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Closing The Gap In Urban Summer School Programs

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PROBLEM-BASED LEARNING:

CLOSING THE GAP IN URBAN SUMMER SCHOOL PROGRAMS

by

Crystal Nelson

A capstone submitted in partial fulfillment of the requirements for the degree of Master of Arts in Teaching.

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Abstract

Alternative learning and assessment methods have transformed secondary education to better equip students for the future. The author set out to explore how problem-based learning (PBL) can be implemented into urban summer school programs. The literature review revealed the rationale for embedding PBL strategies into curriculum as the evidence that PBL improves the student classroom experience. The process of writing curriculum using PBL strategies showed the author PBL’s ability for students to develop 21st century skills, create student action in the community, and reduce the summer learning gap. This capstone supports the idea that PBL can be connected to the real-world, foster inquiry, and embody concepts of change, equality, and the environment.

Keywords: problem-based learning, project-based learning, alternative assessment
Dedication

This capstone would not have been accomplished without the support of family, friends, and faith. I would like to dedicate this to the amazing group of intelligent women that have cheered me on through this program. I appreciate their love and support; and I cannot find enough words to say how much I thank them for their encouragement.
“Education is for improving the lives of others and for leaving your community and world better than you found it.”

Marian Wright Edelman
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Chapter One

Introduction

When is the test? Will this be on the test? What if I don’t pass the test? Can I do a re-take? These are questions that I heard from my high school students over and over again in my first years teaching. Initially I envisioned my career teaching social studies to urban high school students as being transformative for the students. In my human geography class, they would leave my classroom engaged in heated discussions about the past and how we as a society can and must improve upon the mistakes of our predecessors. I would present them with opportunities to learn and engage with important issues related to oppression, hunger, social systems, industrialization, and government impact. They would leave my classroom as capable, active, and engaged citizens who would pursue college degrees and meaningful work.

To achieve these idealistic goals, I attempted a variety of pedagogical approaches to teaching social studies content. I never felt confident in the effectiveness of one specific approach. I realized that the students in my summer school credit-recovery course needed something different from the canned high-stakes testing they were doing in their regular school year classes. This sparked my interest in alternative learning and assessments, which brought me to my research question: How can problem-based learning be implemented into urban summer school programs?

Every year, millions of parents enroll their children in American public schools with the hopes that their children will be educated and taught the essential skills and knowledge to prepare them for a successful future. Educators, district administrators, and politicians all influence current education policy and practice. Not everyone agrees, however, on what policies
and educational practices are best for students. The Department of Education currently drives the conversation with required national and state content-based standards and high-stakes standardized testing. Consequently, many public schools align their curriculum to these national standards and tests so that their students will be more successful on the required standardized tests. Although social studies is not currently tied to a national test at the secondary level in Minnesota, there is immense pressure across the state for social studies students to demonstrate proficiency on common summative assessments that are often high-stakes tests in multiple choice and essay format. This is often discouraging for diverse students with ties to English Language Learning, special education, and low reading levels often resulting in these students ending up in a credit recovery program, most commonly attended in the summer session.

Public schools are one of the most influential elements of American society in the United States. So why do our students fail out of them in such high numbers? It is not uncommon for a high school student to require credit-recovery. My experience teaching credit-recovery during the summer session was disappointing. There I saw 30-35 students packed into a hot classroom, where they were expected to take the same, high-stakes assessments that they were given during the regular school year. Going into the summer session with the expectation that most students would earn credit for their courses, I was surprised to learn that many students either did not connect with the district provided curriculum, or failed these homogenous assessments. I noticed that although students were expected to learn human geography, they were not expected to “do” geography. The textbooks discussed global issues, however, the tests that students took focused more on memorizing vocabulary, rather than problem-solving these global issues.
I however, do not want this climate of testing to discourage my student’s creativity and passion for a diverse curriculum. National programs such as World Savvy (2015), which will be described later in detail, have taken a creative, innovative, and problem-based approach to both invest its high school students in learning and prepare them for future success.

Current pedagogical methods vary greatly, including teacher-driven lectures, online learning, the Montessori approach, and many others (Dolby & Rahman, 2008). As an educator, I have felt overwhelmed at the profusion of methods and approaches to best prepare my human geography high school students for successful futures. My first year teaching included late nights contemplating how I would teach students the following day about the causes and effects of Sub-Saharan African malnourishment. One day, I would try a lecture-style class while students followed along by filling in their guided notes. The next day, I would have students delve into the information themselves, view photographs of a Somali refugee camp, and then present their findings to their peers. On another day, I set up a simulation of subsistence farming life where students had to adjust to the realities of climate patterns, drought, and food shortages based on conditions they could not control. These first few years of teaching, no matter what I researched about pedagogical practices, no matter what I tried in my classroom, I always left class feeling like I was missing something. Why should my students care about droughts and a food crisis in Africa? How does this connect to their community? And finally, what are they going to do about it?

I was waiting for someone to say “You’re doing this all wrong.” This angst from my first years of teaching, which still hangs with me in my seventh year, has led me to explore one specific pedagogical method in more depth: problem-based learning (PBL). A seasoned
colleague once said to me, “Your classroom should be a reflection of your personal identity.” This made me question my own teaching. Am I trying to fit into a specific mold of what I think a teacher is supposed to do and say, or am I being true to myself and my vision for my students? When I spend hours developing and then engaging my high school students in multiple-choice questions that align to the unit tests, set by the school, am I being true to why I became a teacher? I desire a classroom where my students are driving their own learning, are joyful about their futures, grapple with societal and personal problems, and see a connection between the classroom learning and their futures. This leads me to see value in PBL both for my students and myself as their teacher.

Project-based learning is nothing new to American schools. However, problem-based takes project-based learning a step further, beyond the classroom. Problem-based learning (PBL) which is discussed in the literature review, is defined as a student-centered approach in which students learn about a subject by working in groups to solve an open-ended problem (Ahlfeldt, Mehta, & Sellnow, 2005). The problem is what drives the motivation and the student learning. (Nilson, 2010). This approach to teaching content generally involves a group of students working together collaboratively to research, design, and create projects that will reflect their knowledge (Bell, 2010). In addition, this approach is considered action-based, meaning that students go beyond the research piece, and seek solutions to local, regional, or global problems. With forty-million foreign-born residents, the United States is itself a global society with deep emotional ties to many nations and cultures. To survive and thrive, we have to learn how to manage greater complexity and collaborate across lines of difference.
In our increasingly global and technological world, I want my students to feel confident in their abilities to create, adapt, and collaborate with others to participate and change the world they live in, not just regurgitate answers on multiple-choice tests. I am particularly interested in implementing PBL into the summer school session, which contains the highest number of at-risk students. This chapter discusses my research question and rationale and the background of the writer and its relevance to this project.

**Role of the Writer**

Currently, I am a social studies teacher at a high school in a large, urban school district in the Midwest. I also teach credit-recovery in both an after-school and summer session setting. Often boasted as The Pride of the Eastside, my school is unique in that it is a diverse collection of primarily Hmong, African American, Hispanic, and Somali secondary students. The curriculum that was created to support this research was designed at a school within the same school district. Introducing PBL curriculum to teachers in an urban school like mine seems particularly relevant because our students expect their curriculum to be a reflection of the world around them and culturally relevant to their lives. I have witnessed students in my regular classroom struggle to complete daily work and manage their behavior, not due to their inability to learn the standards, but, in my opinion, due to curriculum that it inappropriate for their reading levels, high-stakes testing, and circumstances of their health and personal lives. In order to keep students engaged and in school, I have to make sure that I am providing a curriculum that is engaging, rigorous, and culturally relevant to them. I believe PBL curriculum could be a better way for myself and the other instructors in my district to educate and engage students to learn, work, and thrive as responsible global citizens.
My Journey to Action-Based Project Learning

I believe that all educators have a moral imperative to engage students in discussion and reflection around the effectiveness of our school systems, curriculum, and pedagogical practices to evaluate whether we are in fact preparing students to be successful, engaged, and responsible global citizens. This section describes how my experiences as an urban social studies teacher in the regular classroom, summer school credit-recovery program, and online night school settings have influenced my interest in alternative methods, such as PBL, to better equip our students for the future.

My high school students were reading and writing with a range in skills from first grade to twelfth grade. This provided a great challenge when assigning grade-level reading and writing projects to my sophomore students. My utopian vision of a classroom filled with rich discourse and learning was far from the reality of my actual classroom. Students were sometimes confused with texts I gave them, had difficulty expressing their ideas with accurate sentence structure, grammar, and vocabulary, and classroom management was a problem. I desperately wanted to support students’ learning and growth in reading and writing, but I also wanted them to be creative, curious, and visionary. To do this, I tried to incorporate projects into my curriculum that would support my students’ creativity. Many of these projects were group efforts in which students were required to research an issue, depending upon the unit we were in, such as global warming, gentrification, or global resource conflicts. Students were then asked to analyze the issue, and form their own opinions effectively, and make recommendations for possible courses of action. These projects were met with a variety of responses from students. Can I just do this on my own? Will my grade be affected by my group-mate’s participation? Why do we have to
do this? And eventually it always came back to: Will we be tested on this information? Furthermore, many of students’ written portions of the projects lacked basic writing skills and evidence of higher-level thinking. These frustrating experiences led me to an even more confusing space: How can I teach these young people the basic skills they are lacking, but still make their learning meaningful?

Additionally, students’ questions resonated with my own experiences as a student. I have found myself annoyed when professors assigned group projects. My responses often included: I know I can complete this with more efficiency and accuracy on my own. This group member doesn’t have the right mindset or skills to help us. I’d better be receiving an individual grade for this project. As a teacher who values collaboration and creativity, but simultaneously has a difficult time doing this as a student, why am I making my students go through these same frustrating experiences?

My response leads me to wonder how our society and school system have encouraged this type of individualistic and absolutist thinking. Kevin Robinson, in a 2006 TED Talk titled Changing Education Paradigms, spoke about the importance of divergent thinking in today’s age. He described divergent thinking as “an essential capacity for creativity; it’s the ability to see lots of possible answers to a question” (2006). He discussed a study that measured divergent thinking in school students. His results showed that kindergartners were the best divergent thinkers in comparison to their older peers. Older students, who spent more years in the school system, were less able to think divergently. (Robinson, 2010). Robinson attributed this to the older student’s continual reinforcement of the correct answer. As schools and educators today use standardized tests and other classroom assessments to measure student learning and progress, Robinson
suggested that there is a large negative side effect—the loss of creative or divergent thinking among students.

Grading systems can also impact student thinking. Our schools also operate on a system of success defined by five letters: A, B, C, D, and F/N. These five letters loom over students’ heads as they approach assignments and teachers’ heads as they use their best efforts to grade assignments objectively. Typically the more right answers, the higher the letter grade. My thoughts are that students would favor working in groups in order to earn a higher letter grade. Despite my reliance on grades and scores for affirmation as a student, in my job as a teacher, I do not define my own success by five letters. Over the past seven years I have been evaluated based on detailed and varied rubrics. I have been evaluated on my ability to present information in a clear and concise manner, the organization of my classroom, my response to students, the engagement of students, the quality of questions I ask, my vision for my classroom, the structure of my lesson, and students’ mastery of specific learning objectives. In designing learning units and projects for secondary students, my ideal is to collaborate with other teachers, research a variety of sources, and create units and lessons that synthesize all this information in an authentic manner. This process is not unique from other professions. Architects, project managers, CEOs, and bloggers alike are asked to research, synthesize, create, and collaborate.

All teachers are required to align long-term, unit, and lesson plans to national, state, and district standards. Despite my qualms with these practices, I hope that I can infuse some of my PBL ideas into my classroom. My teaching experiences have led me to believe that we must teach students to work together, to question, to create, and to engage in important discussions, despite the era of high-stakes testing. Although basic skills need to be taught, the learning goal
should never be simply to get the right answer, a higher score, or the best letter grade. There must be intrinsic motivation. Over my years teaching, I found it extremely important to infuse more student-centered learning into my lessons. I do not disagree with my school district’s position that tests help identify students who are struggling or proficient in course curriculum, however, I truly wonder what students are missing when they receive instruction that is targeted towards finding the right answer on multiple-choice questions instead of encouraging creative and divergent thinking and research skills.

The problem-based learning that I am most interested in exploring is connected to World Savvy. World Savvy is a national education nonprofit that works with educators, schools, and districts to integrate global competence teaching and learning into K-12 classrooms, so young people can be prepared to engage, succeed, and meet the challenges of 21st century citizenship (World Savvy, 2017). World Savvy credits itself as being “a national leader and pioneer in the field, defining and leading efforts to sustainably and deeply integrate global competence into teaching and learning at all levels, particularly for historically marginalized youth” (2017). What intrigues me about their program is their desire for youth to learn how to think, rather than what to think, about critical global and community issues.

**The Summer School Gap**

Although I teach social studies full-time in the regular classroom setting, I think that it would be best to first try to implement PBL ideas into my summer session credit-recovery classroom. By doing so, I hope that I and other educators and schools can better understand teachers’ and students’ experiences with PBL. I hope to use this information to inform our instructional practices, and give a real life example of a school that is embracing creativity,
divergent thinking, and PBL in a current educational climate of increased standardization and high-stakes testing.

It has been my own teaching experience that I have witnessed students losing much of what they have worked so hard to learn over the course of a school year; over summer vacation. It seems that my colleagues and I spend a great deal of time during the fall reviewing the material that was already taught in previous years. My experience has sparked my curiosity to research whether implementing PBL ideas into the summer session might increase retention rates or provide an increase in student achievement during the regular school year.

Although there are very few year-round schooling options in Minnesota, I am curious how PBL curriculum, implemented during the summer session, could keep kids learning. According to Fairchild, Author, and Boulay (2002), some of the arguments for year-round education include improved retention rates, more efficient schools, time for enrichment education, multi-tracking accommodations, and less student-teacher burnout. In my opinion, retention rates are of great concern to schools because of the enormous costs of re-teaching material that students were taught the previous spring. In my experience, most students need 3-6 weeks to re-learn material that has been forgotten over the long summer break. If PBL curriculum could keep students engaged and actively learning during the summer session, perhaps retention rates could be improved.

I am also aware of what my colleagues refer to as the summer learning gap among low-income children in our school. We find that these low-income children lag behind their more privileged classmates in graduation rates and attendance. In my experience, the lower-income families simply can’t afford the same summer enrichment programs that middle and upper-class
families can. These families are often angered at the result of their children’s sacrificed knowledge on extended breaks. If implementation of PBL curriculum during a summer session was deemed successful, I think that many educators would advocate for this type of learning to be offered to all students, not just the ones in need of credit recovery.

Chapter One Summary

Chapter One introduced the capstone and presented a rationale for the study. I identified the burning question: How can problem-based learning be implemented into urban summer school programs? Chapter one also introduced the concept of PBL practices and painted a picture for the reader of the researcher’s educational path leading to this. I also provided a personal story about my interest in PBL practices, compelling reasons to pursue the topic, and expectations for what may be learned from my capstone.

Capstone Overview

In Chapter Two the review of literature shares with readers the results of studies that are closely related to my curriculum development. It discusses the importance of these studies as well as the benchmark for comparing the results of my curriculum development with researcher’s findings. Chapter two provides an in-depth look at the current research existing on PBL. It focuses on the history of pedagogical approaches, the current state of education, learning theory, implementation of PBL, and educators’ experiences with it. Points discussed in this chapter include important vocabulary, PBL strategies and implementation, and potential impacts of PBL, such as developing twenty-first century skills, creating student action in communities, and closing the summer learning gap.
Chapter three describes a detailed explanation of the project framework and project formats for which the curriculum is modeled after. The project description will identify the major goals of the project, the rationale for choosing curriculum design, and explain the process to be used. The theoretical base and curriculum model will be explained as I rationalize the project process. Finally, I will share the expected timeline for my project completion.

Chapter four focuses on the reflection of my curriculum development. The effectiveness of the curriculum models are discussed, as well as limitations of the project. This chapter revisits the literature review, highlights important points emphasized in connection with PBL, and cites sources that were most important in creation of the written curriculum. Examples of curriculum are shared including a unit pacing guide and list of formative and summative assessments. The author discusses the process of the curriculum’s development and impacts that it may have in the classroom.
Chapter Two

Literature Review

A brief history of pedagogical methods and relevance of problem-based learning are examined in this chapter to explore the research question: *How can problem-based learning be implemented into urban summer school programs?* This question is best answered by looking at teachers’ and students’ experiences implementing or participating in a problem-based learning (PBL) program.

Before learning about the impacts of PBL, it is important to understand exactly what PBL curriculum is, and how it can look in practice. This chapter includes a review of the current literature on PBL and learning theory. It begins with a review of important vocabulary relevant to PBL. It continues with the discussion of the rationale for using PBL strategies and curriculum, successful implementation in the classroom, necessary teacher mindsets and skills, and concerns of this pedagogical method. The goal of this chapter is to discuss the PBL method and rationale in detail and to look at examples of curriculum and schools employing PBL so that it can be seen as a relevant, authentic, yet helpful method to help students achieve academically in our public schools. This chapter will also build the background information on PBL for the completed project. Discussion will focus on the relevance of PBL as a pedagogical approach, but also explore the implementation and effectiveness of a PBL model in secondary schools, particularly during the summer session. Potential impacts of PBL will be discussed in this chapter, including the development of 21st century skills, creation of student action in their community, and closing the summer learning gap.
Important Vocabulary

This chapter begins with a review of important vocabulary relevant to problem-based learning; including the PBL term itself, project method, Challenge Based Learning, summative and formative assessments, and global citizenship.

Project Method

William Heard Kilpatrick, of Teachers College at Columbia University, believed that teachers were social and political undertakers and needed to be extremely capable and intelligent (Beyer, 1997). With capable teachers in the classroom, Kilpatrick saw the need for meaningful learning in which students were invested in the purpose and were interacting socially with one another. Kilpatrick coined the term *project method* for a pedagogy that is student-centered with limited teacher guidance. His ideas, along with John Dewey’s, were progressive for the time and shared a belief that all students are capable and deserve treatment and opportunities similar to those of adults. The purpose of education, according to Kilpatrick, is not for the student to regurgitate facts and figures; it is for them to participate in and make meaning of the content (Beyer, 1997). This makes project methods meaningful to the discussion of purposeful learning.

Problem-Based Learning

Problem-based learning (PBL) is defined as a student-centered approach in which students learn about a subject by working in groups to solve an open-ended problem (Ahlfeldt, Mehta, & Sellnow, 2005). The problem is what drives the motivation and the student learning. (Nilson, 2010). This approach to teaching content generally involves a group of students working together collaboratively to research, design, and create projects that will reflect their knowledge
(Bell, 2010). In addition, this approach is considered action-based, meaning that students go beyond the research piece, and seek solutions to local, regional, or global problems.

PBL encourages students to use the technology available to them in their everyday lives to solve real-life problems. A key component is that students document the steps of their experience. This documentation can be in the form of blogs, videos, or any other tools that will allow them to later share their solution with the world (World Savvy, 2017). PBL involves collaboration not only between teachers, students, and peers, but also between students and people who are experts in the problem area in which the students are focusing. According to The Report from the Implementation Project, this type of collaboration also requires students to communicate their learning and thoughts in a whole new way further supporting my goal of creating an experience for students to deepen their learning through the ability to communicate in a variety of ways. (Johnson and Adams, 2011).

**Challenge Based Learning**

Challenge-based learning (CBL) encourages students to leverage the technology they use in their daily lives to solve real world problems (Johnson and Adams, 2011). CBL builds on the practice of problem-based learning, in which students work on real world problems in collaborative teams, but with key distinctions that add a great deal of relevancy for students. Students are given the opportunity to focus on a challenge of global significance and apply themselves to developing local solutions. CBL is often credited with increased engagement, extra time spent working on the challenge, creative application of technology, and student satisfaction with schoolwork.
Summative Assessment

Summative assessments are the tools an instructor uses to measure student development over the course of a term (Marzano, 2009). Summative assessment can be described as the major exams and projects that students complete to demonstrate their level of mastery in a specific course. Summative assessments can look different depending on the type of type of grading system used. According to Marzano, “In standards-based grading these are the assessments that need to be passed in order for a student to progress to the next level of study” (p. 9-10). Under traditional grading policies, summative assessments may be worth more points than formative assessments (Guskey, 2006). This is why standards-based grading requires that teachers create agreed upon, standards aligned summative assessments that become the basis for the curriculum of a given course (Guskey, 2008). Summative assessments can be more than major exams. The term applies to any assessment that judges a student’s understanding of the agreed upon standards for a course. Summative assessments can be exams, projects, speeches, labs, or any other means of grading a student’s mastery (O'Connor, & Wormeli, 2011).

Formative Assessment

Formative assessments are all of the assessment tools a teacher uses to record and measure student success (Marzano, 2009). Formative assessment can be described as the daily work and quizzes that prepare a student for a final exam or project. Formative assessments guide the next steps in instruction (Guskey & Jung, 2009). Traditionally, formative assessment has been used as a means to more frequently assess students’ abilities than only grading a few, large summative assessments. In many non-standards based grade books, the scores on formative
assessments are added up in conjunction with scores on summative assessments and averaged to contribute to a student’s overall grade (Stiggins, 2005).

Formative assessments can look differently depending on the grading system used. In traditional grading systems, formative assessments can potentially be seen as somewhat subjective. If formative assessments are included in an overall grade, they have the potential to help or hurt a student in terms of GPA but not necessarily in terms of readiness for the next level. A standards-based grading policy seeks to formalize formative assessment, so that it is planned according to the exact standards assessed on a summative assessment (Wiliam, 2006). Even though formative assessments are not always included in a student’s final grade, they are important to a student’s mastery of learning standards.

Global Citizenship

The Global Citizenship Education (GCED) identifies a global citizen as a learner who assumes active roles to face and resolve global challenges (UNESCO, 2016). Global citizens are learners of all ages— including children, young people, and adults. The goal of GCED is to become proactive contributors to a more peaceful, tolerant, inclusive, and secure world.

