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Project Step 1: Context & Initial Resources

Context for E-Learning Design

Goal: To give novice independent learners the tools necessary to analyze a community issue and plan actions to affect change.

Age range and experience level of students

Civic engagement can start at any time, but students cannot really engage autonomously until they are adults. However, they can begin learning these concepts at any point in high school, when they are cognitively able to understand the concepts required to make responsible decisions. Education, public safety, equality, and health are a few examples of concepts that civic engagement can shape within a state or municipality.

This lesson could be used by high school or college students nearing voting age, or people who are civically active but are interested in becoming more involved. It is meant to be mobile friendly so it can be engaged whenever needed. It is designed for citizens with a basic understanding of their government and neighborhood.

Targeted Learning Challenge

Although civics is taught in most high schools, people often fail to engage in civic responsibilities long-term. In order to be responsible and happy citizens, people must be knowledgeable *and* actively participate in communities and democracy. Many people (eligible voters, or ineligible) often do not understand their options for participation for responsible citizenship, and some may not know where to start. Even non-citizens can participate in civics, so it's important to communicate the ways that don't involve casting a vote.

The hope is that more understanding of the options, the merits of participation, and the process will empower people and lower the barrier to civic engagement. [This study](#) from The Center for Information and Research on Civic Learning and Engagement (CIRCLE) shows that learning civics in high school leads to party-agnostic increases in civic engagement.

Concepts, Skills, and Dispositions

Disposition is critical to this process, because civic engagement is not required in America. If the learners do not begin with a position of optimism, open-mindedness, curiosity, and empowerment, the instruction needs to help them begin to believe they can make a change, and consider steps to do that. **Ultimately, learners should be able to identify an issue that is meaningful to them, and design a path to have an impact through civic engagement.**

Bloom’s Taxonomy was a good way to begin organizing concepts and skills that should be taught in this course. It encourages the construction of knowledge- and skills-based goals, and illuminates the depth to which a student needs to understand and apply them. ([Krauthwohl](#), *A Revision of Bloom's Taxonomy: An Overview*, 217)

Knowledge Dimension	1. Remember <i>What are the components?</i>	2. Understand <i>How do the components interface with one another?</i>	3. Apply <i>How is the learning relevant to me?</i>	4. Analyze	5. Evaluate	6. Create
Factual	Types of community organizations Personal and community issues	Relationship between community organizations and government	Identify issues that affect your community Identify community organizations		Evaluate organizations and opportunities as they relate to civic goals	
Conceptual	Equality Equal Representation Using your voice	Community engagement	Advise a colleague on a candidate	Consider advantages limitations of each type of participation		Make the case for someone else’s civic engagement
Procedural	Electoral Process Community engagement Canvassing	How to engage community groups (volunteering, donations, etc)			Understand the components of an issue	Explain to someone how to get involved
Metacognitive	One’s prior civic experience and interests		Reflect on your past political involvement	Understand gaps in new knowledge		

Relevance of Civic Engagement

This directly prepares people to be more responsible and empowered, to better understand what civic engagement means and how to impact communities, and to participate more effectively in communities. They should also be encouraged to examine their role and begin growing desire to participate more fully.

I consulted with my subject matter expert early in the design process and he recommended sticking with learners in the U.S. to avoid having to design more broad cultural education. He also recommended a shift from multiple choice questions.

Learning Environment

In order to make the learning experience accessible, the unit will be taught on the web to be accessible by mobile device. Learners will expand their understanding of civics and political science, and can learn anywhere. This unit could be useful for a flipped classroom learning experience, an afterschool program, or independently.

Schedule of Instruction

Primarily, students will learn asynchronously, with synchronous learning events occurring after certain milestones during instruction. These events would engage learners with one another in real (or sometimes virtual) space, as they are learning the same material. Instruction and some formative assessment will be self-paced, while other assessments will prove summative learning. It shouldn’t take more than a couple hours to grasp the content or people will lose interest.

Identifying Resources

Personal Experience

I am a voter and am involved in my community, but I have acquired this knowledge over a long period of time from various sources so I am not completely confident in my own level of mastery.

Prior Knowledge

I am using this as a rough guideline for what knowledge students may know at the start of the lesson.

Five Ways to Increase Civic Engagement - National Council for Social Studies

<http://www.socialstudies.org/system/files/publications/yl/2201/220115.pdf>

Domain Specific Resources

Voting and Elections in the United States - USA.gov

<https://www.usa.gov/voting>

High School Civic Education Linked to Voting Participation and Political Knowledge, No Effect on Partisanship or Candidate Selection - The Center for Information and Research on Civic Learning and Engagement

<http://civicyouth.org/high-school-civic-education-linked-to-voting-participation-and-political-knowledge-no-effect-on-partisanship-or-candidate-selection/>

Citizens Research Method - Harvard Family Research Project (this is outdated article but an interesting approach)

<http://www.hfrp.org/evaluation/the-evaluation-exchange/issue-archive/learning-organizations/civic-participation-and-the-citizens-research-method>

Civic Engagement in the Digital Age - Pew Research Center

<http://www.pewinternet.org/2013/04/25/civic-engagement-in-the-digital-age/>

Educational Standards

This domain fits with state standards and some national academic standards for Social Studies and Civic Engagement.

Pennsylvania Academic Standards for Civics and Government

<http://www.stateboard.education.pa.gov/Documents/Regulations%20and%20Statements/State%20Academic%20Standards/CIVICSANDGOVERNMENT.pdf>

US Department of Education: Civic Learning and Engagement in Democracy (not exactly standards)

<http://www.ed.gov/civic-learning>

National Standards for Civics and Government (grades 9-12):

http://www.civiced.org/images/stories/PDFs/Publications/National_Standards/National_Standards_9-12.pdf

National Institute for Social Studies Civics Standards

<http://www.socialstudies.org/standards/introduction>

Project Consultants

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Jesse has a bachelor's degree in Political Science, and has worked with citizens and noncitizens at the college age to help them engage in civic responsibility.

