a short amount of time; a mind-mapping remix activity; and a short debrief discussion.</p>	<p>Using a value-driven approach, students narrowed down their social justice issue with an idea sprint, defined their issues, and used mind-mapping to make sense of associations to their chosen topic. This exercise intended to dig deeper with mind-mapping, or “thinking maps,” a design method where designers visually map out relationships between objects and themes. Students swapped their mindmaps to contribute a variety of thoughts and ideas.</p> <ul style="list-style-type: none"> • Participant Observation • Interviews/Conversations • Artifacts (mindmaps and idea sprint pages) 	<p>Gamifying the activity encouraged more students to actively participate. (Incorporating game techniques throughout the workshop has potential to support active participation.)</p> <p>Lack of idea scope led students to larger, less personal issues. (Frame idea selection with a prompt.)</p>
<p>3. Storyboarding Futures <i>Storyboarding Together - Storyboarding Individual</i></p> <p><i>Storyboarding Futures</i> was conducted in two parts over three sessions: using student topics to map out a scenario together as a class with the second session focused on individual storyboarding.</p>	<p>Since students mapped out their issue, students reflect on ways to take action. Storyboarding is a design method where designers visually narrate. It can also reveal barriers that hinder a process. Students considered a scenario in which their issue, related to an amendment, impacts a person, community, or environment through current - action - future phases of the social justice issue.</p> <ul style="list-style-type: none"> • Participant Observation • Interviews/Conversations • Artifacts (storyboard frontside, backside worksheet, whiteboard images, event checklist) 	<p>Storyboarding was the stickiest portion of the workshop process due to wide-scoping topics. (The structure of the workshop wasn't set-up to support research.)</p>
<p>4. Collage Communication <i>Design Elements - Collage Experimentation - Paste & Place</i></p> <p><i>Collage Communication</i> was conducted in three parts over three sessions: design elements presentation; experimenting with layout options without glue; and then pasting in place.</p>	<p>Previous activities intended to provide a foundation of ideas for their zine. Collage is a design method where designers visually convey and articulate thoughts, feelings, and desires into physical form. Students discussed design elements related to activism movements, then applied design principles to compose a collage. The first day experimented without glue and the next day “paste and place.”</p> <ul style="list-style-type: none"> • Participant Observation • Interviews/Conversations • Artifacts (presentation, collage prototypes) 	<p>Some students finished ahead of time, while others didn't participate until the end or may have been nervous about making. (Students need support in creative motivation without pressure and in ways that keep them engaged during the process.)</p> <p>The saddle-stitch binding format of the zine required eight layouts, which was ambitious for this iteration and challenging for some students. It was also more difficult for print production versus mini-zines. (Encourage using mini-zines, especially throughout the process.)</p>
<p>5. Zine Prototype</p> <p><i>Zine Prototype</i> was conducted in one part over 4-6+ sessions.</p>	<p>The previous session helped students discover ways to reveal their thoughts, feelings, and desires through collage. Prototypes allow designers to create and test out ideas. Students made the zine as exploration of visual elements and author generated content.</p> <ul style="list-style-type: none"> • Participant Observation • Interviews/Conversations • Artifacts (zines, rubrics) 	<p>Some students excelled in creating their zines, while others found it challenging. (Collaboration has benefits of roles in the production, research, and dissemination.)</p>

Activity	Summary / Methods	Finding (Insight)
<p>6. Reflect and Evaluate <i>Share-out and event discussion</i></p> <p><i>Reflect and Evaluate</i> was conducted in one session.</p>	<p>Students led in reflecting and discussing their completed zines and zine-making experience.</p> <ul style="list-style-type: none"> • Participant Observation • Interviews/Conversations 	<p>Students didn't get to share their zines with the class due to time and there was a lack of reflection throughout.</p> <p>(Make reflection a priority a set amount of time during each activity, another time, or an alternative way.)</p> <p>When students had the opportunity, they enjoyed expressing their thoughts and feelings.</p> <p>(Students want to share their thoughts and when they don't have an opportunity, their voice is silenced.)</p>
<p>7. Celebrate and Disseminate <i>Zine Event Gathering</i></p> <p><i>Celebrate and Disseminate</i> was planned over the five weeks culminating efforts toward the one event "Teen Zine Showcase."</p>	<p>Students planned this event during class and lunches. The zines were disseminated in public to showcase their voices on topics they care about, related to the Bill of Rights.</p> <ul style="list-style-type: none"> • Participant Observation • Interviews/Conversations • Artifacts (zines, theme posters, event flyers, event poster) <p><i>Post-Workshop</i></p> <ul style="list-style-type: none"> • Questionnaire • Post-workshop Survey 	<p>"Teen Zine Showcase" was a successful event.</p> <p>(It is possible to organize and execute a student-led zine gathering in a short amount of time.)</p> <p>Only a few students planned the event and not each class.</p> <p>(Planning infrastructure needs support to enable other students to get involved and maintain a student-led approach.)</p>

7.4 Phase Four: Evaluation

After collecting all data and artifacts from the pilot workshop, the fourth phase analyzed and synthesized this data to draw meaning based on emerging themes and patterns in the process to inform the next workshop prototype. While a second iteration was hoped to test at Fordson High School, the teachers were no longer able to conduct the workshop due to administrative requests. In order to fulfill the opportunity to present the zine-making workshop prototype in a new school context, I conducted semi-structured interviews with teachers and students from Fordson High School in Dearborn, Michigan, finding a new way to approach the next workshop prototype.

Artifact Analysis

To begin to understand the artifacts, sensemaking tools and an analytical framework were used. Researchers who utilize DBR often find that they collect more data than they know what to deal with or analyze (Collins et al. 2004) and my case was no different. During the pilot workshop, student and teacher work was collected from the classroom at the end of each workshop activity. Student work consisted of mindmaps, storyboards, collages, reflections, exit tickets, event promotional materials, and a zine related to their chosen social justice issue. Teacher work consisted of additional materials used in the teaching process to supplement the workshop, such as images of whiteboards, digital presentations, and posters. Collecting these materials sought to identify learning trajectories and attitudinal shifts throughout the implementation of the workshop to inform the next iteration. Many of the artifacts were coded and categorized by themes often through affinity diagramming. This data documented student learning of cross-disciplinary content, their developing understanding of zines as social action, their interpretation of the design process and visual communication, and their perspectives related to social justice.

Assessing artifacts can be subjective and to reduce the subjectivity, a zine assessment rubric for students was created and helped with analysis (see appendix G.9). The rubric included categories: quality of ideas, content and organization, and design and publishing as helpful criteria for students to create their zines. I sorted topics into categories and found that only a few zines discussed how their topic related to constitutional rights in terms of violation or protection. Many students used less opinionated language and treated the zines as informational booklets, to a vague target audience, with visuals consisting of sketches and cut collages. A few zines provided specific, actionable steps, such as eliminating waste that is ruining the planet or steps to report racial discrimination in jobs as illustrated in zine page examples in figure 18.

In the pilot zine-making workshop, students examined different design elements to incorporate into their layouts such as color, shape, contrast, and size. Aesthetics are historically unruly in true zine fashion. In this case, the process was valued more than the aesthetics. However, the rubric outlined that the zines should at least visually communicate ideas with a creative layout, original thought, attention to detail, and that multiple copies of the zine could be published to the public. Students were successful in working through the challenge of visualizing elements with analog materials. Although AAW is an arts-based school, when I asked students if this was a normal activity, they responded “not really.” One student responded about the process:

“It’s very hard, the cycle of creativity is, keep on making something you are happy with, is really hard to do in a school setting. It’s hard to get it to a really good idea because when your brain is flowing freely, you have to make it over and over again. You have to make it...because the first version you make is not going to be the best. However, we have time constraints because it is school.”

Research was challenging for some students—information, such as the author’s opinions, views, or interests, was not always supported by reliable

sources for evidence, potentially including plagiarized language. Assisting students in citing appropriate sources, encouraging radical expression, and being bold to provoke action are elements that must be incorporated in the next zine-making workshop prototype.

Pre- and Post-Workshop Student and Teacher Surveys

Pre- and post-workshop surveys were administered and collected from all students and teachers participating in the workshop before and after the implementation of the unit. Surveys were completed on paper to ensure access and ease for participants. The surveys used a Likert scale (strongly disagree (1), disagree (2), neutral (3), agree (4), and strongly agree (5)) to measure data patterns. The paper surveys provided information relation classroom attitude profiles and shifts in relation to civic participation, in-school learning, and teaching instruction. Questions were asked about students’ experiences and attitudes with respect to learning, student voice, visual projects, and zine experience. Next time, I would have aligned the questions with the design principles, many of the survey questions asked aligned with the design principles in the end. There were many neutral responses (3 on the Likert scale) which affects the outcome. To counterbalance this, I looked to the second leading score.³⁰ Some findings include:

- *I know how to create a zine and distribute it to the public.*
Prior to the workshop, students strongly disagreed (with some neutral) that they knew how to create a zine and distribute it to the public. After the workshop students agreed that they knew how to create a zine and distribute it to the public.
- *I feel confident in improving issues that I care about.*
Students mostly agree (pre and post) in feeling confident in improving issues.

³⁰ See appendix D for survey sample and findings.

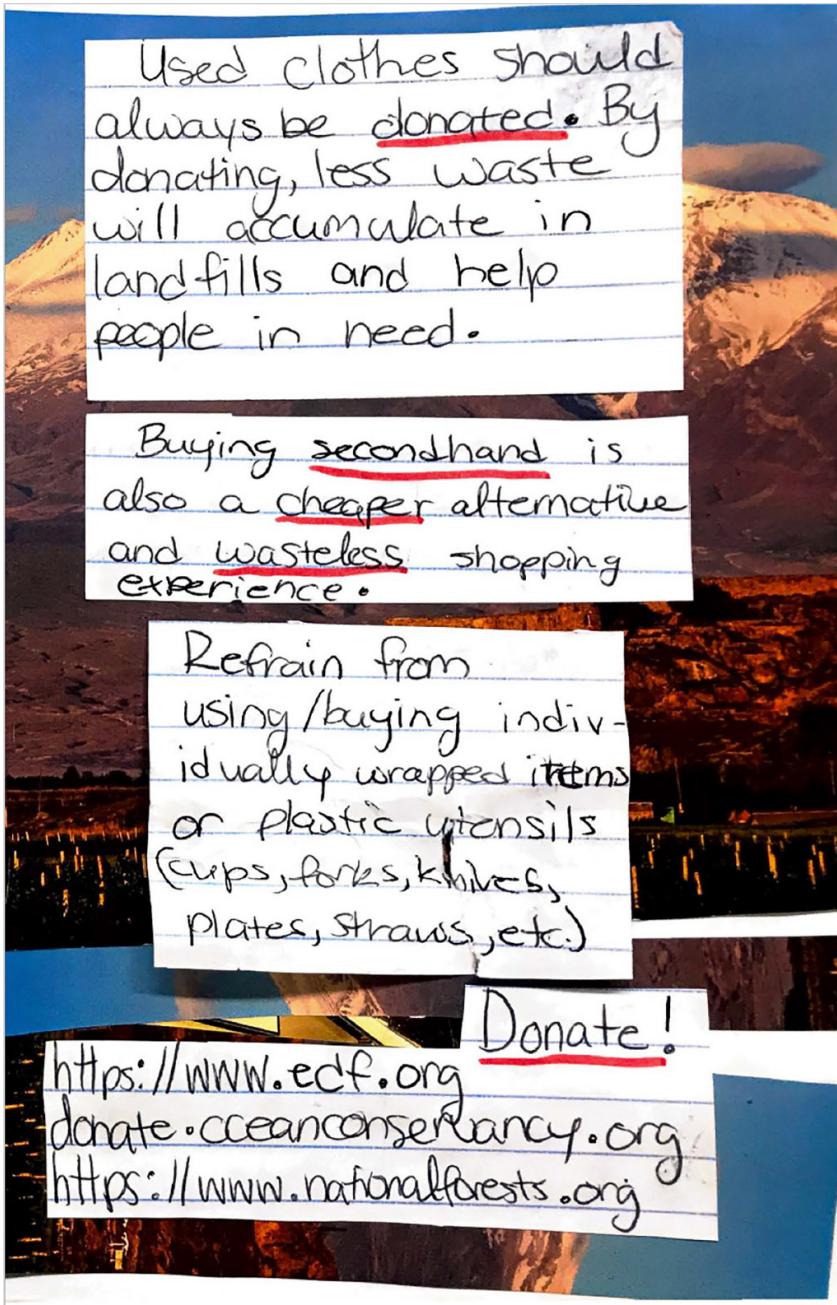
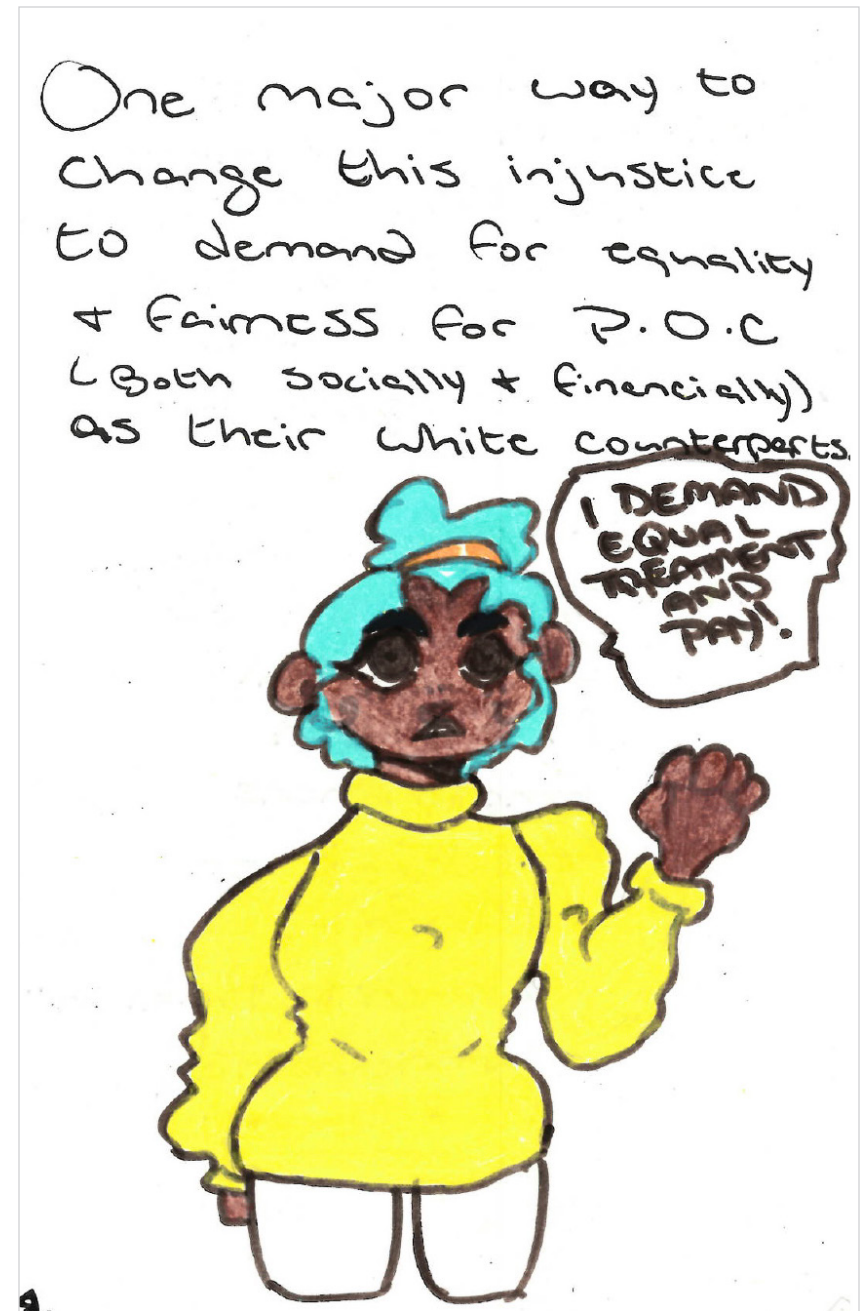


Figure 18. Zine Artifact Analysis.