The World Savvy Classroom Program defines a similar term, global competence, as the knowledge, skills, and dispositions necessary to navigate and succeed in today’s interconnected world (World Savvy, 2017). “Globally competent individuals are life-long learners, have an appreciation for cultural differences, an ability to understand and consider multiple perspectives, critical comparative thinking skills, problem solving abilities, comfort with ambiguity and change, and understand globally significant issues” (World Savvy, 2017, p. 3)
This section contained a review of important vocabulary relevant to PBL, including the PBL term itself, project method, Challenge Based Learning, summative and formative assessments, and global citizenship. This chapter continues with a review of the current literature on PBL and learning theory.

**PBL Learning Theory**

Before learning about the impacts of PBL, it is important to understand exactly what PBL curriculum is, and how it can look in practice. This section includes a review of the current literature on PBL and learning theory.

According to the Buck Institute for Education (BIE), problem-based learning (PBL) is a teaching method in which students gain knowledge and skills by working for an extended period of time to investigate and respond to a complex question, problem, or challenge. Savery (2006) described PBL as “a learner-centered approach that empowers learners to conduct research, integrate theory and practice and apply knowledge and skills to develop a viable solution to a defined problem” (p. 12). This teaching method has spread to elementary, middle, and high schools, as well as universities.

PBL, being a student-centered approach, attempts to solve an open-ended problem, while working in groups (Ahlfeldt, Mehta, & Sellnow, 2005). As opposed to teaching relevant material and subsequently having students apply the knowledge to solve problems, the problem is presented first. This is much different than most traditional teaching methods. Once the problem is identified, it drives the motivation and the learning. In PBL, students are expected to examine the problem, explore what they already know and need to know about the underlying issues
related to it, and evaluate possible ways to solve the problem (Davis, 2009). Often students will incorporate short assignments to help them solve the problem before reporting on their findings.

Global issues or world problems found in human geography curriculum do not always have one single correct answer. Many of the world’s major challenges—climate change, food and water insecurity, infectious diseases, migration, war, terrorism, in instability in financial markets—are complex, interdependent, and borderless. Barell (2010) noted that PBL methods allow the learning to occur as a result of grappling with the problem, rather than a test for understanding as is the case with many other approaches to learning. This makes problem-based learning more free-spirited than other methods. It also allows for more buy-in from students.

There are several learning outcomes associated with PBL. According to Nilson (2010), a well-designed PBL project provides students with the opportunity to develop several skills. These skills include working in teams, managing projects, holding leadership roles, oral and written communication, self-awareness and evaluation of group processes.

There are several key essentials to the foundation of PBL methods. According to Barell (2010), students should be given choice about content and ways to learn and share their understanding of the research. Similarly, Barell stated that teachers and students must share control of decision making, teaching, and learning in order to help students become intrinsically motivated.

It is important that problems must be real-world, foster inquiry, and embody concepts like change, equality, and environment (Barell, 2010). Savery (2006) supported this claim in saying that the process of identifying the problem and setting parameters on the development of a solution when the problem is real world and ill-structured is a critical skill in PBL. If the
problem is well-structured or contrived students are not as motivated in the development of a solution. The expectation is that students participate in the planning of, monitoring of, and self-reflection on work, progress, and results (Barell, 2010). Students must have responsibility for their own learning (Savery, 2010). When the responsibility for developing a solution to a problem as well as the steps to the solution lies with the learner motivation increases. PBL is a learner-centered approach that requires students to engage with the problem no matter what their current knowledge or experience.

According to Barell (2010) teachers should first identify a topic and then map out the concept. Once the teacher has identified relevant concepts, state and local standards should be consulted to determine which concepts must be included. Once necessary concepts are identified, intended outcomes and essential questions should be specified. Lastly, Barell (2010) suggested creating a problematic scenario that will spark students’ interests and provide a structure for the unit.

Group collaboration is another key essential to the PBL process. The ability to collaborate within a small-group using skills such as listening, reasoning together, and building upon each other’s ideas is another key element to a successful PBL program according to Barell (2010). Hmelo-Silver added that a good collaborator can also establish common ground, resolve discrepancies, negotiate the actions the group is going to take and help the group come to an agreement (Hmelo-Silver, 2004). Furthermore, the ability to explain one’s ideas is not only necessary for productive collaboration but also serves to enhance learning (Hmelo-Silver, 2004).

Although feedback from the teacher is important to the PBL process, a student must also be given the opportunity to revise, modify and elaborate on their findings (Barell, 2010). In order
to be successful in this area student must have an awareness of what they do and do not understand (Hmelo-Silver, 2004). Students must also be able to recognize what they need to learn more about in order to complete the task at hand as well as how they are going to go about learning the necessary information (Hmelo-Silver, 2004).

One strategy to encourage the revision process is for the teacher to split the project into formative and summative assessments. Requiring students to complete the project into smaller steps can make the finished project less high-stakes. Since the goals of PBL are both knowledge-based and process-based students need to be assessed on both at regular intervals to ensure the meeting the necessary objectives (Savery, 2006). Included in this element is the expectation that the student will be able to recognize and articulate what they know as students are responsible for the content in the curriculum that they have covered through engagement with problems (Savery, 2006).

World Savvy is a national education nonprofit that works with educators, schools, and districts to integrate global competence teaching and learning into K-12 classrooms, so young people can be prepared to engage, succeed, and meet the challenges of 21st century citizenship (World Savvy, 2017). World Savvy recommends a scheme for educators to help keep PBL students on track with the project. Students are encouraged to participate in a launch workshop that assists with problem selection, before groups are selected. The logic is if students are grouped based on their project interests, rather than friendships, projects will be more successful. Next, students are instructed to begin research after solidifying essential questions and writing a project proposal. During the research process, World Savvy recommends that students identify the stakeholders in their project, as a way to connect students to the project. Students then
complete an analysis where historical and current events are tied to the problem. What makes this process actionable, is that students are required to seek solutions to their problem on a local, regional, and global level, what World Savvy calls Knowledge to Action. Knowledge to Action can be demonstrated in a variety of formats including visual art, performing art, website, exhibit, documentary, film, or formal presentation. The last component of the project is student participation in a local World Savvy Festival.

The World Savvy Classroom Program is widespread in classrooms around the United States. Since its founding in 2002, World Savvy has impacted 580,000 students and nearly 3,500 educators. By 2020, World Savvy expects to reach more than one million students through its programs. (World Savvy, 2017).

This section contained a review of the current literature on PBL and learning theory. Key PBL essentials were discussed including student choice, connection to state standards, group collaboration, and the need for a student-centered approach. This chapter continues with the rationale for using PBL strategies and curriculum.

**Rationale for Using PBL**

One rationale for incorporating problem-based learning into curriculum is the evidence that it improves student classroom experience. PBL is known to increase student attendance, promote interdisciplinary, and afford more intrinsic reward (Savery & Duffy 1995).

An advantage of PBL is that it does not have to be limited to one subject area. PBL objectives can also be cross curricular in scope, solving problems across several disciplines (Svinicki & McKeachie, 2011). A study in Hawaii conducted by Harada, Kirio, and Yamamoto (2008) described a few different cross-curricular projects that a school district implemented in
detail. Pairings occurred between social studies and foreign languages, language arts and physical education, science and American history, biology and economics. Within all of these models, students were required to combine skills, knowledge, and questions between the contents, never focusing completely in one area. Regardless of the learning objective, students develop skills related to critical thinking and analysis, explaining concepts, self-directed learning, researching and information literacy, and applying course content to real world examples (Svinicki & McKeachie, 2011).

PBL incorporates several essential skills for 21st century learners. Positive outcomes have been connected to PBL in the areas of content knowledge, collaborative skills, engagement, motivation, critical thinking and problem solving skills (Hixson, Ravitz, & Whisman, 2012) In a similar review of the research, PBL was found to have positive effects on academic achievement, 21st century competencies, equity, motivation and teacher satisfaction. According to Hixon, Ravitz, and Whisman, “students learning through PBL retain content knowledge longer and have deeper understanding of what they are learning” (p. 11). PBL students perform as well or better than traditionally taught students on high stakes testing (McTighe & Seif, 2010).

Another study found that teachers who are trained in PBL methods spend more time teaching 21st century skills and have students who perform at least as well on standardized tests as students engaged in traditional instruction (Hixson, Ravitz, & Whisman, 2012). Additional research reviewed showed improved abilities to think critically, work collaboratively and resolve problems. Finally it was found that PBL increased opportunities for collaborative learning to students across grade levels, academic subjects, and achievement levels (Svinicki & McKeachie, 2011). In their review of the research studies that show positive effects of PBL on establishing
equity among students. It was found that PBL is a promising strategy for closing the achievement gap as it engages lower-achieving students (Finkle & Torp, 1995). It can also work in different types of schools, serving diverse learners and can even provide an effective model for whole school reform (Hixson, Ravitz, & Whisman, 2012).

Although the basis for my project is to implement PBL curriculum into the summer session, not all high school students require credit recovery. However, PBL could be offered to students as an elective credit, open to all students, regardless of their credit-standing. Researchers claimed that high school students participating in PBL clearly enjoy the strategy and find PBL beneficial for preparing them for the future (Torp & Sage, 2002). The Association for Supervision and Curriculum Development (2002) published the following remarks from students enrolled in a class using PBL curriculum strategies:

A student at a high school in Glen Ellyn, Illinois wrote:

I like Comm-Tech [a communications technology course] because it's a class where you take all the material you've learned and you use it. . . . Other classes teach you what to learn; this class teaches you how to learn. I think I'll actually use this class when I move on into computer science and electrical engineering; it teaches you how to solve problems on the job. (Willis, 2002, p.7)

An ecology student in Aurora, Illinois wrote:

[PBL] is a different approach to education. Instead of: “Here's a sheet of vocabulary words, memorize them,” you could say, “Well, this happens, you know—why? Now go find out. See what you can find out about the why or the how of something. . . .” There's
usually not one right answer. There can be more than one answer, or there isn't one; you form a new question and go from there. (Willis, 2002, p.11)

A Westinghouse Science Talent Search Competition award winner wrote:
The skills I learned in [John Thompson's] ecology class have been helpful both in terms of the research and studying that I've done for my college courses and also the research that I've done for my own research career. . . . That series of thought processes that takes you from complete ignorance to a knowledge that's focused and can answer a specific question is a very useful thing to know, and it's a very difficult skill to learn, I think, in most school settings. (Willis, 2002, p.10)

A research study was also done with University students to determine if students and tutors were engaged with a PBL approach in their collegiate courses. Evidenced from the evaluations and interviews indicated that all those involved were fully engaged by it (Bethell & Morgan, 2011). Students noted that the PBL was a change from the traditional lecture method they were accustomed to experiencing. Other students felt that the material learned was material that was relevant, and would be used in the future, not “the other stuff that I study just to pass an exam” (Bethell & Morgan, 2011). The consensus was that the PBL strategies used demonstrated a shift from a surface approach to a deep approach to learning.

This section contained the rationale for using PBL strategies and curriculum. Advantages of PBL strategies were explained, including the benefits of incorporation into the summer
session. This chapter continues with details of PBL implementation, including examples of classroom success, skills needed, effectiveness, and teacher concerns.

**PBL Implementation**

This section discusses successful implementation of PBL in the classroom, necessary teacher mindsets and skills, and concerns of this pedagogical method. The goal of this section is to look at examples of curriculum and schools employing PBL so that it can be seen as a relevant, authentic, yet helpful method to help students achieve academically in our public schools.

PBL implementation often uses aspects from the Understanding by Design framework. Understanding by Design consists of two key ideas. The first being a focus on teaching and assessing for understanding and learning transfer (Wiggins, Grant, & McTighe, 1998). This sometimes known as backward design. Backward design is also known as backward planning or backward mapping. Backward design is a process that educators use to design learning experiences and instruction to achieve specific learning goals. Backward design begins with the objectives of a unit, what students are expected to learn and then then proceeds ‘backward’ to create lessons that achieve those desired goals (Wiggins, Grant, & McTighe, 1998).

Aspects of Challenge Based Learning are also common in PBL implementation. According to Johnson and Adams, the goal of Challenge Based Learning is for teachers to work with students to take standards based content and connect it to authentic, real-world issues (2011). Students collaborate with other students, teachers and experts in their community or around the world to develop deeper knowledge of the content they are studying. By identifying
and solving for a real-life challenge and then sharing the solution with the community, Challenge Based Learning aims to provide students with an authentic purpose to deepen their learning.

Teachers using aspects of Challenge Based Learning in their PBL implementation, sometimes divide student projects into five stages: Big Idea to Challenge, Setting the Foundation for Solution, Identifying a Solution, Implementation and Evaluation, and Publishing Results and Reflections (Johnson & Adams, 2011). There may be some preparation needed before students are ready for the Big Idea to Challenge. There are two-basic approaches to this front-loading. According to the historically older approach, the students take two steps: initially, they are taught in a systematic course of study certain skills and facts, then they apply these skills and knowledge, creatively and self-directed to suitable projects (Harada, Kirio & Yamamoto, 2008). The amount of front-loading of content depends on the how much prior knowledge students have. Students who lack a significant amount of this, sometimes need video, stories, animations, or simulations to engage these initial understandings and help students grasp the new concepts. The students first choose a project, then discuss what they need to know for solving the problem. In both approaches, time for reflection should be provided during all phases of project learning, giving students the opportunity to evaluate their progress (Harada, Kirio, & Yamamoto, 2008).

Implementation PBL into curriculum takes significant planning on the end of educators. “It is unfair and unproductive to expect students to meet these new and higher expectations which include 21st century skills, without a supportive infrastructure” (Kay, 2010 p. 26).

According to Marzano (2009), the most important school-level factor that impacts student achievement is a “guaranteed and viable curriculum”. This curriculum must focus on “big ideas”
in core subjects and 21st century skills, assess outcomes in appropriate ways, and map the curriculum backward (McTighe & Seif, 2010, p. 154).

“Teachers today are faced with too much content and not enough time to teach it all” (McTighe & Seif, 2010, p. 154). In order to combat this task, educators are encouraged to focus curriculum around a core set of big ideas and essential questions within the content they are to teach (McTighe & Seif, 2010). These big ideas, sometimes attached to the Challenge Based Learning model, are fundamental to the core subjects, promote deeper thinking and support the transfer of learning to new, unfamiliar situations. Because of this more focused curriculum, teachers have more time to focus on teaching 21st century skills that give students the tools they need to deepen their learning in the core subjects (McTighe & Seif, 2010).

It is important to identify the most significant factors needed to set up a positive PBL experience for students. According to Krajcik et al. (1994), “Successful implementation of PBL requires (1) extended professional development for teachers, (2) sustained classroom support with technology and curriculum development, and (3) collaboration and commitment from school personnel” (p. 485). A common thread found in most studies is alignment of teachers’ philosophies, knowledge, and skills related to PBL and their specific content area. Teachers using the PBL curricular approach, must continue to teach the specified content (Lundeberg, 1997, p. 75). Their role is to be an active participant in the learning process—teaching and learning from the student. Lundeberg states that “for project-based learning to succeed, teachers may need to assume active roles, provide choices within limits, and state clear expectations without restricting student creativity” (p. 78). Although it is sometimes a misconception, PBL is not an unstructured project in which students have complete freedom to research and create.
There must be agreed-upon objectives, learning goals, desired skills, and research methods that must be clear to teachers and the students (Prince & Felder, 2007). PBL can and does help students prepare for success on standardized tests so long as clear learning objectives are defined before students begin working on a project. Harada, Kirio, and Yamamoto (2008) state, “These standards provide an anchor to foundational concepts and processes in the curriculum” (p. 14).

“Implementing a curriculum that supports the teaching and learning of 21st century skills also requires open-ended, performance based assessments that allow students to demonstrate their understanding of big ideas, formulate responses to essential questions, analyze important issues, solve genuine problems, conduct research, work collaboratively, and use technology, all which are essential skills in the real world” (McTighe & Seif, 2010, p. 158). Knowing what a curriculum that promotes consistent exposure to and instruction of 21st century skills should include likely isn’t enough. McTighe & Seif believed that teachers need to know how to teach to achieve the important 21st century outcomes that have been outlined so far. McTighe and Seif (2010) put together five recommendations that they believe students should experience each day if they are to achieve 21st century outcomes. “In order to help learners to understand, develop, deepen and apply 21st century skills, teachers must use engaging, interactive instructional strategies such as problem-based learning or collaborative projects” (McTighe & Seif, 2010, p. 165). McTighe and Seif continued that these 21st century skills should also be taught and applied throughout a student’s education and in all academic areas. The importance of providing students with many opportunities to apply their learning in new and different relevant, real-life situations is stressed. Lastly, McTighe & Seif highlighted the value in ongoing assessment of students’ level of understanding of targeted big ideas and 21st century skills as well as in establishing a
classroom climate that encourages students to ask questions, discuss ideas, give feedback and share their thoughts and opinions (2010).

Despite all of the positive outcomes the research on PBL has produced, there is still some evidence that points to its limits. There is research to suggest that students have difficulty initiating inquiry, directing investigations, managing time, and using technology productively in a PBL based classroom (Thomas, 2000). Implementing PBL requires significant front-loading. It has been found that teachers find PBL to be challenging to plan and enact (Thomas, 2000).

Although research tends to favor PBL over traditional teaching methods when it comes to motivation, problem-solving and self-directed learning, research still supports more traditional teaching methods when it comes to measures of content knowledge (Ertmer & Simons, 2006). Despite its shortcomings, the benefits of a PBL classroom have led to a more widespread adoption of the teaching practice. As more teachers have begun to embrace and implement PBL the definition of what constitutes true project based learning has become muddied. Certain practices that are referred to as PBL may fail to achieve the desired learning outcomes of PBL (Savery & Duffy 1995).

This section contained information on the implementation of PBL. Specific examples of classroom success were shared; the skills needed to implement PBL, effectiveness, and teacher concerns were also addressed. The chapter will continue with the possible impacts of PBL.

**Potential Impacts**

This section discusses the potential impacts of PBL implementation. The possibility of developing 21st century skills, creating student action in communities, and closing the summer school gap are explored.
Developing 21st Century Skills

In a nationwide poll of registered voters, 80 percent of those polled felt that the kind of skills students need to learn to be successful in today’s economy are different than the skills necessary twenty years ago (Partnerships for 21st Century Skills, 2007). According to Wagner (2012), in order to equip students with the skills they will need to get and keep good jobs in the new global economy, schools must focus on teaching critical-thinking and problem-solving, effective oral and written communication, collaboration, and initiative among other skills. Additionally, “workers who can adapt and contribute to the work force and who can work flexibly to respond to organizational expectations are in demand by today’s employers” (Kay, 2010). These are the skills that likely set people apart from their competitors. Despite the high demand of these skills, Kay (2010) mentioned that employers report that even college educated entrants to the workface are deficient in these and other applied skills.

Although there are a variety of frameworks that aim to define what qualifies as a 21st century skill, The Partnership divides 21st century skills into five categories: core subjects, 21st century content/themes, learning and thinking skills, information and communications technology literacy, and life skills (Dede, 2010). The core subjects are identified as English, reading, or language arts; mathematics; science; foreign languages; civics; government; economics; arts; history; and geography. It was The No Child Left Behind Act of 2001 that identified these as the core subjects although they were first named as core subjects by the Elementary and Secondary Education Act of 1965 (Dede, 2010). “These core subjects that make up the curriculum in typical American schools are only the tip of the 21st century skills iceberg” (p. 21). In addition to basic competency in the core subjects listed above, the Partnership believes
that schools must promote understanding of academic content at much higher levels by integrating 21st century interdisciplinary themes into core subjects (Framework for 21st Century Learning). These 21st century content themes include global awareness; financial, economic, business, and entrepreneurial literacy; civic literacy; and health and wellness awareness (Dede, 2010). These themes should be woven throughout the core subjects but are not often a focus in schools although they are critical to success in communities and workplaces (Dede, 2010). Problem-based learning provides an avenue for these themes to both meet state learning standards, but also incorporate 21 century skills.

Learning and thinking skills are another component in the 21st century skills framework. These are identified by the Partnership as being those skills that allow students to keep learning and making effective and innovative use of what they know throughout their lives (Framework for 21st Century Learning, n.d.). Learning and thinking skills encompass critical-thinking and problem-solving skills, communication skills, creativity and innovation skills, collaboration skills, contextual learning skills, and information and media literacy skills (Dede, 2010).

“Information and media literacy skills have become such an integral part of students’ lives it is necessary to expand on these skills as well as other forms of communications literacy in a separate category called information and communications technology” (p. 22). Information and communications technology is defined as the ability to use technology to develop 21st century content knowledge and skills within the context of the core subjects listed above (Dede, 2010). Dede (2010) declared that technology should serve as a tool for students to learn the content and skills they will need in order to engage in lifelong learning, the productive use of information, critical thinking, problem solving, communication, innovation and collaboration (p.21). Finally,
the Partnership called for schools to incorporate certain life skills that students will use in all areas of their professional and personal lives. The Partnership was adamant that these skills are not only incorporated into curriculums but are incorporated deliberately, strategically, and broadly throughout the curriculum. According to the Framework for 21st Century Learning, these skills include leadership, ethics, accountability, adaptability, personal productivity, personal responsibility, people skills, self-direction, and social responsibility.

Secondary students are tested on a continual basis. In addition to taking tests, students are often taught how to be successful test takers. However, in the 21st century workplace, tests are not a regular part of many professions. Competency in 21st century skills gives students the ability to meet the complex needs identified by today’s workplaces (Kay, 2010). Skills that foster innovation are not the only necessity in developing productive citizens for the 21st century. The Partnership has also identified several 21st century themes, grounded in everyday life, as being crucial to the education of every student (Kay, 2010). In our current global economy students need to work collaboratively and communicate effectively with people from a range of diverse cultures and lifestyles. According to Kay (2010), people today are more responsible than ever for their own retirement planning and saving and investment management, requiring a deeper understanding of how economic forces impact people’s lives. Students entering the professional world with these 21st century competencies should be able to step into a situation they have never been in before and have the ability to know what to do (Kay, 2010). We may not be able to afford the educational changes necessary to maintain our competitiveness among other world powers (Carnevale & Desrochers, 2002). According to Kay (2010), the United States does not even have a clear purpose or direction for securing our economic competitiveness much less a
plan for funding it. A focus on 21st century skills promotes a stronger alignment between K-12 curriculum and work requirements which allows for greater efficiency in spending (Carnevale & Desrochers, 2002).