Survey of Existing Educational Material

There are many, many resources on this topic, mainly geared toward children and young adults through high school. I selected the following sample of resources to show a variety of approaches to instruction.

Civic Engagement Lesson Plans (11th grade)

<https://www.everyday-democracy.org/resources/civic-engagement-lesson-plan-parts-1-and-2>

This is a high quality civics lesson plan, with clear learning objectives and activities.

Note: These activities are group-oriented and open ended, but the activities can be used as part of an asynchronous e-learning course.

Teach UNICEF

<https://teachunicef.org/teaching-materials/topic/global-citizenship>

HotChalk Lesson Plans (grades 9-12)

<http://lessonplanspage.com/ssodosomethingaboutvotingcivicengagementunitlesson8whydoihavetodojuryduty912-htm/>

This resources offers a wide variety of support for engaging middle and high school students. It has an interesting feature that allows you to select the state you live in and receive corresponding information about civic participation, voting and public policy.

Community Tool Box - Table of Contents

<http://ctb.ku.edu/en/table-of-contents>

Center for Civic Education (Grade 9-12 Curriculum)

<http://www.civiced.org/resources/curriculum/lesson-plans/1780>

Win The White House game: <https://www.icivics.org/games/win-white-house>

In Win the White House, you get to manage your very own presidential campaign by strategically raising funds, polling voters, launching media campaigns, and making personal appearances.

This game does a good job of simplifying the complexities of the Presidential Election process, specifically.

Counties Work Game: <https://www.icivics.org/games/counties-work>

Your choices shape the community, and your citizens' satisfaction determines whether you'll get re-elected for a second term.

This sims-like game offers a fun dynamic that helps you (the politician) assign community projects to citizens. You have to assign a citizen to a department in a timely manner or they will not vote for you again.

Responsibility Launcher: <https://www.icivics.org/games/responsibility-launcher>

Have you ever wanted to knock some responsibility into someone?

This game has a really odd premise that distracts from the important facts. In it, you launch anvils at citizens to encourage them to participate. It includes too much of a good thing, but the fundamental concepts are good.

Project Step 2: Identifying Goals & Online Assessment Creation

Assessment Framework Table

	Cognitive Goals	Metacognitive Goals
Concepts (Declarative)	C1: Define civic engagement C2: Identify types of civic organizations C3: Describe the relationship between civics and government C4: Identify an issue that affects your life C5: Identify an issue that affects someone else (and not you)	MC1: Do I know the resources in my community?
Skills (Procedural)	CS1: Identify a path to influencing an issue that matters to you. CS2: Describe how the government makes laws CS3: Examine how individual rights may conflict with or support the common good. CS4: Explain how "votes matter in aggregate"	MS1: Do I engage my community productively? MS2: Can I see opportunities to make inroads on issues?
Dispositions/Attitudes	CD1: Find it plausible that issues can be addressed CD2: Feel empowered to find ways to address community issues	MD1: Civics starts with me

Design Assessment Tasks

When applicable, correct answers are emboldened.

Assessment Tasks		
Category	Task	Learning Goals
Community Issues	How involved are you in your community? (1 -5 Likert scale 1= not at all, 5 = extremely)	MS1, MS2
Community Issues	How much do these issues affect your community today? (1 -5 Likert scale 1= not at all, 5 = extremely) <ul style="list-style-type: none"> • Education • Public Safety • Parks & Green spaces • Health & wellness • Economy 	C1, C5
Personal Interests	How much do the following issues affect you personally today? (1 -5 Likert scale 1= not at all, 5 = extremely) <ul style="list-style-type: none"> • Education • Public Safety • Parks & Green spaces • Health & wellness • Economy 	C1, C4
Local government	Which is true about municipal government? Citizens can influence municipal government to make changes at a national level Municipal governments have no power except what is granted to them by their states Municipal government officials are corrupt Government officials are required to engage every member of the community with an issue	C3
Community Issues	Indicate the type of organization for each GOVERNMENT - COMMUNITY ORG - PRIVATE COMPANY City Council (Gov) Pittsburgh Community Reinvestment Group (Org) Parks Department (Gov) Planned Parenthood (Org) Housing Authority (Gov) Electric Company (Private) Mass Transit (Gov) Police (Gov)	C2
National Government	What form of government runs America? Direct democracy Republic Oligarchy	CS2
National Government	Compare how laws are made in a republic and a direct democracy.	CS2
Local government	What government organization could you approach to make changes for each scenario? (correct answers below) I have an issue with the textbooks used in local high school classrooms (School Board) People are being robbed in my neighborhood (Sheriff's Office) My landlord has ignored my broken heater for months (Housing Authority) A large pothole causes traffic during my commute to work or school (Public Works) My local park is full of rusty playground equipment (Parks and recreation) I want to know what to do in case of a flu epidemic (County Health Department) Local jobs are being outsourced to companies in another city (Mayor's Office)	CS1, CD1
Making a difference	Check all statements that are true Community-level participation can affect local change faster than voting Community participation and government are not related My opinions don't matter to my community Being involved in my community takes commitment	CD1, C3, MD1

	You have to be a US citizen to influence your community	
Voting	Have you ever voted? Yes / No / not eligible	CS1, CD1
Voting	What kind of election have you voted in? National / State / Local	CS1, CD1
Voting	My vote matters most when... It is counted with others who voted the same way.	CS4
Civic History	Describe the result of the 1803 ruling of Marbury vs. Madison. Judicial Review - review by the US Supreme Court of the constitutional validity of a legislative act.	CS2, CS3
Civic History	Compare and contrast the Federalist & Anti-Federalist views on the U.S. Constitution. The Federalists were instrumental in 1787 in shaping the new US Constitution, which strengthened the national government at the expense, according to the Antifederalists, of the states and the people.	CS2, CS3