Some zines provided specific, actionable steps, such as eliminating waste that is ruining the planet and steps to report racial discrimination in jobs.



Themes from Questionnaire

- *Creative Freedom*

A majority of students noted that they liked the creative freedom, the act of making, and voice the workshop afforded them. One student liked “Working with different materials to piece it all together” while some appreciated “That I got to have a voice about an issue that matters to me.” Three were neutral, with a couple saying “Just wasn’t my thing” and “Uh... it’s different.”

- *Structure*

Students suggested that the workshop needed more structure like time, support, and accountability (direction, supervision, or set schedule). Three students noted “It was perfect.” Some students noted that they didn’t complete the zine or that they didn’t know how to make one. One student requested flexibility in the project with the option to “...choose a different medium for other creative options.”

- *Time*

Many students felt like they didn’t have enough time to work on and finish their zines. One student noted “More time, I couldn’t finish mine. I kept changing my idea & I messed with it, so more structure.” A few suggested that this was due to structure, however, there are more factors that lead to this such as participation.

- *Research*

The students suggested having more explanations, resources for research, and better information on the process itself. Brandon Moss provided articles print-outs to support their

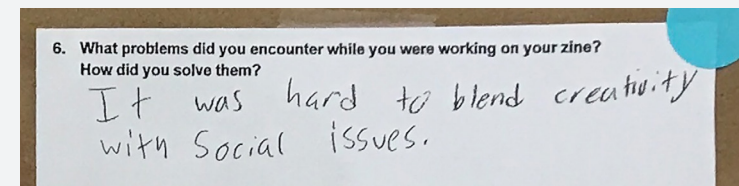
research in collecting data. Five students noted that they had trouble finding viable sources and had concerns regarding bias.

- *Collaboration*

Students also expressed collaboration via groups and opportunities to share their work. One student saying “... letting everyone share their zine and make a creation of how to make our world better.”

- *Mental Challenges*

One student noted that “It was hard to blend creativity with social issues.” Some students were anxious about zine-making because of nervousness, they didn’t know how to make it, or didn’t finish. Some students had difficulty to staying motivated noting “Tryin to get motivation to do it. I didn’t solve the issue.” while some “Couldn’t do 8 different collages” or “I’m not motivated to do anything.”



One student responded “It was hard to blend creativity with social issues” when asked about problems they encountered during the pilot zine-making workshop.

Fordson High School Semi-Structured Interviews

Up until this point, the scope of the project was limited to the context of Arts Academy in the Woods during the pilot workshop. Due to this limitation, there was a need to gain insight from other teachers and students that had not yet seen the workshop in another school context. To identify student and teacher perception and interest of the workshop, semi-structured interviews were conducted at Fordson High School (FHS) in Dearborn, Michigan—the second largest Arab American population outside the Middle East. Angela Altomonte, social studies educator and school administrator, provided access to two teachers and five students, for 50-minute interview sessions (figure 20). These conversations³¹ focused on students’ and teachers’ views on the workshop, learning and instruction, and the challenges of engaging in project-based teaching and learning.

Mrs. Moon, an ESL teacher, found the workshop especially relevant in teaching ESL (English as a Second Language). She found the workshop prototype flexible and worthwhile to utilize the methods and encouraged collaborative aspects of the workshop. Mrs. Moon discouraged doing the workshop consecutive days because she has seen students burn out on projects. Ms. Memminger, a Government and English teacher, commented that the workshop was time-consuming, describing the pressure of covering “17 chapters in 15 weeks.” She also advised that the zines should be created individually for student ownership and in the history of zines. Both teachers suggested that some students would be excited going full-force through the steps, and others who may take a slower pace.

To better inform research support for the next workshop prototype iteration, the five students discussed ways that they seek out information. A wide range of sources were mentioned: YouTube for personal testimonies, parents, unbiased news, and books because they are “more reliable.” The students also suggested making steps 1-5 in the workshop individually, with zine-making done collaboratively in themed groups. Students felt

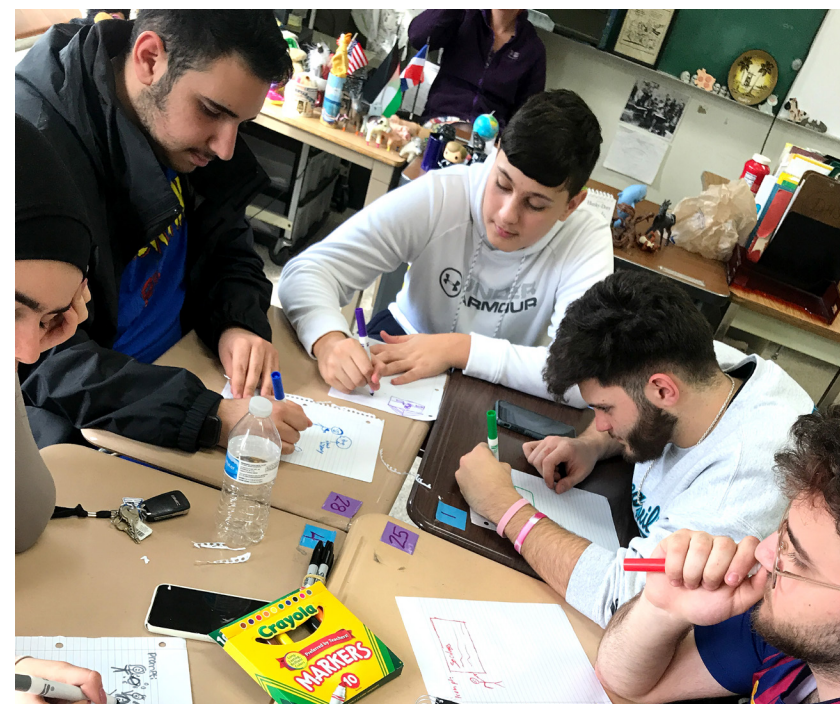


Figure 20. Fordson High School Student Interviews.

To identify student and teacher perception and interest of the workshop, semi-structured interviews were conducted at Fordson High School (FHS) in Dearborn, Michigan. Participating students discussed experiences when they felt most empowered in their education and ways they seek out information.

³¹ See appendix H for FHS Interview Protocol.

energized by the idea the zine-making and distribution saying:

Noorsami: “I’m really excited or looking forward to just communal outreach...They’re [zines] going to be in relation to our local community and kind of communal problems and epidemics that we’re facing. So I feel like just educating the public and our locals is something that’s going to be really cool to see happen. Because one person, it’s going to be a ripple effect, like a person knows and passes on the information and then everyone is a little bit more well informed, and that’s what I’m looking forward to.”

Zinedin: “Most important to me it’s probably like connections that we are about to build and like the talks that we are about to have and information we’re about to obtain, about doing this project. I believe in the world that we live in human connection, it’s something that we are slowly losing, so by having this project...it’s like we’re just building more bonds, which they might seem like a small deal right now, but...I think it’s the bonds that we build by doing this small stuff that can evolve to something big.”

Upon completion of the interviews, the students looked forward to embracing community outreach as part of their zine-making approach.³² In conclusion, the interviews with teachers and students at FHS provided adequate data to inform the next workshop prototype in regards to collaboration, time, teacher implementation, and student interest toward the workshop development and implementation.

Summary of Phase Four: Evaluation

Phase four analyzed a large quantity of artifacts, pre- and post-workshop surveys, and a post-workshop questionnaire through sensemaking. In order to understand the viability and interest in the zine-making workshop prototype, I conducted interviews with two teachers and five students at Fordson High School. Students were very interested in the zine-making

³² At this time, the COVID-19 pandemic began in the United States and we weren’t able to make plans happen.

workshop and desired to re-approach the toolkit for use by students, rather than teachers. Discussion with two teachers, with varied experience, illuminated the usefulness and challenges of the workshop in different classroom settings. Drawing on themes and patterns that emerged from the data, time remained a key challenge throughout the activities in the workshop design and artifacts. Moving forward, these findings identified new possibilities of the zine-making workshop affordances in creative engagement and making outside interests relevant to in-school civic learning.

7.5 Findings

The four phases in duration of fifteen months produced a large amount of data about how high school students are able to communicate social justice issues and how this zine-making workshop toolkit contributes useful design resources to educators. Findings and insights from all four phases are summarized in table 6 below. DBR is focused on design refinements throughout the implementation process (Edelson 2002). Design refinements reflect considerations that were brought to new phases and inform future learning prototypes.

Based on insights during each phase of the pilot zine-making workshop, the “design refinements for future” summarize insights based on coded categories of time, engagement, collaboration, structure, and creative freedom.

Throughout the process, time was a consistent challenge, often leaving out reflection. Young people are eager to share their thoughts and feelings. When the ability to express themselves isn’t afforded, students are silenced, even more so for those who are marginalized. Rules or logic applied to an activity, using timers or elements of role-playing bring a sense of fun, accountability, and structure that students desire. Student-led collaboration and decision-making offer connection and creative

Table 6. Findings and insights from all four phases.
An overview of the findings during four phases of the thesis project summary overall insights derived from findings from each phase to inform design refinements.

Phases	Findings	Insights
<p>CONTEXT PHASE ONE: Initial Prototypes</p>	<ul style="list-style-type: none"> • Time to conduct activities can be a challenge. • Collage materials can be distracting to students under limited time. • Students were motivated to voice social-justice-oriented concerns and to express themselves in this medium. 	<p>Prototype how long an activity will take to ensure that the activity can be done with minimal time constraints.</p> <p>Consider what analog materials are used, why they are appropriate, or how they can be adapted.</p>
<p>Design Refinement: Develop a comprehensive zine-making workshop for classroom context, while keeping in mind time constraints and materials used.</p>		
<p>DEVELOPMENT PHASE TWO: Workshop Development</p>	<ul style="list-style-type: none"> • Time was underestimated for some activities and needed to be expanded or shortened. • Avoid homework. • The workshop is low-resource, low-tech, and appealing for teachers to engage students in inexpensive, highly experiential ways. • Young people were not involved in the development of the zine-making workshop. 	<p>Design the workshop in ways that are flexible and do not contribute more work outside of class.</p> <p>Include alternative ways to conduct activities for different learning needs.</p> <p>Make sure to include young people in the development phase so that they have ownership in the process.</p>
<p>Design Refinement: Pilot the zine-making workshop with the activities adjusted for time with alternative opportunities within the activity for flexibility according to needs.</p>		
<p>PROTOTYPE PHASE THREE: Pilot Workshop</p>	<ul style="list-style-type: none"> • Time persisted as a challenge, often leaving out time for reflection. • Students felt like they had creative freedom. • Gamifying activities increased active engagement. 	<p>Embed research support within the zine-making workshop toolkit that includes resources about validity, reliability, bias, and credible sources.</p>
Phases	Findings	Insights
<p>REFLECTION PHASE FOUR: Evaluation</p>	<ul style="list-style-type: none"> • While students chose important issues to discuss, the topic selection process was unrefined during Idea Sprint. • Storyboarding Futures activity illuminated how research support was needed. • Individual one-on-one time was necessary to help students progress. 	<p>Design prompts for the topic selection process without examples so that choosing an issue is more intuitive. Or create options to allow for a thorough dissection of an issue.</p> <p>Gamify the activities to maintain engagement throughout the process.</p> <p>Students enjoy physically making their zines and talking about issues that matter to them.</p> <p>Consider collaborative teams in making the zines and throughout the workshop.</p>
<p>Design Refinement: Consider new activity for Storyboarding Futures and options to support research in the design process.</p>		
<p>Design Refinement for Future: Improve and implement the zine-making workshop in another iteration.</p> <ul style="list-style-type: none"> • Reimagine the time limitations, including reflection throughout the workshop. • Gamify elements of the activities for more engagement, such as creating rules or logic to the activity, timers, and role-playing. • Encourage collaboration between students in design activities. • Narrow the prompt for the issue selection, encouraging students to choose more specific topics. • Explore new materials and alternative options within the workshop framework. Replace Storyboarding Futures. 		

freedom. Offering less worksheet activities is a goal to explore new materials and alternative activity options. Design refinement can be further analyzed through activity theory.