The overarching theme in the research and literature supporting the need for 21st century skills is that the United States is not preparing young people with the skills they need to compete in a global economy (Partnership for 21st Century Skills, 2007). Carnevale and Desrochers (2002) wrote that, as our nation shifts from an industrial economy to one rooted in information and knowledge, our economic competitiveness is based on our ability to produce and disseminate education. Unfortunately, many are concerned that the types of skills emphasized in education today are not producing people with the skills necessary to remain competitive in an information rich, global economy (Bellanca & Brandt). This makes the implementation of problem-based learning even more critical in our schools.

**Creating Student Action in Communities**

Research shows that the implementation of problem-based learning has created student action in both local and global communities. One major goal of the World Savvy Classrooms program is for students to explore global issues and research solutions to address the root causes (World Savvy, 2015). Students are expected to think creatively and critically about how they can impact the issue, and devise a plan to create change. Knowledge to Action projects help students begin to identify as social entrepreneurs and change makers in their communities. “We hope that students will understand that taking positive action is both meaningful and possible, and see how they can make a positive difference in themselves and their communities” (World Savvy, 2017, n.p.).
Examples of big ideas are showcased in the 2015-16 World Savvy Annual Report. One World Middle School, located in New York City promoted peace in the face of violence. Students at World Middle School expressed concerns about violence in their community (World Savvy Annual Report, 2015). Students started what they called their “Heart to Heart Campaign for Peace.” The key element of the campaign was a peace pledge and invitation to students, community members, and elected officials to write what they’ll do to promote peace on a construction paper heart. According to World Savvy, the students have collected over 3,000 hearts, on which individuals shared how violence had impacted them personally. This lead to the analysis of the United Nation’s Declaration on the Rights of the Child. As part of the project, students created original work in the form of art, poetry, and essays about the importance of protecting the rights of children and how happiness should be a right all children have. Students of this middle school were able to share their work with United Nations staff.

In Minneapolis, students at Orono Middle School created their own nonprofit designed to address discrimination in the hiring process. After investigating the issue across four countries, they developed a website to introduce their nonprofit as a resource to hiring managers to support the implementation of fair practices (World Savvy Annual Report, 2015).

Students at North Community High School in Minneapolis showcased the impact of urbanization and gentrification on impoverished people of color. They compared what they learned in North Minneapolis, across the U.S., and internationally. After researching the impacts on aspects of community life such as housing costs and displacement, students created a documentary to educate viewers about the negative impacts of urbanization. (World Savvy Annual Report, 2015). “This is happening in my neighborhood, where I live, where I’ve grown
up, where my family and friends are” said ninth-grader Edward Beamon. (Rosenblum, 2016, p.1). “This issue is very important to me.” Beamon continued. North students wrote questions and interviewed urban planners and public transportation experts. In addition to researching the urbanization issues on the local scale, students dug into case studies on the largest slum in Nairobi and the impact of urbanization in Harlem and the Bronx.

**Closing the Summer Learning Gap**

Most students celebrate being out of school for the summer, but hitting the pause on learning and structure can have big consequences. It is difficult to imagine a professional athlete or musician whose performance would not suffer from a three-month vacation from practice each year. As Fairchild and Boulay (2002) stated, “While it’s clear everyone should experience periodic breaks from their daily routines, it’s also true that prolonged periods of time without practice affects performance” (p.2). This leads me to believe that young people experience learning losses when they do not engage in educational activities during the summer session. A possible solution to this may be implementation of problem-based learning during the summer session.

According to Reading is Fundamental, Inc (2006), all young people experience learning losses when they do not engage in educational activities during summer. On average, students lose approximately 2.6 months of grade level equivalency in mathematical computation skills over the summer months. (Reading is Fundamental, Inc., 2006). An improvement in educational achievement can be linked to a year round education schedule (Roby, 1995). For disadvantaged students attending year round schools, learning retention is increased.
This reality hits youth living in low-income communities the hardest, contributing to the growing achievement gap; their families are often unable to provide constant adult supervision during work and evening hours or afford enriching summer camps. By fifth grade, summer learning loss can leave low-income students up to three years behind their peer (Whitaker, 2016). A child’s summer learning experiences during elementary school years can even impact whether that child earns a high school diploma and continues on to college. Given our nation’s growing graduation and skills gap among young adults from low-income communities, school in the summer has never been more urgent. When implemented correctly, service learning that is incorporated into project-based summer school can foster interest in school, build trust among classmates and teachers, and promote positive attitudes about school that may last year-round (The Center for Excellence in Leadership of Learning, 2015).

Although incorporating PBL curriculum into the summer session is not identical to year-round schooling, the St. Paul Public School district narrows the summer gap by featuring two sessions totaling eight-weeks (SPPS, 2017). This gives students options to further their education over the majority of summer break. Cognitive retention is important to educational practices. According to Cooper (1996), disadvantaged students forget more than students who are not disadvantaged. The students who are not disadvantaged continue to have experiences that support the retention of learned material even though they forget as well. However, they do not forget as much. It is evident that by reducing extended periods of non-schooling, year round education schools will increase the performance of disadvantaged and migrant students whose home environments do not reinforce what has been learned in school.
Mussatti (2000) reported that one advantage of students formally continuing their learning over the summer is that students will not experience the boredom, wasted time, and delinquency often associated with long summer breaks. Test scores have also been examined to determine if there are academic benefits to summer education. According to a study by Winter (1995), students who attended a student-centered summer learning session, in addition to the regular school year, had achievement scores that were better than those on the traditional education calendar. The 19 studies showed 58 categories of improved academic measures compared to the traditional education students. The students who attended the summer-sessions out-performed traditional education students.

This section discussed the potential impacts of problem-based learning. The possibility of developing 21st century skills, creating student action in community, and closing the summer school learning gap were addressed. This chapter concludes with a summary and preview of the third chapter.

**Chapter Two Summary**

In Chapter Two the review of literature shared with readers the results of other studies that are closely related to my project. It discussed the importance of Problem-Based Learning (PBL) as well as the benchmark for comparing the results of the project implementation with other findings. Chapter two provided an in-depth look at the current research existing on PBL. It focused on the history of pedagogical approaches, the current state of summer-session education, learning theory, implementation of PBL, and experiences with it. Points discussed in this chapter included potential impacts of PBL, such as developing 21st century skills, creating student action in their communities, and closing the summer learning gap.
Chapter three describes a detailed explanation of my project framework, the creation of problem-based learning curriculum in urban summer school programs. The project description will identify the major goals of the project, the rationale for choosing curriculum design, and explain the process and timeline. The theoretical base and curriculum model will be explained with the rationale for the project process.
Chapter Three

Project Description

This project consists of curriculum development that uses problem-based teaching methods. The intent was for the curriculum to be implemented in a secondary credit-recovery program during the summer school session. The project helped answer the research question:

*How can problem-based learning be implemented into urban summer school programs?*

This chapter describes the curriculum writing framework in great detail. Here the author explains the design frameworks and project formats for which the curriculum is modeled after. A rationale follows for the use of these frameworks and incorporating problem-based learning into the curriculum. This information is important for the understanding of this chapter, because problem-based teaching methods are much different from the traditional teaching methods often used in secondary schools.

After describing the target audience and appropriate participants in the curriculum development project, a thorough project description is given. The project description identifies the major goals of the project, the rationale for choosing curriculum design, and explains the process. Examples of curriculum are referred to from Appendix P, including a unit pacing guide and list of formative and summative assessments. The theoretical base and curriculum model is explained as the author rationalizes the project process. After discussing a timeline for capstone project completion, the chapter concludes with an explanation for measuring the success of the capstone project.
Curriculum Writing Framework

This curriculum development project used aspects of four primary curriculum writing frameworks. Facets of Problem Based Learning, Challenge Based Learning, Understanding by Design, and the World Savvy Classrooms Program were utilized.

Problem Based Learning

Problem-based learning (PBL) methods guided the framework for the curriculum design project. Problem-based learning is an instructional model (Savery & Duffy, 1995) that can be used to structure the development in the curriculum level or course level. Finkle and Torp (1995) define problem-based learning as "a curriculum development and instructional system that simultaneously develops both problem solving strategies and disciplinary knowledge bases and skills by placing students in the active role of problem-solver confronted with an ill-structured problem that mirrors real-world problems” (p.1). Problem-based learning requires the teacher to activate pre-existing student knowledge. This strategy has a research base that is rooted in the observation that learners construct new knowledge and understandings based on what they already know and believe (Vygotsky, 1978). The author anticipated using a variety of sources including video, stories, animations, simulations, and writing to have students initially think about what they know about the global issue and help them make relevant what they will learn. If initial understandings are not engaged, the learner may fail to grasp the new concepts and information that are taught, or the student may learn the concepts and information for an assessment, but return to their misconceptions outside the classroom (NRC, 2000). Without activating prior knowledge, learning transfer between contexts can be diminished.
The rationale for incorporating problem-based learning into the curriculum is the evidence that it improves student classroom experience. PBL is known to increase student attendance, promote interdisciplinary, and afford more intrinsic reward (Savery & Duffy 1995). The author wanted to design curriculum that gets students doing, rather than memorizing. The idea was to support some of the curriculum goals of improving student retention and fostering problem solving skills. The author selected PBL methods as one of the frameworks for the curriculum design to add to the conversation that PBL reflects how students solve problems in their everyday lives. PBL goes beyond the surface level of global issues and requires critical thinking. As evidenced by the numerous World Savvy Knowledge to Action projects described in the literature review, students are confronting problems, inquiring the information that they need to know, and coming up with solutions. In education, PBL has the power to create a problem-anchored learning environment to take up this natural process of inquiry to pursue and use knowledge (World Savvy, 2015). Colleagues have shared their frustrations with students being passive in their learning. For example, the traditional teacher lecture style allows students to receive the content, rather than explore the content. PBL instructional methods require students to take the initiatives to inquire and learn; and the instructor must guide, probe and support students' initiatives (Barrows, 1996). This curriculum design requires students to apply their knowledge to the problem. The author is intrigued by the thought of students being active and using self-directed learning and applying it back to the global problem with reanalysis and resolution.
**Challenge Based Learning**

Aspects of the Challenge Based Learning framework were incorporated into the curriculum development. The goal of the Challenge Based Learning (CBL) framework is for teachers to work with students to take standards based content and connect it to authentic, real-world issues (Johnson & Adams, 2011). CBL is very similar to Problem Based Learning, with the additional component of technology incorporated into the learning. Students collaborate with other students, teachers and experts in their community or around the world to develop deeper knowledge of the content they are studying. By identifying and solving for a real-life challenge and then sharing the solution with the community, CBL aims to provide students with an authentic purpose to deepen their learning.

The CBL framework is divided into five stages: Big Idea to Challenge, Setting the Foundation for Solution, Identifying a Solution, Implementation and Evaluation, and Publishing Results and Reflections (Johnson & Adams, 2011). Sometime students require some content front-loading from the teacher in preparation for the Big Idea to Challenge. Teachers may use text, video, stories, animations, or simulations to engage these initial understandings and help students grasp the new concepts. (Harada, Kirio, & Yamamoto, 2008).

The rationale incorporating Challenge Based Learning into the curriculum design is that CBL contains many of the key elements of a successful problem-based learning program with the additional focus on integrating technology. In the author’s experience, students find technology such as podcasts, blogs, videoconferencing and collaborative workspaces to be engaging. My school district provides ipad technology for each student, making it much easier to integrate technology into the daily curriculum.
Understanding by Design

Aspects of Understanding by Design framework were used in the curriculum development process. Understanding by Design focuses on teaching and assessing for understanding and learning transfer from backward ends (Wiggins, Grant, & McTighe, 1998). The curriculum was created using backward design, which is also known as backward planning or backward mapping. Backward design is a process that educators use to design learning experiences and instruction to achieve specific learning goals. Backward design begins with the objectives of a unit, what students are expected to learn and then then proceeds ‘backward’ to create lessons that achieve those desired goals (Wiggins, Grant, & McTighe, 1998).

One criticism of Understanding By Design’s backward approach is that it appears to promote "teaching to the test". However, in the case of this curriculum, students will not be testing on course content. Instead, the final assessment will be the Knowledge to Action project that students complete, such as visual art, performing art, website, exhibit, documentary, film, or presentation. The formative assessments that build up the Knowledge to Action project were designed based on the defined learning goals, determined by district and Minnesota state standards. This backwards design method allows an instructor to have a better idea of what they want students to get out of learning activities. If done thoroughly, it may eliminate the possibility of doing certain formative activities and tasks for the sake of doing them. Every task and piece of instruction will have a purpose that fits in with the overarching goals of the course. Students will be given a rubric for their summative project that sets the high academic standards that students will need to meet. Backward design could prepare my students to perform well on the final Knowledge to Action project assessment.
World Savvy Classrooms Program

The summative learning assessment in the curriculum design was modeled after aspects from the World Savvy Classrooms Program (2017). World Savvy is a national education nonprofit that works with educators, schools, and districts to integrate global competence teaching and learning into K-12 classrooms. World Savvy developed a World Savvy Classrooms Program for youth to learn and work as responsible global citizens in their community. The World Savvy Classrooms Program combines support for educators with challenge-based activities, project-based learning workshops for students, and facilitation of the World Savvy Festival in the Twin Cities (World Savvy, 2017).

One of the World Savvy Classroom Program’s flagships is the facilitation of the student World Savvy Festival, held annually in the Twin Cities. The festival invites students to share a Knowledge to Action project with their peers, parents, and community. The curriculum design incorporates formative assessments adapted from the World Savvy Classrooms Program, along with a Knowledge to Action summative assessment project. Knowledge to Action projects are completed using the following formats: visual art, performing art, website, exhibit, documentary, film, or formal presentation (World Savvy, 2015). The rationale for inclusion of this program is the strong connections to Problem Based Learning and Challenge Based Learning models. What intrigues me about this program is their desire for youth to learn how to think, rather than what to think, about critical global and community issues.

Setting/Audience

The problem-based learning curriculum is intended for secondary students in grades 9-12. In order to connect the curriculum to local problems in the student’s community, the intended
The audience is students who attend urban schools in the Midwest. However, the curriculum could easily be adapted for students who attend schools in rural areas or outside of the Midwest region.

The curriculum was designed for implementation in a human geography course, or global studies course of similar nature. The curriculum was designed for a fifteen day credit-recovery course taught during the summer session. The rationale for implementation during the summer session is the ability to impact more at-risk students who may not have responded well to traditional teaching methods during the regular school year. Since these students are in credit-recovery for human geography, these students have taken a human geography course, and may have more prior knowledge on global issues than first time human geography students would. The summer session allows for a flexible block schedule, small class sizes, and freedom from school-mandated pacing found during the regular school year. These factors may help close the summer learning gap and spark a more intrinsic reward in students. Although the curriculum is designed for the summer session, a teacher could easily adjust the material to implement during the regular school year.

**Project Details**

This section will describe goal, rationale, format and overall process design of the curriculum.

**Goal and Rationale**

The primary goal of the capstone project was to design a fifteen day unit curriculum, problem-based in nature that can be implemented into a secondary human geography course. The rationale for the curriculum design was the need for a non-traditional teaching method that has the potential to highly engage students, improve retention, teach 21st century skills, and enable
student action in the community. According to Parker et al., (2001), Problem Based Learning (PBL) students perform as well or better than traditionally taught students on high stakes testing. In the Buck Institute for Education’s review of PBL, (2015), researchers found PBL to have positive effects on academic achievement, 21st century competencies, equity, motivation and teacher satisfaction. One of the most convincing rationales for developing the curriculum is in regards to academic achievement. Several studies have found that PBL is more effective than traditional methods (Beckett & Miller, 2006; Boaler, 2002; Finkelstein et al., 2010; Greier et al., 2008; Mergendoller, Maxwell, & Bellisimo, 2006).

Format

The format of the project is a professional quality binder that contains an organized unit with a collection of documents including lesson plans, student objectives, guiding questions, pacing guide, formative assessments and activities, graphic organizers, and rubrics that can be used as an assessment of learning. These documents can serve as a resource to other teachers. All contents of the binder will be connected to Minnesota state human geography standards.

Accompanying the curriculum binder is an interactive Google Doc. Students will use the Google Doc to access formative assessments, resources, and materials to aid in the design process of the Knowledge to Action project. The Google Doc can be modified by teachers to fit the needs of their classroom.

Process Design

The fifteen day unit curriculum is problem-based in nature to be implemented into a secondary urban human geography course. The curriculum designed will present global issues that align to meet Minnesota and district human geography standards (Appendix P). The
curriculum has a problem-focus and require students to complete project work with high academic standards. This project work focuses on applying specific content knowledge or skills, and on improving student involvement and motivation in order to foster independent thinking, self-confidence, and social responsibility. Similar to Understanding by Design, the project process follows the format below.

**Identify desired results.** The first step was to identify the desired results of the unit plan. The author created key essential questions that answer what students should know, understand, and be able to do throughout the unit. They will be explored in-depth and provide a focus to the learning. The essential questions were written based on Minnesota and district human geography standards. The author first had to identify which standards she wanted students to meet based on the project, and write the essential questions that align with these standards.

**Determine assessment evidence.** The second step was to determine how to know that students have achieved the desired results. This required analysis of what will be accepted as evidence of student understanding. Backward design encourages teachers to first think like assessors before designing specific lessons (Wiggins, Grant, & McTighe, 1998). The summative assessment rubric needed to demonstrate proficiency of Minnesota and district human geography standards, while meeting the requirements of a World Savvy Knowledge to Action project that is eligible for participation in the World Savvy annual festival. The Knowledge to Action project rubric was designed for students to create a project using a visual art, performing art, website, exhibit, documentary, film, or formal presentation format (World Savvy, 2015). The summative assessment rubric is performance task based, where students will apply their learning to an authentic problem-solving project. Students may have the option to demonstrate their project by
explaining, interpreting, applying, demonstrating perspective, displaying empathy, or demonstrating self-knowledge. The rubric focuses on demonstration of content knowledge, mastery or real-world skills, and the process of project-based learning. The performance goal will be for students to share their project and present their research and solutions at the World Savvy Festival which takes place annually in the Twin Cities.

Plan learning experiences and instruction. The final, yet most cumbersome step of the curriculum design was to plan the student learning experiences and instruction. Since this curriculum design uses backward design, the learning experiences were created after the desired results and appropriate evidence of student understanding were identified (Wiggins, Grant, & McTighe, 1998). In this final stage, the author created activities, sequencing, and resources to best accomplish the goals identified in stages one and two. A pacing guide details the daily layout of the unit.

Prior to the first formative assessment, teachers will need to build in time to assess student’s prior knowledge of unit concepts. Because the curriculum is written for students in a credit-recovery program, they may already have some prior knowledge of the unit concepts from the regular school year. In a class that demonstrates significant prior knowledge, a teacher may be able to shift to a more student-centered approach. Creation of the first few lessons needed to be somewhat teacher-centered, as they focus on content-delivery. The majority of the unit, however, is student-driven and allows the students to demonstrate their knowledge of global issues and problem-solving tied to standards-based content.

In addition to the summative assessment rubric created in step two, numerous formative assessments were created to prepare students for the summative Knowledge to Action project.
These ensure student understanding of the global issue and progress towards proficiency in the state standards, and also help teachers identify student proficiency in a more gradual way than the summative assessment project will. Time for reflection is provided during all phases of project learning, giving students the opportunity to evaluate their progress (Harada, Kirio, & Yamamoto, 2008). The World Savvy Classrooms Program recommends that students participate in a workshop that presents a global issue for students to problem-solve, do research exploration, and complete a stakeholder perspective chart, problem analysis, and solutions brainstorm (World Savvy, 2017).

The formative process follows this general pacing: Students will be given a standards-based global issue for students to problem-solve. Once the problem is presented students begin the inquiry process. Within their groups students must discuss what they think they know about the problem and use their metacognitive skills to determine what they will need to know in order to create a solution to the problem (Barell, 2010). Students might also form a hypothesis regarding the solution based on their prior knowledge (Savery & Duffy 1995). Students may be asked to identify the guiding questions they need to be able to answer in order to develop a solution for their challenge. Students also identify resources and activities that help them to answer these guiding questions. Some students may need more guidance in organizing and analyzing their learning issues (Barell, 2010). More inexperienced students will need assistance in determining how they should go about finding answers and how they should manage their class time.

After thoroughly researching the guiding questions, the students should have the background necessary to begin formulating possible solutions to their challenge. World Savvy
encourages students to identify multiple solutions to the problem, and narrow the solutions down to one or two that are the most creative and impactful, but also most likely to be implemented (World Savvy, 2015). It was anticipated that this portion of the process to take approximately one week of class time. Lastly, students will be required to demonstrate implementation and evaluation of their solution. The curriculum asks students to put their solution into action, analyze the outcome and reflect on what worked and what didn’t. Students need to plan for how they will measure and gather information related to the success of their solution. Informal formative assessment can occur in the form of student conferences, journals and interim reviews of student work based on checklists and/or rubrics (Appendix P). As detailed in the previous section, the summative assessment will allow the opportunity for students to publish their results and reflect on the process.

Being problem and project-based, one of the potential fears with the curriculum design was weak academic standards. The author has observed classrooms where teachers have used project-based research-based strategies on insignificant content. An effective instructional practice loses effectiveness if the curriculum isn’t strong enough. Therefore, there was a commitment to incorporating depth and rigor that is directly tied to Minnesota state human geography standards (Appendix P). The author built in active, problem-based learning into the curriculum, where students must use rich, worthwhile content to critically think and problem solve. There are also strong connections among multiple subject areas.

**Timeline**

The timeline for completion of the PBL curriculum development project was approximately three weeks. The three week time frame allowed the author to create professional
quality documentation of my project that can serve as a resource to others. Upon completion, the author reflected upon the finished project to detail the learnings as a writer, discuss possible implications of the project, discuss the process of developing the curriculum, and the impact it may have in the classroom.

**Project Effectiveness**

The PBL capstone project can be assessed for effectiveness in multiple ways. Initially, the author can measure the effectiveness of the curriculum development based on its ability to be easily implemented into curriculum, by multiple teachers, across multiple content areas. The project’s effectiveness can also be measured by the level of student engagement throughout the unit, and demonstrated mastery of state standards on the Knowledge to Action project. The author recommends that teachers give students a short survey at the completion of the unit, similar to what PBL researchers have done in the past. Finally, the capstone project’s effectiveness can be quantified by the measurement of student’s development in 21st century skills, creation of student action in their community, and assessment of the learning gap in a summer school session. One way to measure the learning gap would be for districts to compare summer school grades and mastery of standards in previous sessions to the sessions where the PBL curriculum was implemented.