Domain Specific Assessment Tasks					
Education	Public Safety	Parks and Recreation	Health & Wellness	Economy	Learning Goals
How confident are you that you can have an effect on community education? (1 -10 Likert scale 1= not at all, 10 = extremely)	How confident are you that you can influence public safety in your community? (1 -10 Likert scale 1= not at all, 10 = extremely)	How confident are you that you can influence the parks, activities and recreation facilities in your community? (1 -10 Likert scale 1= not at all, 10 = extremely)	How confident are you that you can help improve health and wellness in your community? (1 -10 Likert scale 1= not at all, 10 = extremely)	How confident are you that you can help improve your community's economy? (1 -10 Likert scale 1= not at all, 10 = extremely)	MC1, MS1, MS2
Why or why not?	Why or why not?	Why or why not?	Why or why not?	Why or why not?	C1, C4
What's the best way to begin making change in local education? Contact the School Board	What's the most effective way to approach a public safety issue? Visit the Sheriff's office	What's the most effective way to improve parks and green spaces in your community? Contact the Parks Department	What's the most effective way to improve the health and wellness of your community? Contact a local organization that provides social programs	What's the most effective way to improve the local economy? Crowdfund community initiatives	MS1, MS2, CS2
How did Brown vs. Board of Education change the shape of schools in America? How did the events of the time affect learning?	Name two reasons a recent study on police body cameras saw a 93% drop in complaints against officers. http://www.rand.org/blog/2016/10/police-body-worn-cameras-more-to-it-than-what-you-see.html	How effective are public smoking bans on the health of non-smokers? http://www.pbs.org/newshour/rundown/the-real-reasons-behind-public-smoking-bans/	What did the Hill-Burton Hospital Survey and Construction Act of 1946 provide for struggling hospitals? What did the needy hospitals contribute? http://www.hrsa.gov/gethealthcare/affordable/hillburton/	What is the role of the US Small Business Administration in helping citizens establish and grow companies? https://www.sba.gov/start-up-business/learn-about-business-laws	CS1, CS3
How likely are you to make an effort to address education in your community?	How likely are you to make an effort to address public safety in your community?	How likely are you to make an effort to improve parks and green spaces in your community?	How likely are you to make an effort to improve the health and wellness of your community?	How likely are you to get involved with your local economy?	CD1, CD2, MD1

(1 -10 Likert scale 1= not at all, 10 = extremely)	(1 -10 Likert scale 1= not at all, 10 = extremely)	(1 -10 Likert scale 1= not at all, 10 = extremely)	(1 -10 Likert scale 1= not at all, 10 = extremely)	(1 -10 Likert scale 1= not at all, 10 = extremely)	
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Here is the most updated version of the assessment.

https://docs.google.com/forms/d/e/1FAIpQLSeUjwXqkyzhZXtU3AGobgrZCkKRqMXfAnFm84fy_yEBMkn12w/viewform

Assessment Version 1

This is the first version. I copied it because I need to modify some questions as a result of the data and my CTA, and Google Forms was moving the data around in unhelpful ways.

<https://docs.google.com/forms/d/18m3cbqtXoHcc8QMVdy-uYJIYrqJqQNs9icFiFiEST4A/edit?usp=sharing>

Note: In order to gather data efficiently, I used Mechanical Turks to complete the first version of the pre-test.

Data for version one can be found here:

<https://docs.google.com/spreadsheets/d/19bdgSDA06hKw4WZ9NgRLiKVxIU2SpXFSW08utVml9iQ/edit?usp=sharing>

Project Step 3: Cognitive Task Analysis & Cognitive Model of Instructional Goals (10.13)

Knowledge Components

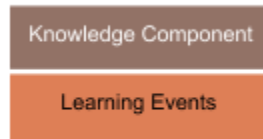
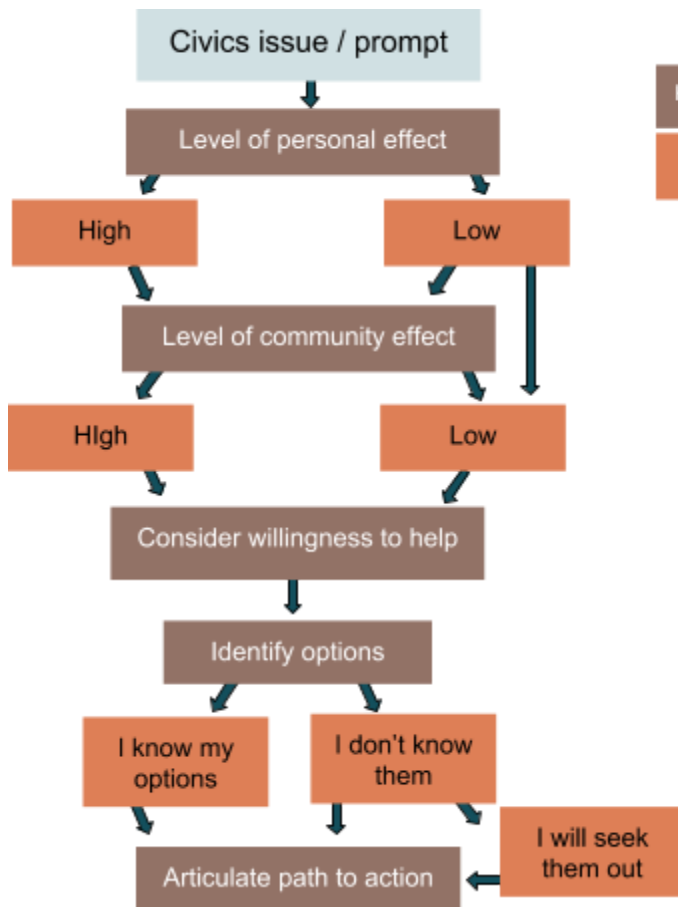
Identify reasons a problem exists, possible solutions and a plan for improvement.

Consider the components of a problem, barriers to addressing it, and the relationship between factors that have led to the problem.

Given what you've thought about, determine the resources, individuals, and organizations that can affect change.

Rational and Empirical CTA

Rational CTA



A semi-structured interview process was used to better understand how learners might complete the desired task (Clark, 581).


















Because the domain is ill-defined, knowledge representation was particularly challenging. The intermediate and expert processes and decision points were slightly different, and could potentially be executed in different orders. However, the basic concepts the experts demonstrated are present in both analyses.


