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## Real-World Engagement with Controversial Issues in History and Social Studies: Teaching for Transformative Experiences and Conceptual Change

Controversial issues have been established within the larger framework of civic education as an effective pedagogical approach to developing critical thinking in the classroom, preparing students with intellectual habits necessary for participation in scholarship, civic life and democracy. In this study, we found that a pedagogical intervention, Teaching for Transformative Experience in History, in some cases led to significantly higher engagement with political concepts beyond the classroom, and in other cases, the intervention led to significantly improved conceptual change. The study addresses some of the challenges presented by the research on civic education, providing a potential framework for developing pedagogical practice in history and social studies education that grounds a participatory, meaning-making process in curriculum design and assessment framed by controversial issues.

### Keywords:

controversial issues, history education, social studies education, transformative experience, critical pedagogy, service learning, problem-based learning

### 1 Introduction: Experiencing controversial ideas in history and social studies

Since the days of America's Founding Fathers, the purpose of education in the United States has been closely tied to a set of political concepts and values that espouse the ideals of democracy and civic life (Jamieson, 2013). Over time, the notion that education is necessarily intertwined with democracy has become *cliché*. Yet today in the United States, we find ourselves in an increasingly polarized partisan political culture, often fueled by ideological positions, which begs the question: How do students interpret and makes sense of this

polarization? How do students understand historical ideas like *liberty*, which has always been controversial, both in and out of the classroom? The following paper looks at an attempt to answer these questions and considers the possible impacts on our understanding of history, social studies and civics education.

John Dewey, on the topic of learning history and geography in *Democracy and Education* (Dewey, 1916) said,

We realize that we are citizens of no mean city in discovering the scene in space of which we are denizens, and the continuous manifestation of endeavor in time of which we are heirs and continuers. Thus our ordinary daily experiences cease to be things of the moment and gain enduring substance (Dewey, 1916, p. 208).

Dewey's sense of aesthetic value and democratic promise emerge from intellectual engagement with daily experience. Here "enduring substance" is seen as valuable for the learner, as well as the community in which she acts as a citizen. This sentiment was echoed in the 1916 report *The Social Studies in Secondary Education* (1994) which established the importance of education for citizenship as encompassed within the "social studies (including a "problems of democracy" course designed to emphasize political issues) (Hess, 2004)." The past decades of research have produced a handful of overlapping frames for examining these phenomena within the context of the secondary school classroom (Barton & McCully, 2007; Evans, Saxe, & National Council for the Social Studies., 1996; Hahn, 1998; Jamieson, 2013; Malin et al., 2014; Ochoa-Becker, 1996). These include civic and citizenship education, critical pedagogy, place-based learning, and those with a more narrow focus like, issue-centered education, service learning, and problem-based learning.

In the late 1970's Dewey's interpretation of civic education was revived to more carefully examine the meaning of social studies, setting apart issues-centered education from the conventional didactic approach more concerned with the learning of historical or geographic facts (Ochoa-Becker, 1996; Shaver, 1977a). Issues-centered education approaches emphasized depth of understanding of concepts, thematic patterns, and a

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sense of student engagement that included room for inquiry, construction of meaning and application to contextualized issues beyond the classroom (Evans et al., 1996; Hahn, 1998).

However, issues-centered approaches have yet to emerge as a solution to the quagmire of social studies education reforms. The work of Jamieson (2013) provides a thorough history of civic education and addresses one of the biggest recent education reforms in the United States that occurred in 2002 with the signing of the No Child Left Behind Act (NCLB). The act, and a later revision in 2007 failed to include social studies goals in the stated proficiency standards, nor was civics education included as a priority. Despite the efforts by coalition organizations like the Civic Mission of Schools, work to include civics education goals in the K-12 system in the U.S. remains, and has perhaps become more controversial. Simply put, some believe that students do not benefit from thinking about competing perspectives. Ironically, the very conception of "civics education," has created an ideological divide that has effectively marginalized the goals at the policy level, limiting possible impacts on student learning (Hess, 2004; Jamieson, 2013; Malin et al., 2014).

With that said, the recently adopted Common Core standards of 2010, for English language and literacy in history and social studies includes one out of ten standards for grades 11 and 12 that explicitly addresses the need for students to think about different perspectives on historical issues: "Evaluate authors' differing points of view on the same historical event or issue by assessing the authors' claims, reasoning, and evidence (National Governors Association Center for Best Practices, 2010)." For 9<sup>th</sup> and 10<sup>th</sup> grades, the standard reads, "Compare the point of view of two or more authors for how they treat the same or similar topics, including which details they include and emphasize in their respective accounts (National Governors Association Center for Best Practices, 2010)." At the 6<sup>th</sup>-8<sup>th</sup> grade levels, none of the ten standards ask students to analyze the differences between perspectives. Despite the fact that the new Common Core standards draw attention to the importance of identifying different perspectives in history, much remains implicit for teachers to interpret as to how, or if, a teacher should challenge students to grapple with core concepts and issues that have for generations remained central to civic dialogue in the United States.

The recent Youth Civic & Education conference report issued by the Stanford Center on Adolescence (Malin et al., 2014) echoes the work of Jamieson, stating that,

Schools today limit their efforts almost exclusively to teaching civics knowledge, especially the kinds of knowledge that can easily be measured by standardized achievement tests. Discussions of democratic ideals and values are often neglected due to possible partisanship and politicization that arise when civic values are brought to school, some educators steer clear of flashpoints rather than allowing controversy to

be explored in the classroom as a pedagogical method (Malin et al., 2014, p. 9).

At all levels of the education system in the United States, from policy makers to teachers, there is often a tendency to avoid controversial discussions of civic values that can lead to possible "partisanship and politicization," rather than utilizing the controversy as a pedagogical tool (Jamieson, 2013; Malin et al., 2014). This is unfortunate considering the fact that controversial issues have been proven to be an effective way that teachers can address, not only the lack of motivation that many young people exhibit in regard to public affairs, but the underlying critical thinking skills that students need to engage with local and global issues (Barton & McCully, 2007; Hess, 2009; Malin et al., 2014). We argue that if students' guided critical thinking is essential for their understanding of controversial issues, then we must engage students starting with the conceptions, and misconceptions, that they bring to the classroom. Students can be guided to understand the historical and contemporary relevance of important concepts in social studies, how those concepts relate to their own view of the world, and the support and practice they need to engage with the challenging discourse around those ideas. Core concepts like liberty, equality, equity, justice, and power, provide not only a foundation for understanding societies and their histories, but also the, "values that [students] need to identify with and be inspired by if they are to fully participate in and reap the benefits of belonging to a democratic society (Malin et al., 2014, p. 11)."

Let us look at an example to better understand the connection between core concepts in history and social studies and controversial issues, and how it might relate to one's individual values. *Liberty*, one of the concepts examined in this study, has been and remains a controversial idea due to the variety of definitions and applications. On the one hand, liberty can be defined in terms of individual freedoms, and on the other, civil rights, protections or a sense of the common good. The controversy emerges in contexts where the two are at odds. From the early days of the United States, voting rights presented a novel tension: who should be able to vote? Many colonists in positions of power feared wide democratic participation would result in mob rule, and therefore granted the right to vote only to propertied or tax paying "citizens." By limiting "liberty," colonial leaders believed they could achieve a common good: greater experienced freedom. From those days, liberty has had many interpretations, yet liberty is a key term in the United States' founding documents. Today, debates on "liberty" are ubiquitous, from cyber security, to gun control, reproductive rights, and health care, and they are debates that resonate from the deeply held values of those speaking out.