**Summary**

This chapter described and explained the capstone project in great detail. The author discussed the writing framework for the curriculum development which incorporates Problem-based Learning, Challenge-based Learning, Understanding by Design, and World Savvy Classrooms Program (2017) aspects into the framework. The target audience was identified as
urban secondary students attending a summer-session, and the three-week timeline for the project completion. Finally, a thorough project description was described which identified the major goals of the curriculum design project, including the rationale for these goals. The author also discussed how to measure the effectiveness of the capstone project.

Chapter four will share the conclusions from the project. It will be discussed what was learned through the capstone process as a writer and learner. The literature review will be revisited and cited sources that were most important to the capstone and influential on the work. Challenges and limitations to the project, will be shared in this chapter. Most importantly, this chapter will include examples from the designed project-based curriculum and discuss the process of its development and impacts that it may have.
Chapter Four

Conclusions

Chapter four reflects upon the curriculum development project designed to help answer the research question: *How can problem-based learning be implemented into urban summer school programs?* This chapter shares the reflections from the project and the author’s growth as a writer and learner. The effectiveness of the curriculum model is discussed, as well as policy implications and limitations of the project. The literature review is revisited and important points emphasized in connection with Problem Based Learning (PBL). Sources that were most important to the capstone and influenced the author’s work are cited. The author also discusses the process of the curriculum’s development and impacts that it may have in the classroom.

Reflection

The successful completion of this capstone project impacted the author as both a writer and learner. Through the capstone writing process the author has come to further understand the power and importance of providing students with opportunities to solve global problems and inspire change. This capstone project has accentuated the necessity for problem solving in project-based instruction, critical thinking, and curriculum that has both global and local connections. It is the author’s belief that only by incorporating these facets into instruction, will students fully be prepared for the skills needed in the 21st century.

At the beginning of this capstone, the author was trying to find a way to hear fewer questions such as “when is the test?” and “will this be on the test?” Prior to the curriculum writing process, the author was inspired to get students to feel confident in their abilities to create, adapt, and collaborate with others to participate and change the world they live in, not just
regurgitate answers on multiple-choice tests. Completing this capstone has given the author the renewed energy and passion to foster divergent learning and prepare students to be successful, engaged, and responsible global citizens.

The capstone writing process is a very formal and thorough process. As a writer, this capstone has pushed the author to create the longest piece of writing she has ever constructed, and develop a curriculum unit in a professional manner. The challenges for the writer were related to the large amount of resources that had to be implemented into the literature review to explain the major research contributions related to PBL. Once the decision was made to develop the curriculum, it was exciting envisioning a plan for students that could actually be implemented by teachers in the author’s school district. It was unexpended that the capstone writing process would be so extremely rewarding for the author.

As a learner, it was interesting to study alternative assessment methods such as PBL once the author analyzed research that evidenced such good results of implementation in other schools. Through the process of writing this capstone, the author has learned that PBL requires a strong project rubric that students can easily understand, connections to state standards, backward design in planning, and lessons that are rigorous, engaging, and student-centered. It is gratifying to see that alternative assessments, such as the Knowledge to Action project can be implemented in a practical way.

A few limitations impacted the design of the author’s curriculum. Although technology is readily available in the author’s school district, it may not be as accessible in other districts. Student technology use is not a mandatory part of the curriculum unit, however, the use of the Google Doc and research resources enhances the project. A teacher could modify the Google
Doc to be given to students in paper form and have a similar use. A classroom with limited technology may want to create visual art, performing art, of exhibits.

In addition, financial resources may be needed for student groups to create their Knowledge to Action project, depending upon their chosen format. If classroom funds are limited, teachers could revise the list of project formats to include only projects that do not require significant funds. For example, if a classroom does not have a budget for materials, but does have computer access, student groups could forgo the visual art and exhibits, and instead, have students create a website, documentary, film, or Savvy Talk. They may opt for a school-wide festival instead of paying to participate in the World Savvy Classroom Program’s regional festival.

**Curriculum Model Effectiveness**

The author used aspects of four primary curriculum writing frameworks. Facets of Problem Based Learning (PBL), Challenge Based Learning (CBL), Understanding by Design, and the World Savvy Classrooms Program were utilized.

**Problem Based Learning**

The PBL model was the most dominant and useful framework in the curriculum writing process. This strategy has a research base that is rooted in the observation that learners construct new knowledge and understandings based on what they already know and believe (Vygotsky, 1978). Commonly used in PBL, the author used a variety of sources including video, stories, animations, simulations, and writing in the lesson plans, to have students initially think about what they know about the global issue and help them make relevant what they will learn. What was probably most effective in the integration of PBL into the curriculum was that the
constructed lesson plans can get students doing, rather than memorizing. The idea was to support some of the author’s curriculum goals of improving student retention and fostering problem solving skills. The writing process made it clearer that PBL goes beyond the surface level of global issues and requires critical thinking.

**World Savvy Classrooms Program**

The summative learning assessment in the curriculum design was modeled after aspects from the World Savvy Classrooms Program (2017). World Savvy developed a World Savvy Classrooms Program for youth to learn and work as responsible global citizens in their community. The World Savvy Classrooms Program combines support for educators with challenge-based activities, project-based learning workshops for students, and facilitation of the World Savvy Festival in the Twin Cities (World Savvy, 2017). Although World Savvy Classrooms Program offered numerous resources to use in the curriculum writing process, the author felt it was important to create lessons that were tailored specifically to her school district. Some lessons, as shown in the appendices, are adapted from portions of World Savvy resources. For example, the author felt that the student-friendly Knowledge to Action project rubric should meet the expectations for the annual World Savvy festival (appendix I). In addition, the creation of an interactive Google Doc for student use was recommended by the World Savvy Classrooms Program. The Google Doc shown in the appendices was adapted from a generic World Savvy Classrooms template, but redesigned for purposes of this capstone and implementation into the author’s school district curriculum.
**Literature Review Revisited**

Chapter two’s literature review provided a better understanding to the author the current literature on PBL and learning theory. The literature review demonstrated that PBL is “a learner-centered approach that empowers learners to conduct research, integrate theory and practice and apply knowledge and skills to develop a viable solution to a defined problem” (Savery, 2006, p. 12). The author was intrigued to read that this teaching method had been implemented in elementary, middle, and high schools, as well as universities.

What proved the most important research was the importance of project problems to be real-world, foster inquiry, and embody concepts like change, equality, and environment (Barell, 2010). This was important in the author’s design of lessons so that the expectation is that students participate in the planning of, monitoring of, and self-reflection on work, progress, and results. It encouraged the author to design lessons that would make students have responsibility over their own learning. According to Savery (2006), when the responsibility for developing a solution to a problem as well as the steps to the solution lies with the learner motivation increases. PBL is a learner-centered approach that requires students to engage with the problem no matter what their current knowledge or experience.

The author struggled with the decision to have students work independently or in small groups on the Knowledge to Action project. Research shows that group collaboration is another key essential to the PBL process. The ability to collaborate within a small-group using skills such as listening, reasoning together, and building upon each other’s ideas is another key element to a successful PBL program according to Barell (2010). Furthermore, the ability to explain one’s ideas is not only necessary for productive collaboration but also serves to enhance learning.
(Hmelo-Silver, 2004). This solidified the author’s decision to choose small group collaboration for the designed unit.

Research shown in the literature review encouraged the author to include numerous opportunities for students to revise and modify their findings. According to Hmelo-Silver (2004), in order to be successful in this area student must have an awareness of what they do and do not understand. Therefore, the author incorporated many formative assessments into the unit. The formative assessments are designed to give teachers an idea of student strengths and weaknesses throughout the unit. Teachers will be able to give feedback to student groups in small steps, making the finished Knowledge to Action project less high-stakes. One example of this is shown in Appendix G, where students give and receive feedback on their project prototype. If the feedback on this formative assessment is poor, student groups have the opportunity to revise their prototype, using the feedback from the teacher and their peers.

**Future Implementation**

The need for alternative learning assessment such as PBL will always be needed in the classroom. The author’s curriculum plan is flexible and should stand the test of time, as global issues will always occur. A school that adopts a PBL model should plan for teachers to collaborate regularly, such as in a professional learning community. Grade level or content teachers would be responsible and accountable for monitoring what works, and what aspects of PBL need revision in their classrooms. The author’s plans are to implement the capstone’s curriculum design into both the summer school session and regular school year’s human geography course. If the implementation is successful, aspects of PBL and unit creation could be taught to human geography teachers district-wide in a professional development setting. The
versatility of PBL could allow for non-social studies content teachers to adopt it for use in other grade levels and content areas.

The author anticipates that some teachers may initially struggle with the openness of PBL, and possibly doubt its ability for successful implementation in a traditional classroom. Research has prepared the author to expect a classroom that may look less organized, and possibly be lively or chaotic. The traditional classroom management ideologies may need to he loosened in order for student groups to converse and interact with each other during the Knowledge to Action design process. Personally, the author may struggle with allowing students to make mistakes and discover errors on their own. The author is excited to implement PBL into the classroom, and see how these changes further support student’s growth and development of 21st century skills.

Summary

This chapter reflected upon the curriculum development project designed to help answer the research question: How can problem-based learning be implemented into urban summer school programs? This chapter shared the reflections and limitations of the project and the author’s growth as a writer and learner. Important research from the literature review was highlighted, as well as relevant sources that influenced the author’s work. The author also discussed the proposed implementation into the classroom.

Concluding Thoughts

After researching the success of Problem Based Learning (PBL), the author is inspired to implement the newly designed material into the school’s curriculum. The capstone writing process has given the author new motivation to examine her own practice as a teacher and the
methods of assessment that have been used in her classroom. As the author begins planning lessons for the upcoming semester, PBL will be incorporated into the work. The students will be exposed to PBL by scaffolding the idea of investigations, credible sources, research questions, reflections and choice. The author will continue to focus on the standards, aligning the work to fit the state requirements, and sharing knowledge of PBL practices with colleagues.

As a social studies teacher, it is the author’s job to help students learn to think critically, to ask difficult questions, and connect their learning with the need for change or social justice. PBL will allow students to find daily applications of their skills and knowledge to everyday life. PBL needs to be implanted into every classroom, especially as student mature. Allowing students to think critically and take on projects individually or in small groups are skills they will need in order to be successful in future employment. PBL is valuable and needs to be considered when looking at curriculum and state standards. We need to allow educators to have the freedom to explore different avenues of teaching and assessment; especially which will help push our student towards their future. In our increasingly global and technological world, the author wants students to feel confident in their abilities to create, adapt, and collaborate with others to participate and change the world they live in, not just regurgitate answers on multiple-choice tests. The positive outcomes connected to PBL inspire this author to implement this newly designed material into the school’s curriculum.
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Appendix A

<table>
<thead>
<tr>
<th>Title of Unit</th>
<th>Solving Global Issues</th>
</tr>
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<tbody>
<tr>
<td><strong>Grade Level</strong></td>
<td>10</td>
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<tr>
<td>Curriculum Area</td>
<td>Human Geography</td>
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<tr>
<td>Developed By</td>
<td>Crystal Nelson</td>
</tr>
<tr>
<td><strong>Time Frame</strong></td>
<td>15 class periods----Day 1</td>
</tr>
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</table>

**Identify Desired Results**

**Content Standards**

The student will understand the regional distribution of human population at local to global scales and its patterns of change.

The student will use maps, globes, geographic information systems, and other databases to answer geographic questions at a variety of scales from local to global.

**Understandings**

<table>
<thead>
<tr>
<th>Overarching Understanding</th>
<th>Essential Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geographers use geographic information to explain and predict population patterns.</td>
<td>How do geographers use demographics to learn about a population?</td>
</tr>
<tr>
<td>Population changes over time.</td>
<td>How do geographers interpret and predict future population patterns?</td>
</tr>
<tr>
<td>Geographers use geographic information to explain and predict systems and patterns.</td>
<td>Where do people live?</td>
</tr>
<tr>
<td></td>
<td>How do geographers use geographic information to interpret and predict present and future systems and patterns?</td>
</tr>
<tr>
<td></td>
<td>What do the terms population and progress mean?</td>
</tr>
<tr>
<td></td>
<td>What are the expectations for a Knowledge to Action project that meets standards?</td>
</tr>
</tbody>
</table>

**Knowledge**

Students will know…

- The regional distribution of human population at local to global scales.
- Patterns of change.
- Patterns of human population density and movement

**Skills**

Students will be able to…

- SWBAT develop meaningful personal connections to the theme of Population and Progress.
- SWBAT explain the expectations for a Knowledge to Action project by analyzing student exemplars.
- SWBAT rank their interest in various Population and Progress sub-themes.
<table>
<thead>
<tr>
<th>Learning Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Performance Task Description</strong></td>
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<td></td>
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</tbody>
</table>

**Opening:**
Thinking Question: If you could solve any world problem, what would it be?

Teacher will ask for a few student volunteers to share their answers.

**Introduction: Unit Preview**
World Savvy Festival (2016) video clip (2 minutes)

https://vimeo.com/169734658

Teacher will explain to students the basis of the next unit, *Solving Global Issues*.

Teacher will show students exemplars of student projects (Stop the Hate & Spread the Hope, Urbanization & Gentrification at North HS, Syrian Refugee Crisis Website & Video Clip, Anti-food waste, Rapping the Climate).

http://www.worldsavvy.org/student-projects/

Problem Solving: What would you do scenarios
In groups of 3-5, students will be given a problem solving scenario to discuss. The prompt will ask students to express their reactions through movement. The various areas of the room have signs up with several
possible actions to be taken based on each situation. After hearing the scenarios, students will go to the area of the room that holds the sign representing their course of action. Students will have time to talk among their group about why they choose that specific action. Next, the group should elect a spokesperson to share back their thoughts with the rest of the class. If time, the different groups respond to some of the points that were made by the other groups (ie. Group 1 ask a question to group 3 after they finish explaining their reasoning).

Exploring the Project Theme: Population and Progress

Brainstorm Activity: Word Association

Students will be asked what the terms *population* and *progress* mean, why these terms are important now, and what interests students about these terms. Students will brainstorm/generate their ideas on a sheet of poster paper. Ideas include drawing a picture, writing a list, or creating a mind map.

Simulation: 5-6 student volunteers will simulate Where’s My Chair? This will be a shortened version of the popular children’s game, music chairs. As chairs are removed, the teacher will demonstrate the concept of the world’s growing population, shrinking of space, and shortage of resources. The purpose of this activity is to demonstrate the use of the term *population*. This short activity will segway into the topic of overpopulation. Students have already learned this topic in the previous unit.

Natural Increase Map:

Students will analyze a Natural Increase world choropleth map. Students will be asked to identify countries/regions with the highest and lowest rates of natural increase.

Video Clip: 7 Billion (National Geographic----5 minutes)

http://www.youtube.com/watch?v=sc4HxPxNrZ0

Evolution Activity: Students will explore the term progress by playing a special version of Rock, Paper, Scissors. Everyone starts out as a prehistoric fish, walking around bent over making fish-fin movements with their hands. When a prehistoric fish finds another person who is also a prehistoric fish, they play Rock, Paper, Scissors with one another. The winner will progress to a primate, and walk around taller, but still slightly slouched, making monkey noises. The loser will continue as a prehistoric fish, which is at the lowest level of development. When two primates find each other, they will be able to compete with one another and the winner will become a modern day human, while the loser will turn back into a prehistoric fish. The humans will walk as tall and straight as they can. Once a human has won his/her final matchup, they may choose to exit the game or may continue to try their luck. Play the game until only a few students are still primates. Teacher will explain to students that this was a warm-up activity to prepare them to explore the idea of progress. Historically, we have evolved and progressed from prehistoric fish, to primates, to the modern day humans we are today. As a class, the teacher will ask students to brainstorm about what progress can mean. Students will then answer a series of discussion questions about the activity.
Activity: Population and Progress Poem Poster (15 min)
Students should break back into groups of no larger than 4 per group, with one poster or piece of butcher paper per group. Student groups should each write POPULATION and PROGRESS on the tops of the poster. Together, they will then create a poem using each letter of population and progress as the start of their word or sentence. The poem can be about anything they think relates to population and progress.
   o Ie. P – people everywhere, O – overrun cities, P – Poor are forgotten, U – Underfed

Reflection: Population and Progress sub-themes (10 min)
The teacher will introduce and explain what sub-themes students may want to focus on for their projects this year, giving brief descriptions of how the theme relates to the class and their subject matter. Students will be given a sub-themes interest sheet, where students will mark (rank) their top three theme interests. These sheets should be collected and reviewed by the teacher at the end of class to help place students in groups for the Knowledge to Action project, based on interest.

Examining the language used by American presidential candidates, students identified an increase in hateful rhetoric and behavior, specifically targeting Muslims and Latinos. The students have launched a campaign designed to share their experiences as immigrants. Through their stories, they want to help others who hold misperceptions and bias against immigrants to develop understanding and empathy.
The Urban Scholars team researched the realities of urbanization and created a documentary focusing a critical spotlight on the process of gentrification at the local, national and international levels. Especially as it relates to impoverished people of color in North Minneapolis, Minnesota. The documentary aims to educate viewers about the negative aspects of urbanization, which is often deemed progressive and necessary despite the results on existing populations.

### FOOD WASTE

**Are You Underestimating Food Waste?**

Food waste is a major issue worldwide. There are many different solutions to this problem, often at the local level, which we can all do to help reduce it. A food waste audit is one of the easiest ways to get started, and if you do one, think about what you can do to help reduce your impact on the environment and save money.
**Rapping the Climate**

This spoken word performance highlighted the challenge presented to urban communities by climate change and its impact on food production and distribution. The specific focus of the study and performance revolved around local responses in Minneapolis, MN to alleviating stress on food distribution. Community gardens combined with food recycling efforts were interwoven through this live performance.

**Crisis in Syria**

English Language Learners, and recent immigrants themselves, looked at the causes of the Syrian conflict, the experience of migrants fleeing the violence, and the worldwide response to the crisis. This website was built to educate others on the issue and use authentic language to express their personal feelings, and deep understanding of how these global issues impact local communities.

“What Would You Do?”
Scenarios

**Scenario 1:** As part of an after-school tech club, you’ve been partnering with the administration on a project that will make your school the most tech advanced school in the state! Every student will have access to the best technology -- which would make learning more fun and engaging for everyone in your school! However, when you share your proposal with the school board, you learn that in order for this project to move forward, they would have to cut funding to other after-school programs, which would mean over half of the programs would be canceled entirely! What do you do?

1) Move ahead with the project -- your club wouldn’t be affected by the cuts and the technology would benefit everyone anyways
2) Talk to the administration to see if there are parts of your project you can cut while still leaving funding for the other after-school programs
3) Halt the project entirely --- having a high tech school isn’t fair, or worth it, if other after school programs have to suffer
4) Take a poll of your school - see what other students value, what their priorities are, and have the survey results help make your decision

**Scenario 2:** You’re excited because a new superstore just opened up in your neighborhood and they sell all your favorite brands for really cheap! But as you’re walking over to the superstore, you run into a friend who tells you not to go. They explain that the superstore has put a lot of smaller local stores out of business, and uses scarce resources in other parts of the world to make their products so affordable here. What would you do?

1) Go to the superstore anyways -- it’s cheap and easy!
2) Only shop at the superstore every now and then
3) Go home, get on the internet, and do some of your own research about the superstore so you can decide for yourself what to do
4) Never shop at that superstore or any other superstore again!
Scenario 3: A terrible natural disaster just hit the neighboring town. Thousands of people lost their homes and now many of them have temporarily moved to your city, which means the number of students in your school has doubled! With so many students, the halls are hot and cramped, classes are overflowing, and there aren’t enough desks, books, or lockers. What would you do?

1) Start a petition to get the new students out of your school – there are too many of them and it shouldn’t be your responsibility, or your school’s, to take care of them
2) Tolerate the increase of students – it stinks, but what can you do about it?
3) Offer to share your locker with one of the new students
4) Work with your school administration to start a ‘school supply sharing’ program to help the new students get the materials they need for classes

Discussion Questions

○ What was going through your minds as you made these decisions?

○ How many of you would have changed your answers if:
  ▪ Your favorite sport would be cut in scenario 1?
  ▪ Your parent lost a job because of the superstore coming into town in scenario 2?
  ▪ You found out that there were children your age working for very low pay to make cheap products for scenario 2?
  ▪ Natural resources from your favorite local park were used to make everything at the super store so cheap in scenario 2?
  ▪ The students were displaced by civil war rather than a natural disaster? Or YOU were displaced for some reason in scenario 3?

○ What did these scenarios connected to the ideas of population or progress?

“Where’s my seat?” Discussion Questions

- What did this game make you realize about population? About the amount of space we have in the World?

- How did it feel to be denied a space?

- How did it feel to deny someone else? How did you feel? Anxious? Competitive? Sympathetic? Did you feel you were on a team?

- What would have happened if you had just let the person sit in a chair?

- If there is enough for everyone why not make sure everyone has enough? Where do you think this happens in the real world?

- What is an obstacle? How are we sometimes each other’s obstacles? How are we sometimes each other’s support? What are some things you do to overcome obstacles?

“Evolution” Discussion Questions

- What do you think progress can mean after this activity?

- How did you progress from a prehistoric fish into a primate? What changed?
  - Have students think about some of the physical changes such as opposable thumbs and walking on land.

- How did you progress from being a primate into a modern day human?
  - Have students consider intellectual changes in addition to physical ones – our ability to speak, write, build complex structures; the formation of culture, art, and our progressive understanding of science.

- What do you think the next step in progress would be from modern day humans to humans living 100 years from now?
  - Let’s think about variety of ways people can progress, and the different opinions of what progression means—do you think the next step in progress for humans would be technological advances? Curing global hunger? An elimination of war? The population of other planets?

Population and Progress Themes:

**Economics (e.g., wealth distribution, inequality, employment)**
What are some of the historical reasons and root causes of wealth inequality? How are the world’s resources distributed differently to people, across a city or across the globe? How are economic and social ideas of progress connected?

**Environment**
(e.g., sustainability, climate change, limited resources)
What are some of the main causes of global climate change? What are potential solutions to these challenges?