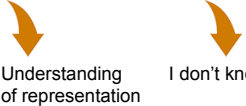
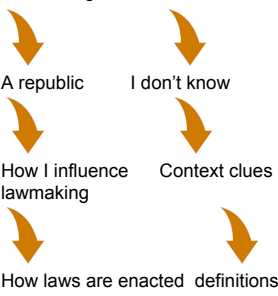
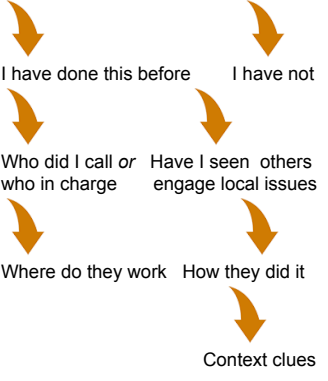
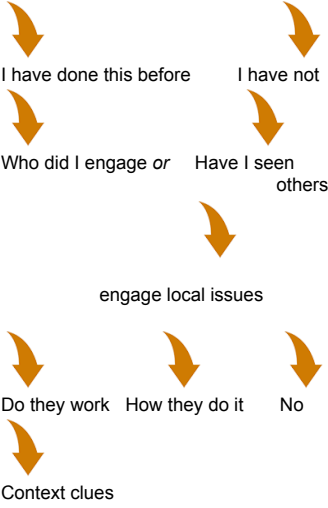
I attempted to incorporate the critical-decision method (Clark, 582) to better understand decision points in the civic engagement process. Since there are a large number of options for these types of tasks, I am not sure how effective it was.
















I also utilized contextual Inquiry and shared some of my interpretations with my SMEs during the process. Since the steps in the process were variable, I















wanted to be sure I was understanding their approach and mental processes in addition to the steps they were describing. My rational task analysis assumed that appealing to learners' individual needs would be the best first-step to increasing community participation. However, SMEs approached the issue differently; the intermediate-level expert employed the


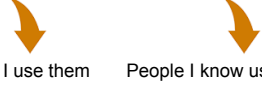





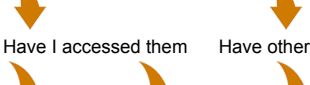
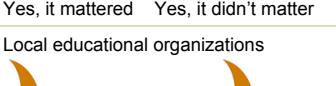
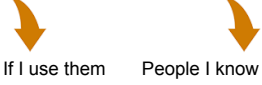



“rising tide raises all ships” philosophy, while the expert-level SME started from the perspective of his own personal motivations. It seems that personal philosophy has a lot to do with how people approach these questions.

Rational and Empirical Task Analysis			
Task	Rational Task Analysis	Oct 11 Empirical Task Analysis: Think Aloud w. intermediate SME	Oct 16 Empirical Task Analysis: Think Aloud w. expert SME
How involved are you in your community? (Likert scale: 1= not at all, 5 = extremely)	Things I do where I live  Things I have improved in the past  Things I would like to improve	Answer: 2 What are the ways I could be involved? What do i do that I don't consider? What things do I do already? I work in the arts (which is self-serving), but a community needs more	2 Personal history of community involvement Things I could do Things I haven't done
How do you define community? (use this definition to answer the rest of the questions)		People in my surrounding neighborhood Maybe i deal with them day-to-day	People I have an affinity for, not necessarily my neighborhood
How much do these issues affect your community today? (Likert scale: 1= not at all, 5 = extremely) <ul style="list-style-type: none"> • Education • Public safety • Parks & green spaces • Health & wellness • Economy 	Who I know in my community  Who they know    The people goods or services those people need to flourish	All 5 Think of what family you have in the area Think of your social social circles Outside circles - think of it broadly What do these different groups do day-to day	1 Where I live Level of engagement (low) In the absence of information about the community, I apply my personal principles
How much do the following issues affect you personally today? (1 -5 Likert scale 1= not at all, 5 = extremely) <ul style="list-style-type: none"> • Education • Public safety • Parks & green spaces • Health & wellness • Economy 	My experiences where I live  What types of problems I have  The severity of the problems	5 for all What makes a community good? If the community is good, I can benefit too What is my own level of comfort in the community? Raising a family What do I do day-to-day	Green space My position in society My privilege What affects me tangibly? Family,
Select all that are true about municipal government. <ul style="list-style-type: none"> • Citizens can influence local government to make changes at a national level • Municipal government power is granted by each state • Municipal officials are corrupt • Government officials are required to engage every member of the community with an issue 	My experience with municipal government  The experiences of people I know  Ways change did or did not happen	What is the definition of municipal government I can start making inroads locally How connect nationally Local officials make rules that can trickle up/ set examples	Do I want to be cynical? Are they bound by state laws
Indicate the type of organization for each (Government, community non-profit, private company) <ul style="list-style-type: none"> • City Council (Gov) • Community Reinvestment Group (Org) • Parks Department (Gov) • Planned Parenthood (Nonprofit) • Housing Authority (Gov) • Electric Company (Private) 	How I engage with these groups    Financially Services Elections  The frequency in which I engage them   	Do individuals have a say in the activities of these groups? Where does funding come from? Public sources, personal billing?	Do they make a profit? Does it sound like a public service (tax dollar funded, goes toward greater good)