The controversy around civics education, the relationship to history and social studies education, and the vague nature of the Common Core standards for social studies in regard to important concepts and issues,

leaves much to be determined by districts, schools, and especially teachers. Hess (2004) has looked closely at history and social studies teachers' reactions to bringing controversial issues into the curriculum, arriving at the conclusion that there are four categories of teacher responses: 1) teachers deny that the issues are controversial and teach one perspective only, 2) teachers acknowledge the controversy but privilege one perspective, 3) teachers avoid controversial issues altogether, or 4) teachers take a balanced approach and let students grapple with the controversy (Hess, 2004).

Studies have shown that teachers can, however, find effective ways to use controversial issues as a pedagogical strategy. Barton and McCully (2007) looked at how teachers in Northern Ireland used controversial issues in the history classroom and found successful strategies for constructive discussions. They advocate for teachers expose students to ideological diversity and bring out, what they call "subtle forms" of diversity from within the student group. They also argue for a rationalist approach, one that asks students to weigh evidence and express a point of view. Importantly, the authors point out the difficulty that students have transferring historical thinking to the present without direct teacher support.

Additional support for teaching about controversial issues in social studies can be found in the research on historical and critical consciousness. These efforts have looked more broadly at the effects that institutional forms of socio-cultural, political and economic power have on the individual learner (Freire, 2000; Limón, 2002; Seixas, 2004; Von Borries, 2000). What Freire (2000) called a *reading of the world*, others have characterized as the relationship between academic and popular history and what we know about the habits of mind of historians. This is echoed in the work of Bodo Von Borries (2000) who concluded that, "textbooks necessarily reflect 'school' rather than 'life,' 'results' rather than 'problems.' Therefore, historical instruction must go beyond school and textbooks to embrace films, television, newspapers, museums, archives, citizens' initiatives and other evidence of life lived in a contentious historical culture" (Von Borries, 2000).

Historical thinking, especially when involving controversial issues, is a cognitive and affective process that is embedded in a socio-cultural context (Immordino-Yang & Damasio, 2007; Sinatra, 2005; Sinatra, Broughton, & Lombardi, 2014). Based on personal experiences, every individual develops a priori assumptions about the past and their connection to it, which influences their beliefs, values, and actions (Stearns, Seixas, & Wineburg, 2000). As such, scholars have argued for a history curriculum and instruction that helps the individual situate his or herself within the practice of academic and popular history (Drake & Nelson, 2005; Leinhardt & Ravi, 2008; Limón, 2002; Loewen, 1995; Seixas, 2004; Stearns et al., 2000).

In order to better understand the affective and cognitive dimensions of engagement in history, social studies and civics learning, this study looked to research on

Transformative Experience (TE) and conceptual change (CC). A number of prior studies have looked at TE and conceptual change together, however none of these was conducted in a history or social studies context (Heddy & Sinatra, 2013; Pugh, 2004; Pugh, Linnenbrink-Garcia, Koskey, Stewart, & Manzey, 2010a).

## 2 Transformative experience

The integrative construct, Transformative Experience (TE), was developed by Pugh (2002) based largely on the work of John Dewey. Pugh (2011) defines TE as an integrated construct with three components *motivated use*, *expansion of perception*, and *experiential value* (Pugh, 2011).

The first component, *motivated use*, includes any instance during which an individual, teacher or student, applied the concept to experiences outside the history class. In other words, it is a form of engagement through application of subject content. This dimension focuses on the effort of the individual to *use* his or her ideas outside of the history classroom, regardless of the individual's clarity or sophistication of the concept. Other synonyms may be helpful to more accurately capture the nature of the motivation. These synonyms include: *apply*, *notice*, and *see*.

The second component, *expansion of perception*, occurs when an individual is able to use his or her knowledge in a new way or modify the existing understanding (Pugh, 2011). *Expansion of perception* can also be understood as the result of the individual connecting new ideas and information into an existing schema or pattern of understanding. Furthermore, those connections are between new academic knowledge and conceptual frameworks and existing real-world experiences and memories that necessarily involve socially-embedded emotional cognitive processes (Immordino-Yang & Damasio, 2007; Piaget, 1954). In other words, our learning, the attempt to grapple with new ideas in our lives, involves emotional thought that is informed by the social contexts in which we live, ultimately engaging one's human capacity for moral decision making.

The third component of TE is *experiential value*, which Pugh (2011) defines as the "valuing of content for the experience it provides" (Pugh, 2011, p. 113). This type of value for a learning task exists at the intersection of utility value or usefulness and intrinsic value or interests (Pugh, 2011; Wigfield & Eccles, 1992). In other words, being able to apply conceptual knowledge to one's own experiences is not only useful, but provides a richer, more meaningful experience through which the individual can continue learning.

## 3 Conceptual change

Conceptual change is defined as a cognitive-affective process a learner undergoes when attempting to accommodate new ideas into his or her existing schema (Dole & Sinatra, 1998; Gregoire, 2003; Posner, 1982). The process of accommodation that occurs via conceptual change, in some cases, involved overcoming a misconception or restructuring a naïve conception. The political

concepts presented in this study were controversial, thus presenting opportunities for conceptual change.

Conceptual change theory has shed light on how individuals change or restructure their thinking to overcome preconceived notions, naïve conceptions, or misconceptions (Sinatra & Pintrich, 2003). Conceptual change research has been primarily conducted in science education (for notable exception see Limon's 2002 work in history). However, this is important in the area for learning history, as historical thinking is bound to belief systems and ideologies of one's cultural milieu. Pugh (2011) points out that "acting on an idea" as is the goal in TE, is a form of intentional transfer, but also parallels processes of conceptual change. Therefore, the body of work on conceptual change theory will provide additional support and new perspectives on transformative experiences of teachers and students with history concepts.

Transformative Experience (TE) as an integrative construct (Pugh, 2011) overlaps well with conceptual change models. TE requires motivated use of concepts, a change or *expansion of perception and value* for those concepts. Each of the aforementioned components of TE are predictors of conceptual change in Dole and Sinatra's (1998) Cognitive Reconstruction of Knowledge Model or CRKM. The CRKM posits several variables that may predict engagement with conceptual knowledge, and in the model, high engagement predicts conceptual change. Included in these variables is motivation and value, each is integral to engaging in TE. Furthermore, on a macro level, TE is considered out-of-school engagement and thus according to the CRKM, this engagement should predict conceptual change.

Heddy and Sinatra (2013) implemented an intervention, developed by Pugh and Colleagues (2010a), for university students called Teaching for Transformative Experience in Science (TTES) that increased conceptual change of concepts of evolution. The authors (Heddy & Sinatra, 2013) found that students who experienced TTES model showed greater TE and conceptual change. Heddy and Sinatra (2013) also showed a decrease in negative emotions, an important finding for students learning about a controversial subject that can spark strong emotions. The Heddy and Sinatra (2013) study serves as a model for the present study due to the fact that the intervention was effectively used to facilitate conceptual change.