Activity Theory

Later in the final phases of the thesis, activity theory was discovered as a suitable theoretical framework to distinguish the sociocultural aspects of the zine-making workshop in relation to DBR, design, and social justice. Informed by socio-constructivist theory, activity theory (AT) explains the usefulness of a tool, like a zine-making workshop, as an embedded part of culture with social significance.

AT has been historically used within design with different stakeholders. Using activity systems, as described by Engeström (2001), as an analytical tool helps analyze strengths and weaknesses of the zine-making workshop situated in a particular social and cultural context. Examining the activity helps identify opportunities to improve the learning and teaching intervention. To better understand the activity systems, I deconstruct each activity node situated in relation to three principles identified in the contextual review to justify the value of zines and zine-making as tools for self-authorship, making, and social action with evidence from the pilot zine-making workshop (figure 21).

- Motivation** - Civic learning and social justice

The motivation was to engage in the activity to learn civics and social justice through design activities that incorporated visual thinking with the goal of civic efficacy and social change. The pilot zine-making workshop focused on the Bill of Rights connected to a social justice issue. The motivation for the activity was inconclusively achieved as challenges arose in the lack of narrow, focused topics that students chose. Some students were able to tie the connection between a civil right and issue, but the *rules* could be adjusted to accommodate focused topics, *tools* such as design methods didn't achieve this in a direct way, and the *division of labor* was individualized, rather than collaborative.

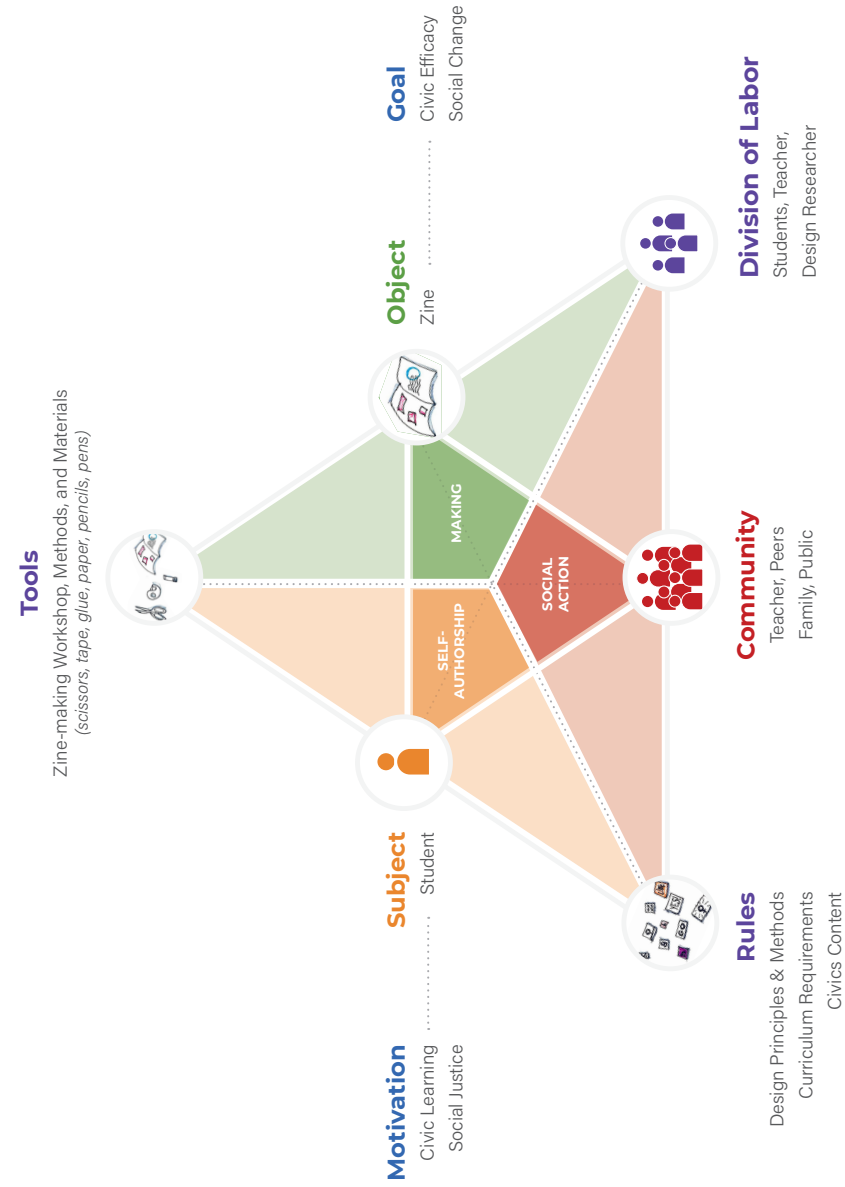


Figure 21. Theoretical Framework of the Pilot Zine-making Workshop using Activity Theory. To better understand the activity systems, I deconstruct each activity node situated in relation to three principles identified in the contextual review to justify the value of zines and zine-making as tools for self-authorship, making, and social action with evidence from the pilot zine-making workshop (adapted from Bennett et al. 2017, Engeström 2011, Jonassen and Ronrer-Murphy 1999).

- *Goal* - Civic efficacy and social change
With the motivation of civic learning and social justice, the goal of the activity was to instill civic efficacy, or the belief within an individual that they are able to make change happen, eventually leading to social change. Specifically, the pilot zine-making workshop intended to expand the number of students learning to see themselves as change agents. This goal was inconclusively achieved as assessing civic efficacy and the outcome of social change would need assessment for significant time in order to measure (Gingold 2013). From the short period of time, students were able to communicate social-justice-oriented concerns within a classroom workshop format that led them to think differently as they combined social science with creativity.

Motivation of the workshop activity feeds into the goal, or outcome, framed within the activity system which consists of *subject*, *tools*, and *object* mediated by *rules*, *community*, and *division of labor*.

- *Subject* - Student / (Self-Authorship)
The subject refers to the individual or group participants involved in the activity. Students from AAW took part in the pilot zine-making workshop as subjects. *Self-authorship* of students is ignited with the recognition and engagement of one's belief system. When students were engaged in zine-making they expressed that they had a voice because of the nature of the activity. As a producer of the object (zine), students authored visual and written content to express and inform on topics that are not always discussed within a traditional school setting.
- *Tools* - Zine-making workshop, Methods, and Materials / (Self-authorship + Making)
Tools refer to the artifact or process in which the activity is conducted. The zine-making workshop (toolkit), design activities (methods), and materials (scissors, tape, glue, paper, pencils, and pens) are considered the tools involved in the activity of zine-making. *Self-authorship* is mediated through hands-on *making* by using the tools involved in the

activity via co-design. This was evidenced by students expressing their thoughts, feelings, and visualizing information with physical materials. Reflecting on their actions positions tools as praxis to build self-authorship.

- *Object* - Zine / (Making)
The object refers to the anticipated physical or mental outcome of the activity. A zine, made by students, to disseminate into the public and creative mindset with new design capabilities are considered the object. The objects that are produced involve the interaction of mind and hand (see figure 5) as a form of *making*. This form of *making* is tangible, as experiential or project-based learning (PBL) is hands-on, and intangible through "thinking through designing" in design-based learning (DBL) (Davis et al. 1997). This outcome presents itself as an artifact and mindset of designerly capabilities in which the public interacts in order to meet the goal of civic efficacy or social change. This was evidenced by using analog materials for visual thinking.

Subject - *Tools* - *Object* mediated by:

- *Rules* - Design principles & methods, curriculum requirements, civics content, time / (Self-authorship + Social action)
Rules determine the boundaries that guide the activity. Design principles & methods, curriculum requirements, civics content, and time defined the rules within the pilot zine-making workshop. The rules influence the extent to which *self-authorship* and *social action* have the ability to grow/expand within challenges of time, lack of reflection, and with less collaboration in the context of Moss' civics class at AAW. The rules could be further adapted with research criteria and tools to support the research of their chosen issue.
- *Community* - Teacher, peers, family, public / (Social Action)
Community refers to individuals or groups "who share (at least to some degree) a set of social meanings" to the subject (Jonassen and Murphy 1999). In this case, classmates, or peers, the teacher,

family, and the public were targeted audiences of the zines defined as community. The interaction with the community is deemed as *social action* to raise awareness on issues embedded within the zines and process of zine-making. This was evidenced by the “Teen Zine Showcase” organized by students at AAW. The public dissemination of the zines and dialogue at the showcase represent social action as means to elevate student voice and inform others.

- *Division of Labor* - Students, Teacher, Design Researcher (Social action + Making)

Division of labor consists of individuals or groups involved in the activity. Students engage in activity, teacher facilitates, and design researcher collects data within the zine-making workshop. During the pilot workshop, engagement through co-design existed on two participatory planes—design researcher with educator, Brandon Moss, and design researcher with students, AAW, and educator, Moss. The division of labor prompts *social action* and *making* in the interactions and collaboration of participants of the activity and research.

Guidance on the production of the zines wasn't included in the tools and thus affected the division of labor as I ended up producing the zines, Moss wasn't able to facilitate, and students missed out on the opportunity to learn how to produce zines due to time limitations.

Focusing on the activity nodules connected each facet of the pilot zine-making workshop—illustrating the mediation and relationships between playing parts of activity theory. In doing so, the activity system identifies challenges and opportunities between elements to distinguish ways to inform and improve the next workshop prototype. The next section, *Discussion* highlights significant insights during the thesis process that inform research, theory, and practice.



DISCUSSION

This section discusses the most significant findings from the research activities relative to theory, practice, and how the research questions have been addressed using an integrative design approach.

This thesis brings forward a cross-disciplinary integrative approach that evaluates how a zine-making workshop toolkit improves learning outcomes for students and provides accessible, low-cost resources that are easy for teachers to implement. Given the nature of the first pilot workshop iteration, this study provides confirmation that a structured zine-making workshop informed by the design process has the potential for students to see themselves as change agents. In this section, I will highlight the contributions of the 1) evidence of research questions, 2) integrative design process, and 3) implications to the theory and practice of design and education.

Research Questions

The first research question focused on the student’s perspective:

How might we use zines to empower students to become civic participants who communicate about social justice issues?

Learning outcomes from the zine-making workshop aimed to help students feel equipped to become change agents by elevating creativity and student voice through their in-class learning. The pilot zine-making workshop provided evidence for the learning outcomes related to youth appreciating the creative freedom involved in the project; the opportunity to share and disseminate zines, but limited action regarding the actual social justice issue; and challenges of time limitations, sustained engagement, and creative learning in a traditional educational context.

The second research question focused on the educator’s perspective:

How might we supplement teachers’ existing pedagogy with low-cost and accessible design activities that facilitate their students connecting in-school civic learning to outside interests creatively?

Bounded by the C3 framework, the pilot zine-making workshop prototype afforded civics and social studies educator, Brandon Moss, the ability to take advantage of the design resources included in the toolkit. Specifically, these design resources consisted of methods of inquiry, visual thinking, and materials for making. The study identified challenges and opportunities related to research support, time limitations, teacher facilitation, creative freedom, and hands-on making during the activities.

Table 7. *Design Principles and Results.*

Results are distinguished by findings related to the design principles.

Design Principles

The following principles were used to measure results of the pilot zine-making workshop in hopes to improve learning outcomes for students and provide accessible, low-cost resources that are easy for teachers to implement. The principles and results included:

Design Principle	Results
Social Justice Issues: It must address social justice issues.	Zines provide a way for students to tie in their interests and disseminate into the public. While students learned to communicate the issue, they didn’t actually solve the issue related to their topic.
Time: It should provide more time for students to work on projects.	Many students expressed that they didn’t have “enough time” to work on their projects during nine in-class sessions to create their zines.
Freedom: It should provide students the freedom to choose an issue that matters to them.	Students were successful in choosing an issue that mattered to them and many attributed that they felt “creative freedom” to use their voice as a result of the activities.
Projects into Action: It should transform student projects into action.	Zines provide a way for students to tie in their social justice interests and disseminate into the public.
Change Agents: It should help students to feel equipped to become change agents through their in-class learning.	Many students enjoyed the zine-making workshop, however, it is inconclusive that students feel equipped to become change agents as this would require a steady assessment to track their learning outcomes.
Design Resources: It should afford civic education (teachers) to take advantage of design resources.	The zine-making workshop toolkit allowed teachers to take advantage of design resources, however, there is room for improvement.

The results in the context of each research question were aligned with the design principles as shown in table 7. The snapshot overview answers the principles related to students addressing social justice issues, providing more time for projects, freedom deciding an issues that matters to them, how the projects transform into actions, student’s efficacy in becoming a change agent, and afford teachers to to take advantage of design resources provided in the pilot zine-making workshop toolkit.

As a theoretical framework applied later in the thesis process, activity theory was used to analyze the interactions that occurred during the pilot zine-making workshop within a sociocultural context of Moss’ civics class and the activities students engaged in during the zine-making workshop. DBR delivers intangible and tangible outcomes, mindset and role-playing, related to theory and practice, similar to Bennett et al.’s description of social justice and design in AT (2017). This process helped draw connections between the dimensions of activity systems to breakdown the elements of the pilot zine-making workshop in a sociocultural perspective. The activity system that was used can be further categorized by layers of the design process to encapsulate an integrative design approach.

Integrative Design Process

While my research questions focused on the student and teacher perspective, a perspective on layers of designing and design emerged in the process of situating cross-disciplinary knowledge into “layers of design.” The design and research process occurred on multiple levels. This illustration encapsulates the multilayered modes of engagement infused into each phase of the design and research process. DBR served as the overarching analytical framework to study the research-based design process. This meant that the process is invested in an iterative, real-world implementation, and collaboration with users.

Nested within DBR was engagement through co-design to enhance collaboration with youth participants and educator(s) engaged in zine-making and design activities to work together as part of *designing*

Table 8. Roles of designer, educator, learner, and researcher in my integrative design process.