<ul style="list-style-type: none"> • Mass Transit (Gov) • Police (Gov) 	<p>Automated Occasionally Scheduled</p>  <p>The structure of the organization</p>		
<p>According to the Constitution, what system governs America?</p> <ul style="list-style-type: none"> • Direct democracy • Republic • Oligarchy 	<p>Prior political definitions</p>  <p>Understanding of representation I don't know</p>	<p>What language do we use to talk about our government The democratic process I go out and vote I vote on local issues</p>	<p>Oligarchy because of the Supreme court</p> <p>In reality it's a Republic</p>
<p>In a few sentences, compare how laws are made in a republic and a direct democracy.</p>	<p>How am I governed?</p>  <p>A republic I don't know</p> <p>How I influence lawmaking Context clues</p> <p>How laws are enacted definitions</p>		<p>Who makes the laws How they are approved</p> <p>There's no difference in how laws are made but there is in who is making them</p>
<p>What government organization would be most effective to make changes for each scenario?</p> <p>I have an issue with the textbooks used in local high school classrooms (School Board)</p> <p>People are being robbed in my neighborhood (Sheriff's Office)</p> <p>My landlord has ignored my broken heater for months (Housing Authority)</p> <p>A large pothole causes traffic during my commute to work or school (Public Works)</p> <p>My local park is full of rusty playground equipment (Parks and recreation)</p> <p>I want to know what to do in case of a flu epidemic (County Health Department)</p> <p>Local jobs are being outsourced to companies in another city (Mayor's Office)</p>	<p>Level of personal experience with the scenario</p>  <p>I have done this before I have not</p> <p>Who did I call or who in charge Have I seen others engage local issues</p> <p>Where do they work How they did it</p> <p>Context clues</p>	<p>What organizations am i familiar with What problems do I solve myself What are my personal experiences with civic orgs Which orgs have you accessed in the past What resources could I use to find the answers Town hall meetings in your community What changes have I seen in your community and how did they happen? What questions are other people asking of the community?</p>	<p>Follow the money or the law How is the problem remedied? Is the issue caused by a private company or government? Analyze both paths and their effectiveness</p>
<p>Check all statements that are true</p> <p>Community-level participation can affect local change faster than voting</p> <p>Community participation and government are not related</p> <p>My opinions don't matter to my community</p> <p>Being involved in my community takes commitment</p> <p>You have to be a US citizen to influence your community</p>	<p>Level of personal experience with the scenario</p>  <p>I have done this before I have not</p> <p>Who did I engage or Have I seen others</p> <p>engage local issues</p> <p>Do they work How they do it No</p> <p>Context clues</p>	<p>Answered correctly</p> <p>How change happens What issues require a vote Stop signs, potholes - local Noise ordinances - those are voted on Who affects it and at what level Large change requires a vote, but may not be faster</p>	<p>Answered correctly</p> <p>Historical example of when community affected changes</p> <p>What people did to pressure leaders</p>

<p>Have you ever voted? Yes / No / not eligible</p>	<p>Long-term memory</p>	<p>Yes.</p>	<p>Yes</p>
<p>What kind of election have you voted in? National / State / Local/ Other</p>	<p>Long-term memory</p>	<p>All</p>	<p>All</p>
<p>My vote has the biggest influence on an election when... It is counted with others who voted the same way.</p>	<p>My system of government  My ideology  My actions</p>	<p>What do I truly believe in? How does that relate to the community's needs? It can be not perfect and still be progress What will happen with these issues in the future if i dont address it What do other people suffer from that I could</p>	<p>Size of the electorate</p>
<p>Describe the result of the 1803 ruling of Marbury vs. Madison (includes graphic for context clues) Judicial Review - review by the US Supreme Court of the constitutional validity of a legislative act.</p>	<p>Knowledge retrieval</p>	<p>I don't know What was happening in 1803 Who were Marbury and Madison</p>	<p>Judicial Review</p>
<p>What was one major difference between the views of the Federalist & Anti-Federalists when they were writing the constitution? The Federalists were instrumental in 1787 in shaping the new US Constitution, which strengthened the national government at the expense, according to the Antifederalists, of the states and the people.</p>	<p>Prior knowledge of terms  Correct answer  None  Context Clues</p>	<p>What are the underlying principles of the cons Inference of federalist and anti-federalist</p>	<p>How long is this answer supposed to be? Mainly it was states and national rights.</p>
<p>Domain Specific Assessment Tasks</p>			
<p>How confident are you that you can have an effect on community education? (1 -10 Likert scale 1= not at all, 10 = extremely) Why or why not?</p>	<p>Level of importance of education to me  My network's level of interest  Access points to make change  Have I accessed them Have others accessed them  Yes, it mattered  Yes, it didn't matter  No</p>	<p>2 I don't have any local investment in education I have never tried But it's a good idea</p>	<p>2 I am not sure of my community educational resources If the school board is not accessible or effective I might turn to local organizations</p>
<p>What's the best way to begin making change in local education? Contact the School Board</p>	<p>Local educational organizations  I use them  People I know use them</p>	<p>How is my school run Do I know people there or should I search How fast does the change happen</p>	<p>Local school board is officially the way but I might talk to students to confirm the issues i am seeing, since i don't have kids</p>
<p>How did the 1954 case Brown vs. Board of Education change schools in America?</p>	<p>Knowledge retrieval?</p>	<p>Desegregation of schools</p>	<p>Desegregation</p>
<p>How likely are you to make an effort to address education in your community? (1 -10 Likert scale 1= not at all, 10 = extremely)</p>	<p>My level of personal interest in the issue  My network's level of interest </p>	<p>2 If someone I knew gave me a good enough reason to</p>	<p>5 Education is fundamental to addressing other issues Still not sure of community resources</p>