#### 4 Conceptual change with history concepts

As in all learning, students do not begin a class as blank slates, but rather they bring with them ideas, personal experiences, motivations and dispositions. Limón (2002) outlined four dimensions of individuals' prior domain specific knowledge: 1) certainty of knowledge, from uncertain to certain; 2) affective entrenchment of knowledge, low emotional reactions to strong emotional reactions; 3) coherence of knowledge, from no coherence to highly structured and ordered according to the individual's theories; 4) generality-specificity of knowledge, from specific knowledge to one area of history to general knowledge applicable to a number of areas. Prior

domain specific knowledge is particularly relevant when teachers are guiding students to think about how important core concepts like *liberty* or *power* (in this case Executive Branch power) are useful for historical and contemporary application. Not only do teachers need to be prepared to deal with individual students level of understanding (coherence or degrees of misconceptions), but also the degree of certainty students feel for their understanding and the affective or emotional "entrenchment" of that conception. This is not to suggest that teachers are simply correcting misconceptions only to provide a correct understanding and position on a controversial issue, but rather that some misconceptions can limit coherence and logical understanding of one or both sides of the issue, as well as more deeply "entrench" one's emotional connection to the idea. In other words, it's important for teachers to help students understand how the core concept is used in the logic of arguments on both sides of the issue. Vis-à-vis the research on controversial issues, conceptual change theory provides a useful frame for analyzing how students learn to think about controversial issues in history and social studies.

However, research on conceptual change in the field of history and social studies education is limited. In the case of learning and using history knowledge, Limón (2002) has argued that,

History learning assessment should place more emphasis on such concepts [empire, revolution or democracy]: what teachers tend to evaluate is how much correct information students remember from the textbook accounts, but it is unusual to ask students to compare types of concepts mentioned above in different historical situations, in order to give them meaning or relate them to others. In general, more attention should be paid to the teaching of history concepts (Limón, 2002, p. 277).

This study was designed to focus on how teachers model, facilitate and assess how students learn and use specified core concepts, like *liberty* and *power* (relating to the Executive branch of the U.S. federal government).

#### 5 Teaching for historical understanding and conceptual change

Limón (2002) proposes three important skills for historical understanding: relativistic thought, narration/argumentation/ problem-solving, and analytical and integrational reasoning. Relativistic thought involves three features (Kramer, 1983; Limón, 2002): a) awareness of the relativistic nature of knowledge, b) acceptance of contradiction, and c) integration of contradiction into the dialectical whole. Limón (2002) also proposes that high school students be able to move between solving problems, developing arguments and narrating history. In this way, students are challenged to employ various historiographic positions. Lastly, Limón (2002) argues for "analytical and integrational reasoning skills," such as analysis of situations vis-à-vis economic, social, political

and ideological levels of analysis. Controversial issues presented by core concepts in history and social studies provide this opportunity for the classroom. Limón (2002) provides the example of the common practice of teaching the French Revolution in isolation, without awareness of concurrent global trends. Furthermore, history-learning assessments should place more emphasis on concepts that are traditionally implicit (Limón, 2002), such as the idea of *revolution*, which may not be examined conceptually in a unit on the French, Russian or Islamic Revolutions.

The following study sought to consider the cognitive journey of the student, moving between the classroom and their daily experience outside of the classroom. For example, how often does a teacher consider the question, "What do I know about how, and if, my student applied her understanding of federalism in her experiences outside of class? Does my student recognize the controversy surrounding federal v. state policies?" Dewey (1938) said nearly eighty years ago speaking of the role of teachers, "...It is the business to be on the alert to see what attitudes and habitual tendencies are being created...He must, in addition, have that sympathetic understanding of individuals as individuals which gives him an idea of what is actually going on in the minds of those who are learning" (Dewey, 1938, p. 39).

There is too little research on the underlying psychological processes that shape one's history learning experience, particularly on controversial issues in social studies education. This study attempts to begin bridging that gap.

## 6 Purpose of the study

The purpose of this study was to examine how students engage with thinking about controversial issues beyond the classroom. In particular, we wanted to understand the relationship between transformative experience and conceptual change with specific core ideas and concepts, and whether there were differences between an experimental condition using the Teaching for Transformative Experience in History (TTEH) model and a control condition. The study was designed to understand the impact of the pedagogical model, Teaching for Transformative Experience in Science (Pugh, 2004) as it is applied to History. We modified the model slightly for our context and renamed it the Teaching for Transformative Experience in History or TTEH model, using controversial political concepts. The study measured the effects of the TTEH intervention on transformative experience (TE) and conceptual change (CC).

## 7 Research Questions

The study addressed the following research questions:

1. Do participants (teachers and students) who experience TTEH instructional intervention for controversial political concepts report significantly higher levels of TE than those in a control group who have traditional instruction?

2. Do participants who experience TTEH instruction demonstrate significantly greater conceptual change than those in the control group?

In regard to the first research question, based on prior research, we hypothesized that students who were guided through the TTEH intervention would report significantly higher degrees of TE than participants in the control condition (Heddy & Sinatra, 2013; Pugh et al., 2010a).

Regarding conceptual change with the controversial political concepts, we predicted that students in the treatment group would demonstrate significantly greater conceptual change than those in the control due to increased motivation and the demonstrated relationship between motivation and conceptual change (Dole & Sinatra, 1998; Heddy & Sinatra, 2013).

## 8 Participants and setting

This study took place in two high schools in a large urban metropolis in the western United States. Participants were teachers and students in one 10th, and one mixed 11th and 12th grade history classroom. Each of the two schools has different socio-economic or gender-based demographics. Two class sections were chosen using a stratified random selection process; teachers were asked to assign colors to each course section and we assigned the color to each condition (Creswell, 2009; Teddlie & Yu, 2007).

University High. The first school, University High (pseudonym), is a private girls school serving roughly 430 students in grades 6-12 in the greater Los Angeles metropolitan area. The participants in this study represented the following ethnicities: 64% Caucasian, 12% Hispanic, 9% African American, 6% Asian, 1% Indian, and 8% other (including one or more ethnicities). Approximately 26% of the students receive financial assistance. This site presented a demographic, which has the potential to shed light on whether there are differences in teaching and learning of history for girls. The study focused on an 11th grade U.S. History course, with one treatment group and one control group, each with 12 students ( $n=24$ ). *Liberty* was the overarching political concept for the unit of study. Prior to the study, the teacher mentioned that most students tend to have either misconceptions or underdeveloped conceptions about liberty, often times believing that "liberty" is simply being able to do as one pleases.

Diego Rivera High School. The second school, Diego Rivera High School (pseudonym) is a public charter high school serving approximately 400 students in a large metropolitan area. As of 2012, of the student population, 87% identify as being Latino, 6% as Asian and 3% as Black. All of the students are classified as "economically disadvantaged" according to the school district's report card. At this site, the study focused on an 11<sup>th</sup> and 12<sup>th</sup> grade U.S. Government course, with one treatment group and one control group, each with 27 students ( $n=54$ ). *Executive branch power* (balance of powers) was the overarching political concept for the unit of study

and was identified as a controversial issue due to the fact that there are common misconceptions about the actual authority of the President of the U.S. compared to the perceived power the office holds. Furthermore, there are frequently debates about limiting the power of the Executive Branch, primarily concerning the constitutionality of executive orders.