**Food and water (e.g., GMOs, equity and access)**
What is the difference between food security and food sovereignty? Why are corporate GMOs being resisted by people all over the world?

**Human & civil rights**
(e.g., basic needs, quality of life, social movements)
What is the Universal Declaration of Human Rights and why was it created? Who gets to be “Human” and therefore protected by it? How are people globally fighting for self-determination?

**Global health (e.g., health care, diseases, aging)**
What are different health indicators? What are healthcare facilities like in my community and in other parts of the world?

**Housing and population density**
(e.g., urbanization, sustainable development)
What is the ongoing history of people moving from rural areas to urban centers? How does the growth of cities affect the environment and people’s well-being? What are essential elements for healthy and humane housing?

**Human development (e.g., education, measuring progress, happiness)**
What is progress and does it have a relationship to happiness? What does happiness mean to me and others?

**Human migration**
(e.g., population movements, immigration policies, imperialism)
What factors contribute to populations migrating to a new place? What are different forms of imperialism?

**Innovation (e.g., inventions, unintended consequences, GDP)**
What kinds of innovations are helpful or hurtful to the Earth’s populations?

Appendix B

<table>
<thead>
<tr>
<th>Title of Unit</th>
<th>Solving Global Issues</th>
<th>Grade Level</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curriculum Area</td>
<td>Human Geography</td>
<td>Time Frame</td>
<td>15 class periods</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Day 2 Day 2</td>
</tr>
<tr>
<td>Developed By</td>
<td>Crystal Nelson</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Identify Desired Results**

**Content Standards**

The student will understand the regional distribution of human population at local to global scales and its patterns of change.

The student will use maps, globes, geographic information systems, and other databases to answer geographic questions at a variety of scales from local to global.

**Essential Questions**

- What are the global issues or challenges that you care about or see in your community?
- How is your global issue connected to population and progress?
- What are the global and local contexts of your issue?
- How does your global issue impact you?

**Understandings**

<table>
<thead>
<tr>
<th>Overarching Understanding</th>
<th>Essential Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geographers use geographic information to explain and predict population patterns.</td>
<td>What are the global issues or challenges that you care about or see in your community?</td>
</tr>
<tr>
<td>Population changes over time.</td>
<td>How is your global issue connected to population and progress?</td>
</tr>
<tr>
<td>Geographers use geographic information to explain and predict systems and patterns.</td>
<td>What are the global and local contexts of your issue?</td>
</tr>
<tr>
<td></td>
<td>How does your global issue impact you?</td>
</tr>
</tbody>
</table>

**Knowledge**

Students will know...

- The regional distribution of human population at local to global scales.
- Patterns of human population density, movement, and change.
- How issues or challenges are connected to population and progress.
- The impacts of population issues on a personal, local, and global scale.

**Skills**

Students will be able to...

- SWBAT choose a population issue for the Knowledge to Action project
- SWBAT complete an Issues Decision Chart to explain the local and global contexts of multiple population issues.
- SWBAT connect an issue to the theme of Population and Progress.
Learning Plan

### Performance Task Description

| Goal | Groups to choose a population issue for the Knowledge to Action project |

**Opening:**
Teacher briefly reviews the focus of the new unit, Solving Global Issues. Teacher reminds students that the previous day they were asked to rank their interest in the top three *population and progress* sub-themes. Explain that these rankings were used to create small groups for the Knowledge to Action project. Break students into their groups of 3-5 students.

**Mini Lesson:**
Teacher will show students a visual representation of what the Knowledge to Action design process will look like. Teacher will emphasize that the project will be very student-driven, problem/challenge-based, and will require students to follow a Design Thinking approach to learning. Teacher will show students a short video clip to emphasize these points.

[https://www.youtube.com/watch?v=a7sEoEvT8l8&feature=youtu.be](https://www.youtube.com/watch?v=a7sEoEvT8l8&feature=youtu.be) (01:50)

Teacher will show students the Knowledge to Action project design process on the board. Teacher will explain how groups will be in the “choose an issue” stage today, but will slowly progress through the design process (empathize, define, brainstorm, build/test prototype, next steps, etc).

Students will be shown the link to the Google Doc that each team will use during the design process. The Google Doc contains various formative assessments and links that groups will use throughout the unit.

[https://docs.google.com/document/d/1ALOo1LNJqaUwtgyzKeQAojNeJ6xRf58LiPPWa-cS7QY/edit#](https://docs.google.com/document/d/1ALOo1LNJqaUwtgyzKeQAojNeJ6xRf58LiPPWa-cS7QY/edit#)
Small Group Work:
1. Google Doc Setup
Using ipads or computers, groups will set up their Google Doc. Teacher will email the Google Doc to each group. Groups should then:
   - Save a copy of the Google Doc after renaming the file
   - Scroll through the Google Doc and ensure that all group members know how to navigate, make changes, etc
   - Fill out the About My Team section
   - View the Team Research Folder for adding links to resources used throughout the project

2. Complete the Choose an Issue section in the Google Doc
Before students can begin the design steps, they must choose an issue to focus on. Here they will brainstorm different population global issues or challenges they see in the community and then choose one for the project.
   - Students will click on the resources links (the Sustainable Development goals website and List of global Issues) for ideas
     https://www.globalgiving.org/sdg/?rf=ggad_15&gclid=CIym_9z63soCFVE0aQod1b0KUQ
     http://www.tigweb.org/global-issues/
   - Students will double-click on the post-it notes to type and add to an issue
   - Groups will be expected to complete a minimum of five post-it notes

3. Complete the Issue Design Chart in the Google Doc
Groups will choose up to five of the issues from the previous activity (Choose an Issue) to complete the Issue Design Chart
   - For each issue groups will brainstorm reasons why they should and should not choose that specific issue
   - For each issue groups will identify the global and local contexts
   - For each issue groups will explain its connection to the theme population and progress

4. Narrowing the list
Groups will use their answers from the previous activity (Issue Design Chart) to narrow down their list of potential project topics.
   - Groups should choose one population issue to focus on for the Knowledge to Action project.
     This issue should be important both locally and globally, and have a narrow focus.

Closing/Reflection:
Groups will reflect upon the impact that their issue has on them by recording (in the Google Doc) what they already know about the issue, how it impacts them specifically, and what questions they have about their chosen issue.

Welcome to the Knowledge to Action (K2A) project design process!

K2A is a multi-step process for you to learn about an issue you care about, research potential solutions and devise an action plan to create positive change.

Choose an issue

Choose an issue you care about for your change project.

Empathize

Learn from people who are impacted by your issue to understand it better.

Define

Use your new understanding of your issue to define the specific focus for your project.

Brainstorm

Come up with lots of ideas, choose one to create a draft or "prototype" of, and test it with people impacted by the issue. Repeat this cycle until you have a solution you are happy with.

Build Prototype

Make a plan to implement your project, share it with others, and/or enter the World Savvy Festival!

Test

Next Steps

Click the links below to jump to a page:

About my team

Research Folder

Choose an Issue

Design Step 1: Empathize

Design Step 2: Define

Design Step 3: Brainstorm

Design Step 4: Build Prototype

Design Step 5: Test Prototype

Next Steps

TIP

You should start at the first step, but you can always come back and change your work on each step as you learn new things!
Google Doc: Setup

**ABOUT MY TEAM**

**Teacher:**

**Class:**

**Team Members:**

**Team Name:**

**TIP**

To Get Started, first make a copy: File > Make a copy > Create a title, including your team name. Then share with your teacher and team members by using the Share button at top right and add them under the People box. Make sure you set it so they “Can edit”.

**Resources to help you get started**

- This [Youtube video](https://www.youtube.com/watch?v=example) gives you a big picture view of what Design Thinking is and why we use it.

Adapted from World Savvy (2017). WSC Launch Workshop.
Google Doc: Choose an Issue Brainstorm

Choose an Issue

WHY? Before you can begin the design steps, you must choose an issue to focus on. Here you will explore different issues and then choose one for your project.

Question 1: What are some global issues or challenges that you care about or that you see in your community? As you brainstorm, no idea is a “bad” idea. Try to fill in all the “post-it notes” below. Your group must have a minimum of five post-its completed.

TIP Double click on the post-it notes below to start adding to the brainstorm:

Double-click on a “post it note” and type to add an issue

Resources to help you Choose an Issue

- The Sustainable Development Goals website may give you ideas for issues
- Taking it Global has a list of Global Issues to explore.

Adapted from World Savvy (2017). WSC Launch Workshop.
Sustainable Development Goals
## Google Doc: Issue Design Chart

### Question 2: Use the Issue Decision Chart here to explore several of the issues you listed for Question 1:

<table>
<thead>
<tr>
<th>Issue</th>
<th>Why choose this topic</th>
<th>Why not choose this topic</th>
<th>Global Context*</th>
<th>Local Context*</th>
<th>Connection to theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of locally grown, fresh food.</td>
<td>This is important to our families. This issue impacts health and environment, and we care about both of these. We know someone working on this in our community who may be able to help us.</td>
<td>Growing food takes time, space, knowledge, and resources. We don't know much about this yet, so we'll need help and need to do a lot of research.</td>
<td>Importing food stresses the environment globally, impacts people's work and lives, and can make it harder for communities to make it through challenges.</td>
<td>We have little access to fresh fruits and vegetables in our community, most is shipped in after many days of sitting and travel.</td>
<td>Access to locally grown food is lower in cities with large population densities. Food deserts are common in urban areas.</td>
</tr>
</tbody>
</table>

### TIP:

*Context includes the situation or circumstances of an event, problem or issue along with the people, culture and place.

### Question 3: Using the Issue Decision Chart above, choose one issue to focus on for your project and name it here:

#### TIP:

Choose an issue that is important locally and globally, and make it as specific as you can. For example, instead of "Hunger" choose something more specific like "Food Deserts". You will come back to your chosen issue and make it more specific in step 2: Define.
Google Doc: Closing/ Reflection

| Question 4: Reflect on your own about how the issue you chose for Question 3 does or doesn’t impact you. Do this in your own notebook or journal. Come back to your group and work together to answer these questions. You only have to share what you are comfortable sharing from your personal reflection. |
| What do you know about this issue already? | How does this issue impact you? | What questions do you have about your chosen issue? Write as many questions as possible. There are no “bad” questions! |

**TIP**

As you reflect on what you already know about your chosen issue, add resources you already have about the issue to the Team Research Folder so you can use these resources later.

Adapted from World Savvy (2017). WSC Launch Workshop.
**Appendix C**

<table>
<thead>
<tr>
<th>Title of Unit</th>
<th>Solving Global Issues</th>
<th>Grade Level</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curriculum Area</td>
<td>Human Geography</td>
<td>Time Frame</td>
<td>15 class periods-----Day 3</td>
</tr>
<tr>
<td>Developed By</td>
<td>Crystal Nelson</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Identify Desired Results

#### Content Standards
The student will understand the regional distribution of human population at local to global scales and its patterns of change.

The student will use maps, globes, geographic information systems, and other databases to answer geographic questions at a variety of scales from local to global.

#### Understandings

<table>
<thead>
<tr>
<th>Overarching Understanding</th>
<th>Essential Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geographers use geographic information to explain and predict population patterns.</td>
<td>What is empathy?</td>
</tr>
<tr>
<td>Population changes over time.</td>
<td>Who is most impacted by the population issue you are trying to solve?</td>
</tr>
</tbody>
</table>

#### Knowledge

Students will know...

How to empathize with the people who are most impacted by the population issue they are trying to solve.

#### Skills

Students will be able to...

- SWBAT identify the stakeholders in the chosen population issue
- SWBAT write questions to interview stakeholders
- SWBAT identify the stakeholder’s perspective and proposed solutions to the chosen population issue by means of interview or youth media
### Learning Plan

<table>
<thead>
<tr>
<th>Performance Task Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Goal</strong></td>
</tr>
</tbody>
</table>

**Opening:**
Teacher will propose the question “what is empathy?” Students will brainstorm adjectives that come to mind and create a definition of empathy as a class.

**Small Group Work:**
Build empathy by completing the Stakeholders Chart in the Google Doc

- Groups should visit the resources provided (in the Google Doc) to explore tips for building empathy and interviewing
- Groups should record a minimum of four stakeholders who are most impacted by their chosen issue. Groups that are struggling should use the empathy map (below) to organize their thoughts

[https://docs.google.com/document/d/10fD Gh72pSlKoe7gDn7YBF1YMvh-I9VqvZ0WE-LDFyFY/edit](https://docs.google.com/document/d/10fD Gh72pSlKoe7gDn7YBF1YMvh-I9VqvZ0WE-LDFyFY/edit)

- For each stakeholder identified, groups should create at least one question that they would like to ask the stakeholder about the issue.
- Groups will determine how they would like to complete the remainder of the Stakeholder Chart. They can choose to either conduct interviews outside of school, or use youth media to learn about stakeholder’s perspective. Interviews are ideal (face-to-face in the community or video outlets such as Skype or Facetime.) Groups who are unable to talk with people impacted by their issue can choose to use the internet to complete the assignment. Students will be given a list of multimedia resources to pose survey questions and/or find global stories that further student’s knowledge of the impacts of their population issue (video interviews, documentaries, podcasts, photography, poetry, etc)

[https://docs.google.com/document/d/11aL3kzXiv_nwtOAij3eFY65qOmajt8LtAu_moxfuWb0/edit](https://docs.google.com/document/d/11aL3kzXiv_nwtOAij3eFY65qOmajt8LtAu_moxfuWb0/edit)

Students will be responsible for completing the interviews or using the multimedia resources before the next class meeting. The teacher will remind student groups to discuss their plan for completion.

Google Doc: Stakeholders Chart

**DESIGN STEP 1: EMPATHIZE**

*WHY*? “Empathize” means build an understanding of how other people think and feel. The design process starts by empathizing with the people who are most impacted by the issue you are trying to solve, because that helps you create better solutions!

**Resources to help you Build Empathy**

- This handout gives you tips for how to [Interview to Build Empathy](#).
- Use the [Empathy Map tool](#) to better understand your stakeholders.
- Use these [Tips to Build Empathy with your Global Stakeholders](#) around the world.
- The [User Camera Study Guide](#) tells you how to use a camera to learn about stakeholders (from Stanford d.school).
- Here’s a school video showing more about [How to Interview](#) and one on [How NOT to Interview](#).

**Question 1:** Use this table to record what you learn about the people who are impacted by your chosen issue (also called “stakeholders”).

<table>
<thead>
<tr>
<th>Stakeholder (someone impacted by your chosen issue)</th>
<th>What questions would you like to ask them?</th>
<th>Perspective (point of view) on <strong>Issue:</strong> How does the issue affect them? Are they for or against solving the issue? Include quotes and stories.</th>
<th>Dealing with the Issue: How might they want to solve the issue? What are potential positive or negative results?</th>
<th>How did you find out about their experience?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visitors to Fairbanks Park</td>
<td>What do you think you see trash in the park? What do you do with trash when you are at the park? Do you ever recycle any of it? Why or why not? What would have to change for you to recycle? What else could we do to solve the problem?</td>
<td>About 1 interviewed said “I don’t care” but most are for solving the issue. Some come to the park less if there is trash everywhere, which could make river clean. One said “I am afraid to swim or fish in the river when it looks polluted.” Most live nearby and drink water that comes from the river and may have health problems if it is polluted.</td>
<td>Some wanted the city to clean it up, but that would cost the city money that would have to come from somewhere else, like schools. Some said more bins. The bins have to be easy to find and see. These will also cost money and someone has to empty them.</td>
<td>Asked survey questions to different people at the park during the weekend.</td>
</tr>
</tbody>
</table>

**Question 2:** What are some stories you heard about your chosen issue that helped you understand the stakeholders' experiences?

**Question 3:** Think back on all you experienced in this step, and answer the questions below:

- What new and important things did you learn about your chosen issue? (Your “insights”)
- What new questions do you have about your chosen issue after this step? Write as many questions as possible. There are no “bad” questions!
Google Doc: Empathy Map

Use this **EMPATHY MAP** to help you **organize your thoughts and build a better understanding of your issue** stakeholders (people who are impacted by the issue).

**TIP**
*To Get Started, first rename this document (Click the File menu, then “Rename”). Be sure to include your team name in the file name. Then use the Share button at top right and add your teacher and teammates under the People box. Make sure you set it so they “Can edit”.*

<table>
<thead>
<tr>
<th>Team Members:</th>
<th>Team Name:</th>
<th>The Problem you are focusing on:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>SAY</th>
<th>DO</th>
</tr>
</thead>
<tbody>
<tr>
<td>What are some quotes or words your stakeholders said?</td>
<td>What actions or behaviors did you notice your stakeholders do?</td>
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<table>
<thead>
<tr>
<th>THINK</th>
<th>FEEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>What might your stakeholder be thinking? What does this tell you about their beliefs?</td>
<td>What might your stakeholders be feeling?</td>
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<td>•</td>
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</table>

**NEEDS:**
*What are some human emotional or physical needs your stakeholder has? For example, you might see that your stakeholder needs to be able to get home safely, or your stakeholder needs to be able to find healthy food near where they live, etc.*

•
•
•

**INSIGHTS:**
*What new and important things did you learn from this that might help you design a good solution?*

•
•
•

Adapted from World Savvy (2017). WSC Launch Workshop.
TIPS TO BUILD EMPATHY with your Global Stakeholders

1. It’s best if you can talk directly with people impacted by your issue around the world. To talk to someone in another country and/or in another community (this includes people and groups who have immigrated or migrated to your community from another country). Note to students: You must discuss and plan with your teacher the following:
   - Which people and organizations is it appropriate to contact
   - The best way to contact people and organizations (i.e. letter, e-mail, phone, etc.)

2. Find multi-media sources capturing those facing the issue in their own words or reflections (this includes interviews, documentaries, podcasts, photography, poetry, fiction etc.)

3. When you can’t talk directly with people from around the world impacted by your issue, you can still learn about their experience through the power of the internet! Check out these sites for global stories on different issues:

<table>
<thead>
<tr>
<th><strong>Voices of Youth</strong></th>
<th><a href="http://www.voicesofyouth.org">www.voicesofyouth.org</a></th>
<th>Blogs and stories from youth around the world. Use the tags to narrow by topic or location.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Taking it Global Youth Media</strong></td>
<td><a href="http://www.tigweb.org/youth-media/">www.tigweb.org/youth-media/</a></td>
<td>Find blogs, art, videos on various issues from youth around the world.</td>
</tr>
<tr>
<td><strong>Youtube &amp; Vimeo</strong></td>
<td>Youtube.com Vimeo.com</td>
<td>Use online video libraries to find stories from around the world.</td>
</tr>
<tr>
<td><strong>World Press</strong></td>
<td>worldpress.org</td>
<td>Find news from around the world by region, so you can learn about an issue from the perspective of other countries.</td>
</tr>
</tbody>
</table>

Adapted from World Savvy (2017). WSC Launch Workshop.
Appendix D

<table>
<thead>
<tr>
<th>Title of Unit</th>
<th>Solving Global Issues</th>
<th>Grade Level</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curriculum Area</td>
<td>Human Geography</td>
<td>Time Frame</td>
<td>15 class periods ---- Day 4</td>
</tr>
<tr>
<td>Developed By</td>
<td>Crystal Nelson</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Identify Desired Results**

**Content Standards**

The student will understand the regional distribution of human population at local to global scales and its patterns of change.

The student will use maps, globes, geographic information systems, and other databases to answer geographic questions at a variety of scales from local to global.

**Understandings**

<table>
<thead>
<tr>
<th>Essential Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geographers use geographic information to explain and predict population patterns.</td>
</tr>
<tr>
<td>Population changes over time.</td>
</tr>
<tr>
<td>What are the root causes of your chosen population issue?</td>
</tr>
<tr>
<td>What are the results of your chosen population issue?</td>
</tr>
</tbody>
</table>

**Knowledge**

Students will know...

How to use new understanding of the chosen population issue to define the specific focus of the project.

**Skills**

Students will be able to...

- SWBAT research the root causes of the chosen population issue
- SWBAT research the results of the chosen population issue

**Learning Plan**

**Performance Task Description**

<table>
<thead>
<tr>
<th>Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research causes and results of a population issue</td>
</tr>
</tbody>
</table>

**Opening:**
Teacher will ask for feedback on the stakeholder interviews. Student volunteers will briefly share their experiences, stories, insights, and new questions that they have now that the interviews are complete.

**Mini Lesson:**
Teacher will explain the goal of today’s class: Researching causes and results of the group’s population issue. The teacher will remind students of the differences between *cause* and *result*, and show students an example of the Problem Tree groups will be working on.

Teacher will discuss with students the expectations for research. Teacher will remind students of the following:

- Evaluating appropriateness of research material
- Academic honesty

**Small Group Work: Problem Tree**

Students groups will conduct research on their population issue to complete the Problem Tree assignment. Students will be expected to identify at least five root causes of the problem, and five results of the problem.

Students will record the resources they used in the Research Folder (located in the Google Doc).

This research activity will likely not be finished today. Students will be given another class day to conduct the research and finish the Problem Tree assignment.

**Closing:**

Students will take 3-4 minutes to discuss their findings with their group. Groups will need to confirm that they do not have duplicate causes/results, and set an action-plan for tomorrow’s class period.

Example Problem Tree

The Problem: Lack of locally grown, fresh food.

- Potential lost economic growth
- No healthy options
- Diabetes and other health concerns
- Obesity
- Too much reliance on processed food
- Food deserts

Root Causes of the Problem:
- Geography may not support
- Natural disaster
- No demand

Results of the Problem:
- Food deserts

Tip: Double click to write on a shape

Adapted from World Savvy (2017). WSC Launch Workshop.
Google Doc: Problem Tree

Adapted from World Savvy (2017). WSC Launch Workshop.
Google Doc: Resource Folder

TEAM RESEARCH FOLDER

Add links here to resources and research you used, and any other files for your project:

- 
- 
- 
- 
- 
- 
- 
- 
- 
- 
- 

Adapted from World Savvy (2017). WSC Launch Workshop.
Appendix E

<table>
<thead>
<tr>
<th>Title of Unit</th>
<th>Solving Global Issues</th>
<th>Grade Level</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curriculum Area</td>
<td>Human Geography</td>
<td>Time Frame</td>
<td>15 class periods ----Day 5</td>
</tr>
<tr>
<td>Developed By</td>
<td>Crystal Nelson</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Identify Desired Results**

**Content Standards**

The student will understand the regional distribution of human population at local to global scales and its patterns of change.