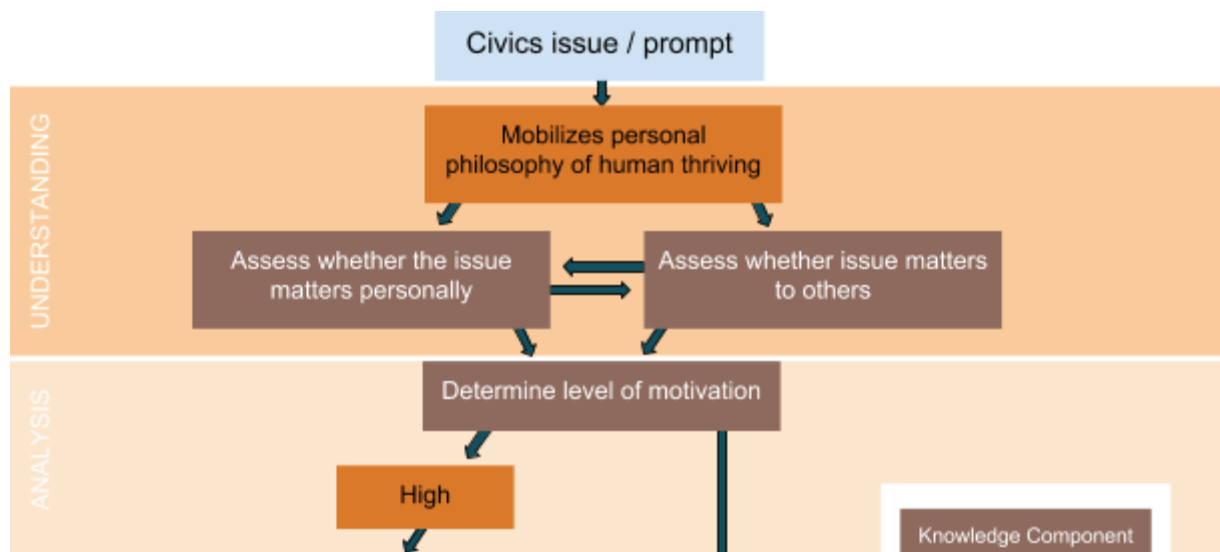
	<p>Access points</p>  <p>My confidence in changing it</p>		
<p>How confident are you that you can help your community become safer?</p> <p>(1 -10 Likert scale, 1= not at all, 10 = extremely)</p> <p>Why or why not?</p>	<p>Level of importance of public safety</p>  <p>My network's level of interest</p>  <p>Access points to make change</p>  <p>Have I accessed them Have others accessed them</p>  <p>Yes, it mattered Yes, it didn't matter No</p>	<p>Can I influence this issue myself? How or not? Can a bigger movement help?</p>	<p>Defined public safety (police) What organizations influence decision-making of that organization</p>
<p>What's the most immediate way to approach a public safety issue?</p> <p>Talk to a police officer on patrol</p>	<p>Local educational organizations</p>  <p>If I use them People I know use them</p>	<p>Talk to a cop</p> <p>What is the easiest access point for me to address this issue? Do I start at the top or the bottom? Which parts can give me guidance Who will have a conversation with me about this issue?</p>	<p>Sheriff's station</p> <p>Police are normally the most effective way Are they effective in my town Or do i need to find another way</p>
<p>Does merging a city's police and fire departments provide an effective reduction in costs without a reduction in service?</p> <p>http://phys.org/news/2016-07-criminologist-safety.html</p> <p>(List two reasons a recent study on police body cameras saw a 93% drop in complaints against officers. Officers were better behaved, people were less likely to report false claims)</p>	<p>My experience with police and fire</p>  <p>The ways they work in the community</p>  <p>The current level of interaction</p>	<p>What are the skills of both groups What happens if the departments are smaller What is a scenario for this? Can one do the other's job</p>	<p>I would guess yes - they could share personnel What is the resources What staff do they need to address them? Do they have the staff</p>
<p>How likely are you to make an effort to address public safety in your community?</p> <p>(1 -10 Likert scale 1= not at all, 10 = extremely)</p>	<p>My level of personal interest in the issue</p>  <p>My network's level of interest</p>  <p>Access points</p>  <p>My confidence in changing it</p>	<p>5 What is the community saying about it? Is there backlash or discontent? Is it a problem for me where i am at?</p>	<p>Number of issues affecting me personally</p> <p>Intervening on others behalf of others makes me nervous</p> <p>If something affects me personally I would become active</p>
<p>How confident are you that you can influence the parks, activities and recreation facilities in your community?</p> <p>(1 -10 Likert scale 1= not at all, 10 = extremely)</p> <p>Why or why not?</p>	<p>Level of importance of parks</p>  <p>My network's level of interest</p>  <p>Access points to make change</p>  <p>Have I accessed them Have others accessed them</p>	<p>Can I influence this issue myself? How or not? Can a bigger movement help?</p>	<p>6 Consider ways to affect change My own knowledge of resources and community Things I've done in the past Identify stakeholders Show that you can fund it</p>

	 <p>Yes, it mattered Yes, it didn't matter No</p>		
<p>What's the best way to affect immediate chance to parks and green spaces in your community?</p> <p>Contact the Parks Department Build your own green space Call your local representative Volunteer with a local organization (i.e. pick up trash, plant flowers, etc.)</p>	<p>Local educational organizations</p>  <p>I use them People I know use them</p>	<p>Who is at the park and what have I seen them doing there Have I seen improvements in the parks?</p>	<p>Whose land am I talking about?</p>
<p>How effective are public smoking bans on the health of non-smokers?</p> <p>There is little research that says public smoking bans do little more than de-normalize smoking.</p> <p>----- (What did the case of Sturgeon v. Frost help determine about the boating policy in Alaska's public parks? The Parks Department can only control land, not water which is a public resource)</p>	<p>Retrieval</p>	<p>I don't recognize the names I know what Alaska is I don't know the answer</p>	<p>Not sure. What do I know about Alaska? Not much</p>
<p>How likely are you to make an effort to improve parks and green spaces in your community?</p> <p>(1 -10 Likert scale 1= not at all, 10 = extremely)</p>	<p>My level of personal interest in the issue</p>  <p>My network's level of interest</p>  <p>Access points</p>  <p>My confidence in changing it</p>	<p>3 They are useful and beautiful, but are they fundamental?</p>	<p>8 I do casual garbage pickup and frequent green spaces already</p>
<p>How confident are you that you can help improve health and wellness in your community?</p> <p>(1 -10 Likert scale 1= not at all, 10 = extremely)</p> <p>Why or why not?</p>	<p>Level of importance of wellness</p>  <p>My network's level of interest</p>  <p>Access points to make change</p>  <p>Have I accessed them Have others accessed them</p>  <p>Yes, it mattered Yes, it didn't matter No</p>	<p>2 Can I influence this? Do I need to? There are a lot of health nuts- are others already doing something?</p>	<p>3 What things aile my community? What services do community centers offer? Can they do anything to address my issue? What services does the government offer?</p>
<p>What's the most effective way to improve the health and wellness of your community?</p> <p>Contact a local organization that provides social programs</p>	<p>Local educational organizations</p>  <p>If I use them People I know use them</p>	<p>I have to know what health and wellness means first</p>	<p>Analyze the level of support needed. Can I influence the support?</p>
<p>What did the Hill-Burton Hospital Survey and Construction Act of 1946 provide for struggling hospitals? What were the needy hospitals accountable for?</p> <p>Discounted healthcare, they had to help the most needy with this discount</p>	<p>The state of medicine in 1946</p>  <p>What could go wrong</p>  <p>What people might need</p>	<p>I'm not sure. This question is worded strangely</p>	<p>I don't know.</p>
<p>How likely are you to make an effort to improve the improve health and wellness of your community?</p>	<p>My level of personal interest in the issue</p>  <p>My network's level of interest</p>	<p>7 It is important to me It is important to everyone- no one can go wrong with healthy lifestyle</p>	<p>5 I want a healthy community but I am not sure of the best path to get there.</p>