### 9 Transformative experience measure

To measure students' TE, we adapted a TE Survey that uses 20 Likert scale items adapted from previous measures for TE in science learning (Pugh, Linnenbrink-Garcia, Koskey, Stewart, & Manzey, 2010b). The TE Survey was administered before and after the intervention. The items measured the three components of TE: each student's motivated use of the concept, re-seeing or expanded perception of the concept and experiential value for the concept. For example, for motivated use, one item asks for students to rate the extent to which they agree with the statement, "I thought about executive branch power (or liberty) outside of class." The Likert-based 6-point scale ranges from "strongly disagree" to "strongly agree" (See Appendix D for the complete survey). An example of re-seeing or expansion of perception is, "The executive branch power (or liberty) ideas changed the way I view situations." Lastly, an example of an experiential value item is, "The Executive Branch power (or liberty) ideas I learned make my out-of-class experience more meaningful."

The survey has nine questions that determine the degree to which students actively used the history concept, five questions that measure the students' expansion of perception, and six that measure the students' experiential value for the history concept. All three dimensions were aggregated to provide an overall TE score. Reliability of the TE survey was high (pretest Chronbach's  $\alpha = .96$ ; posttest Chronbach's  $\alpha = .94$ ).

### 10 Conceptual change measure

The conceptual change measure included four open-ended questions, based on the class assessment used in each course. Specifically, each assessed the students' understanding and conceptual change of the respective concepts of *liberty* or *Executive Branch power*. The conceptual knowledge was measured, both at pre and posttest, through open response questions and graded using a 4 point rubric: "0" indicating the student has an inaccurate, misconception, "1" indicating the student has a hybrid conception that mixes misconceptions with accurate understanding of the concept(s), a "2" indicating an accurate, but underdeveloped understanding of the concept(s), and "3" indicating the student has a well-developed and nuanced understanding of the concept. Each rubric followed this format but was specifically tailored to the content of that class.

At University High, the conceptual change essay prompts were: 1) Define liberty. 2) How has the idea of liberty changed throughout American history? 3) How was the concept of liberty used in the framing of the United States Constitution? 4) To what extent is the

concept of liberty relevant today? The four questions provided an overall sense of how the students think about the concepts, as well as providing specific prompts that address potential misconceptions with historic understandings of the concept of *liberty* as well as contemporary applications. Two of the authors applied the rubric to each of the four prompts and interrater reliability was recorded. Interrater reliability was established at 78%, considered to be substantial agreement (Fleiss, 1981).

The four prompts for Diego Rivera included: 1) How do you define the role of the President of the United States? 2) What role does the President play in policymaking? 3) How can the political ideology of the President affect the entire country? 4) Describe the primary Constitutional conflict between Congress and the President with the decision to go to war? Overall the four questions provided a sense of how the student understood the Executive branch power and authority, as well as more specific information about how the student understood specific powers such as the decision to go to war. Two of the authors applied these codes to each of the four prompts and interrater reliability was recorded. At Diego Rivera, interrater reliability was established at 77%, considered substantial agreement (Fleiss, 1981).

### 11 Interviews

Teacher and focus group interviews were used to gather additional data about student TE. This qualitative data was triangulated with quantitative measure to increase the external validity of each measures. Student focus groups from each classroom, both treatment and control, had four to six students, randomly selected, and met during the class period in an adjacent classroom or library for up to 30 minutes. This totaled to four focus group interviews. The interview was designed to elicit student reflections on the use of the concepts of the *role of the President (or liberty)*, how the class changed the way the student perceived the *concepts*, and how their value for the *concepts* changed. For example, the first question, "Were you able to *use* what you learned about the role of the President (*or liberty*) when you weren't in history class? Explain when, where and how often." Additionally there were three teacher interviews designed to understand teacher perceptions about student TE outcomes and implementation of TTEH. The interviews were recorded digitally, transcribed and hand coded for components of TE: *motivated use*, *expansion of perception*, *experiential value*, as well as *conceptual change*. Each of the components was assigned a color, useful for detecting thematic patterns in the qualitative data.

### 12 Procedures

At both sites, one of the sections served as control group and received typical instruction, while the other section, the treatment, received the TTEH approach, which the teacher layered over the typical instruction.

Students at University High explored philosophical notions of positive and negative *liberty* from Early

America until today. *Positive liberty* can be understood as, "The possibility of acting - or the fact of acting - in such a way as to take control of one's life and realize one's fundamental purposes" (Carter, 2012), while negative liberty is, "The absence of obstacles, barriers or constraints. While negative liberty is usually attributed to individual agents, positive liberty is sometimes attributed to collectivities, or to individuals considered primarily as members of given collectivities" (Carter, 2012, para. 1). In other words, *positive liberty* views policies, rules or actions in terms of the freedom to have opportunities they bring a group of people, while *negative liberty* can be understood in terms of freedom from restrictions. These two notions of "liberty" are the basis for central ideological differences today, presenting an important opportunity to explore multiple controversial issues. Prior to the study, the teacher at University High believed that most of her students tend to adopt a negative conception of *liberty*; common for teenagers who are looking forward to new freedoms to go where they want and do as they choose.

At the Diego Rivera site, students learned about *Executive Branch power* in the United States federal government. The teacher reported that one of the most common misconceptions her students had coming into the course on United States Government, is the amount of power and authority the President has to create or change legislation. A more nuanced, less naïve, conception would include not only the different types of legislation (municipal, county, state, federal), but also the process for passing or amending legislation, especially at the federal level, including the use of executive orders. Students in both sections were taught a more accurate conception of the role of the Executive branch regarding public policy, including the role of the Executive branch in policy making, the effects of a President's ideology on policy, and the primary Constitutional conflict between Congress and the President in a decision to go to war.

Table 1 in Appendix A shows the timeline of the instrument administration and the intervention.

### 13 Professional development

In order to train teachers participating in the study, a 3-step professional development process was conducted for teachers at both school sites.

Step 1. A few weeks prior to the study, the first author met with each participating teacher to discuss his or her plan for the course and proposed unit for the experiment. This included outlining the types of knowledge outcomes using *Understanding by Design* (Wiggins & McTighe, 2005), a common pedagogical planning tool, which includes central concepts of the unit, key factual knowledge that students will need to know in order to make sense of conceptual knowledge and an examination of the summative assessments the teachers intend to use at the unit. Specific attention was given to the construction of the assessment, especially each level of a 4-point rubric for conceptual knowledge.

Step 2. Once a history concept was identified, the teacher reflected on his or her own TEs with that concept

and any conceptual change that may have occurred for that teacher over time. For example, for the study at Diego Rivera High School, the teacher reflected on her experience with learning about the branches of government, and specifically the degree of power and authority granted to the Executive branch. With the help of the researcher, the teacher considered how she was initially able to *use, notice* or *apply* that concept outside of the classroom (*motivated use*), how that experience changed the way she looked at the world (*expansion of perception*) and what value she developed for that idea (*experiential value*). This process helped prepare the teacher to identify opportunities for scaffolding student *reseeing*, as well as modeling for students the process and value that was derived from the TE.