The student will use maps, globes, geographic information systems, and other databases to answer geographic questions at a variety of scales from local to global.

<table>
<thead>
<tr>
<th>Understandings</th>
<th>Essential Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overarching Understanding</strong></td>
<td>What are the root causes and results of your chosen population issue?</td>
</tr>
<tr>
<td>Geographers use geographic information to explain and predict population patterns.</td>
<td>What is your group’s design question?</td>
</tr>
<tr>
<td>Population changes over time.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students will know...</td>
<td>Students will be able to...</td>
</tr>
</tbody>
</table>

How to use new understanding of the chosen population issue to define the specific focus of the project. |

- SWBAT research the root causes of the chosen population issue
- SWBAT research the results of the chosen population issue
- SWBAT construct a design question

**Learning Plan**

**Performance Task Description**

<table>
<thead>
<tr>
<th>Goal</th>
<th>Finish researching causes and results of a population issue</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Construct a design question</td>
</tr>
</tbody>
</table>

**Opening:**
Teacher will demonstrate what an appropriate design question is.

A good design question starts with “How might we...” and includes specific stakeholder, location, and behavior.

Teacher will provide examples:
“How might we reduce the fertilizer runoff from farmers who farm on Otter Creek?”
“How might we get more park visitors to recycle their trash at Fairbanks Park?”
Small Group Work:
1. Problem Tree
Students groups will finish conducting research on their population issue to complete the Problem Tree assignment (Appendix D). This was started in the last class period. Students will be expected to identify at least five root causes of the problem, and five results of the problem. Students will record the resources they used in the Research Folder (located in the Google Doc).

2. Design Question Creation
Student groups will use their research from the Problem Tree assignment to construct a design question. As modeled by the teacher (in the opening), design questions should start with “How might we...” and include specific stakeholder, location, and behavior.

Closing:
Students will take 3-4 minutes to discuss new questions they have about their population issue and the Knowledge to Action project.

Google Doc: Design Question Creation

**Question 2:** Think about what you learned from your stakeholders in the previous step, and what you’ve learned about your topic. What might you say is the *real* issue you are trying to solve?

**Question 3 - Create Design Question:** Now, take that real issue, and turn it into a design question.

**TIP**
To create a design question, create a question that starts with “How might we...” and includes specific stakeholder, location, and behavior. For example: “How might we reduce the fertilizer runoff from farmers who farm on Otter Creek?” or “How might we get more park visitors to recycle their trash at Fairbanks Park?” See more tips and examples [here](#).

**Our Design Question:**

How might we ______________________________?  

**Question 4:** Think back on all you experienced in this step, and answer the questions below, listing as many new questions as possible:

<table>
<thead>
<tr>
<th>What new questions do you have about the issue you have chosen?</th>
<th>What new questions do you have about your project?</th>
</tr>
</thead>
</table>

Adapted from World Savvy (2017). WSC Launch Workshop.
Appendix F

<table>
<thead>
<tr>
<th>Title of Unit</th>
<th>Solving Global Issues</th>
<th>Grade Level</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curriculum Area</td>
<td>Human Geography</td>
<td>Time Frame</td>
<td>15 class periods ----Day 6</td>
</tr>
<tr>
<td>Developed By</td>
<td>Crystal Nelson</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Identify Desired Results**

**Content Standards**

The student will understand the regional distribution of human population at local to global scales and its patterns of change.

The student will use maps, globes, geographic information systems, and other databases to answer geographic questions at a variety of scales from local to global.

**Understandings**

<table>
<thead>
<tr>
<th>Overarching Understanding</th>
<th>Essential Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geographers use geographic information to explain and predict population patterns.</td>
<td>What are possible solutions to my group’s design question?</td>
</tr>
<tr>
<td>Population changes over time.</td>
<td>Which solutions best address root causes, feasibility, sustainability, and innovation?</td>
</tr>
</tbody>
</table>

**Knowledge**

Students will know...

How to evaluate the feasibility and sustainability of potential solutions to a population problem

**Skills**

Students will be able to...

- SWBAT brainstorm at least ten potential solutions to their population issue
- SWBAT complete the Brainstorm Chart that explains the root causes of the issue, its feasibility, sustainability, and how innovative the solution is.
## Learning Plan

### Performance Task Description

| Goal | Brainstorm possible solutions to the population issue |

### Opening:
Student groups will quickly share their *design question* with the class.

The teacher will explain the main objective of today's class: Brainstorming possible solutions to the population issue.
If necessary, the teacher may review brainstorming strategies by showing the short video clip below:

[https://vimeo.com/14074022](https://vimeo.com/14074022)

The teacher will direct students to a variety of resources to help groups brainstorm (located in the Google Doc). Resources include the World Savvy Project Gallery, Do Something youth action website, Project Directory from Generation Schools Network, Causes.com website, Youth Service America project examples, and generationOn projects by topic.

### Small Group Work:

1. **Solution Brainstorm**
   Students groups will complete the Solution Brainstorm activity in the Google Doc. Students will be expected to list a minimum of ten potential solutions to their population issue. At this time, students should not worry too much about the probability of enacting these solutions. Students should visit any of the resources (described above) for assistance.

2. **Brainstorm Chart**
   Student groups will choose three of their favorite solutions (from the previous Solution Brainstorm activity) to complete the Brainstorm Chart assignment. Groups will need to record how well each solution addresses the root causes of the issue (from the previous day's Problem Tree), its feasibility, sustainability, and how innovative the solution is.

### Closing:
Students will take 2-3 minutes to discuss new questions they have about their population issue and the Knowledge to Action project.

Google Doc: Solution Brainstorm

**DESIGN STEP 3: BRAINSTORM**

**WHY?** In this step you will brainstorm or “ideate” as many possible solutions as you can, including improbable or radical ideas. Don’t worry about narrowing down your ideas - that comes later!

**Question 1:** Focus on the design question you created in the last step, and begin to brainstorm or “ideate” possible solutions. The most important thing here is to come up with as many possible solutions as you can!

**TIPS**
- Go for improbable or radical ideas without worrying right now if they are things you can do. Improbable ideas often lead to the best solutions!
- After you test your first prototype, you can come back to this step and add more, new ideas!

![Diagram of brainstorming process]

**Resources to help you Brainstorm**

- Here’s a video about [how to have a great brainstorm](#)
- [World Savvy Project Gallery](#)
- [Do Something](#) has examples of youth action
- [Project Directory](#) from Generation Schools network.
- [Causes.com](#)
- [Youth Service America](#) shows project examples by issue and SDG.
- [generationOn](#) example projects by topic

Adapted from World Savvy (2017). WSC Launch Workshop.
### Question 2: Use the Brainstorm Chart here to explore several of your favorite possible solutions from your brainstorm above:

<table>
<thead>
<tr>
<th>Possible Solution</th>
<th>How well does this solution make sense when you look back at your Problem Tree? Does it address root causes?</th>
<th>How Feasible is this possible solution? How realistic and possible is it? Is it affordable? (Positives &amp; negatives)</th>
<th>How Sustainable over time is this possible solution? How easily can your solution be replicated/continued by others? (Positives &amp; negatives)</th>
<th>How Innovative is this possible solution? How new, unique, and creative is it?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have a volunteer “recycling captain” at Fisher’s Park</td>
<td>This helps with the causes of people not recycling that are people forgetting or not knowing how. It doesn’t address the root causes that have to do with why there are so many disposable things people use. It only helps with recycling at the park.</td>
<td>Someone will have to find and train all the volunteers. It will take a lot of time. We can’t have volunteers everywhere all the time, so some trash will be missed. There are no materials to buy, though.</td>
<td>It would take a lot of work to keep this idea working, because we would need volunteers all the time. If we probably wouldn’t work for very long. It could be easily copied for other parks, though.</td>
<td>No one has tried this at this park before, as far as we know. It is not our most creative idea.</td>
</tr>
</tbody>
</table>

### Question 3: Track your new questions here. Asking questions helps us learn!

<table>
<thead>
<tr>
<th>What new questions do you have about your chosen issue after this step?</th>
<th>What new questions do you have about your project after this step?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Adapted from World Savvy (2017). WSC Launch Workshop.
Appendix G

<table>
<thead>
<tr>
<th>Title of Unit</th>
<th>Solving Global Issues</th>
<th>Grade Level</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curriculum Area</td>
<td>Human Geography</td>
<td>Time Frame</td>
<td>15 class periods ----Day 7</td>
</tr>
<tr>
<td>Developed By</td>
<td>Crystal Nelson</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Identify Desired Results

#### Content Standards

The student will understand the regional distribution of human population at local to global scales and its patterns of change.

The student will use maps, globes, geographic information systems, and other databases to answer geographic questions at a variety of scales from local to global.

#### Understandings

<table>
<thead>
<tr>
<th>Overarching Understanding</th>
<th>Essential Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geographers use geographic information to explain and predict population patterns.</td>
<td>What method(s) should be used to create a prototype of our proposed solution to a population issue?</td>
</tr>
<tr>
<td>Population changes over time.</td>
<td>How can I revise my prototype to strengthen its potential to solve a population issue?</td>
</tr>
</tbody>
</table>

#### Knowledge

Students will know...

How to take feedback given on their prototype solution to make changes to their Knowledge to Action project

#### Skills

Students will be able to...

- SWBAT create 1-2 prototypes of a proposed solution to a population issue
- SWBAT seek feedback from stakeholders and/or community members on their prototype
- SWBAT reflect upon the feedback received on their prototype, and make revisions if necessary

### Learning Plan

#### Performance Task Description

<table>
<thead>
<tr>
<th>Goal</th>
<th>Create and receive feedback on a prototype of the group’s proposed solution</th>
</tr>
</thead>
</table>
Opening:
The teacher will demonstrate to students how to design a prototype of a Knowledge to Action project. Potential prototypes include, but aren’t limited to drawings, diagrams, websites, videos, etc.

Small Group Work:
1. Create prototype
   Students groups will complete the Create Prototype activity in the Google Doc. Students will be expected to create a minimum of one prototype, but may choose to create multiple in the design process. The prototypes will be tested with stakeholders (preferred) or other groups.

2. Prototype Feedback
   Student groups will decide who to share their solution prototype with. Ideally, students will share it with a stakeholder in the issue. If this is not feasible, students will share with community members or other student groups to receive feedback on their prototype(s). Groups must have a minimum of two people give them feedback. Record the details of this feedback in the Prototype Feedback section of the Google Doc.

3. Prototype Reflection
   Student groups should discuss the feedback they received from stakeholders/ other groups. Complete the Prototype Reflection section in the Google Doc. Be sure to note the strengths and weaknesses of your solution prototype and any revisions that will be needed.

Closing:
Students will take 2-3 minutes to discuss new questions they have about their population issue and the Knowledge to Action project.

Google Doc: How to Make a Prototype

**HOW TO MAKE A PROTOTYPE**

You create a “prototype” or model of a solution so that you can test it with people who are impacted by the problem. So all you need for a prototype is something that allows you to share and test your idea with stakeholders.

Your prototype could be... **a drawing or diagram** like these students at King’s School in New Zealand are making.

![Image of students making a prototype with a drawing and diagram]

Your prototype could be... **made of wood, cardboard, and glue**

![Image of students making a prototype with wood, cardboard, and glue]

Your prototype could be... **a full-size object made of found objects.**

*Watch this video* from Design Squad Global of kids making prototypes of a grocery cart to pull with a bike.

![Image of students making a prototype with found objects]

The possibilities are endless! You could make your prototype out of... **clay, building blocks, pipe cleaners, a website, a video...**

![Image of students making a prototype with various materials]

Adapted from World Savvy (2017). WSC Launch Workshop.
Google Doc: Building a Prototype

**DESIGN STEP 4: BUILD PROTOTYPE**

**WHY?** In this design process you create a “prototype” or model of a solution so you can test it with people who are impacted by your chosen issue in the next step. Making a better solution by testing your rough draft ideas with people before finishing your project is what this process is all about! You can do this step as many times as you need to to get a solution you are happy with.

**Resources to help you Build a Prototype**

- [How to make a prototype](#) (including sample prototypes)

---

**Create Prototype 1:** Choose your favorite idea from the Brainstorm step, and create a prototype or model so that you can test it with stakeholders. Post your prototype below.

**TIPS**

- Your prototype could be a cardboard model, a drawing or diagram, a written description, a piece of art, or any other way you can show your idea to someone else. For more ideas, and examples see [How to make a prototype](#).
- To post your prototype below, you can type it in if it is in writing, add a link to another document or video, add a photograph of your prototype (Insert menu -> Image), etc.

Prototype 1:

---

**Create More Prototypes:** The design process works best in cycles, when you learn from your test and make your solution better. If you come back to this step again after your test, post your new prototype(s) below. Go through these steps as many times as you want to, until you are happy with your solution.

Prototype 2:

Adapted from World Savvy (2017). WSC Launch Workshop.
Google Doc: Prototype Feedback

**Design Step 5: Prototype Feedback**

**Why?** Sharing your draft of your solution with people who are impacted by the issue will help you learn more about your chosen issue, and give you ideas for how to make your solution better before you finish it.

**Question 1** - What do you hope to learn about your chosen issue and your prototype by showing it to people who are impacted by the issue?

---

**Question 2:** Use this table to design your test.

<table>
<thead>
<tr>
<th>Tip</th>
</tr>
</thead>
<tbody>
<tr>
<td>- See Tips for testing your prototype for ideas of how you can test your prototype.</td>
</tr>
<tr>
<td>- See your stakeholders chart on the Empathize step for ideas of people to test your prototype with.</td>
</tr>
<tr>
<td>- You should test with more than one type of stakeholder, to get different perspectives. Fill out a different row below for each stakeholder.</td>
</tr>
<tr>
<td>- When you create new prototypes, you can use the same test, or add new test ideas below.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tester name</th>
<th>How was this prototype tested? Include when, where, &amp; how.</th>
<th>Feedback from tester--Be specific!</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Now do your test! Add notes, videos, etc. from your test here:

---

**Question 3** - Reflect on your test of your prototype. Think back on what happened in your test with your stakeholders. Write some answers in all four boxes below:

- **Things I like about our model solution**
  - 
  - 
  - 

- **Things I didn’t like about our model solution**
  - 
  - 
  - 

- **Most important feedback from testers**
  - 
  - 
  - 

- **New Ideas for our solution: Are revisions needed?**
  - 
  - 
  -

Adapted from World Savvy (2017). WSC Launch Workshop.
Appendix H

<table>
<thead>
<tr>
<th>Title of Unit</th>
<th>Solving Global Issues</th>
<th>Grade Level</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curriculum Area</td>
<td>Human Geography</td>
<td>Time Frame</td>
<td>15 class periods ----Day 8</td>
</tr>
<tr>
<td>Developed By</td>
<td>Crystal Nelson</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Identify Desired Results

Content Standards
The student will understand the regional distribution of human population at local to global scales and its patterns of change.

The student will use maps, globes, geographic information systems, and other databases to answer geographic questions at a variety of scales from local to global.

<table>
<thead>
<tr>
<th>Understandings</th>
<th>Essential Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overarching Understanding</td>
<td>What is my plan of action for K2A project goals, timeline, and resources?</td>
</tr>
<tr>
<td>Geographers use geographic information to explain and predict population patterns.</td>
<td>Which project category will I use to share my project and present my research and solutions?</td>
</tr>
<tr>
<td>Population changes over time.</td>
<td>What are the requirements for a Knowledge to Action project that is beginning, developing, accomplished, and exemplary?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students will know...</td>
<td>Students will be able to...</td>
</tr>
<tr>
<td>How to create action an action plan that specifies Knowledge to Action project goals, time, and necessary resources</td>
<td>• SWBAT notate proposed evidence for each standard of the Knowledge to Action rubric</td>
</tr>
<tr>
<td>The requirements for a Knowledge to Action project that is beginning, developing, accomplished, and exemplary.</td>
<td>• SWBAT choose a Knowledge to Action project category</td>
</tr>
<tr>
<td></td>
<td>• SWBAT complete the Implement your Project sheet</td>
</tr>
</tbody>
</table>

Learning Plan

Performance Task Description

| Goal | Create a plan of action or the Knowledge to Action project |
**Opening:**
The teacher will show student groups the rubric for the Knowledge to Action project. The teacher will explain that the project is summative and share expectations and deadlines. The teacher will also share the list of project categories (formats) to choose from.

**Small Group Work:**
1. Student groups will choose one project category (format) from the Knowledge to Action project list. Groups may choose from visual art, performing art, website creation, exhibit, documentary, film, or Savvy Talk. Groups will discuss which format they will share their projects and present their research and solutions in.

2. Next Steps
   Students groups will complete the short Next Steps portion of the Google Doc. This section will require groups to record their project name and provide a description of their project.

3. Notating the Rubric
   Students groups will be given a student-friendly copy of the Knowledge to Action rubric. This version contains space for groups to notate their understanding of each rubric requirement. Before starting the project, student groups need to record their proposed evidence for each requirement.

4. Implement Project
   Students groups will complete the Implement Your Project sheet in the Google Doc. This document will require students to describe their project action plan, project goals, resources, and budget. Most importantly, groups will need to create a timeline that identifies the project tasks that need to be complete (per the rubric), who is responsible for completing the task, and the date/time in which this will be done. This portion of the Implement Your Project sheet should be done collaboratively.

**Closing:**
Students will take 2-3 minutes to review their action plan for the Knowledge to Action project. The next class meeting will be the first day of project design.

Knowledge to Action Project Rubric (Student-Friendly Version)

Team Name: 

School: 

### A. Content

#### A1. Understanding of Annual Theme

<table>
<thead>
<tr>
<th></th>
<th>Beginning</th>
<th>Developing</th>
<th>Accomplished</th>
<th>Exemplary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Little to no connection made between topic &amp; theme</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Some connections made between topic &amp; theme</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Several connections made between topic &amp; theme</td>
<td>3</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Topic &amp; theme are clearly connected throughout project</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Describe how your topic relates to the theme of Population and Progress:

#### A2. Presentation of Multiple Perspectives

<table>
<thead>
<tr>
<th></th>
<th>Beginning</th>
<th>Developing</th>
<th>Accomplished</th>
<th>Exemplary</th>
</tr>
</thead>
<tbody>
<tr>
<td>One perspective is presented, no analysis of other perspectives</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Two perspectives are presented, little analysis of differences between perspectives</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Several perspectives are presented, some analysis of differences between perspectives</td>
<td>3</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Many perspectives are presented &amp; thoroughly analyzed</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Describe at least three different points of view on your topic. For each group, include a sentence that describes WHO they are, WHAT they think and WHY they think it.
### A3. Connections to Historical & Current Events

<table>
<thead>
<tr>
<th></th>
<th>Beginning</th>
<th>Developing</th>
<th>Accomplished</th>
<th>Exemplary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issues discussed in isolation with little to no historical context or connections to current events</td>
<td>Some context for present situation is provided &amp; a few connections are made between historical &amp; current events</td>
<td>Context for present situation is mostly clear &amp; several connections are made between historical &amp; current events</td>
<td>Context for present situation is clear &amp; thoroughly connected to historical &amp; current events</td>
<td></td>
</tr>
</tbody>
</table>

1 2 3 4

Briefly describe the history of your topic. When did it first become an issue? How did it develop or change over time?

### A4. Global Context & Complexity

<table>
<thead>
<tr>
<th></th>
<th>Beginning</th>
<th>Developing</th>
<th>Accomplished</th>
<th>Exemplary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Little understanding of global context; oversimplified analysis</td>
<td>Some understanding global context; somewhat simplified analysis</td>
<td>Firm understanding of global context; some evidence of nuanced thinking</td>
<td>Strong &amp; nuanced understanding of global context &amp; complexity of issue</td>
<td></td>
</tr>
</tbody>
</table>

1 2 3 4

Describe how your issue connects to other issues or events happening around the world.
A5. Comprehensive & Realistic Solutions

<table>
<thead>
<tr>
<th>Beginning</th>
<th>Developing</th>
<th>Accomplished</th>
<th>Exemplary</th>
</tr>
</thead>
<tbody>
<tr>
<td>No solutions proposed OR solutions are not supported by evidence</td>
<td>Proposed solutions address only one of the required levels (local, regional &amp; global) &amp;/or lack evidence for feasibility</td>
<td>Proposed solutions address only two of the three levels (local, regional &amp; global), some evidence supports feasibility</td>
<td>Proposed solutions are comprehensive (local, regional, &amp; global) &amp; all supported by evidence of feasibility</td>
</tr>
</tbody>
</table>

1 2 3 4

How does your solution address the local level?

How does your solution address the regional level?

How does your solution address the global level?

What information did you find that makes your solution seem like it will work?

A. Content Subtotal
### B. Skills

#### B1. Collaboration

<table>
<thead>
<tr>
<th></th>
<th>Beginning</th>
<th>Developing</th>
<th>Accomplished</th>
<th>Exemplary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Some evidence of</td>
<td>Some evidence of disrespect OR unfair distribution of work. No feedback</td>
<td>Students show respect for one another; work is distributed fairly; some</td>
<td>Students show respect &amp; support for one another; work is distributed fairly;</td>
<td></td>
</tr>
<tr>
<td>disrespect &amp;</td>
<td>sought about ideas.</td>
<td>feedback sought about ideas.</td>
<td>feedback incorporated into project.</td>
<td></td>
</tr>
<tr>
<td>unfair</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>distribution</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>of work. No</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>feedback</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>sought about</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ideas.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

How well did your team work together? OR if you worked alone, how did other people contribute to your project?

#### B2. Communication

<table>
<thead>
<tr>
<th></th>
<th>Beginning</th>
<th>Developing</th>
<th>Accomplished</th>
<th>Exemplary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confusing</td>
<td>Most ideas &amp; concepts are confusing &amp; poorly thought out</td>
<td>Many ideas &amp; concepts are confusing or not thought out</td>
<td>Most ideas &amp; concepts are well-thought out &amp; explained</td>
<td>All ideas &amp; concepts are well thought-out &amp; explained</td>
</tr>
<tr>
<td>&amp; poorly</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>thought out</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

Provide an outline of your presentation to show the order of ideas. Do they make sense in the way they are connected?