<p>(1 -10 Likert scale 1= not at all, 10 = extremely)</p>	<p>↓ Access points</p> <p>↓ My confidence in changing it</p>		
<p>How confident are you that you can help improve your community's economy?</p> <p>(1 -10 Likert scale 1= not at all, 10 = extremely)</p> <p>Why or why not?</p>	<p>↓ Level of importance of the economy</p> <p>↓ My network's level of interest</p> <p>↓ Access points to make change</p> <p>↓ ↓ Have I accessed them Have others accessed them</p> <p>↓ ↓ ↓ Yes, it mattered Yes, it didn't matter No</p>	<p>Can I influence this issue myself? Do I need to form a protest or join a community group?</p>	<p>2 Economics are too complicated to address easily at a community level</p>
<p>What's the most effective way to improve the local economy?</p> <p>Crowdfund community initiatives</p>	<p>↓ Local educational organizations</p> <p>↓ ↓ If I use them People I know use them</p>	<p>I think about where my money goes And where it comes from I'm not sure if I can change any of that</p>	<p>Crowdfunding is probably the fastest, but it may not be lasting change</p>
<p>What is the role of the US Small Business Administration in helping citizens establish and grow companies?</p> <p>https://www.sba.gov/starting-business/learn-about-business-laws</p>	<p>↓ The companies I know</p> <p>↓ Their size</p> <p>↓ What they need</p>	<p>Provide guidance and a network to small companies</p> <p>Do I or anyone I know have a company? What kinds of things do they need to operate smoothly What resources are scarce</p>	<p>Help businesses get financially stronger and better networked</p>
<p>How likely are you to get involved with your local economy?</p> <p>(1 -10 Likert scale 1= not at all, 10 = extremely)</p>	<p>↓ My level of personal interest in the issue</p> <p>↓ My network's level of interest</p> <p>↓ Access points</p> <p>↓ My confidence in changing it</p>	<p>1 Not very, since I don't know how</p>	<p>1 I don't think it makes a difference</p>

Updated Cognitive Model

This is the general framework that students should be in the habit of working through to determine how to address local issues.



Project Step 4: Instructional Design

Instructional events will focus mainly on the **learning-by-doing principle**, so students can learn by practicing content and problem-solving at their own pace. In order to broaden their understanding of civics, they will need to engage with people in their community and outside of it. The framework will have to be applied in many contexts, so different practice examples will be critical.

Segmenting and Pretraining Principle: Because local politics and community engagement can be a complicated and personal issue, it will be important to explicitly provide foundation information and concepts at the start of a lesson. Students should be aware of the goals for each endeavor so that they learn which components are facts, and how to personally apply them (Clark, 201).

Multimedia principle: graphics and text can be used to simplify complex social issues for novice learners. (Clark, 67). Including graphics requires consideration of **contiguity** and **modality**.

In addition to readings and written assessments, students will watch clips of historical events and documentaries and discuss them. They will also have the opportunity to learn about local community and political leadership; hearing stories and information in the voice of someone who is an authority. (Clark, 113)

Note: Clips must be selected based on relevance of content to avoid extraneous cognitive load. Clips and conversations are meant to focus on specific issues and encourage generative processing over time. They should not to add distracting elements or information the lesson hasn't covered.

- Student interaction with the Multimedia principle: Skype with the head of a non-profit food pantry
- Student interaction without the Multimedia principle: Reading a news story about the non-profit's 20th anniversary

The discussion of reading materials and video clips can be completed asynchronously in a forum, while conversations with community members can be an opportunity for students to learn and discuss together. The **self-explanation principle** applies here, because students should be asked to elaborate on the principles behind their strategies.

Worked Example Principle

Because civics examples are complex and varied, the worked example principle will be used to help novice students understand examples of civic engagement without the cognitive overload that would occur unaided. This principle will also ensure that learners avoid applying incorrect logic to scenarios, instead focusing them on the justification for each decision. ([Koedinger, 787](#))

Worked examples should help students balance facts, procedure, and context when recalling the framework for civic engagement. By scaffolding understanding, worked examples encourage induction and refinement processes that will help learning transfer long-term. ([Koedinger, 781](#))

Innovative Principle - Personalization

This activity also draws on the **Personalization and Embodiment Principles** (Clark, 179) by using conversation and relevance to facilitate learning. In this case, it's not an avatar but a person from the community who would help students understand new concepts.

- Student interaction with the Personalization and Embodiment principles: A local community leader records scripted audio that guides the learner through the experience. It is mixed with visuals from her own experience (including video of her), as well as visuals explaining the issues faced by people in her community. The leader guides the learner through the lesson end-to-end.
- Student interaction without the Personalization and Embodiment principles: Students watch a news report about a heroic leader.

In later parts of the lesson, the pedagogical agent becomes an expert model. Having demonstrated their skill at the start of the lesson, they move to become an *expert model* (Clark, 351), directing the learner and offering expert opinion and advice.

Project Step 5: Instructional Design Prototyping & Testing

Rapid Prototyping

I developed a PowerPoint prototype that can be presented digitally or printed out for review by test students. It includes cues for learners to understand some of the multimedia elements and learner controls present in the lesson.

