KnowH2O: Learning About Water Access While Strengthening Citizenship Skills

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— *High School* —

PlayPumps
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These lesson plans, developed in cooperation with the National Youth Leadership Council, are designed to help you develop service-learning projects with young people to build academic skills and raise awareness of water issues in Africa. Additional information, materials, and tools about water issues are available from PlayPumps International at www.playpumps.org. Further information on service-learning is available from the National Youth Leadership Council at www.nylc.org. Please be sure to visit both websites for the latest campaign updates and resources.

The handout "A Reflective Leader" on pages 21–23 is inspired by an activity on vision that appears in *Seeing the Vision: Workbooks 5* by Randall S. Peterson, Minneapolis: University of Minnesota 4-H Development, 1991. pp 5–7.

If you have questions or requests for additional materials, or would like to share your experiences using these lesson plans, please contact:

Contents

Sources for Additional Materials Used in Lessons

- "From African Village to Lessons in Bridging the African Digital Divide"
  www.tprc.org/abstracts00/africanvillage.pdf

- "Science in Africa: Emerging Water Management Issues"
  www.aaas.org/international/africa/ewmi/

- "Water Table"
  www.casefoundation.org/c/document_library/get_file?repository_id=1&file_path=%2Farticles&file_name=NPCAWaterTable.pdf

- "Diary of Jay-Z: Water for Life"
  www.mtv.com/overdrive/?id=1545981&vid=120275

- "Fetching Water" by James Workman
  www.casefoundation.org/c/document_library/get_file?repository_id=1&file_path=%2Farticles&file_name=NPCAFetchingWater.pdf

- "The Pump That Failed" by Tappan Heher
  www.casefoundation.org/c/document_library/get_file?repository_id=1&file_path=%2Farticles&file_name=NPCAPumpFailed.pdf

INTRODUCTION

With the PlayPumps International initiative underway in sub-Saharan Africa, schools around the world are exploring ways to help the initiative while learning about water access issues locally and globally.

This thematic unit is designed to develop a framework for students to understand water issues in their own lives and in Africa, to explore the PlayPump water system as an innovative solution, and to craft their own service-learning projects to raise awareness and heighten their sense of community engagement as active citizens.

Timeframe

Depending on how much time is available to devote to this project daily, the experience can take from four to eight weeks. Many of the research and reflection assignments can be accomplished as homework, but you may find it works best to allot a 45-minute class period a day to students working in small groups and sharing knowledge in larger groups.

Standards Addressed

National Council of Social Studies National Standards in Civics:
The Role of the Citizen

- What are the roles of the citizen in a democracy?

- What is citizenship?

- What are the responsibilities of citizens?

- What civic dispositions or traits of private and public character are important to the preservation and improvement of a constitutional democracy?

- How can citizens take part in civic life?

National Council of Teachers of English Language Standards for the English Language Arts

- Students conduct research on issues and interests by generating ideas and questions, and by posing problems. They gather, evaluate, and synthesize data from a variety of sources (e.g., print and nonprint texts, artifacts, people) to communicate their discoveries in ways that suit their purpose and audience.

Principles of Effective Practice for K-12 Service-Learning Incorporated

Curriculum Integration

Diversity

Meaningful Service

Reflection

Youth Voice

Process Improvement

Duration

Reciprocal Partnerships

Materials Needed

- Access to the internet to view online videos and conduct research
- Handouts and readings provided in this packet
- Paper
- Pens, pencils

Unit Plan

Part 1: What Is Our Relationship to Others (Africa)?
These exercises are designed to activate students' prior knowledge of Africa and help them identify what else they need to know. (2-3 days)

Part 2: Researching and Analyzing Our Relationship to Water
Students explore water as an essential resource, observing and recording their personal use of water in their daily lives and investigating water use in their communities. They then compare their local use to water use in sub-Saharan Africa and explore the idea of empathy vs. sympathy. (1-2 weeks)

Part 3: What Is PlayPumps International?
Students explore in-depth one innovative solution to the water crisis in Africa. (1-2 days).