#### B3. Critical, Creative & Comparative Thinking

<table>
<thead>
<tr>
<th></th>
<th>Beginning</th>
<th>Developing</th>
<th>Accomplished</th>
<th>Exemplary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ideas</td>
<td>Existing ideas are presented with little or no analysis or original</td>
<td>Existing ideas are compared &amp; contrasted; some connections to students’</td>
<td>Existing ideas are analyzed; several connections made to students’ original</td>
<td>Existing ideas are synthesized, many connections made to students’ original</td>
</tr>
<tr>
<td>thought</td>
<td>original thought</td>
<td>original thought</td>
<td>original thought</td>
<td>original thought</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>
List the main ideas you learned about in your research related to your issue:

What are the solutions that others have come up with to solve this problem?

How are your solutions different?

<table>
<thead>
<tr>
<th>C1. Quality</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Beginning</strong></td>
<td><strong>Developing</strong></td>
<td><strong>Accomplished</strong></td>
<td><strong>Exemplary</strong></td>
</tr>
<tr>
<td>Project is unfinished &amp; has significant mistakes &amp; missing elements.</td>
<td>Project is finished but has several mistakes or missing elements.</td>
<td>Project is finished &amp; has few mistakes or missing elements.</td>
<td>Project is complete &amp; has no mistakes or missing elements.</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Have at least one person outside of your team review your project to check for any missing elements or mistakes, including:

- Spelling or grammar issues
- Memorized lines
- Smooth transitions
- Technological issues
C2. Clarity

<table>
<thead>
<tr>
<th>Category</th>
<th>Beginning</th>
<th>Developing</th>
<th>Accomplished</th>
<th>Exemplary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pace or layout of information</td>
<td>Pace or layout of information is hard to follow or unclear</td>
<td>Pace or layout of information is sometimes hard to follow.</td>
<td>Pace or layout of information is mostly clear &amp; logical.</td>
<td>Pace or layout of information is organized, clear &amp; logical.</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Have at least one person outside of your team (can be the same person as above) review your project to be sure they can follow your ideas.

C3. Creativity

<table>
<thead>
<tr>
<th>Category</th>
<th>Beginning</th>
<th>Developing</th>
<th>Accomplished</th>
<th>Exemplary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project lacks originality or</td>
<td>Project lacks originality or creativity; does not engage audience; direct replication of traditional format.</td>
<td>Project shows some originality or creativity; somewhat engaging; close replication of traditional format.</td>
<td>Project shows originality &amp; creativity; mostly engaging; goes beyond a traditional format.</td>
<td>Completely original &amp; highly creative; engages audience with artistic integration, uniqueness &amp; rarity of offerings.</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
What makes your project creative, unique and engaging?

Review your bibliography: List the number of sources you have in each of the following categories:

- Book
- Video
- Newspaper
- Magazine
- Website
- Academic paper or study

- Interview
- Other

How did you determine the credibility of your sources?
### E. Knowledge-to-Action (K2A) Project

#### E1. Rationale

<table>
<thead>
<tr>
<th></th>
<th>Beginning</th>
<th>Developing</th>
<th>Accomplished</th>
<th>Exemplary</th>
</tr>
</thead>
<tbody>
<tr>
<td>K2A not supported by evidence of need or feasibility.</td>
<td></td>
<td>Limited evidence of need &amp; feasibility of K2A.</td>
<td>Reasons for K2A are clear &amp; mostly supported by evidence of need &amp; feasibility.</td>
<td>Reasons for K2A are clear, compelling &amp; supported by strong evidence of need &amp; feasibility.</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

**Why is your action project needed?**

**What makes it realistic and doable?**

#### E2. Goals & Measures of Success

<table>
<thead>
<tr>
<th></th>
<th>Beginning</th>
<th>Developing</th>
<th>Accomplished</th>
<th>Exemplary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goals &amp; measures of success are missing or very limited.</td>
<td></td>
<td>Some goals or measures are unclear or unrelated to proposed action.</td>
<td>Most goals are specific, measureable &amp; realistic.</td>
<td>All goals are specific, measureable &amp; realistic</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

List each project goal and what you would use to measure it (how would you know that you achieved the goal?).
### D3. Creativity

<table>
<thead>
<tr>
<th></th>
<th>Beginning</th>
<th>Developing</th>
<th>Accomplished</th>
<th>Exemplary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Idea lacks originality or creativity; direct replication of traditional action.</td>
<td>Idea shows originality or creativity; close replication traditional action.</td>
<td>Idea shows originality &amp; creativity; creative adaptation of traditional action.</td>
<td>Completely original &amp; highly creative; goes above &amp; beyond traditional action.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

How is your project different from what others have tried in the past?

E. K2A Subtotal

Adapted from World Savvy (2017). WSC Launch Workshop.
Knowledge to Action Project Categories

Student teams will be sharing their projects which will present their research and solutions in one of the following formats:

<table>
<thead>
<tr>
<th>Format</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual Art</td>
<td>2D, 3D, or multimedia piece of work that showcases the students’ interpretation of their chosen topic.</td>
</tr>
<tr>
<td>Performing Art</td>
<td>Creative presentation of student’s research and solutions that engages the audience but is also rooted in strong research.</td>
</tr>
<tr>
<td>Website</td>
<td>A visual representation of research and solutions that will be displayed online to be evaluated by a panel of judges.</td>
</tr>
<tr>
<td>Exhibit</td>
<td>A visual representation of research, solutions and action plan in the forms of a trifold poster, printed poster, game, or interactive creation.</td>
</tr>
<tr>
<td>Documentary</td>
<td>A video that uses audio and visual evidence such as photographs, maps, film clips, images, narration, and interviews summarizing student’s research and solutions.</td>
</tr>
<tr>
<td>Film</td>
<td>A video that uses audio and visual evidence through creative means. Examples include: mockumentary, stop motion, animation, ect.</td>
</tr>
<tr>
<td>Savvy Talks</td>
<td>Formal presentation which includes presentation technology such as Keynote, Powerpoint, Prezi, ect.</td>
</tr>
</tbody>
</table>

Google Doc: Implement Project

**NEXT STEPS**

WHY? After you go through the Brainstorm, Prototype, and Test stages as many times as you need to reach a solution you are happy with, there are a few different things you can do with your project, including bringing it to life for real!

Now that you’ve completed your project design, describe your project:

<table>
<thead>
<tr>
<th>Project Name:</th>
<th>Project Description:</th>
</tr>
</thead>
</table>

Files: Add here links to any final files you have about your final project outcomes (website, document, or video links). You can also paste photos here:

- 

There are several things you can do with your project now that you’ve completed the Design Cycle. Click a topic to jump to that section:

- Implement Your Project
- Share Your Project
- Enter Your Project in the World Savvy Festival
- Apply for a Scholarship to Fund Your Project

**IMPLEMENT YOUR PROJECT**

**Step 1 - Create Action plan:** Describe your plan to address this issue in four sentences (your prototype)

**Step 2 - Project Goals:** Describe what you hope to accomplish with this plan

**Step 3: Timeline**

<table>
<thead>
<tr>
<th>What? What will be done</th>
<th>When? When will it be completed</th>
<th>Who? Who is responsible for completing this</th>
</tr>
</thead>
</table>
### Step 4 - Resources

What resources do you need to implement your plan? Describe what is necessary to take your plan into action. This may include a few different kinds of support, including financial, human, material, etc.

### Step 5 - Budget

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Cost per unit</th>
<th>Quantity</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seedlings</td>
<td>To be planted on school gardening day</td>
<td>$3 per plant</td>
<td>20 plants</td>
<td>$60</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL BUDGET</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix I

<table>
<thead>
<tr>
<th>Title of Unit</th>
<th>Solving Global Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curriculum Area</td>
<td>Human Geography</td>
</tr>
<tr>
<td>Developed By</td>
<td>Crystal Nelson</td>
</tr>
<tr>
<td>Grade Level</td>
<td>10</td>
</tr>
<tr>
<td>Time Frame</td>
<td>15 class periods ----Day 9</td>
</tr>
</tbody>
</table>

**Identify Desired Results**

**Content Standards**

The student will understand the regional distribution of human population at local to global scales and its patterns of change.

The student will use maps, globes, geographic information systems, and other databases to answer geographic questions at a variety of scales from local to global.

**Understanding**

Overarching Understanding

Geographers use geographic information to explain and predict population patterns.

Population changes over time.

**Essential Questions**

Which project tasks need to be completed today to stay on pace with the group’s timeline?

**Knowledge**

Students will know...

How to follow an action plan that specifies Knowledge to Action project goals, time, and necessary resources

The requirements for a Knowledge to Action project that is beginning, developing, accomplished, and exemplary.

**Skills**

Students will be able to...

- SWBAT design a Knowledge to Action project according to a rubric

**Learning Plan**

**Performance Task Description**

**Goal**

Begin creating a Knowledge to Action project following a rubric
Opening:
Student groups will look at yesterday’s project action plan. Together, students will review their timeline of project tasks and who is responsible for them. As this is the first day of project design, groups should make adjustments to this timeline as needed. There will be aspects of the project that will need to be completed individually, while other parts will be collaborative. Each group member will quickly share what it is they are (specifically) doing during today’s class period.

Small Group Work:
Student groups will begin creating their Knowledge to Action project, per the rubric that was given out the previous day. Groups will be either creating visual art, performing art, designing a website, exhibit, documentary, film, or Savvy Talk.

Students will need to record their resources used in creating their project in the Research Folder (located in the Google Doc).

Closing:
Students will take 2-3 minutes to review their action plan for the Knowledge to Action project. If any proposed deadlines for tasks were not met, groups will discuss why and revise their timeline.

Google Doc: Research Folder

Team Research Folder

Add links here to resources and research you used, and any other files for your project:

- 
- 
- 
- 
- 
- 
- 
- 
- 
- 
- 
- 

Adapted from World Savvy (2017). WSC Launch Workshop.
Appendix J

<table>
<thead>
<tr>
<th>Title of Unit</th>
<th>Solving Global Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curriculum Area</td>
<td>Human Geography</td>
</tr>
<tr>
<td>Grade Level</td>
<td>10</td>
</tr>
<tr>
<td>Time Frame</td>
<td>15 class periods ----Day 10</td>
</tr>
<tr>
<td>Developed By</td>
<td>Crystal Nelson</td>
</tr>
</tbody>
</table>

**Identify Desired Results**

**Content Standards**

The student will understand the regional distribution of human population at local to global scales and its patterns of change.

The student will use maps, globes, geographic information systems, and other databases to answer geographic questions at a variety of scales from local to global.

**Understandings**

<table>
<thead>
<tr>
<th>Overarching Understanding</th>
<th>Essential Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geographers use geographic information to explain and predict population patterns.</td>
<td>Which project tasks need to be completed today to stay on pace with the group’s timeline?</td>
</tr>
<tr>
<td>Population changes over time.</td>
<td></td>
</tr>
</tbody>
</table>

**Knowledge**

Students will know...

- How to follow an action plan that specifies Knowledge to Action project goals, time, and necessary resources

Students will be able to...

- SWBAT design a Knowledge to Action project according to a rubric

**Skills**

- The requirements for a Knowledge to Action project that is beginning, developing, accomplished, and exemplary.

**Performance Task Description**

**Goal**

Continue creating a Knowledge to Action project following a rubric
Opening:
Student groups will look at yesterday’s project action plan. Together, students will review their timeline of project tasks and who is responsible for them. If tasks were not finished by the designated time/date, groups should make adjustments to this timeline as needed. There will be aspects of the project that will need to be completed individually, while other parts will be collaborative. Each group member will quickly share what it is they are (specifically) doing during today’s class period.

Small Group Work:
Student groups will continue creating their Knowledge to Action project, per the rubric. Groups will be either creating visual art, performing art, designing a website, exhibit, documentary, film, or Savvy Talk. Students will have access to a variety of technology including ipads, computers, internet, printers, etc.

Students will need to record their resources used in creating their project in the Research Folder (located in the Google Doc).

Closing:
Students will take 2-3 minutes to review their action plan for the Knowledge to Action project. If any proposed deadlines for tasks were not met, groups will discuss why and revise their timeline.

### Appendix K

<table>
<thead>
<tr>
<th>Title of Unit</th>
<th>Solving Global Issues</th>
<th>Grade Level</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curriculum Area</td>
<td>Human Geography</td>
<td>Time Frame</td>
<td>15 class periods ----Day 11</td>
</tr>
<tr>
<td>Developed By</td>
<td>Crystal Nelson</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Identify Desired Results

**Content Standards**

The student will understand the regional distribution of human population at local to global scales and its patterns of change.

The student will use maps, globes, geographic information systems, and other databases to answer geographic questions at a variety of scales from local to global.

#### Understandings

<table>
<thead>
<tr>
<th>Overarching Understanding</th>
<th>Essential Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geographers use geographic information to explain and predict population patterns.</td>
<td>Which project tasks need to be completed today to stay on pace with the group’s timeline?</td>
</tr>
<tr>
<td>Population changes over time.</td>
<td></td>
</tr>
</tbody>
</table>

#### Knowledge

**Students will know...**

How to follow an action plan that specifies Knowledge to Action project goals, time, and necessary resources

The requirements for a Knowledge to Action project that is beginning, developing, accomplished, and exemplary.

#### Skills

**Students will be able to...**

- SWBAT design a Knowledge to Action project according to a rubric

---

#### Learning Plan

**Performance Task Description**

<table>
<thead>
<tr>
<th>Goal</th>
<th>Continue creating a Knowledge to Action project following a rubric</th>
</tr>
</thead>
</table>
Opening:
Student groups will look at yesterday’s project action plan. Together, students will review their timeline of project tasks and who is responsible for them. If tasks were not finished by the designated time/date, groups should make adjustments to this timeline as needed. There will be aspects of the project that will need to be completed individually, while other parts will be collaborative. Each group member will quickly share what it is they are (specifically) doing during today’s class period.

Small Group Work:
Student groups will continue creating their Knowledge to Action project, per the rubric. Groups will be either creating visual art, performing art, designing a website, exhibit, documentary, film, or Savvy Talk. Students will have access to a variety of technology including ipads, computers, internet, printers, ect.;

Students will need to record their resources used in creating their project in the Research Folder (located in the Google Doc).

Closing:
Students will take 2-3 minutes to review their action plan for the Knowledge to Action project. If any proposed deadlines for tasks were not met, groups will discuss why and revise their timeline.

## Appendix L

<table>
<thead>
<tr>
<th>Title of Unit</th>
<th>Solving Global Issues</th>
<th>Grade Level</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curriculum Area</td>
<td>Human Geography</td>
<td>Time Frame</td>
<td>15 class periods ----Day 12</td>
</tr>
<tr>
<td>Developed By</td>
<td>Crystal Nelson</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Identify Desired Results

#### Content Standards

The student will understand the regional distribution of human population at local to global scales and its patterns of change.

The student will use maps, globes, geographic information systems, and other databases to answer geographic questions at a variety of scales from local to global.

#### Understandings

<table>
<thead>
<tr>
<th>Overarching Understanding</th>
<th>Essential Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geographers use geographic information to explain and predict population patterns.</td>
<td>Which project tasks need to be completed today to stay on pace with the group’s timeline?</td>
</tr>
<tr>
<td>Population changes over time.</td>
<td></td>
</tr>
</tbody>
</table>

#### Knowledge

Students will know…

- How to follow an action plan that specifies Knowledge to Action project goals, time, and necessary resources
- The requirements for a Knowledge to Action project that is beginning, developing, accomplished, and exemplary.

#### Skills

Students will be able to…

- SWBAT design a Knowledge to Action project according to a rubric

### Learning Plan

#### Performance Task Description

**Goal**

Continue creating a Knowledge to Action project following a rubric
Opening:
Student groups will look at their project action plan. Together, students will review their timeline of project tasks and who is responsible for them. If tasks were not finished by the designated time/date, groups should make adjustments to this timeline as needed. There will be aspects of the project that will need to be completed individually, while other parts will be collaborative. Each group member will quickly share what it is they are (specifically) doing during today’s class period.

Small Group Work:
Student groups will continue creating their Knowledge to Action project, per the rubric. Groups will be either creating visual art, performing art, designing a website, exhibit, documentary, film, or Savvy Talk. Students will have access to a variety of technology including ipads, computers, internet, printers, etc.;

Students will need to record their resources used in creating their project in the Research Folder (located in the Google Doc).

The teacher will meet briefly with individual groups as a check in on their project progress.

Closing:
Students will take 2-3 minutes to review their action plan for the Knowledge to Action project. If any proposed deadlines for tasks were not met, groups will discuss why and revise their timeline.

Appendix M

<table>
<thead>
<tr>
<th>Title of Unit</th>
<th>Solving Global Issues</th>
<th>Grade Level</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curriculum Area</td>
<td>Human Geography</td>
<td>Time Frame</td>
<td>15 class periods ----Day 13</td>
</tr>
<tr>
<td>Developed By</td>
<td>Crystal Nelson</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Identify Desired Results**

**Content Standards**

The student will understand the regional distribution of human population at local to global scales and its patterns of change.

The student will use maps, globes, geographic information systems, and other databases to answer geographic questions at a variety of scales from local to global.

**Understandings**

**Essential Questions**

<table>
<thead>
<tr>
<th>Overarching Understanding</th>
<th>Which project tasks need to be completed today to stay on pace with the group’s timeline?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geographers use geographic information to explain and predict population patterns.</td>
<td></td>
</tr>
<tr>
<td>Population changes over time.</td>
<td></td>
</tr>
</tbody>
</table>

**Knowledge**

Students will know...

- How to follow an action plan that specifies Knowledge to Action project goals, time, and necessary resources
- The requirements for a Knowledge to Action project that is beginning, developing, accomplished, and exemplary.

**Skills**

Students will be able to...

- SWBAT design a Knowledge to Action project according to a rubric

**Learning Plan**

**Performance Task Description**

| Goal | Continue creating a Knowledge to Action project following a rubric |
**Opening:**
The teacher will remind students that the deadline for completing the Knowledge to Action project is nearing. Groups will be instructed to look closely at their project action plan. Together, students will review their timeline of project tasks and who is responsible for them. If tasks were not finished by the designated time/date, groups should make adjustments to this timeline as needed. There will be aspects of the project that will need to be completed individually, while other parts will be collaborative. Each group member will quickly share what it is they are (specifically) doing during today's class period.

**Small Group Work:**
Student groups will continue creating their Knowledge to Action project, per the rubric. Groups will be either creating visual art, performing art, designing a website, exhibit, documentary, film, or Savvy Talk. Students will have access to a variety of technology including ipads, computers, internet, printers, etc.;

Students will need to record their resources used in creating their project in the Research Folder (located in the Google Doc).

**Closing:**
Students will take 2-3 minutes to review their action plan for the Knowledge to Action project. If any proposed deadlines for tasks were not met, groups will discuss why and revise their timeline.

Appendix N

<table>
<thead>
<tr>
<th>Title of Unit</th>
<th>Solving Global Issues</th>
<th>Grade Level</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curriculum Area</td>
<td>Human Geography</td>
<td>Time Frame</td>
<td>15 class periods ----Day 14</td>
</tr>
<tr>
<td>Developed By</td>
<td>Crystal Nelson</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Identify Desired Results**

**Content Standards**

The student will understand the regional distribution of human population at local to global scales and its patterns of change.

The student will use maps, globes, geographic information systems, and other databases to answer geographic questions at a variety of scales from local to global.

<table>
<thead>
<tr>
<th>Understanding</th>
<th>Essential Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geographers use geographic information to explain and predict population patterns.</td>
<td>What revisions need to be made to my Knowledge to Action project to meet the requirements of the rubric?</td>
</tr>
<tr>
<td>Population changes over time.</td>
<td>What is my plan for sharing the project with the judges at the school festival?</td>
</tr>
</tbody>
</table>

**Knowledge**

Students will know...

The requirements for a Knowledge to Action project that is beginning, developing, accomplished, and exemplary.

How to revise portions of the project that do not meet rubric expectations.

To predict what festival judges may ask them about their project.

**Skills**

Students will be able to...

- SWBAT make revisions to their Knowledge to Action project according to a rubric and peer feedback
- SWBAT prepare for judge’s questions at the upcoming festival

**Learning Plan**

**Performance Task Description**

**Goal**

Finalize the Knowledge to Action project and prepare for the school festival
**Opening:**
The teacher will remind students that the school festival for the Knowledge to Action project is during the next class meeting. The teacher will explain that the purpose of today’s class period is to finish the project (if needed) and prepare for the school project festival. An overview of the festival will be given to students.

**Small Group Work:**
1. **Finalizing the Project**
   Student groups will discuss their Knowledge to Action project status. If the project is not complete at this time, the group needs to discuss a specific plan for finishing the project before the festival.

   Student groups will need to revisit the student-friendly rubric they were given at the beginning of the project. In the “Final Presentation” section, groups will need to find one person from outside of their group to check for any missing elements, or mistakes, including:

   - Spelling or grammar issues
   - Memorized lines
   - Smooth transitions
   - Technological issues

   Groups should make any necessary changes as noted their peer reviewer.

2. **Submit the project**
   Depending on the format of the project, groups will need to submit their project to the teacher. Groups who chose the website, documentary, film, or Savvy Talk formats will submit their projects to their teacher electronically. Visual arts and exhibits can turn their projects in physically. Performing art students will need to have their props and other materials in the classroom, ready for the festival.

3. **Judge Prep**
   Student groups will prepare for the festival by generating three questions that they think judge’s may ask them about their project at the festival. Groups should discuss and record their answers to these potential questions. Groups should also generate a list of at least three interesting facts about their project. Groups need discuss who and how their project will be shared at the festival.

4. **Self-review sheets**
   Students will self-assess their learning throughout the unit by completing a self-review sheet.

**Closing:**
Students will take 2-3 minutes to discuss any final details of the project for tomorrow’s school festival.

Google Doc: Project Feedback

**PROJECT FEEDBACK**

*WHY?* Sharing your solution with people who are impacted by the issue will help you learn more about your chosen issue, and give you ideas for how to make your solution better before you finish it.