	Designer as...	Educator as...	Learner as...
Designer	Brings a set of creative skills and tools to devise preferable outcomes	Shapes the teaching and learning environment	Shapes the teaching and learning environment
Educator	Approaches design to teach others	Brings a set of instructional and pedagogical tools to learning	Balances the roles of teaching and learning
Learner	Humility in discovery of new knowledge	Balances the roles of teaching and learning	Brings perspective in acquiring new knowledge
Researcher	Actively seeking knowledge and bridges the gap between research and design	Balances the roles of teaching and learning	Investigates through inquiry to bridge own gaps in knowledge
Co-designer	Works alongside others to co-create tangible or intangible outcomes		
Facilitator	Hosts and mediates activities		
Partner	Working collaboratively relationship with entity, individual, or group		
Participant	Engages in activities		

(research). Approached horizontally as co-creators, co-design differed in each user context. For students, this meant having a say in ways to improve the zine-making workshop, informed by the act of making (artifacts). For an educator, this meant having a say in decisions related to the facilitation of activities. As design researcher, I collaborated on decision-making with students and Moss. No role was static, as democratizing the delivery meant roles shifted as necessary. The zine-making and design activities embedded as part of the zine-making workshop *design* prototypes rest on a secondary plane, representing a design-based learning linear process.

These layers, combined, elicited an simultaneous integrative design approach to the workshop process outcome. Expanding on activity theory, the outcome of situating civic learning and making through design, diffusing design (Manzini 2015) knowledge intended to build designerly capabilities within students and educators through collaboration on different levels with the goal of encouraging civic participation, leading to social and cultural change within public life and the pursuit of democracy. As an emerging method, integrative design is informed by both designers and non-designers navigating, challenging, and liberating *designing* to democratize knowledge through collaboration from multiple disciplines to tackle complex problems.

During all four phases of the design process, my role shifted in different contexts during the pilot zine-making workshop. The fluidity between designer, educator, and learner as researcher, co-designer, facilitator, partner, and participant is described in table 8. Participatory design takes much time, resources, and institutional commitment, while participation is essential to the process (Spinuzzi 2005). As design in the 21st century expands the roles in which people participate in designing, this thesis provided a glimpse of the ways in which the roles of a designer are no longer static but active and fluid throughout the education and design research contexts.



CONCLUSION: IMPLICATIONS & FUTURE WORK

This section asserts why this project is significant, summarizes implications, and suggests recommendations for future work.

This research project used a novel integrative design approach that was cross-disciplinary, combining design-based research (DBR) from the field of education with co-design from the field of design to develop and test a pilot zine-making workshop in a local high school civics classroom. This thesis sought to address equity and access in education on a small scale through civic learning and design. Design and educational research were meshed to study the context, development, prototype implementation, and evaluation over four phases—designing via layers of research, theory, and practice. This case study provided evidence through rigorous data collection and participatory practices between design researcher, educators, and students in collaboration with Equitable Futures (EF), an existing learning and teaching social justice program in Southeast Michigan.

This zine-making workshop toolkit serves as a supplementary resource to EF's program offering. Informed by students suggestions to make EF activities even better, this thesis sought to address ways to provide more time for students to work on projects; freedom for students to choose an issue that matters to them; transform student projects (zines) into action; and hopefully help students feel equipped to become change agents through their in-class learning and outside interests. In result, students participating in the pilot workshop in Brandon Moss' civics classroom were able to use their voice and find creative freedom in the design activities where they chose an issue that matters to them and disseminated their zines at the "Teen Zine Showcase." However, time persisted as a challenge in student engagement, school schedule, and a less structured approach that is untraditional in school. From their in-class learning, many students enjoyed the creative freedom of the workshop, however, it is inconclusive that students feel equipped to become change agents as this would require a steady assessment over time to track their learning outcomes (Gingold 2013).

In consideration of the zines, there is great potential for students to foster new skills and learn about design in a new way. It is acknowledged that zine-making is a narrow option among other learning opportunities. However, used as an equitable design method for inquiry and low-cost execution, zines provide an accessible way to foster creative freedom, new ways of learning civics, and addressing social justice issues through social action, making, and self-authorship. As a tool for social action, zines are powerful, simple ways to participate in important dialogues that shape policy, ideas, and maybe change minds.

Young people want to be heard, especially in the classroom and during an era of polarized political climate. By allowing and encouraging students to be critical of their own learning and conduct sensemaking through zines, we can hope that they feel more empowered to voice their concerns, educate, inform, provoke, or inspire the public and themselves to take action on issues. Not only their civic voice, but assert their own identities in a system that silences historically marginalized communities such as BIPOC, people with disabilities, LGBTQ+, immigrants, and poor individuals and families. If adults can better support youth to affect change in their community with necessary tools, especially communication, young people can make many powerful things happen including social change through multimodal civic engagement.

9.1 Implications

As Equitable Futures (EF) continues to expand its localized learning and teaching program in schools across Metro Detroit and Southeast Michigan, this zine-making workshop toolkit has potential to provide a pathway to gain traction in teaching social justice issues and encouraging schools and teachers to implement EF. Introducing zine-making activities during professional development for EF has the potential for teachers to also see themselves as change agents through low-fidelity, creative ideation. This also brings the challenge of bringing EF into schools. A

zine-making workshop toolkit could be an approachable way for teachers who are hesitant about teaching social justice to facilitate student-driven engagement where activities and reflection lends itself to creativity, activism, learning about new perspectives. As the C3 Framework prioritizes project-based learning, the shifting mindset of creativity and design as a value to learning social studies opens the door for EF and opportunities for such learning interventions. As a low-cost, accessible supplementary resource, this zine-making workshop toolkit provides a framework with potential to scale up EF program offerings.

9.2 Future Work

The first iteration of the EF pilot zine-making workshop was implemented and evaluated in terms of delivery, viability, and sought to improve the workshop prototype design. In the next workshop prototype, I recommend strengthening the activities with a critical and transformational mindset focused on design justice principles that actively seek to instill anti-racist practices and decolonized learning to expand civic capabilities and identities. A few recommendations also include:

Implementation

- Iterate the zine-making workshop prototype a second time to test the effectiveness of the workshop in another classroom context. This would add to the qualitative DBR approach. Further iterations have the potential to identify whether zine-making and the design process is useful for learners. Implementing without the practitioner present assesses the usability of the zine-making workshop toolkit on its own.
- Investigate the barriers and constraints in implementing social justice education. In order to expand EF's program reach, this is a critical next step in paving the path for sustainable alignment of social justice education and curriculum requirements.

Workshop Framework

- Focus the prototype with direct questions guiding activities and narrow the prototype scope. Test EF content within the workshop to assess how viable it fits into the curriculum unit.
- Expand the zine-making workshop for virtual collaboration between high schools or with another age group. In doing so, students have the opportunity to connect with other students to foster a new working relationship and approach to learning. EF's original concept of virtual collaboration between students from different schools is more relevant than ever. Involve community members or civic opportunities as part of the design process.
- Strengthen a guiding rubric for use in the workshop, assessment methods like creative thinking scale and documentation process would help establish ways for students to include in portfolios for future work, drawing on reflective practice as defined by Schön (1983). In addition, an interactive notebook also serves as a potentially useful way for students to log their experience. Incorporate alternative options for activities, zine print production, and a guide for analog and digital dissemination efforts within the workshop framework.
- Situate the activities to be a collaborative effort, rather than individualized, to expand the roles and roleplaying. In this format, zine-making teams suit each team member's interest (research, creative, or outreach) where students practice real-world public communication with focus on target audiences. As a collaborative effort, this could include asset mapping.

Integrative Design

- Explore behavior and service design within the research and workshop prototype. This would leverage insight into behavior shifts related to civic efficacy and apply principles of service design to better inform the interactions and systems thinking approach for civic learning.
- Collaborate with high school students to co-design the workshop suited to their active engagement in the process to determine the design of the workshop. As noted by students at Fordson High School, they would like to use this workshop toolkit on their own. I would recommend including high school students with varied learning styles, abilities, and identities to strengthen inclusion and ownership.
- Work with school administrators and public school districts to receive feedback and guidance to strategize and implement policies related to student-centered, social justice education and design-based learning.

Works Cited

- Adams, Maurianne, and Lee Anne Bell. 2016. *Teaching for Diversity and Social Justice*. London, UNITED KINGDOM: Routledge. <http://ebookcentral.proquest.com/lib/umichigan/detail.action?docID=4355263>.
- Anderson, Terry, and Julie Shattuck. 2012. "Design-Based Research: A Decade of Progress in Education Research?" *Educational Researcher* 41 (1): 16–25. <https://doi.org/10.3102/0013189X11428813>.
- Armstrong, M., C. Dopp, and J. Welsh. 2018. *The Students' Guide to Learning Design and Research*. Edited by Royce Kimmons. EdTech Books. https://edtechbooks.org/studentguide/design-based_research.
- Arsen, David, Tanner Delpier, and Jesse Nagel. 2019. "Michigan School Finance at the Crossroads." Michigan State University Education Policy Report. Lansing, Michigan: College of Education at Michigan State University, Board of Trustees of Michigan State University.
- Barab, Sasha, and Kurt Squire. 2004. "Design-Based Research: Putting a Stake in the Ground." *Journal of the Learning Sciences* 13 (1): 1–14. https://doi.org/10.1207/s15327809jls1301_1.
- Barbera, Elena, Iolanda Garcia, and Marc Fuertes-Alpiste. 2017. "A Co-Design Process Microanalysis: Stages and Facilitators of an Inquiry-Based and Technology-Enhanced Learning Scenario." *The International Review of Research in Open and Distributed Learning* 18 (6). <https://doi.org/10.19173/irrodl.v18i6.2805>.
- Baxter Magolda, Marcia B. 2008. "Three Elements of Self-Authorship." *Journal of College Student Development* 49 (4): 269–84.
- Bell, Lee Anne. 2016. "What Is Social Justice?" In *Teaching for Diversity and Social Justice*, by Maurianne Adams and Lee Anne Bell. London, UNITED KINGDOM: Taylor & Francis Group. <http://ebookcentral.proquest.com/lib/umichigan/detail.action?docID=4355263>.
- Bell, Stephanie. 2010. "Project-Based Learning for the 21st Century: Skills for the Future." *The Clearing House: A Journal of Educational Strategies, Issues and Ideas* 83 (2): 39–43. <https://doi.org/10.1080/00098650903505415>.
- Bennett, Audrey G., Fatima Cassim, and Marguerite Van der Merwe. 2017. "How Design Education Can Use Generative Play to Innovate for Social Change : A Case Study on the Design of South African Children's Health Education Toolkits." *International Journal of Design Creativity and Innovation, Design Case Study*, 11 (2). <https://repository.up.ac.za/handle/2263/62601>.
- Blevins, Brooke, Karon LeCompte, and Sunny Wells. 2016. "Innovations in Civic Education: Developing Civic Agency Through Action Civics." *Theory & Research in Social Education* 44 (3): 344–84. <https://doi.org/10.1080/00933104.2016.1203853>.
- Boggs, Grace Lee, and Scott Kurashige. 2012. *The Next American Revolution: Sustainable Activism for the Twenty-First Century*. Berkeley: University of California Press.
- Brown, Ann L. 1992. "Design Experiments: Theoretical and Methodological Challenges in Creating Complex Interventions in Classroom Settings." *Journal of the Learning Sciences* 2 (2): 141–78. https://doi.org/10.1207/s15327809jls0202_2.
- Buchanan, Rebekah. 2012. "Zines in the Classroom: Reading Culture." *The English Journal* 102 (2): 71–77.
- Buchanan, Richard. 1992. "Wicked Problems in Design Thinking." *Design Issues* 8 (2): 5. <https://doi.org/10.2307/1511637>.
- Burdick, Anne. 2009. "Design Without Designers." In . University of Brighton: Conference on the Future of Art and Design Education in the 21st century.
- Carnegie Corporation of New York, and CIRCLE. 2003. *The Civic Mission of Schools*. Center for Information and Research on Civic Learning and Engagement (CIRCLE). <http://eric.ed.gov/?id=ED498891>.

- Carroll, Antoinette. 2018. *Can Design Dismantle Racism?* YouTube. TEDxGatewayArch. St. Louis. <https://www.youtube.com/watch?v=cNlsMqiBmSA>.
- Christensen, Bo, and Janet Kolodner. 2016. "Reflections on Design Stories." In *Design as Scholarship: Case Studies from the Learning Sciences*, edited by Vanessa Svihla and Richard Reeve. New York: Routledge, Taylor & Francis Group.
- Christensen, Kimberly, and Richard E. West. 2017. "The Development of Design-Based Research." In *Foundations of Learning and Instructional Design Technology*. <https://ltdfoundations.pressbooks.com/chapter/design-based-research/>.
- Chu, Julie. 1997. "Navigating the Media Environment: How Youth Claim a Place through Zines." *Social Justice; San Francisco* 24 (3): 71–85.
- Collins, Allan. 1992. "Toward a Design Science of Education." In *New Directions in Educational Technology*, edited by Eileen Scanlon and Tim O'Shea, 15–22. Springer Berlin Heidelberg.
- Collins, Allan, Diana Joseph, and Katerine Bielaczyc. 2004. "Design Research: Theoretical and Methodological Issues." *Journal of the Learning Sciences* 13 (1): 15–42. https://doi.org/10.1207/s15327809jls1301_2.
- Congdon, Kristin G, and Doug Blandy. 2003. "Using Zines to Teach about Postmodernism and the Communication of Ideas." *Art Education* 56 (3): 44–55.
- Costanza-Chock, Sasha. 2020. *Design Justice: Community-Led Practices to Build the Worlds We Need*. Information Policy. Cambridge, MA: The MIT Press.
- Crouch, Christopher, and Jane Pearce. 2012. *Doing Research in Design*. London: Bloomsbury.
- Davis, Meredith, ed. 1997. *Design as a Catalyst for Learning*. Alexandria, Va: Association for Supervision and Curriculum Development.
- DeJaynes, Tiffany, and Christopher Curmi-Hall. 2019. "Transforming School Hallways Through Critical Inquiry: Multimodal Literacies for Civic Engagement." *Journal of Adolescent & Adult Literacy* 63 (3): 299–309. <https://doi.org/10.1002/jaal.991>.
- Design Council. 2019. "Design Council's Evolved Double Diamond." Design Council. 2019. <https://www.designcouncil.org.uk/news-opinion/what-framework-innovation-design-councils-evolved-double-diamond>.
- Desyllas, Moshoula Capous, and Allison Sinclair. 2014. "Zine-Making as a Pedagogical Tool for Transformative Learning in Social Work Education." *Social Work Education* 33 (3): 296–316. <https://doi.org/10.1080/02615479.2013.805194>.
- Dewey, John. 1923. *Democracy and Education: An Introduction to the Philosophy of Education*. Macmillan. https://books.google.com/books?id=-GEWAAAIAAJ&dq=john+dewey+democracy+and+education&lr=&source=gbs_navlinks_s.
- . 1933. *How We Think: A Restatement of the Relation of Reflective Thinking to the Educative Process*. 2nd ed. New York: D.C. Heath and Company.
- DiSalvo, Betsy, Elizabeth Bonsignore, Jason Yip, and Carl DiSalvo, eds. 2017. *Participatory Design for Learning*. New York: Routledge, Taylor & Francis Group.
- Douven, Igor. 2017. "Abduction." In *The Stanford Encyclopedia of Philosophy*, edited by Edward N. Zalta, Summer 2017 Edition. <https://plato.stanford.edu/archives/sum2017/entries/abduction/>.
- Dover, Alison G. 2013. "Getting 'Up to Code': Preparing for and Confronting Challenges When Teaching for Social Justice in Standards-Based Classrooms." *Action in Teacher Education* 35 (2): 89–102. <https://doi.org/10.1080/01626620.2013.770377>.
- Duncombe, Stephen. 1997. *Notes from Underground: Zines and the Politics of Alternative Culture*. Third edition. Portland: Microcosm Publishing.
- Edelson, Daniel C. 2002. "Design Research: What We Learn When We Engage in Design." *Journal of the Learning Sciences* 11 (1): 105–21. https://doi.org/10.1207/S15327809JLS1101_4.
- Engeström, Yrjö. 1987. *Learning by Expanding*. Cambridge University Press.
- . 2001. "Expansive Learning at Work: Toward an Activity Theoretical Reconceptualization." *Journal of Education and Work* 14 (1): 133–56. <https://doi.org/10.1080/13639080020028747>.