Step 3. With specific instances of TE and conceptual change in mind, the teacher learned the TTEH instructional strategy, which was then layered onto the normal curriculum. TTEH included modeling for the students, the teacher's personal TE with the concept(s), encouragement on a daily basis for student TE, and brief daily independent and group reflection (including student journals) and discussion.

### 14 TTEH Condition

The selected treatment group students at each school site received the TTEH model of instruction which included the following elements to promote *transformative experience*: (a) the teacher modeled how she has experienced thinking about the concept in her life and how that has shaped her thinking about society and history, (b) students were guided to plan how they could *notice* and *re-see* concepts in diverse contexts in the classroom (this was predicted to increase student self-efficacy for the task), c) teachers provided encouragement for students to explore *using* the concept in their life outside of the classroom (e.g. this could include *using* or seeing the role of the President expressed in literature, songs, TV, movies, conversations with family, etc.), (d) students completed a daily written reflection about how he or she *used* the concept, how it changed their perception of something in their normal experience and how their value for that concept may have changed, (e) students had a brief daily discussion with a peer, small group or whole class about their individual experience with the concept.

Prior to Day 1, of the unit of study, each of the measures was administered to both treatment and control groups, including a demographics survey. Teachers took the following steps in order to effectively implement the intervention.

The primary objective of Day 1 was for students to unpack the primary concept(s), questions and objectives of the unit, including that they will be able to more often use the idea in their daily lives. The teacher shared with students that they would be expected to keep a UCV (Use, Change, Value) Journal nightly, and they will be asked to participate in a daily "Show & Tell" relating their journal entries. It was recommended that the concepts be framed as *essential questions* (Wiggins & McTighe,

2005) that are open-ended questions challenging the student to use and explore the concept from multiple angles, e.g. "How should we judge the President?" The teacher was also asked to talk about her own personal experience thinking about the concept, e.g. for the *role of the President*, the teacher could make specific reference to who the President was when she started to think about the role, why she cared to think about and evaluate that President, and how she began to think about the role differently and interpret the opinions of others. By comparing specific issues like education or health care reform, the teacher could illustrate that depending on the issue, that the President has varying levels of authority and power.

On Day 2 the students were able to apply UCV in class with sources provided by the teacher. For example, it was suggested to the teacher that after learning more about the role of the President vis-à-vis the whole political process, students could be given an activity to observe video interviews with citizens about their thoughts about how President Obama was doing prior to the 2012 elections. Students could be asked to pay attention to how interviewees were thinking about the *role of the President*.

The primary objective of Day 3 was to create a space for students to individually and collectively brainstorm places where they may *re-see* the concept. At some point before the next class, students are asked to record in a journal their response to the following questions: 1) Where did I look or how did I try to use the concept? 2) How did it change the way I see that thing, place, situation? 3) How is that valuable to me?

Day 4 was planned as the first opportunity to hear student responses. For the first 5 minutes of class, it was recommended that the teacher ask students to share their UCV Journal entry with a partner. Then, in a show and tell style discussion, the teacher would then have students share with the whole class their personal experience, or that of their partner. It was recommended that the teacher document the unique experiences on a chart with three columns Use, Change and Value.

Day 5 onward the teacher was encouraged to begin class with the UCV Show and Tell before moving on to the course content. If the teacher were to notice that individuals were having difficulty with the UCV assignment, she was urged to confer with the student individually.

Control Group. As was previously mentioned, each of the classrooms selected for the study utilized teaching methods that engaged students with the same history concepts presented in the treatment group.

## 15 Results

Table 2 (Appendix B) shows the means and standard deviations for the transformative experience (TE) and conceptual change surveys at pretest and posttest for each school by condition. Due to the observations of Teaching for Transformative Experience in History (TTEH) implementation differences between sites during the study, individual school data is presented in order to

understand relevant differences between school sites. All data screening techniques, descriptive statistics and advanced statistical analyses were conducted using SPSS version 22 software.

## 16 Transformative experience findings

To address the first research question, *Do participants who experience TTEH instruction demonstrate greater Transformative Experience (use, change, value) than those in the control?* a repeated measures ANOVA was used comparing time (pre- to post test on the TE measure) as the within-subjects factor and group (treatment and control) as the between-subjects factor. A Box's *M* test for unequal group sizes indicated that our assumption of equality of the variance-covariance matrices was met (Box's *M* = 3.11,  $p = .409$ ). This means that equal variances can be assumed between conditions. The results of the repeated measures ANOVA did not show significant differences between conditions at either school. However, univariate analyses were conducted based on differences of post hoc means. Results from Diego Rivera did show significant differences between conditions at posttest,  $F(1, 32) = 5.29, p = .003, \eta^2 = .422$ . The effect size was large and this suggests that the TTEH intervention did play a significant role in increasing TE in the treatment condition. This is confirmed further from paired samples *t* tests that demonstrated significant difference for the treatment condition; treatment,  $t = -3.227, p = .005$ , while the control condition did not show,  $t = -1.393, p = .185$ . This result suggests that the treatment group reported a significant gain with TE from pretest to posttest, while this did not happen with the control condition.

## 17 Qualitative analysis of student interviews

Students at Diego Rivera in the treatment condition focus group interview shared many examples of *TE*. Student one shared, "We had to see what we were learning and relate it to watching the news and hearing songs and like we see a lot of connections between what we learned and the songs." Other students echoed that comment, revealing that the TTEH intervention was clearly presented to and practiced by students. Another student shared, "I think you understand more the stuff you find...looking for things that relate to the *role of the President*. And when you go out and look for that stuff, you're like 'oh yeah, I learned this' and I know why." Here the student is able to articulate how the process of *noticing* helped him *value* the concept, and in the case of the *role of the President*, see how misconceptions are present in our popular culture. Another student summarized, "That too, when we were researching media, I found that a lot of people really like putting the President in a bad light. Because well it's easy to blame, they're looking for someone to blame what's wrong in the world, I assume so, so they choose to blame the authority figure." Another student shared her *value* derived from the TTEH experience,



Well to be honest, I really didn't care much for Congress and the President before learning about what he [the President] did and what he can and cannot do. And now that I know I can apply what decisions he makes...and how it affects everybody, not just the whole but also as it can affect individuals."

Overall, the treatment focus group conversation was filled with enthusiasm and praise for the teacher and activities that encouraged students to *apply* what they were learning outside of class and share those experiences in class with their peers. Students all commented that they feel more confident when thinking about the Executive branch of the U.S. government.

The control condition focus group conversation differed considerably. Students could not identify the *role of the President* as a central concept for the class. Instead, students offered that they were talking about Congress. When asked how this unit changed the way they think about the *role of the President*, only two of the five shared. One student responded, "I don't think this class changed it, I feel like U.S. History kinda changed it more. This is kinda repeating information from U.S. History." This sample of students had more difficulty identifying the central goal of the class, and were not about to share and thoughts about how they are able to *use* the concept, how that concept *changed* the way they look at the world, nor how the concept is *valuable*. In fact, when asked directly how the ideas from this class are *valuable*, one student shared, "It's not." The comment was accompanied with laughter from the group. Although the focus group was randomly selected, it is possible that the group of five did not represent the whole class.