The instructional activity is focused on addressing the following learning goals. In this activity the students will learn the basic definitions of, and relationships between individual action, civic groups, and government.

- C1: Define civic engagement
- C2: Identify types of civic organizations
- C3: Describe the relationship between civics and government
- C4: Identify an issue that affects your life
- C5: Identify an issue that affects someone else, and not you

The innovative principle, personalization, is present throughout the lesson. The pedagogical agent comes in the form of a real person who narrates their own experience and then guides the learner through the lesson. The introduction includes photos and video of the pedagogical agent, and her image appears onscreen in the scenarios she narrates. This preserves the speech component of the agent, but does not take up a lot of space for the onscreen content.

Here is the lesson prototype:

https://docs.google.com/presentation/d/1N2YyonhbXMDRA3YDC4O_pj-jGE6Fp1rW8dRX3j7M4M/edit?usp=sharing

The self-assessment and write-in answers should be understood with the following rubrics, which are aimed at demonstrating competency, not mastery.

Write-in questions

Rating	1	2	3	4	5
Comprehension level	Does not show basic comprehension of materials, does not remember terms	Understands basic terminology; may misunderstand proper usage	Shows decent understanding of only on one aspect of an issue	Broad understanding of interplay between concepts	Able to formulate complex arguments and use terms in a variety of discussions

Self-assessment

Rating	1	2	3	4	5
Comprehension level	No basic comprehension	Demonstrates limited understanding of framework	Can centralize a framework around themselves	Can centralize a framework around another	Demonstrates ability to create and apply new frameworks to new problems

Prototype Testing

First Participant (11.12.16): Political science academic (formal education), managed study abroad programs and teaches freshmen studies at a university

Feedback	Response
Switch slide 3 and 4	switched
Switch slide 8 and 9	switched
Narrate slide 9	Pedagogical agent introduced
More visuals	Added agent, improved layouts
Problems seem unrelated	Added agent Call out the structure explicitly <ul style="list-style-type: none"> • What is the root of the problem? • Who does it affect? • What are the barriers to solving it? • What are my options?

Second Participant (11.15.16): Game designer, artist, intermediately politically intermediate (self-taught)

Slide 8 - do I read first or play the audio?	Changed the audio to autoplay with mute / restart controls.
Slide 14 - is it a recap? We didn't complete this issue to revisit it.	Clarified slide content
"I understand everything I did, but I'm not sure how all the concepts relate."	Added slide 9, which details the framework we are learning
"Do I come out of this with skills or facts?"	Add more focus on action in activities, Make slide 2 more about the process than learning facts
"This isn't much fun. Too much reading."	Worked examples were fleshed out to include more personalization and video

The second test inspired me to turn the example case studies (slides 11-20) into worked examples to address multiple issues that were mentioned during testing.

Project Step 6: Experimental Design

“Thinking skills are cognitive processes and strategies for solving problems.” (Clark, 344)

In order to demonstrate both the innovative and effective aspects of this e-learning system, I would seek to show that the e-learning improves *both* the recall of basic concepts, and the ability to outline an informed plan of action. Since instructional examples and real-world applications of the civics framework vary greatly, it would not be expected that learners come away with foolproof solutions, but that they consider different perspectives of a case study according to the framework provided.

A/B Test Design

Implementation

Civics students learn using a variety of methods, including combinations of e-learning and paper lessons. After high school, civics education is dependent on individual interest, college, and/ or community experiences. The innovative principles in my e-learning unit, personalization and embodiment, intends to bring civics content from concept to reality by offering realistic practice scenarios delivered by a *real* pedagogical agent, not an avatar. When the skills taught are more closely related to the goal tasks, transfer becomes easier.

At least 30 volunteers between the ages of 16 and 22 would engage the e-learning on their own time, posting responses to multiple choice, essay, and self-assessment questions. The control group would be assigned to training without the personalization and embodiment principles applied. More formal, jargon-centric language would be used instead of conversational tone, and pedagogical agents would be eliminated. Worked examples would be decontextualized.

The treatment group will receive the innovative e-learning solution.

Learning would be measured through a pre - and post-test composed of multiple choice questions, short essays, and self-assessments.

Experimental Aspects

Control Group: Learners have more traditional learning experience that is focused mainly on reading. Students take the e-learning content asynchronously.

Innovative Principle

The Personalization and Embodiment principle includes the pedagogical agent, real scenarios and conversational language.

Measuring Learning

In this experiment, the learners would be given a pre- and post-assessment that includes questions about civics content, as well as dispositional questions related to learner motivation and willingness to take civic action. Ideally, the same assessment would be given before and after the course, and again a week later to more accurately assess potential transfer.

We can test the student on their understanding of the decision-making framework used in instruction, but it's not possible to know exactly how far that knowledge will transfer to a new scenario. I hypothesize that a student who can relate their proposed actions to the instructional framework the course demonstrates that they are maturing from induction/ sensemaking to refinement/ fluency-building part of the learning process.

The self-assessment and write-in answers in the assessment would be assessed with simple rubrics aimed at demonstrating that level of competency, not mastery.

Write-in questions

Rating	1	2	3	4	5
Comprehension level	Does not show basic comprehension of materials, does not remember terms	Understands basic terminology; may misuse terms	Shows understanding of concepts, does not generate their own concepts	Broad understanding of interplay between concepts	Able to formulate complex arguments and use terms in a variety of discussions

Self-assessment

Rating	1	2	3	4	5
Comprehension level	No basic comprehension	Demonstrates limited understanding of framework	Can centralize a framework around themselves	Can centralize a framework around others or groups	Demonstrates ability to create and apply new frameworks to new problems

Data and Results

Aside from the formal assessment, I want to gather data on on-screen interactions including keystrokes and mouse movement. I am interested in information on user behavior that might indicate weaknesses in the instructional design. Do learners listen to an audio clip more than once? Do they revisit a specific page because of contiguity issue?

Combining data from onscreen interactions, along with a survey at the end of the course could help determine whether a student re-engaged with content because of a design issue, or a content issue.