- . 2011. "From Design Experiments to Formative Interventions:" *Theory & Psychology*. <https://doi.org/10.1177/0959354311419252>.
- Engeström, Yrjö, Reijo Miettinen, and Raija-Leena Punamäki-Gitai, eds. 1999. *Perspectives on Activity Theory*.
- Evans, Carla M. 2019. "Student Outcomes from High-Quality Project-Based Learning: A Case Study for PBLWorks." *National Center for the Improvement of Educational Assessment*, 135.
- Freire, Paulo. 1973. *Pedagogy of the Oppressed*. 1st ed. New York: Continuum.
- Frey, Bruce B., ed. 2018. *The Sage Encyclopedia of Educational Research, Measurement, and Evaluation*. Los Angeles: SAGE Reference. <https://methods-sagepub-com.proxy.lib.umich.edu/reference/the-sage-encyclopedia-of-educational-research-measurement-and-evaluation/i19688.xml?fromsearch=true>.
- Fry, Richard, and Kim Parker. 2018. "'Post-Millennial' Generation On Track To Be Most Diverse, Best-Educated." *Pew Research Center's Social & Demographic Trends Project* (blog). November 15, 2018. <https://www.pewsocialtrends.org/2018/11/15/early-benchmarks-show-post-millennials-on-track-to-be-most-diverse-best-educated-generation-yet/>.
- Gingold, Jessica. 2013. "Building an Evidence-Based Practice of Action Civics: The Current State of Assessments and Recommendations for the Future." *CIRCLE (The Center for Information and Research on Civic Learning and Engagement)*. https://civicyouth.org/wp-content/uploads/2013/08/WP_78_Gingold.pdf.
- Ginwright, Shawn, and Julio Cammarota. 2007. "Youth Activism in the Urban Community: Learning Critical Civic Praxis within Community Organizations." *International Journal of Qualitative Studies in Education* 20 (6): 693–710. <https://doi.org/10.1080/09518390701630833>.
- Glaser, Barney G., and Anselm L. Strauss. 1967. *The Discovery of Grounded Theory: Strategies for Qualitative Research*. 11. printing. New York: Aldine.
- Hanington, Bruce, and Bella Martin. 2012. *Universal Methods of Design: 100 Ways to Research Complex Problems, Develop Innovative Ideas, and Design Effective Solutions*. Rockport Publishers.
- Hodge, David C., Marcia B. Baxter Magolda, and Carolyn A. Haynes. 2009. "Engaged Learning: Enabling Self-Authorship and Effective Practice." *Liberal Education* 95 (4): 16–23.
- Honma, Todd. 2016. "From Archives to Action: Zines, Participatory Culture, and Community Engagement in Asian America." *Radical Teacher*, Brooklyn, no. 105 (Summer): 33–43,89. <http://dx.doi.org.proxy.lib.umich.edu/10.5195/rt.2016.277>.
- hooks, bell. 1994. *Teaching to Transgress: Education as the Practice of Freedom*. New York: Routledge.
- Illich, Ivan. 1975. *Tools for Conviviality*. London: Marion Boyars Publishers.
- Jacobi, Tobi. 2007. "The Zine Project: Innovation or Oxymoron?" *English Journal, High School Edition; Urbana* 96 (4): 43–49.
- Jonassen, David H., and Lucia Rohrer-Murphy. 1999. "Activity Theory as a Framework for Designing Constructivist Learning Environments." *Educational Technology Research and Development* 47 (1): 61–79. <https://doi.org/10.1007/BF02299477>.
- Kahne, Joseph, and Ellen Middaugh. 2008. "Democracy for Some: The Civic Opportunity Gap in High School," 30.
- Kathleen, Jonathan, Hall Jamieson, Peter Levine, Ted McConnell, and David B. Smith, eds. 2011. *Guardian of Democracy: The Civic Mission of Schools*. Philadelphia: Leonore Annenberg Institute for Civics of the Annenberg Public Policy Center. <https://www.carnegie.org/publications/guardian-of-democracy-the-civic-mission-of-schools/>.
- Kegan, Robert. 1994. *In Over Our Heads: The Mental Demands of Modern Life*. Harvard University Press.
- Kelly, A.V., R.A. Kimbell, V.J. Patterson, J. Saxton, and K. Stables. 1987. *Design and Technology: A Framework for Assessment*. London: HMSO.

- Khalil, Deena, and Meredith W. Kier. 2018. "Critical Race Design: Emerging Principles for Designing Critical and Transformative Learning Spaces." In *Power, Equity and (Re) Design: Bridging Learning and Critical Theories in Learning Ecologies for Youth*, edited by Kris D. Gutiérrez, Elizabeth Mendoza, and Benjamin Kershner. IAP.
- Kingston, Sally. 2018. "Project Based Learning & Student Achievement: What Does the Research Tell Us?" *Buck Institute for Education, PBL Evidence Matters*, 1 (1): 11.
- Klein, G., B. Moon, and R.R. Hoffman. 2006. "Making Sense of Sensemaking 1: Alternative Perspectives." *IEEE Intelligent Systems* 21 (4): 70–73. <https://doi.org/10.1109/MIS.2006.75>.
- Kolb, David A. 1984. *Experiential Learning: Experience as the Source of Learning and Development*. 1st edition. Upper Saddle River, New Jersey: Pearson Education, Inc.
- Kolko, Jon. 2010. "Abductive Thinking and Sensemaking: The Drivers of Design Synthesis." *Design Issues* 26 (1): 15–28.
- Kress, Gunther R. 2010. *Multimodality: A Social Semiotic Approach to Contemporary Communication*. London ; New York: Routledge.
- Kumar, Vijay. 2013. *101 Design Methods: A Structured Approach for Driving Innovation in Your Organization*. Hoboken, N.J.: Wiley.
- Kwon, Samuel M, Peter S Wardrip, and Louis M Gomez. 2014. "Co-Design of Interdisciplinary Projects as a Mechanism for School Capacity Growth." *Improving Schools* 17 (1): 54–71. <https://doi.org/10.1177/1365480213519517>.
- Lee, Hyun-Kyung, and Mark Breitenberg. 2010. "Education in the New Millennium: The Case for Design-Based Learning." *International Journal of Art & Design Education* 29 (1): 54–60. <https://doi.org/10.1111/j.1476-8070.2010.01631.x>.
- Levinson, Meira. 2010. "The Civic Empowerment Gap: Defining the Problem and Locating Solutions." In *Handbook of Research on Civic Engagement in Youth*, edited by Lonnie R. Sherrod, Judith Torney-Purta, and Constance A. Flanagan, 331–61. Hoboken, NJ, USA: John Wiley & Sons, Inc. <https://doi.org/10.1002/9780470767603.ch13>.
- . 2012. *No Citizen Left Behind*. Cambridge, UNITED STATES: Harvard University Press. <http://ebookcentral.proquest.com/lib/umichigan/detail.action?docID=3301065>.
- . 2013. "Education as a Civic Right: Using Schools to Challenge the Civic Empowerment Gap." *Poverty and Race* 22 (3): 7.
- . 2014. "Action Civics in the Classroom." *Social Education* 78 (2): 68–70.
- Lo, Jane C. 2018. "PBL in Social Studies Classrooms: Teaching High Quality and Engaging Projects." *Social Education*, National Council for the Social Studies, 82 (1): 2.
- Lonsdale, Chelsea. 2015. "Engaging the "Othered": Using Zines to Support Student Identities." *Language Arts Journal of Michigan* 30 (2): 4.
- Manzini, Ezio. 2015. *Design, When Everybody Designs: An Introduction to Design for Social Innovation*. Translated by Rachel Coad. Design Thinking, Design Theory. Cambridge, Massachusetts: The MIT Press.
- McAllister, G., and A. Furlong. 2009. "Understanding Literature Reviews." In *Research Essentials: An Introduction to Designs and Practices*, edited by Stephen D. Lapan and Marylynn T. Quartaroli. San Francisco, CA: Jossey-Bass.
- McCarthy, Steven, and Cristina Melibeu de Almeida. 2002. "Self-Authored Graphic Design: A Strategy for Integrative Studies." *Journal of Aesthetic Education* 36 (3): 103–16. <https://doi.org/10.2307/3333601>.
- Merriam, Sharan B. 2009. *Qualitative Research: A Guide to Design and Implementation. The Jossey-Bass Higher and Adult Education Series*. San Francisco: Jossey-Bass.
- Metropolitan Youth Policy Fellows. 2017. "YOUth Voices: Youth in Metropolitan Detroit Speak Out — Full Report on Social Justice." Social Justice. Metropolitan Youth Policy Fellows. Detroit, Michigan: Community Foundation for Southeast Michigan and Youth Dialogues on Race and Ethnicity. <https://cfsem.org/wp-content/uploads/2017/12/Full-Report-on-Social-Justice.pdf>.
- Michigan Department of Education. 2019. "Michigan K-12 Social Studies Standards." https://www.michigan.gov/documents/mde/Final_Social_Studies_Standards_Document_655968_7.pdf.

- Moje, Elizabeth Burr. 2007. "Chapter 1: Developing Socially Just Subject-Matter Instruction--A Review of the Literature on Disciplinary Literacy Teaching." *Review of Research in Education* 31 (1): 1–44. <https://doi.org/10.3102/0091732X07300046>.
- Mulder, Ingrid. 2018. "Co-Creative Partnerships as Catalysts for Social Change." *Strategic Design Research Journal* 11 (3): 178–185–185. <https://doi.org/10.4013/sdrj.2018.113.01>.
- Muratovski, Gjoko. 2016. *Research for Designers: A Guide to Methods and Practice*. London: Sage Publications.
- National Center for Education Statistics (NCES). 2017. "Common Core of Data (CCD) Public School Data: Arts Academy In The Woods." *National Center for Education Statistics*. 2018 2017. https://nces.ed.gov/ccd/districtsearch/district_detail.asp?Search=1&State=26&County=Macomb&ID2=2600273.
- . 2018. "Common Core of Data (CCD) Public School Data: Arts Academy In The Woods." National Center for Education Statistics. 2019 2018. https://nces.ed.gov/ccd/districtsearch/district_detail.asp?Search=1&State=26&County=Macomb&ID2=2600273.
- National Council for the Social Studies. 2017. "The College, Career, and Civic Life (C3) Framework for Social Studies State Standards: Guidance for Enhancing the Rigor of K-12 Civics, Economics, Geography, and History," 114.
- Nielsen, Jørgen Lerche, and Lars Birch Andreasen. 2014. "Design and Co-Design of Project-Organized Studies." In *Situated Design Methods*, 43–58. MIT Press.
- O'Leary, Zina. 2017. *The Essential Guide to Doing Your Research Project*. 3rd edition. Thousand Oaks, CA: SAGE Publications.
- Partnership for 21 Century Learning (P21). 2019. "P21 Framework for 21st Century Learning." Battelle for Kids. 2019. http://static.battelleforkids.org/documents/p21/P21_Framework_Brief.pdf.
- Penuel, William R., Jeremy Roschelle, and Nicole Shechtman. 2007. "Designing Formative Assessment Software with Teachers: An Analysis of the Co-Design Process." *Research and Practice in Technology Enhanced Learning* 02 (01): 51–74. <https://doi.org/10.1142/S1793206807000300>.
- Picower, B. 2011. "Resisting Compliance: Learning to Teach for Social Justice in a Neoliberal Context." *Teachers College Record* 113 (5): 1105–34.
- Powell, Katherine C., and Cody J. Kalina. 2009. "Cognitive and Social Constructivism: Developing Tools for an Effective Classroom." *Education* 130 (2): 241–50.
- Ramdarshan Bold, Melanie. 2017. "Why Diverse Zines Matter: A Case Study of the People of Color Zines Project." *Publishing Research Quarterly; New York* 33 (3): 215–28. <http://dx.doi.org/10.1007/s12109-017-9533-4>.
- Rebell, Michael A. 2018. *Flunking Democracy: Schools, Courts, and Civic Participation*. University of Chicago Press.
- Reeves, Thomas. 2006. "Design Research from a Technology Perspective." In *Educational Design Research*, edited by Jan Van den Akker, Koeno Gravemeijer, Susan McKenney, and Nienke Nieveen, 52–66. Routledge.
- Rittel, Horst W. J., and Melvin M. Webber. 1973. "Dilemmas in a General Theory of Planning." *Policy Sciences* 4 (2): 155–69. <https://doi.org/10.1007/BF01405730>.
- Riverdale Country School, and IDEO. 2011. *Design Thinking for Educators*. IDEO. <https://designthinkingforeducators.com/>.
- Rubin, Beth C. 2016. "Making Citizens: Using Design-Based Research to Transform Civic Learning." *Rutgers University*. https://www.academia.edu/23463635/Making_Citizens_Using_Design-Based_Research_to_Transform_Civic_Learning.
- Sanders, Elizabeth B.-N., and Pieter Jan Stappers. 2008. "Co-Creation and the New Landscapes of Design." *CoDesign* 4 (1): 5–18. <https://doi.org/10.1080/15710880701875068>.
- . 2014. "Probes, Toolkits and Prototypes: Three Approaches to Making in Codesigning." *CoDesign* 10 (1): 5–14. <https://doi.org/10.1080/15710882.2014.888183>.
- Sanders, Liz, and Pieter Jan Stappers. 2012. *Convivial Design Toolbox: Generative Research for the Front End of Design*. Amsterdam: BIS.