### 18 Qualitative analysis of teacher interviews

When interviewed about her perceptions about the experiment, the teacher at Diego Rivera, Estelle (pseudonym) explained that the *TTEH* intervention was challenging at first, but improved over time with adjustments to address misconceptions. Estelle shared that there was a group of students who were engaged with the *UCV* discussions and another group that seemed to be confused at first, leaving *UCV* worksheets blank. "I thought it [TTEH] was going to be really easy, like really easy. It was challenging. But it was good in showing me that the learning I was hoping for well, right away it showed me that it wasn't happening. And then I was able to see some progress. Still not at the level I thought I would see, but it did help me see what was going on in their heads and in their understanding of these concepts and how they relate." She referenced a phone conversation she had with the first author. During the beginning when students were confused with conspiracy theories they encountered, she shared a concern that *TTEH* seemed to be leading to misconceptions. During the conversation the researcher and teacher agreed that the *UCV* discussion was, in fact, a perfect place to directly and explicitly point out misconceptions.

Estelle saw *TTEH* as an important instructional strategy to help students *notice* and *apply* learning beyond the

classroom, but also as an assessment tool to gauge conceptual clarity and sophistication as those concepts are applied to different contexts in the lives of students. Estelle also shared that overall the experience was valuable for her. "I was talking about it [TTEH] in an instructional leadership team meeting, and I was explaining what I was doing with my second and my fourth period, and how I found it really valuable. It kind of helped me reflect on my teaching and the assumptions that I make as a teacher." The assumptions Estelle referred to are about how students *use* what they learn in the classroom and how they connect it to their own experiences. For Estelle, *TTEH* was viewed as scaffolding for student metacognition about what they are learning.

### 19 Conceptual change findings

To address the second research question, "Do participants who experience *TTEH* instruction demonstrate greater conceptual change than those in the control group?" conceptual change was measured at both sites: University Prep focused on the concept of "liberty" and Diego Rivera focused on the concept of "Executive Branch power." According to the measure, students at Diego Rivera did not experience significant gains in conceptual change, but students at University Prep did. On the measure of conceptual change for *liberty* the treatment condition outperformed the control condition, demonstrating statistically significant differences (treatment pretest  $M = 4.69$ ,  $SD = 1.10$ , control pretest  $M = 4.72$ ,  $SD = .90$ , treatment posttest  $M = 9.76$ ,  $SD = 1.87$ , control posttest  $M = 7.36$ ,  $SD = 2.24$ ;  $F(1, 22) = 7.97$ ,  $p = .011$ ,  $\eta^2 = .296$ ). This result shows that the treatment experienced significantly greater conceptual change than did the control group. Further, the effect size was large, suggesting that the *TTEH* intervention was a key determinate of conceptual change.

To further investigate the nature of the interaction, univariate analyses of pretests for both conditions confirmed there were no significant differences prior to the intervention, pretest  $F(1, 22) = .007$ ,  $p = .934$ , suggesting that prior knowledge did not differ between conditions. However, posttest univariate analysis showed significant differences,  $F(1, 22) = 8.170$ ,  $p = .009$ . This shows that the *TTEH* group engaged in greater conceptual change than the control. To further investigate growth made by each group on the conceptual change measure, *t* tests were used. Results of *t* tests showed significant scores for the treatment,  $t(13) = -8.71$ ,  $p < .001$ , and the control,  $t(11) = -4.45$ ,  $p = .001$ . These results suggest that in addition to the treatment significantly outperforming the control, both groups benefited from instruction, performing well on the conceptual change measure for *liberty*.

### 20 Qualitative analysis of student interviews

We used thematic analysis coding (Maxwell, 2013) triangulate and crystallize statements that provided rich data on the phenomenon of teaching and learning for *TE* with selected concepts. After we transcribed each of the interviews, we used a color-coding process to identify

*motivated use, expansion of perception, experiential value* and conceptual change. This scheme allowed us to see thematic patterns and differences between conditions.

Focus groups of five students from both conditions were randomly selected for interviews. As predicted, there were notable differences between focus group interviews. At University Prep, students in the treatment group were very comfortable discussing how the concept of *liberty*, was used or applied to their daily experiences, and how that *changed* the way they looked at the world. Each of the five participants in the treatment condition focus group was engaged in the discussion and offered different perspectives, including ideas about what helped the process of *applying* concepts outside of class. The control condition had positive comments about their experience with the unit in general, but the conversation tended to gravitate back to classroom assignments.

Students in the treatment condition eagerly described a number of examples of how they were able to apply what they were learning about *liberty* outside the class. Here are three consecutive contributions from three different students: Student 1 said, "It helped me in my elections class (a different class) because we were talking about current events...we had to argue things about if the Electoral College is good or not, and liberty and individual liberties are kind of an argument you could make." Then from Student 2, "I think kinda similar, but also just like in our daily lives, like, going home and hearing stories or talking to other people, you start to recognize real life situations, and things that I would have never noticed before as *liberty*, things that I just kind of started thinking about as I went home over the weekend and stuff." Finally Student 3,

Yeah, we have to choose primary sources off of news articles and one of the ones that I chose, like outside of class to talk about and show how it like connects to *liberty*, was about the debt ceiling for the government shutting down and it just made think (sic) about things in a different way, and like, made me question, like, the ideas of the separations of powers.

Not only were students very eager to share that they were able to *use* or *apply* *liberty*, Student 2 and 3 included a self-awareness that they developed an ability to apply the concept in a new way, in other words, the process helped *expand their perception, reseeing and valuing* the concept. For example, noticing that the debt ceiling was a policy action that affects *liberty* and is connected to a political balance of powers, a concept learned in a previous unit. The student implies that she was previously unaware of these connections. Although the comments in the case of student one and three are undeveloped, they contribute to a larger picture presented in the focus group, which suggested that the students had developed increased willingness to apply the concept outside of class and connect it to other background knowledge.

Students in the treatment condition also noted the initial challenge of applying *liberty* outside the class, but eventually learning to see the concept. Student 4 stated, "I feel like all of us when we looked for liberty we couldn't find it...and after we learned more...it came to us easily and so unexpectedly because like our knowledge like broadened like our perspective on it."

For the most part, the connections drawn by the students in the control condition tended to relate different concepts of government from class activities. Although there were two comments about liberty, both were relatively naïve conceptions and applications, focusing more on *negative liberty*.

## 21 Qualitative analysis of teacher interviews

The teacher at University Prep, Maria (pseudonym), shared her perspective on how students from her class engaged with the concept of *liberty* beyond the classroom provided valuable data regarding how students responded to the intervention, as well as differences between conditions. Overall, Maria felt that the treatment condition was able to articulate an understanding of *negative liberty*, and as she predicted moved to a more sophisticated understanding of *positive liberty*. She added, "I think probably that the TE group, some less confident students were able to do more of that than the less confident students in that [control] class. Maria proceeded to share a story of one student who greatly benefited from the intervention,

I would say, there's a particular student who pops out as one...who had a more *transformative experience*. She was in the experimental group...and she was the one who came in with the Obamacare analogy and...in that discussion started us on the road to articulating a difference between *positive* and *negative liberty*. Part of the reason I think, the reason she strikes me, is that first of all, she was more excited about it than other kids in the classroom. She was also pretty quick to try and use the *positive liberty* concept in subsequent classes like she wanted to bring it up a couple times and I remember why it was important to her. She's a good student but I don't think she's a superstar. I don't think she experiences as a top of the class kind of student and so I think part of what was meaningful to her was to be the source of this class breakthrough. I think that that was really meaningful for her.