<table>
<thead>
<tr>
<th>Peer Reviewer’s Name</th>
<th>Feedback---Be specific!</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Adapted from World Savvy (2017). WSC Launch Workshop.
Self Evaluation

Your Name __________________________________________________________

Team Name________________________________________________________

Project Evaluation Form

**Self Evaluation**

Instructions: Evaluate YOUR OWN contributions to the Knowledge to Action Project

0=Did nothing 1= Poor  3=Average  5=Above Average/Excellent contribution

Did YOU take an active role in planning & creating ideas?  0  1  3  5

How would you rate your student’s contribution to the team? “pulling weight”  0  1  3  5

How reliable were you?  0  1  3  5

How well did you cooperate with the group?  0  1  3  5

How would you rate your quality of your work?  0  1  3  5

Total _______

What were your specific tasks/ roles?

Do you think that your group members would want to work with you on future projects? Explain.

What was the most challenging part of the project?

Did your group do its best work? Explain.
### Identify Desired Results

#### Content Standards

The student will understand the regional distribution of human population at local to global scales and its patterns of change.

The student will use maps, globes, geographic information systems, and other databases to answer geographic questions at a variety of scales from local to global.

#### Understandings

<table>
<thead>
<tr>
<th>Overarching Understanding</th>
<th>Essential Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geographers use geographic information to explain and predict population patterns.</td>
<td>How can I share my project with festival judges in a way that presents research and solutions to a population issue?</td>
</tr>
<tr>
<td>Population changes over time.</td>
<td></td>
</tr>
</tbody>
</table>

#### Knowledge

<table>
<thead>
<tr>
<th>Students will know...</th>
</tr>
</thead>
<tbody>
<tr>
<td>The requirements for a Knowledge to Action project that is beginning, developing, accomplished, and exemplary.</td>
</tr>
</tbody>
</table>

#### Skills

<table>
<thead>
<tr>
<th>Students will be able to...</th>
</tr>
</thead>
<tbody>
<tr>
<td>• SWBAT share their Knowledge to Action project at the school festival</td>
</tr>
<tr>
<td>• SWBAT present their research and solutions to festival judges</td>
</tr>
</tbody>
</table>

### Learning Plan

#### Performance Task Description

| Goal | Share/present the Knowledge to Action project at the school festival |
Student groups will share/present their Knowledge to Action project at the school festival. School staff and community members will be present, and act as festival judges. Student groups will be expected to present their project research and solutions in one of the following formats: visual art, performing art, website, exhibit, documentary, film, or Savvy Talk. Judges will give students feedback on their project at the festival.

Knowledge to Action projects will be scored (summatively) based on the rubric.

Group winners of the festival will be invited to participate in the Twin Cities World Savvy festival and apply for a scholarship to fund their project. Materials for this can be found in the Google Doc.

Summative Rubric

Team Name: 
School: 
Judge Name: 
Session: 
Division: 
Judge Team: 

<table>
<thead>
<tr>
<th>A. Content</th>
<th>Scoring Use Only</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1. Understanding of Annual Theme</td>
<td></td>
</tr>
</tbody>
</table>
**Beginning** | **Developing** | **Accomplished** | **Exemplary** |
| Little to no connection made between topic & theme | Some connections made between topic & theme | Several connections made between topic & theme | Topic & theme are clearly connected throughout project |
| 1 | 2 | 3 | 4 |

A2. Presentation of Multiple Perspectives

<table>
<thead>
<tr>
<th>Beginning</th>
<th>Developing</th>
<th>Accomplished</th>
<th>Exemplary</th>
</tr>
</thead>
<tbody>
<tr>
<td>One perspective is presented, no analysis of other perspectives</td>
<td>Two perspectives are presented, little analysis of differences between perspectives</td>
<td>Several perspectives are presented, some analysis of differences between perspectives</td>
<td>Many perspectives are presented &amp; thoroughly analyzed</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

A3. Connections to Historical & Current Events

<table>
<thead>
<tr>
<th>Beginning</th>
<th>Developing</th>
<th>Accomplished</th>
<th>Exemplary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issues discussed in isolation with little to no historical context or connections to current events</td>
<td>Some context for present situation is provided &amp; a few connections are made between historical &amp; current events</td>
<td>Context for present situation is mostly clear &amp; several connections are made between historical &amp; current events</td>
<td>Context for present situation is clear &amp; thoroughly connected to historical &amp; current events</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

A4. Global Context & Complexity

<table>
<thead>
<tr>
<th>Beginning</th>
<th>Developing</th>
<th>Accomplished</th>
<th>Exemplary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Little understanding of global context; oversimplified analysis</td>
<td>Some understanding global context; somewhat simplified analysis</td>
<td>Firm understanding of global context; some evidence of nuanced thinking</td>
<td>Strong &amp; nuanced understanding of global context &amp; complexity of issue</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
### A5. Comprehensive & Realistic Solutions

<table>
<thead>
<tr>
<th></th>
<th>Beginning</th>
<th>Developing</th>
<th>Accomplished</th>
<th>Exemplary</th>
</tr>
</thead>
<tbody>
<tr>
<td>No solutions proposed OR solutions are not supported by evidence</td>
<td>Proposed solutions address only one of the required levels (local, regional &amp; global) &amp;/or lack evidence for feasibility</td>
<td>Proposed solutions address only two of the three levels (local, regional &amp; global), some evidence supports feasibility</td>
<td>Proposed solutions are comprehensive (local, regional, &amp; global) &amp; all supported by evidence of feasibility</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

**A. Content Subtotal** /20

### B. Skills

#### B1. Collaboration

<table>
<thead>
<tr>
<th></th>
<th>Beginning</th>
<th>Developing</th>
<th>Accomplished</th>
<th>Exemplary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Some evidence of disrespect &amp; unfair distribution of work. No feedback sought about ideas.</td>
<td>Some evidence of disrespect OR unfair distribution of work. Little feedback sought about ideas.</td>
<td>Students show respect for one another; work is distributed fairly; some feedback sought about ideas.</td>
<td>Students show respect &amp; support for one another; work is distributed fairly; feedback incorporated into project.</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

#### B2. Communication

<table>
<thead>
<tr>
<th></th>
<th>Beginning</th>
<th>Developing</th>
<th>Accomplished</th>
<th>Exemplary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most ideas &amp; concepts are confusing &amp; poorly thought out</td>
<td>Many ideas &amp; concepts are confusing or not thought out</td>
<td>Most ideas &amp; concepts are well-thought out &amp; explained</td>
<td>All ideas &amp; concepts are well thought-out &amp; explained</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

#### B3. Critical, Creative & Comparative Thinking

<table>
<thead>
<tr>
<th></th>
<th>Beginning</th>
<th>Developing</th>
<th>Accomplished</th>
<th>Exemplary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing ideas are presented with little or no analysis or original thought</td>
<td>Existing ideas are compared &amp; contrasted; some connections to students’ original thought</td>
<td>Existing ideas are analyzed; several connections made to students’ original thought</td>
<td>Existing ideas are synthesized, many connections made to students’ original thought</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

**B. Skills Subtotal** /12
### C. Final Presentation

<table>
<thead>
<tr>
<th></th>
<th>Savvy Talk</th>
<th>Exhibit</th>
<th>Performance</th>
<th>Website</th>
<th>2D/3D Art</th>
<th>Film/Documentary/Video</th>
<th>Scoring Use Only</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>C1. Quality</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Beginning</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project is unfinished &amp; has significant mistakes &amp; missing elements.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Developing</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project is finished but has several mistakes or missing elements.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Accomplished</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project is finished &amp; has few mistakes or missing elements.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Exemplary</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project is complete &amp; has no mistakes or missing elements.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### C2. Clarity

|                      |            |         |             |         |           |                        |                  |
| **Beginning**        |            |         |             |         |           |                        |                  |
| Pace or layout of information is hard to follow or unclear | | | | | | | |
| **Developing**       |            |         |             |         |           |                        |                  |
| Pace or layout of information is sometimes hard to follow. | | | | | | | |
| **Accomplished**     |            |         |             |         |           |                        |                  |
| Pace or layout of information is mostly clear & logical. | | | | | | | |
| **Exemplary**        |            |         |             |         |           |                        |                  |
| Pace or layout of information is organized, clear & logical. | | | | | | | |
| 1                    | 2          | 3        | 4           |         |           |                        |                  |

### C3. Creativity

|                      |            |         |             |         |           |                        |                  |
| **Beginning**        |            |         |             |         |           |                        |                  |
| Project lacks originality or creativity; does not engage audience; direct replication of traditional format. | | | | | | | |
| **Developing**       |            |         |             |         |           |                        |                  |
| Project shows some originality or creativity; somewhat engaging; close replication of traditional format. | | | | | | | |
| **Accomplished**     |            |         |             |         |           |                        |                  |
| Project shows originality & creativity; mostly engaging; goes beyond a traditional format. | | | | | | | |
| **Exemplary**        |            |         |             |         |           |                        |                  |
| Completely original & highly creative; engages audience with artistic integration, uniqueness & rarity of offerings. | | | | | | | |
| 1                    | 2          | 3        | 4           |         |           |                        |                  |

**C. Presentation Subtotal** /12

### D. Bibliography

|                      |            |         |             |         |           |                        |                  |
| **Beginning**        |            |         |             |         |           |                        |                  |
| No bibliography      |            |         |             |         |           |                        |                  |
| **Developing**       |            |         |             |         |           |                        |                  |
| Bibliography contains 5 sources or less; not representative of diverse sources | | | | | | | |
| **Accomplished**     |            |         |             |         |           |                        |                  |
| Contains at least 10 sources from several different mediums & perspectives | | | | | | | |
| **Exemplary**        |            |         |             |         |           |                        |                  |
| Contains 15-20 sources from many different mediums & perspectives | | | | | | | |
| 1                    | 2          | 3        | 4           |         |           |                        |                  |

**D. Bibliography Subtotal** /4
### E. Knowledge-to-Action (K2A) Project

#### E1. Rationale

<table>
<thead>
<tr>
<th></th>
<th>Beginning</th>
<th>Developing</th>
<th>Accomplished</th>
<th>Exemplary</th>
</tr>
</thead>
<tbody>
<tr>
<td>K2A not supported by evidence of need or feasibility.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

#### E2. Goals & Measures of Success

<table>
<thead>
<tr>
<th></th>
<th>Beginning</th>
<th>Developing</th>
<th>Accomplished</th>
<th>Exemplary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goals &amp; measures of success are missing or very limited.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

#### D3. Creativity

<table>
<thead>
<tr>
<th></th>
<th>Beginning</th>
<th>Developing</th>
<th>Accomplished</th>
<th>Exemplary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Idea lacks originality or creativity; direct replication of traditional action.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

### Judge Comments:

Adapted from World Savvy (2017). WSC Launch Workshop.
APPLY FOR A SCHOLARSHIP TO FUND YOUR PROJECT

You may apply for a scholarship of up to $500 to implement your project. If you receive a scholarship from World Savvy to implement your K2A plan, you are responsible for the following:

1. Spending all funds on your K2A. You may end up using funds in a different way than you expect, which is fine, but all must be spent on your K2A.
2. Provide all receipts to World Savvy when you have completed purchases.
3. Return any unused funds to World Savvy.
4. Write a blog post for the World Savvy website at the end of your K2A, explaining the process and project

**Step 1:** To apply for funds to implement your project, make sure you have completed these parts of this document:

- The [About My Team](#) section
- The [Project Name and Description](#) in the Next Steps section
- All parts of the [Implement Your Project](#) section

**Step 2:** How much would you like to apply for? Enter amount (up to $500): $___

(Note, you are not guaranteed to receive that much if you win. You should only request the amount you need to complete the project.)

If your budget exceeds $500, explain how you plan to raise the remainder of the funds:

**Step 3:** To Submit Your Entry, ask your teacher. (Teachers, share this document with your World Savvy representative and let them know the team is applying for the project funding scholarship.)

Adapted from World Savvy (2017). WSC Launch Workshop.
# Appendix P

## Unit Pacing Calendar

<table>
<thead>
<tr>
<th>Day 1</th>
<th>Day 2</th>
<th>Day 3</th>
<th>Day 4</th>
<th>Day 5</th>
</tr>
</thead>
</table>
| Introduction of Project  
- Show project exemplars from other schools  
- Discuss this year’s WS Festival theme  
- Student topic interest form | Choose an Issue  
- Post it activity  
- Issue decision chart | Building Empathy  
- Stakeholders chart | Problem Tree  
(Day 1)  
- Students conduct research to complete problem tree (Q1) | Problem Tree  
(Day 2)  
- Finish research for problem tree  
- Q2, 3, 4 |

<table>
<thead>
<tr>
<th>Day 6</th>
<th>Day 7</th>
<th>Day 8</th>
<th>Day 9</th>
<th>Day 10</th>
</tr>
</thead>
</table>
| Step #3: Brainstorm  
- Brainstorm bubbles (Q1)  
- Brainstorm chart (Q2)  
- Track new questions (Q3) | Step #4: Solution  
- Prototype  
- Create prototype shortened version (Outline/ draft/sketch of solution)  
- Prototype feedback & reflection  
- Make revisions as necessary | Implementation Planning  
- Implement your Project sheet (steps 1-5)  
- Pick K2A project format  
- Explain how solution connects to the theme | Plan of Action  
- Chose project format  
- Rubric analysis and notation  
- Implement Project sheet | Design Project  
- Project work time  
- Continuous work on bibliography |

<table>
<thead>
<tr>
<th>Day 11</th>
<th>Day 12</th>
<th>Day 13</th>
<th>Day 14</th>
<th>Day 15</th>
</tr>
</thead>
</table>
| Design Project  
- Project work time  
- Continuous work on bibliography | Design Project  
- Project work time  
- Continuous work on bibliography | Design Project  
- Project work time  
- Continuous work on bibliography | Festival Prep  
- Festival expectations  
- Judges questions  
- Review connection to theme  
- Peer review sheets  
- Review how to submit project to teacher | School Festival  
- Students share their projects with school staff & community members (present research & solutions)  
- Projects are judged by school staff & community members using the summative rubric |

Created by Crystal Nelson
List of Assessments

<table>
<thead>
<tr>
<th>Formative Assessment</th>
<th>Summative Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Choose an Issue (Q 1-4)</strong></td>
<td><strong>Knowledge to Action (K2A) Project</strong></td>
</tr>
<tr>
<td>- Global issue brainstorm</td>
<td>- Presentation of research and solutions at school festival using one of the following</td>
</tr>
<tr>
<td>- Issue design chart</td>
<td>formats: Visual art, performing art, website, exhibit, documentary, film, or Savvy</td>
</tr>
<tr>
<td></td>
<td>Talk</td>
</tr>
<tr>
<td><strong>Building Empathy (Q1-3)</strong></td>
<td></td>
</tr>
<tr>
<td>- Stakeholders Chart</td>
<td></td>
</tr>
<tr>
<td><strong>Defining Problems (Q1-4)</strong></td>
<td></td>
</tr>
<tr>
<td>- Problem tree</td>
<td></td>
</tr>
<tr>
<td>- Design question creation</td>
<td></td>
</tr>
<tr>
<td><strong>Brainstorm (Q1-3)</strong></td>
<td></td>
</tr>
<tr>
<td>- Solution brainstorm</td>
<td></td>
</tr>
<tr>
<td>- Brainstorm chart</td>
<td></td>
</tr>
<tr>
<td><strong>Prototype</strong></td>
<td></td>
</tr>
<tr>
<td>- Create prototype sheet</td>
<td></td>
</tr>
<tr>
<td>- Prototype feedback</td>
<td></td>
</tr>
<tr>
<td>- Prototype reflection and revisions</td>
<td></td>
</tr>
<tr>
<td><strong>Implementation Planning</strong></td>
<td></td>
</tr>
<tr>
<td>- Notating the rubric</td>
<td></td>
</tr>
<tr>
<td>- Implement your Project sheet</td>
<td></td>
</tr>
<tr>
<td><strong>Festival Preparation</strong></td>
<td></td>
</tr>
<tr>
<td>- Evaluation sheets (self and/or peer)</td>
<td></td>
</tr>
<tr>
<td>- Judging prep sheet</td>
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</tr>
</tbody>
</table>
**Knowledge to Action (K2A) project design process**

K2A is a multi-step process for you to learn about an issue you care about, research potential solutions and devise an action plan to create positive change.

1. **Choose an issue**
   - Choose an issue you care about for your change project.

2. **Empathize**
   - Learn from people who are impacted by your issue to understand it better.

3. **Define**
   - Use your new understanding of your issue to define the specific focus for your project.

4. **Brainstorm**
   - Come up with lots of ideas, choose one to create a draft or “prototype” of, and test it with people impacted by the issue. Repeat this cycle until you have a solution you are happy with.

5. **Build Prototype**
   - Make a plan to implement your project, share it with others, and/or enter the World Savvy Festival!

Adapted from World Savvy Classroom Program (2017)
### District Human Geography Standards

<table>
<thead>
<tr>
<th>Grade Level</th>
<th>10th</th>
<th>Content Area</th>
<th>Human Geography- Introduction</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Standard(s) and/or benchmarks</strong></td>
<td><strong>Concepts</strong></td>
<td><strong>Skills (Bloom’s level)</strong></td>
<td></td>
</tr>
<tr>
<td>The student will use maps, globes, geographic information systems (GIS), and other databases to answer geographic questions at a variety of scales from local to global.</td>
<td>What students need to know about</td>
<td>What students need to be able to do</td>
<td></td>
</tr>
<tr>
<td>Geographic Information-data, maps, models, globes</td>
<td>Use, Infer, Draw conclusions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geographic questions</td>
<td>Ask and answer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scale-local to global</td>
<td>Analyze</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grade Level</th>
<th>10th</th>
<th>Content Area</th>
<th>Human Geography- Population</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Standard(s) and/or benchmarks</strong></td>
<td><strong>Concepts</strong></td>
<td><strong>Skills (Bloom’s level)</strong></td>
<td></td>
</tr>
<tr>
<td>The student will understand the regional distribution of human population at local to global scales and its patterns of change.</td>
<td>What students need to know about</td>
<td>What students need to be able to do</td>
<td></td>
</tr>
<tr>
<td>The regional distribution of human population at local to global scales.</td>
<td>Analyze</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patterns of change.</td>
<td>Describe</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patterns of human population density and movement</td>
<td>Interpret</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The student will use maps, globes, geographic information systems, and other databases to answer geographic questions at a variety of scales from local to global.</td>
<td>Geographic Information-data, maps, models, globes</td>
<td>Sort and Analyze</td>
<td></td>
</tr>
<tr>
<td>Geographic questions</td>
<td>Use, Infer, Draw conclusions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scale-local to global</td>
<td>Ask and answer</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Analyze</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard(s) and/or benchmarks</td>
<td>Concepts</td>
<td>Skills (Bloom’s level)</td>
<td></td>
</tr>
<tr>
<td>------------------------------</td>
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<td></td>
</tr>
<tr>
<td>The student will use regions and the interaction among them to analyze the present patterns of economic activity in the United States and around the world at various scales.</td>
<td>Agriculture as an economic activity Impact of technological changes on regional agricultural patterns Land use patterns Agricultural commodities Consumption and production</td>
<td>Analyze Describe Analyze Make conclusions Describe</td>
<td></td>
</tr>
<tr>
<td>Geographic models Commercial activities Land use patterns</td>
<td>Geographic information Economic activities</td>
<td>Demonstrate (upgrade to analyze and make inferences) Determine</td>
<td></td>
</tr>
<tr>
<td>Standard(s) and/or benchmarks</td>
<td>Concepts</td>
<td>Skills (Bloom’s level)</td>
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<tr>
<td>-----------------------------</td>
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<td>------------------------</td>
<td></td>
</tr>
<tr>
<td></td>
<td>What students need to know about</td>
<td>What students need to be able to do</td>
<td></td>
</tr>
</tbody>
</table>

**Grade Level 10**

**Content Area Human Geography - Land Use and Natural Resources**

| The student will use regions and interaction among them to analyze the present patterns of economic activity in the U.S. and around the world at various scales. | Patterns of economic activity | Describe and Analyze |
| Students will describe patterns of consumption and production of fossil fuels that are traded among nations. | Energy sources – renewable and non-renewable | |
| | Patterns of consumption and production | |
| | Human-environment interaction | |
| Students will describe how humans influence the environment and in turn are influenced by it. | Change | Analyze |
| | Human use of environmental resources | |
| | Advantages and drawbacks | |

**Grade Level 10th**

**Content Area Human Geography - Industry and Economic Development**

<p>| The student will use regions and the interaction among them to analyze the present patterns of economic activity in the United States and around the world at various scales. | Regions and the interaction among them to analyze patterns of economic activity in the U.S. and around the world at various scales | Apply|
| | The impact of transportation and communication systems has on the development of regions. | Explain |
| | | Analyze |
| | | Demonstrate |</p>
<table>
<thead>
<tr>
<th>Grade Level</th>
<th>10th</th>
<th>Content Area</th>
<th>Human Geography- Political</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Standard(s) and/or benchmarks</strong></td>
<td><strong>Concepts</strong></td>
<td><strong>Skills (Bloom’s level)</strong></td>
<td></td>
</tr>
<tr>
<td>The student will explain how the regionalization of space into political units affects human behavior.</td>
<td>Regionalization of space</td>
<td>Explain and Analyze</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Political units</td>
<td>Evaluate</td>
<td></td>
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<tr>
<td></td>
<td>Conflicts</td>
<td>Understand and Analyze</td>
<td></td>
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<tr>
<td></td>
<td>Patterns of colonialism and its legacy</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nationalism</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sovereignty</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grade Level</th>
<th>10th</th>
<th>Content Area</th>
<th>Human Geography- Culture</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Standard(s) and/or benchmarks</strong></td>
<td><strong>Concepts</strong></td>
<td><strong>Skills (Bloom’s level)</strong></td>
<td></td>
</tr>
<tr>
<td>The student will describe and provide examples of the primary factors behind the regional patterns of culture groups in the United States and the world.</td>
<td>Culture groups</td>
<td>Describe and Analyze</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Location patterns</td>
<td>Analyze</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Regional distribution</td>
<td>Interpret</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Diffusion</td>
<td>Describe and analyze</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Patterns of change</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Standard(s) and/or benchmarks</th>
<th>Concepts</th>
<th>Skills (Bloom’s level)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The student will analyze the patterns of location, functions, structure, and characteristics of local to global settlement patterns and the processes that affect the location of cities.</td>
<td>Location of cities Purpose of cities Urbanization and suburbanization Urban models</td>
<td>Analyze (identify &amp; describe) Compare/contrast Explain Apply</td>
</tr>
</tbody>
</table>