- Sandoval, William A., and Philip Bell. 2004. "Design-Based Research Methods for Studying Learning in Context: Introduction." *Educational Psychologist* 39 (4): 199–201. https://doi.org/10.1207/s15326985ep3904_1.
- Schön, Donald A. 1983. *The Reflective Practitioner: How Professionals Think in Action*. 1st ed. New York: Basic Books.
- Simon, Herbert Alexander. 1969. *The Sciences of the Artificial*. Cambridge, Mass.: MIT Press.
- Soulé, Helen, and Tatyana Warrick. 2015. "Defining 21st Century Readiness for All Students: What We Know and How to Get There." *Psychology of Aesthetics, Creativity, and the Arts, Creativity and Education*, 9 (2): 178–86. <https://doi.org/10.1037/aca0000017>.
- Spinuzzi, Clay. 2005. "The Methodology of Participatory Design." *Technical Communication; Washington* 52 (2): 163–74.
- Stables, Kay. 2014. "Designerly Well-Being: Implications for Pedagogy That Develops Design Capability." *Design and Technology Education: An International Journal* 19 (1). https://www.academia.edu/8888110/Designerly_well-being_implications_for_pedagogy_that_develops_design_capability.
- Stickdorn, Marc, Jakob Schneider, Kate Andrews, and Adam Lawrence. 2011. *This Is Service Design Thinking: Basics, Tools, Cases*. Vol. 1. Wiley Hoboken, NJ.
- Stockdill, Darin. 2011. "Disjuncture, Design, and Disruption: Bridging the Gap Between Students' Everyday and Academic Knowledge through Historical Inquiry." Thesis, Ann Arbor, MI: University of Michigan, Horace H. Rackham School of Graduate Studies. <https://deepblue.lib.umich.edu/handle/2027.42/89646?show=full>.
- Stockdill, Darin B., and Elizabeth B. Moje. 2013. "Adolescents as Readers of Social Studies: Examining the Relationship between Youth's Everyday and Social Studies Literacies and Learning." *Berkeley Review of Education* 4 (1). <https://doi.org/10.5070/B84110015>.
- Stornaiuolo, Amy, and Ebony Elizabeth Thomas. 2017. "Disrupting Educational Inequalities Through Youth Digital Activism." *Review of Research in Education* 41 (1): 337–57. <https://doi.org/10.3102/O091732X16687973>.
- The Design-Based Research Collective. 2003. "Design-Based Research: An Emerging Paradigm for Educational Inquiry." *Educational Researcher* 32 (1): 5–8. <https://doi.org/10.3102/O013189X032001005>.
- Vygotsky, L. S. 1978. *Mind in Society: The Development of Higher Psychological Processes*. Harvard University Press.
- Wan, Amy J. 1999. "Not Just for Kids Anymore: Using Zines in the Classroom." *The Radical Teacher*, no. 55: 15–19.
- Wenger, Etienne. 2008. *Communities of Practice: Learning, Meaning, and Identity. Learning in Doing: Social, Cognitive, and Computational Perspectives*. Cambridge: Cambridge Univ. Press.
- Westbroek, Hanna, Bregje de Vries, Amber Walraven, Adam Handelzalts, and Susan McKenney. 2019. "Teachers as Co-Designers: Scientific and Colloquial Evidence on Teacher Professional Development and Curriculum Innovation." In *Collaborative Curriculum Design for Sustainable Innovation and Teacher Learning*, edited by Jules Pieters, Joke Voogt, and Natalie Pareja Roblin, 35–54. Cham: Springer International Publishing. https://doi.org/10.1007/978-3-030-20062-6_3.
- Yin, Robert K. 2014. *Case Study Research: Design and Methods*. Fifth edition. Los Angeles: SAGE.
- Zamenopoulos, Theodore, Busayawan Lam, Katerina Alexiou, Mihaela Kelemen, Sophia De Sousa, Sue Moffat, and Martin Phillips. 2019. "Types, Obstacles and Sources of Empowerment in Co-Design: The Role of Shared Material Objects and Processes." *CoDesign* 0 (0): 1–20. <https://doi.org/10.1080/15710882.2019.1605383>.
- Zemelman, Steven. 2016. *From Inquiry to Action: Civic Engagement with Project-Based Learning in All Content Areas*. Portsmouth, NH: Heinemann.



APPENDIX

- A. Research Questions
- B. IRB Approval and Correspondence
- C. Consent, Assent, and Parent Permission Forms
- D. Survey Sample and Findings
- E. AAW Pilot Workshop Interview Protocol
- F. AAW Pilot Workshop Protocol
- G. Workshop Artifacts and Raw Data
 - 1. Value Discovery
 - 2. Mindmap Remix
 - 3. Storyboarding Futures
 - 4. Collage Communication
 - 5. Zine Prototype
 - 6. Reflect and Evaluate
 - 7. Celebrate and Disseminate (“Teen Zine Showcase”)
 - 8. Zine Examples
 - 9. Zine Assessment Rubric
- H. FHS Group Interview Protocol

A. Research Questions


Table A.1. Research Questions for each phase from February 2019 to May 2020.

Phases	Research Questions
<p>PHASE ONE: Initial Prototypes February, May 2019</p>	<p>Equitable Futures Introduction Research Question: How do we frame the storytelling of EF?</p> <p>AAW Zine-making Workshop with MDes Cohort Research Question: How are youth able to talk about issues that matter to them through making? How might we understand high schoolers' sense of their own agency?</p> <p>Equitable Futures Youth Forum Research Question: What does it take to develop and facilitate a workshop at Youth Forum as an opportunity for students to co-create individual pages for an EF zine compilation?</p>
<p>PHASE TWO: Workshop Development June - August 2019</p>	<p>Development of the Zine-making Workshop for Civic Learning Research Question: What does it take to design a workshop framework that is easy-to-use and applicable for secondary social studies classrooms?</p>
<p>PHASE THREE: Pilot Workshop September- December 2019</p>	<p>Preparation of the Pilot Workshop Research Questions: What are classroom dynamics and what should I look for when implementing? How do I ensure ethical design principles when working with youth and vulnerable populations?</p> <p>Pilot Workshop at AAW Research Questions: <u>How might we use zines to empower students to become civic participants who communicate about social justice issues?</u> <u>How might we supplement teachers' existing pedagogy with low-cost and accessible design activities that facilitate their students connecting in-school civic learning to outside interests creatively?</u></p>
<p>PHASE FOUR: Evaluation January - May 2020</p>	<p>Evaluation Research Question: How do I make sense of all data collected? What kind of patterns emerge in the artifacts?</p> <p>Fordson High School Group Interviews Research Question: What do other students and teachers think about the workshop framework? What do they need for implementation?</p>

B. IRB Approval and Correspondence

From: eresearch@umich.edu
 Subject: eResearch Notification: Notice of Exemption for (HUM00171388)
 Date: November 7, 2019 at 11:31 AM
 To: agbenet@umich.edu, admcon@umich.edu

E


 Health Sciences and Behavioral Sciences Institutional Review Board (IRB-HSBS) • 2800 Plymouth Rd., Building 520, Room 1170, Ann Arbor, MI 48109-2800 • phone (734) 936-0933 • fax (734) 998-9171 • irbsbs@umich.edu

To: Ashley Moon
From:
 Thad Polk
Cc:
 Audrey Bennett
 Ashley Moon
Subject: Notice of Exemption for (HUM00171388)

SUBMISSION INFORMATION:
 Title: Exploring Equitable Futures Through Zine-making
 Full Study Title (if applicable):
 Study eResearch ID: [HUM00171388](#)
 Date of this Notification from IRB: 11/7/2019
 Date of IRB Exempt Determination: 11/7/2019
 UM Federalwide Assurance: FWA00004969 (For the current FWA expiration date, please visit the [UM HRPP Webpage](#))
 CHRP IRB Registration Number(s): IRB00000246

IRB EXEMPTION STATUS:
 The IRB HSBS has reviewed the study referenced above and determined that, as currently described, it is exempt from ongoing IRB review, per the following federal exemption category:

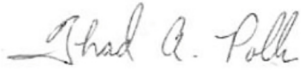
EXEMPTION 1 at 45 CFR 46.104(d):
Research, conducted in established or commonly accepted **educational settings, that specifically involves normal educational practices** that are **not likely to adversely impact students'** opportunity to learn required educational content or the assessment of educators who provide instruction. This includes most research on regular and special education instructional strategies, and research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.

Note that the study is considered exempt as long as any changes to the use of human subjects (including their data) remain within the scope of the exemption category above. Any proposed changes that may exceed the scope of this category, or the approval conditions of any other non-IRB reviewing committees, must be submitted as an amendment through eResearch.

Although an exemption determination eliminates the need for ongoing IRB review and approval, you still have an obligation to understand and abide by generally accepted principles of responsible and ethical conduct of research. Examples of these principles can be found in the Belmont Report as well as in guidance from professional societies and scientific organizations.


SUBMITTING AMENDMENTS VIA eRESEARCH:
 You can access the online forms for amendments in the eResearch workspace for this exempt study, referenced above.

ACCESSING EXEMPT STUDIES IN eRESEARCH:
 Click the "Exempt and Not Regulated" tab in your eResearch home workspace to access this exempt study.



Thad Polk
 Chair, IRB HSBS

C. Consent, Assent, and Parent Permission Forms



M STAMPS
SCHOOL OF ART & DESIGN
UNIVERSITY OF MICHIGAN

Please sign here to participate in *Exploring Equitable Futures Through Zine-making*.

SIGNATURE OF YOUTH PARTICIPANT
I understand the procedures described above. My questions have been answered to my satisfaction, and I agree to participate in this study. I will be given a copy of this form.

Name of Youth Participant Signature of Youth Participant Date

First Name Use
Please choose whether or not the researcher may use your first name in the researcher's thesis manuscript, promotional materials, and possibly future journal articles and books related to the research project. If you give permission below, your first name may be published with your student work or photos of you. If you do not give permission, your first name will not be published.

_____ **Yes.** I give permission to publish my first name associated with my student work or photos of me.

_____ **No.** I do not give permission to publish my first name associated with my student work or photos of me.

SIGNATURE OF PERSON OBTAINING CONSENT
In my judgment, the participant is voluntarily agreeing to participate in this research study.

Name of Person Obtaining Consent Signature of Person Obtaining Consent Date

Photography, Video, and Audio Recording: Photo, video, and audio recordings will not be used for any purposes other than the researcher's thesis manuscript, promotional materials, and possibly future journal articles and books related to the research project *unless given permission to share them*.

Media Permission
Please choose whether or not the researcher may photograph or video record you engaging in the design activities and zine-making or may audio record you during an interview to supplement the researcher's interview notes. If you give permission below, you may appear in photo, video, and audio recordings with your face and voice being identifiable. Verbal consent will be asked again when participating in the 10-15 minute interview for feedback on the workshop. If you do not give permission, you will be seated out of camera range during activities and will not be audio recorded during an interview.

_____ **Yes.** I give permission to photo, video, and audio record me while I engage in activities or during an interview.

If yes, do you give permission for the researcher to share photos, video, and audio with other researchers?
_____ **Yes** _____ **No**

_____ **No.** I do not give permission to photograph and video record me while I engage in activities or during an interview.

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D. Survey Sample and Findings

Pre-Workshop Student Survey

Exploring Equitable Futures Through Zine-making

The survey below assesses what you think about your values, civic participation, design, and in-school learning.

- Civic participation* refers to individual or collective involvement of citizens working to improve issues within a community. (e.g. voting in elections or encouraging people to vote)
- Design* refers to improving situations into preferable situations. (e.g. redesigning the voting process to make sure that it accessible to everyone)

Please select the number below that best represents how you feel about each statement.

1= Strongly Disagree (SD) 2= Disagree (D) 3=Neutral (N) 4= Agree (A) 5= Strongly Agree (SA)

	SD	D	N	A	SA
I look forward to learning more about design.	1	2	3	4	5
I know how to visually communicate my ideas.	1	2	3	4	5
I feel optimistic about the future.	1	2	3	4	5
My teacher listens to my ideas.	1	2	3	4	5
My voice matters.	1	2	3	4	5
I believe what I learn in social studies is relevant to my life.	1	2	3	4	5
I feel confident in improving issues that I care about.	1	2	3	4	5
I feel motivated to make change in my community.	1	2	3	4	5
I could see myself using design in college or in my future work.	1	2	3	4	5
I think that visual design makes it easier for me to communicate my ideas.	1	2	3	4	5
I learn more when doing creative school projects.	1	2	3	4	5
I know how to create a zine and distribute it to the public.	1	2	3	4	5
I think zines are one way to get my voice out in the world.	1	2	3	4	5

[AAW 9/14/2019]

Assent Form for reference – each permission form was attached to the research protocol.