Later in the interview the teacher said, "The TE approach helped us focus much more tightly on the essential questions...I really appreciate the explicit direction to apply what they're learning outside of class on their own...and changing the way they see the relationship between the past and the present. I think is really valuable to history education and part of what a history education is supposed to do, right?" When asked how the students were able to *use* the concept outside of class the teacher shared, "I feel more confident that the TE group was able to do that - principally because of the conversations they would have in the first ten

minutes of class. The teacher added that the students would say things like, "My parents were talking about the [Federal government] shutdown and I was asking questions about it and it made me think about liberty." While Maria implicitly acknowledges that she does not know much about how students in the control condition were applying the concept beyond the classroom, this raises an important point for discussion. Even generally effective classroom pedagogy does not provide this type of assessment, which is necessary for achieving a goal like *TE*.

## 22 Discussion

This experiment was based on two main constructs: transformative experience (*TE*) and conceptual change. Research to date in both areas has yet to include experiments about history and social studies learning, or civic education. We found that this study provided an important next step for research in this area, providing insights not only about how students learn in and out of the classroom, but also curriculum design and research methods.

In regard to the first research question, "Do participants (teachers and students) who experience TTEH instructional intervention for controversial political concepts report significantly higher levels of *TE* (use, change, value) than those in a control group who have traditional instruction?" the hypothesis was confirmed in one of the school sites. The post hoc analysis of results of the treatment condition at Diego Rivera revealed significant growth in *TE* due to the TTEH intervention. Focus group and teacher interviews provided rich testimony to describe differences between conditions. These differences made it clear that participants who experienced the TTEH intervention were better able to engage with the respective history concept beyond the classroom. We believe that the instruction via the TTEH intervention at Diego Rivera differed considerably from instruction in the control condition, providing opportunities to engage with Executive Branch power as a relevant controversial issue in their own daily lives. At University Prep, there are a couple likely reasons why results were not significant. First, differences between instructional conditions might have not differed enough due the influence of TTEH on the teacher when teaching the control group (this admission was noted in interview data). Secondly, students at University Prep, a high SES and high performing school, seemed likely to self-report higher ratings on the TTEH measure at pre-test, thereby impacting the possibility of significant findings. These challenges will be discussed further in the limitations section.

Qualitative analyses of student focus groups and teacher interviews at both schools provided an abundance of data that suggested the treatment conditions more readily demonstrated *motivated use* of the concepts, shared how it *expanded their perception* of the way they look at daily situations, and had increased *experiential value* for those concepts in daily contexts.

In regard to the second research question, "Do participants who experience TTEH instruction demonstrate greater conceptual change than those in the control group?" the hypothesis was confirmed at one of the school sites. Results at Diego Rivera did not show significant conceptual growth, but at University High, the treatment group significantly outperformed the control on the conceptual change measure and the effect size was large. We believe that the short duration of this study may have impacted students in the larger classes at Diego Rivera. While they did have enough time to see significant growth in *TE*, or their engagement with the concept of Executive Branch power beyond the classroom, their written essays for the conceptual change measure didn't yield significantly different results. On the other hand, students in the treatment condition at University High, seemed better able to focus on one concept, liberty, whereas control condition participants tended to move on more quickly to other concepts, like federalism, without as nuanced of an understanding of the liberty. We expand on these challenges in the following limitations section.

## 23 Implications for instruction

The study findings provide evidence that it is possible to promote habits of conceptual application, whether those concepts are based in history or civics. TTEH did support students to not only become more confident in *noticing* the concept beyond the classroom, but experience *value* for it. Then when back in the classroom, students are able to share each of the three dimensions, behavioral (use), cognitive (change), affective (value), which can create, as one teacher put it, a "conversational currency" through which the teacher can lead further exploration. These findings regarding the implementation of the TTEH model by teachers, addresses prior research that questioned both how teachers accommodate and assimilate the TTEH model with their own prior beliefs and practices, as well as differences in implementation between university researchers and practicing teachers (Pugh et al., 2010b).

A professional development plan for the TTEH model should include the following: (1) clear and thorough modeling with additional questions and scaffolding for each dimension, (2) training on how to identify quality controversial concepts (including political, social, cultural and economic concepts), (3) training on how to identify and address misconceptions, and (4) alignment with the final assessments, including greater transparency for students regarding expected outcomes.

The final suggested improvement to the TTEH model is the alignment of expected outcomes, academic goals, assessments and instructional practices (Wiggins & McTighe, 2005). For the purpose of this experiment, TTEH was gently overlaid on three different idea-based classes that utilized an Understanding By Design approach (Wiggins & McTighe, 2005). The problem with layering an instructional intervention "on top" of an existing unit or course plan is that misalignment is possible. For example, while students were guided to

apply their understanding of controversial political concepts beyond the classroom as an instructional activity, neither school included that type of applied thinking on the final assessment. If students are clear that this is one of the larger objectives for the unit or course of study, they will more likely work to accomplish that objective. More dynamic summative assessments, such as *performance tasks*, as presented in *Understanding by Design* (Wiggins & McTighe, 2005), could prove to be a useful model. One of the teachers suggested that the ultimate learning goal is to increase students' civic engagement, using history and government concepts to be able to affect change. With this view education becomes a more democratic experience by which the students, as individuals and collectively with the help of the teacher, engage in learning beyond the classroom for the purpose of societal progress (Goldfarb, 2005).

On a final note, one should consider whole system alignment, i.e. to acknowledge the type of district or school within which the curriculum, assessment and instruction is being designed. Schools with clearly stated missions expressing value for real-world or civic engagement, may adopt this type of curriculum design and pedagogical approach with greater ease.

#### 24 Implications for future research

This study has added to the body of research on TE and conceptual change (Broughton, Sinatra, & Nussbaum, 2011; Heddy & Sinatra, 2013; Limón, 2002; Pugh et al., 2010b; 2010a), and controversial issues in social studies and history (Barton & McCully, 2007; Hess, 2009; Jamieson, 2013; Malin et al., 2014). It builds on prior findings and presents new questions concerning research methodology, teacher assessment and instructional practices, and conceptual change in history.

**Implications for History Conceptual Change Research.** As was previously stated, future research should consider a TTEH model using multiple concepts and controversial issues from different areas (e.g. political, economic, cultural and/or social, geographic and ecological) (Drake & Nelson, 2005; Limón, 2002), as well as secondary concepts or *meta-concepts*, such as the epistemological paradigms outlined by Limón (2002). Further research should examine how both primary and secondary concepts are taught and assessed secondary level and undergraduate courses. Finally, future studies of this type should consider other data collection methods for measuring TE, in addition to the self-report survey. Other social science methodology has observed the phenomenon of social desirability bias in self-reported measures (Brenner, 2011; Presser & Stinson, 1998) and suggests a systematic behavioral analysis could be productive. UCV Journals are a potential source of daily behaviors, and could be structured in such a way that useful data is collected and measured.