Table D.1. Paper pre- and post-workshop survey analysis.

<p>Did it improve learning outcomes?</p> <ul style="list-style-type: none"> • <i>I feel confident in improving issues that I care about.</i> Students mostly agree (pre and post) in feeling confident in improving issues. • <i>I learn more when doing creative school projects.</i> Students strongly agreed post-workshop (compared to agree in pre-workshop) that they learn more when doing creative school projects. <p>Did students communicate and address social justice issues?</p> <ul style="list-style-type: none"> • <i>I know how to visually communicate my ideas.</i> Many students neutral-agree that they know how to visually communicate their ideas, there was a 4% increase toward agree post-workshop. • <i>I think that visual design makes it easier for me to communicate my ideas.</i> Students strongly agreed pre-workshop that visual design makes it easier for them to communicate ideas. In post-workshop, a few disagreed with the remaining majority strongly agreeing. <p>Did it transform student projects into action?</p> <ul style="list-style-type: none"> • <i>I know how to create a zine and distribute it to the public.</i> Prior to the workshop, students strongly disagreed (with some neutral) that they knew how to create a zine and distribute it to the public. After the workshop students agreed that they knew how to create a zine and distribute it to the public. • <i>I think zines are one way to get my voice out in the world.</i> Students generally agreed (some neutral) pre-workshop that zines get their voice out. In post-workshop, students strongly agreed (some neutral). <p>Did it help students to feel equipped to become change agents through their in-class learning?</p> <ul style="list-style-type: none"> • <i>My voice matters.</i> Pre-workshop, students strongly agreed that their voice matters. However, this became generally agree in post-workshop with one student stating “No one listens to me, ever.” • <i>I believe what I learn in social studies is relevant to my life.</i> Students moved from (neutral) agree to generally agreeing that social studies is relevant. • <i>I feel motivated to make change in my community.</i> Students moved from (neutral) agree to generally agreeing that they feel motivated to make change.
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E. AAW Pilot Workshop Interview Protocol

SEMI-STRUCTURED INTERVIEW WITH STUDENT
Exploring Equitable Futures Through Zine-making

Date: _____ School: _____

Audio recording?* Yes No

**Double-check assent or consent form - media permissions. If yes, "I will audio record the interview and use Rev.com services for transcription to supplement interview notes."*

Interviews will take place in the classroom during lunch hour with the teacher's permission; the teacher may or may not be present. The teacher will be advised to maintain confidentiality.

Thank you for meeting with me today, Mr./Ms. _____ referred to you as one of their high school social studies students who might be willing to discuss your workshop experience as well as your own civic participation as a young adult. I am going to ask you a few questions about your thoughts and feedback on the workshop.

This workshop is intended to teach young adults, like you, about the design process to discover values and amplify your voice on social justice issues that matter to you. You and your classmates have been exploring the relationship between civil rights and current issues in order to develop a zine that gives voice to your learning and views. Findings may help to shape classroom activities to meet the needs of future students like you.

You can opt out of this interview at any time and/or refuse to answer any questions. Your responses will be used to evaluate the effectiveness of the workshop, promote the workshop, or contribute to generalizable knowledge through publications like my thesis manuscript, journal articles, and books. Any identifiable or personal information will be removed to ensure confidentiality.

With these ideas in mind, I would like to ask you a few questions.

- After engaging in today's activity, what did you learn about your topic or issue?
 - Did you find the activity useful to explore your ideas? How?
 - Have you done a similar kind of work in the past (earlier in the year or in a previous grade; in school or out of school)?
 - What problems did you encounter while you were working on this piece? How did you solve them?
- What have you learned about design? In what ways can you apply it in your life?
- How would you recommend to improve the workshop? Why?
- What activities have you enjoyed so far? Why?
- Tomorrow, you will be doing _____ activity. [Explain]. How might you go about doing this activity?
- In what ways are you thinking about addressing [student topic] within your community or beyond your community?
 - Do you feel more inspired to take action? Why?

[AAW 9/14/2019]

SEMI-STRUCTURED INTERVIEW WITH TEACHER
Exploring Equitable Futures Through Zine-making

Name: _____ Date: _____ Time: _____

School: _____ *Audio recording? Yes No

**Double-check assent or consent form - media permissions. If yes, "I will audio record the interview and use Rev.com services for transcription to supplement interview notes."*

Teacher interviews will be conducted in the classroom during their prep hour with no students present.

Thanks for meeting. I am going to ask you a few questions related to your pedagogy and feedback on the workshop so far. This information helps inform the contextual variables in relation to the implementation of the workshop.

You can opt out of this interview at any time or refuse to answer any questions. Any identifiable or personal information will be removed to ensure confidentiality.

With these ideas in mind, I would like to ask you a few questions.

- Please briefly describe your background as a teacher.
 - How long have you been teaching?
 - What is your social justice teaching philosophy?
- Would you describe your class as more student-led or teacher-led?
- Please tell me about your students and their understanding of in-school learning applied to their lives.
 - Do you feel like they are supported in school to learn such civic knowledge?
- What kinds of things happen in your classroom that you believe might promote or inhibit civic involvement and eventually voting?
- What, if anything, does your school do to promote civic activity and involvement among students?
 - What could your school do that it might not be doing now to promote civic behaviors?

Workshop Questions:

- What kind of challenges are you finding when conducting the workshop?
- What are your students excited about? What seems to be less engaging about the activities?
- How would you improve the workshop so far?

[AAW 9/14/2019]

F. AAW Pilot Workshop Protocol

In 50 minute intervals over 12 sessions (approximately 1-2 sessions/week over six weeks or 3-4 weeks consecutively), high school students engaged in design activities to explore a social justice issue. Then, they learned techniques for creatively translating their research by applying visual communication principles through zine-making. The pilot workshop was analyzed in its own context to inform the design.

Using various analog materials (paper, glue, scissors, markers/pens, text, and image), high school students prototyped their ideas. The teacher facilitated the process. Students learned techniques for creatively translating their research by applying visual communication principles through zine-making.

Workshop Protocol as noted in IRB:

Each student participant:

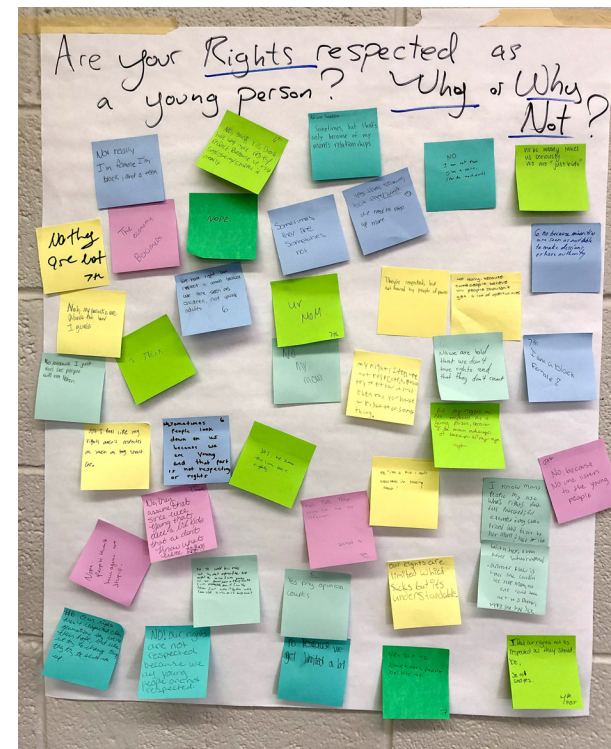
1. Took a pre-workshop student survey with questions related to their attitude toward civic participation and in-school learning.
2. Learned about and engaged in the design process.
3. Learned about the significance of do-it-yourself publishing and visual communication.
4. May have participated in a 10-15 minute interview for feedback on the workshop.
5. Collaborated with peers to create and execute an action plan and final event gathering.
6. Designed and created their own zine with collage materials.
7. Attended a gathering for zine distribution.
8. Took a post-workshop survey identical to Step 1.

Each teacher participant:

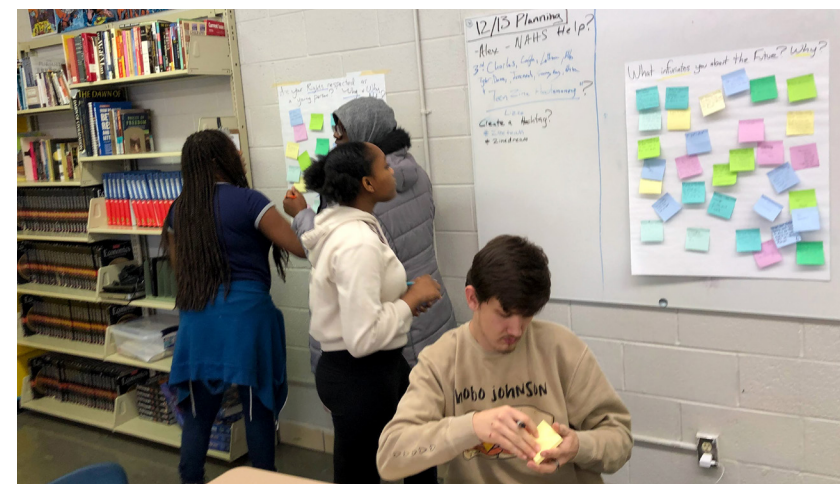
1. Participated in training with the researcher before the workshop was conducted for fidelity of implementation.
2. Took a pre-workshop teacher survey with questions related to their interpretation of their students' civic attitudes, in-school learning, and teaching instruction.
3. Engage students how the design process works by walking them through workshop activities and assist students in locating sources related to their social justice issues.
4. Showed a presentation and facilitated discussions about the significance of activist art, do-it-yourself publishing, and visual communication throughout the workshop.
5. Helped their students with logistics as they collaborated to create an action plan for the final event gathering.
6. Instructed students to design and create their own zine with collage materials.
7. Coordinated with their school administration to host a gathering for zine distribution.
8. Participated in 10-15 minute interviews for feedback on the workshop throughout the study.
9. Took a post-workshop survey identical to Step 2.

G. Workshop Artifacts and Raw Data

1. Value Discovery

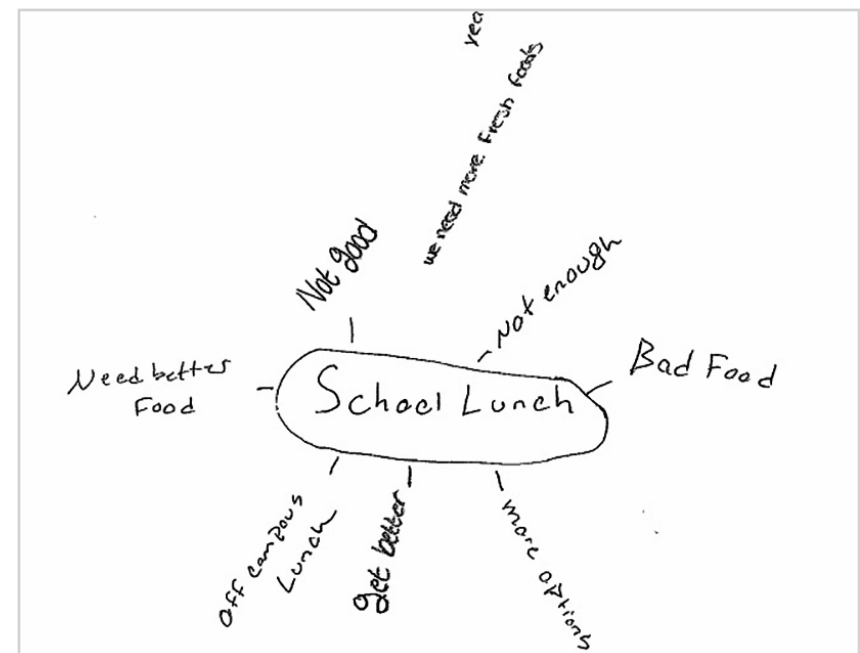
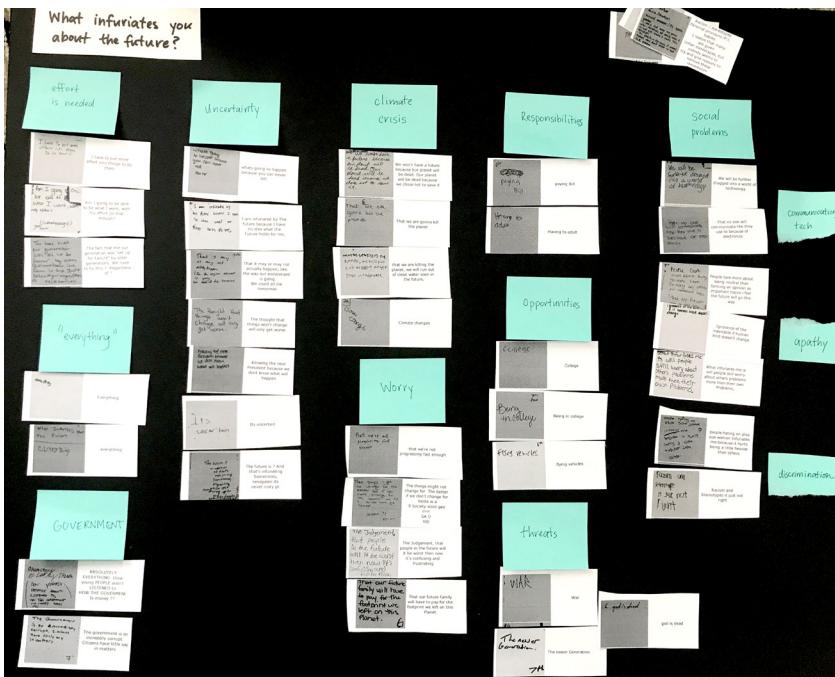
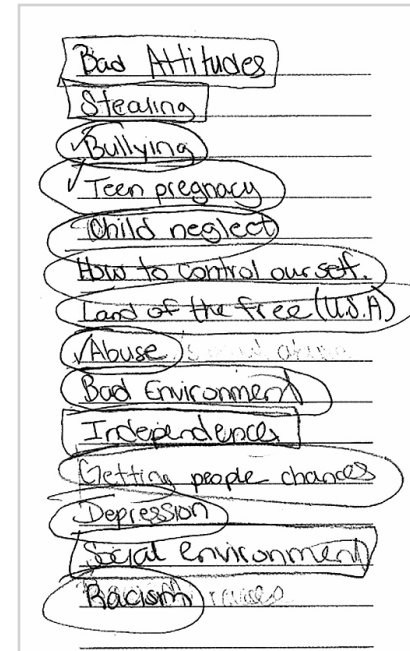


Student and teacher participants were notified that they may be photographed or video recorded while engaging in the design activities and zine-making. With the verbal and written assent and consent of the participant, I audio recorded interviews and used transcription services to supplement interview notes. This was completely voluntary. Informed assent or consent forms for permission to be photographed or video recorded during the activities or audio recorded during an interview. If permission was granted, students understood that they may appear in photo/video recordings with their faces and voices being identifiable. If permission was not granted, those students were seated out of camera range during the activities. This procedure did not affect the students or teachers' ability to participate or not participate in the study. Teachers and students were allowed to end their participation at any time that they chose.





2. Mindmap Remix

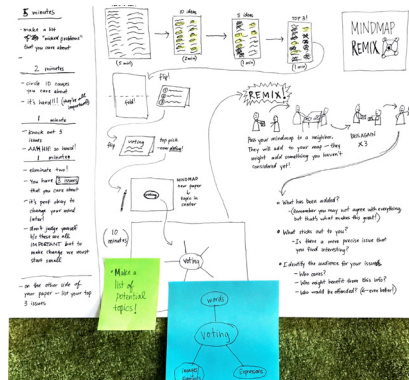
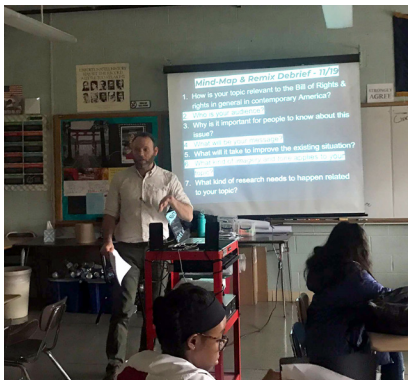
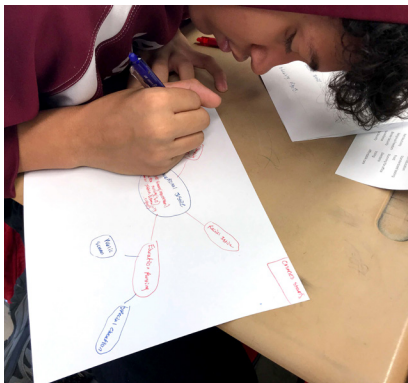


Value Discovery artifacts. Post-it notes were uploaded to Trello app, printed, and organized by hand via affinity diagramming.

Police brutality

That Police are killing us black people without question ask because they feel like our skin color are an threat

Idea Sprint and Mindmap Remix artifacts. Images detail a mindmap remix for school lunch, a list of ideas being narrowed down during idea sprint, and one student's definition for police brutality.



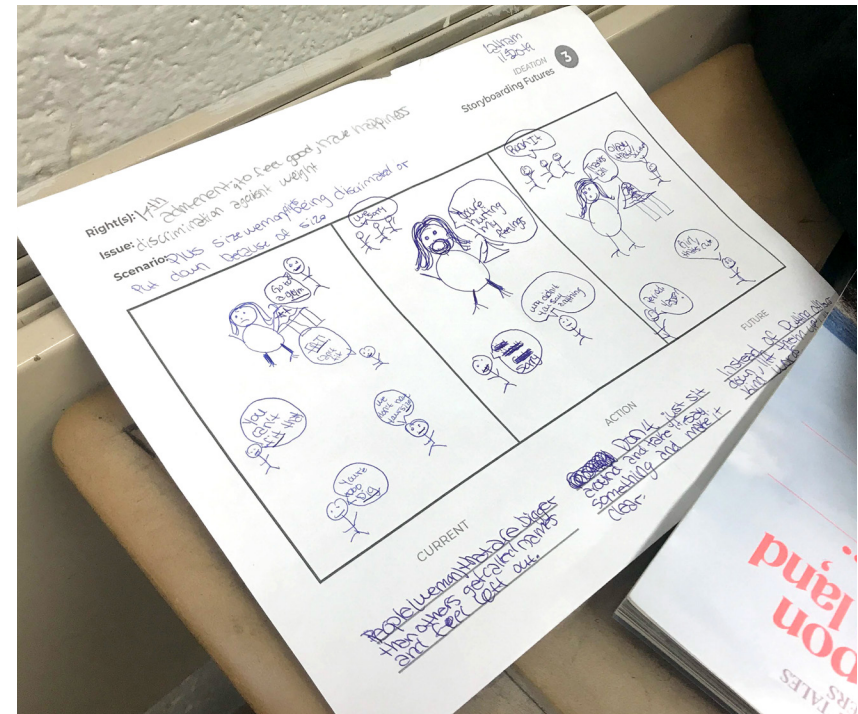
3. Storyboarding Futures



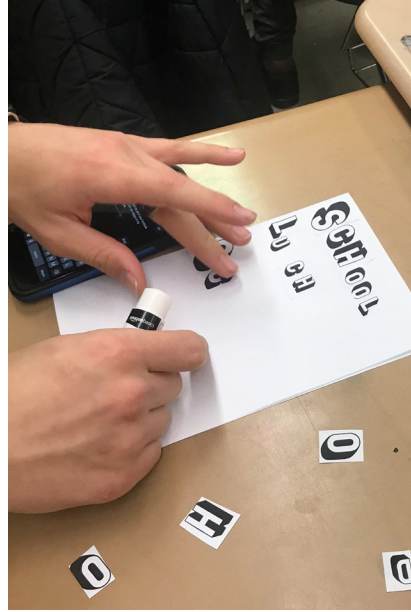
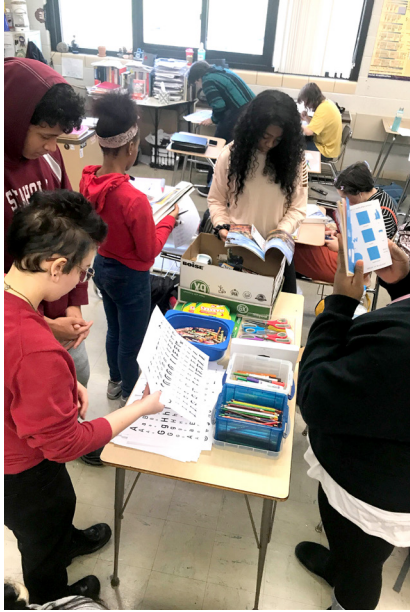
CIVICS, Do you have your

- 1) HOMELESSNESS
- 2) PEOPLE WHO ARE HOMELESS
 - PEOPLE WHO LIKE "CLEAN STREETS"
 - PEOPLE WHO WANT TO HELP (HOME-)
 - LOITERING
 - LOVED ONES OF HOMELESS
- 3) -EVERYONE DESERVES A PLACE TO SLEEP
 - BASIC HUMAN RIGHTS - PURSUIT OF
 - THE RIGHT TO CONGREGATE
- 4) HOMELESS PEOPLE ARE NOT SAFE
 - HOME ARE AND
 - HARD TO SURVIVE
 - IT'S HARD TO GET OUT OF

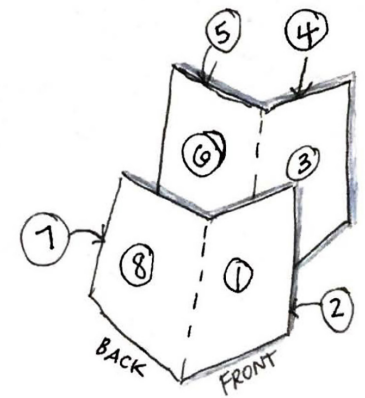
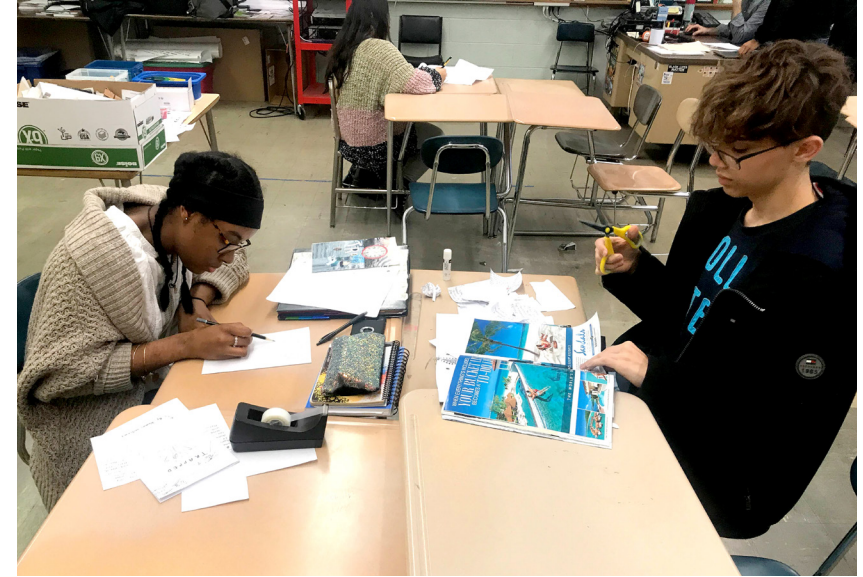
PEOPLE DIE GEOFF



4. Collage Communication



5. Zine Prototype





7. Celebrate and Disseminate (“Teen Zine Showcase”)



6. Reflect and Evaluate





8. Zine Examples



What are the Consequences?

When someone is convicted of rape, they can spend anywhere from one year or **life in prison**-- but some get away with a **slap on the wrist**

4

VICTIM BLAME

What were you wearing? you lead him on!
you'll ruin their life!
you wanted it to happen
(No matter what they say, it's not your fault)



This Matters because...

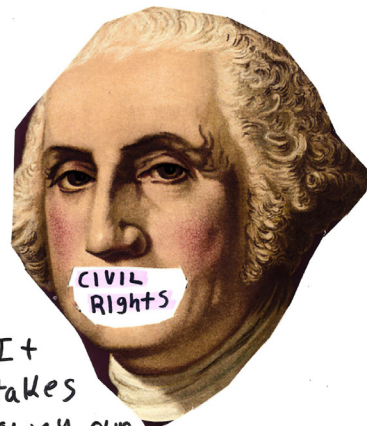
Rape is seen as "NORMAL" It hurts people



RAPE NEEDS TO STOP.

6

Rape Violates our



It takes away our HAPPINESS

7



every day the government dis honors our rights by making us believe our voices are fundamental for the government. This is cause of corruption. "how can we fight this?" nothing. The government cover-up is n't a crime

PASS ANTI-CORRUPTION LAWS AND REMOVE THE HORRIBLE OLIGARCHY!

WE NEED

Change NOW!

"Oligarchy in America" zine by Alex (AAW).

"Rape Culture" zine created by Hannah Akerley (AAW).

9. Zine Assessment Rubric

Name:		Due Date:	<i>ZINE ASSESSMENT RUBRIC</i>
Topic/Issue:		Constitutional Right & Liberties	
Concerns <i>Areas that Need Work</i>	Criteria <i>Standards for This Performance</i>	Advanced <i>Evidence of Exceeding Standards</i>	
	Quality of Ideas: <ul style="list-style-type: none"> ❑ The title on the cover is related to the topic. ❑ The topic is defined & related to constitutional rights (<i>how they are violated or protected</i>) ❑ Ideas are mostly clear and concise. ❑ The topic is appropriate and engaging for the chosen audience. 		
	Content & Organization: <ul style="list-style-type: none"> ❑ The zine is consistent, organized, informative, and easy to read. There are minimal spelling errors. ❑ The zine incorporates 4 different design elements and at least 8 pages to communicate the topic related to rights. ❑ Community resources related to the topic are included. ❑ Information, such as the author's opinions, views, or interests, are supported by reliable sources for evidence that are credited. ❑ The zine includes ways to take action on the issue. 		
	Design & Publishing: <ul style="list-style-type: none"> ❑ Design elements, such as images and text, visually communicate ideas in a clean and appealing way. ❑ The layout is creative and shows original thought with attention to detail. ❑ Multiple copies of the zine could be published to the public. 		

A zine rubric helped define zine-making criteria for students and helpful for research analysis.

H. FHS Group Interview Protocol

Below is a generalized agenda. Detailed agendas were written for each interview with students and teachers.

GROUP INTERVIEW WITH STUDENTS and TEACHERS <i>Exploring Equitable Futures Through Zine-making</i>	
Facilitator Notes • February 24 and March 4, 2020 • Fordson High School	
Contact: Ms. Angela Altomonte	
Materials: markers, poster pad, blank paper, recorder (+ assent/consent forms), workshop overview prints (10 - 11x17 with details for easy reference), agenda prints, and notes.	
<hr/> General Agenda Overview <i>50 minutes per session</i>	
Facilitator: Ashley Moon	
Participants <ul style="list-style-type: none"> - Teachers: Ms. Angela Altomonte, Ms. Memminger, Mrs. Moon - Students: 3-5 students 	
5 minutes	INTRODUCTION Thank you for participating! Introduce myself and meet everyone. Discuss the purpose, goals, agenda, and audio recording. There are no wrong or right answers.
5 minutes	ICEBREAKER - Quick draw a response to a question and share it out.
10 minutes	PHASE 1: Exploratory - Discuss approaches. How do you currently approach teaching or learning social justice education? How would you go about researching a social justice issue?
5 minutes	WORKSHOP REVIEW Review the basic framework of the workshop and what occurred in the first iteration. This information will help guide the rest of the discussion.
10 minutes	PHASE 2: Workshop - Discuss the workshop as it exists. How might you go about doing this workshop? Hopes and constraints?
10 minutes	PHASE 3: Recommendations - Discuss alternative ways to approach the workshop. How would you approach a research-driven activity replacing the storyboarding workshop?
5 minutes	SUMMARY Reflect on discussion.