**Implications for Instructional Practices Research.** Building upon the TTES instructional models of Pugh and colleagues (2002, 2004, 2011; 2005; 2010b; 2010a) and Heddy and Sinatra (2013), and the TTEH model in this

study, there is room for revised models that promote engagement with controversial history concepts beyond the classroom. Specifically, developments on the model should explore how teachers best share and frame *experiential value* for the history content, and how to explicitly communicate and involve students in understanding the desired intentional conceptual change for history concepts. Next, future research should synthesize and test effective strategies of modeling UCV and scaffolding *reseeing*, including use of digital media as a proxy for real-world experiences. Lastly, further research can also be conducted with workshop style strategies to support individuals or groups with misconceptions that are revealed during the process. This includes how teachers best structure lessons to advance the goals of TTEH.

#### 25 Limitations of the study

As in any study in a school setting, there are a number of limitations that affect the generalizability of these findings. First, the study sought to observe the same experiment at two separate school sites. Naturally, the curriculum, assessment and instructions at both sites varied considerably due to differences between student demographics, the teachers and school cultures.

Students from one site were from a public school, the other half were from a secular private girls school. Results from individual schools do not necessarily represent a diverse and representative sample of school age students, and therefore, caution should be exercised when generalizing about these results.

A second limitation involves the implementation of this study. Implementation of the TTEH intervention post-professional development was beyond the control of the researchers, and therefore allowed for teachers to diverge from the recommended model. There were benefits of teachers slightly modifying the model, such as some innovations that will inform implications for practice. However, such differences between schools impacted the fidelity of the intervention.

A third limitation is the short time duration of the TTEH intervention. Ideally, students would have had opportunities for more practice and feedback. An entire semester, or even a year, would allow for teachers and students to more deeply examine the highlighted controversial issues (liberty and Executive Branch power). These types of core concepts can be applied to any timeframe in history, social studies of civics education, and ideally applied continuously. For most students in the treatment conditions, there were only about six opportunities to practice TTEH. Because TTEH involves students practicing *reseeing*, i.e. *noticing* a concept in their daily life, or in other classes, it is likely that increased practice with *reseeing* would result in improved outcomes. Ideally, teachers should consider a set of essential controversial concepts to practice with for an extended period, like a semester or a year.

A final limitation concerns the sample size. While the two case studies at each school provide results that are useful for comparison, a larger scale unified study would

increase the likelihood of finding significant interactions on repeated measures ANOVAs. This idea is supported by significant findings on *t* tests for TE and conceptual change. Ideally future studies would look for one teacher teaching four sections of the same class, allowing for two treatment and two control conditions. To account for the small sample sizes of each school site, this study included student and teacher interviews to provide additional data useful for post-hoc triangulation.

## 26 Conclusions

To conclude, the Teaching for Transformative Experience in History (TTEH) intervention, showed promise as a means of facilitating engagement with controversial history concepts beyond the secondary school classroom. Future research should examine how instructors promote engagement beyond the classroom with a wider variety of history concepts, including specific use of UCV Journals and the alignment of instructional strategies with unit, and course, summative assessments that may include performance tasks directly connected to community issues.

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**Appendix A**

Table 1  
Schedule of instrument administration and instructional activities

Activity	Duration
<b>Preinstruction instrument administration</b>	One class period
<ul style="list-style-type: none"> <li>• Transformative Experience in History Measure (TEHM)</li> <li>• Conceptual Change Measure</li> </ul>	
<b>Experimental phase</b>	Six to ten class periods
<ul style="list-style-type: none"> <li>• Treatment group: Teaching for Transformative Experience in History (TTEH) model</li> <li>• Control group: Normal idea-based instruction</li> <li>• Classroom observation</li> </ul>	One class period
<b>Postinstruction instrument administration</b>	One class period for instruments
<ul style="list-style-type: none"> <li>• Transformative Experience in History Measure (TEHM)</li> <li>• Conceptual Change Measure</li> <li>• Student focus group interviews</li> <li>• Teacher interview</li> </ul>	One class period for focus groups One half-hour meeting with instructor

**Appendix B**

Table 2: Descriptive Statistics  
Means and Standard Deviations By School and Condition Pre to Post for TE, Conceptual Change (CC) (N=88).

Statistic	University High		Diego Rivera	
	Treatment	Control	Treatment	Control
TTEH(pre)	70.38(19.14)	78.90(17.07)	73.26(17.74)	71.93(11.86)
TTEH(post)	88.84(14.99)	88.90(9.87)	82.63*(20.77)	76.73(14.88)
CC(pre)	4.69(1.10)	4.72(.90)	5.15(2.06)	5.93(1.66)
CC(post)	9.76*(1.87)	7.36(2.24)	6.00(2.33)	6.33(2.49)

**Appendix C**  
**Student Interview Protocol**

- 1) Were you able to use, notice or apply what you learned about the role of the president (*liberty*) when you weren't in history class? Explain when, where and how often.
- 2) Did this change the way you looked at your everyday experiences?
- 3) Are the ideas about the role of the president (*liberty*) important to you? In what ways and when are those ideas important or valuable?

**Teacher Interview Protocol**

- 1) How do you think the two conditions compared?
- 2) Do you think students were able to use or apply these concepts about the role of the President (*liberty*) outside of class? How do you know?
- 3) Did this differ between conditions? How?
- 4) Do you think this class changed the way that students "see" the world? If so, how so and what caused that? Was there a difference between conditions?
- 5) Do you think this class helped students value the idea about the role of the Presidency in their lives outside of class? How so? Was there a difference between conditions?
- 6) Is there anything else that you think worked or didn't work about the TTEH intervention?

**Appendix D**  
**Transformative Experience Survey**

Instructions: Think about the ideas you've learned about the role of the President (liberty) during this unit and indicate how much you agree or disagree with each of the following.

(Responses will be on a 6pt. Likert Scale from Strongly Disagree to Strongly Agree)

1. During this unit I talked about the ideas about the role of the President I have learned.
2. I talked about the ideas about the role of the President I've learned outside of this class.
3. I talked about the ideas about the role of the President I've learned just for fun.
4. During this unit I thought about the ideas about the role of the President.
5. I thought about the ideas about the role of the President outside of this study.
6. I used the ideas about the role of the President I've learned in my everyday experience.
7. I used the ideas about the role of the President even when I didn't have to.
8. I sought out opportunities to use the ideas about the role of the President I've learned.
9. I looked for examples of the ideas about the role of the President in TV shows, movies, books, online or in other media around me.
10. During this study, I thought about the ideas about the role of the President differently.
11. The ideas about the role of the President changed the way I view situations.
12. I think about experiences differently now that I have learned these ideas about the role of the President.
13. I can't help but to think about the ideas about the role of the President I've learned.
14. The ideas about the role of the President I have learned changed the way I think about situations that occur in TV shows, movies, books, online or in other media around me.
15. I found it interesting to learn about the ideas about the role of the President.
16. I found it interesting to think about the ideas about the role of the President outside of class.
17. The ideas about the role of the President I learned are valuable in my everyday life.
18. The ideas about the role of the President I learned make my out-of-class experience more meaningful.
19. The ideas about the role of the President make my life more interesting.
20. The ideas about the role of the President make TV shows, movies, books, online or in other media around me more interesting.