Part 4: The Role of the Citizen
Students explore the meaning of citizenship at the local, national, and global levels in order to develop a rich understanding of the term that goes beyond the legal definition, explore the relationship between citizenship and leadership, and analyze key concepts related to civic action. (3-5 days)

Part 5: Action Through Service-Learning
Students use what they've learned to develop their own service-learning project connected to water issues in Africa. (Varies depending on projects.)

PART 1
What Is Our Relationship to Others (Africa)?

Objectives
Students will gather their current base of knowledge on Africa and their community's relationship to Africa.

Materials
- Worksheet: "Think-Pair-Share Knowledge of Africa"
- Worksheet: "Further Research: What I Need to Know"
- Web Link: Information on Africa's telecommunications capacity "From African Village to Lessons in Bridging the African Digital Divide": www.tprc.org/abstracts00/africanvillage.pdf
- Additional resources on African culture, geography, and history to explore

Directions
1. Activate Prior Knowledge: Introduce the idea of global connections and connection to Africa. Ask students to take a moment to jot down the words, images, and ideas they associate with Africa. Ask them to focus on what they believe is accurate rather than just popular interpretations of Africa.
2. Organize Knowledge: Use the Think-Pair-Share worksheet to have students organize their prior knowledge of Africa. Students with a great deal of knowledge can focus on larger ideas, such as cultural diversity, economic status, health, major historical events. Those with a smaller base of knowledge can focus on what they believe to be accurate information.
3. Have students, working in groups, create lists of key follow-up questions (see "Further Research: What I Need to Know" worksheet). This will help them organize what they believe they still need to know about Africa.
4. Provide time for their further research and presentation of key learning to rest of class.

Reflection
Students require frequent opportunities to reflect on what they currently know, what their classmates currently know, and what they have yet to learn. At key points, allow for journaling or discussions on where their knowledge has come from and the reliability of the sources they have used (such as TV shows, movies, books, magazines, friends, family, school, internet). Reflection should be more than a summative experience at the end of an activity. Encourage reflection at key points throughout the process.

Assessment
As this activity is the first step in organizing a larger relationship with Africa and on water issues in Africa in particular, focus assessment on documenting accurate, well organized, and meaningful information that prepares the student to engage others with a greater degree of cultural awareness.

Think-Pair-Share: Knowledge Of Africa

Name_____ Date_____

Partners_____   _____

    _____   _____

    _____   _____

    _____   _____

Directions

The teacher will assign you one of the questions below.

1. **Think.** Answer the question on your own. List as many answers to the question as you can on a separate sheet of paper. Write them clearly enough so that you will be able to share the ideas with others.

2. **Pair.** Join a classmate who is working on the same question and share what you have come up with thus far. Combine your individual work on a single sheet of paper.

3. **Share.** Join all the other students who are working on your specific question, and on a single piece of paper write our all the ideas you've identified.

    Then share your group's answers with the whole class and listen to the information collected by the other students. If you have additional ideas, write them out and provide them to the teacher to compile a master list to share with all students.

Questions

1. How is your local community currently connected to Africa?

2. What do you know about Africa? What are some essential things to know when describing the place, people, history, etc.?

3. If you wanted to communicate with a village in Africa, what methods would be available to you? Rank them for effectiveness (timely communication, affordability, ability to reach the people you want to communicate with, language barriers, availability to both you and the people from Africa).

4. What are the top concerns of people in Africa? How are these concerns connected to the rest of the world? How does the rest of the world respond to these concerns? Why this response?

4

Further Research: What I Need to Know

Name_____

Assuming that you are about to open a relationship with a rural village in Africa, what would you want to know before you try to build a relationship?

We still need to gather the following information:

1. _____

2. _____

3. _____

4. _____

Research Process Questions

For each piece of information you still need to gather, answer the following questions. You may need to answer some of the questions differently for each point of research.

a. Who will collect this information?

b. Where are we likely to find the information?

c. When will we collect the information?

d. How will we document the information?

e. How will the information be analyzed?

f. How will this information be shared among team members?

g. How will this information be helpful in understanding the people in sub-Saharan Africa?

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Objectives

Students will research and then analyze their own and their community's relationship to clean water. They will then grow familiar with the growing water crisis across the globe.

Materials

- Two posterboards and markers per student, or access to computers with PowerPoint or other presentation software
- Access to Internet for research purposes
- Handouts provided:
  - "My Own Water Use"
  - "Analyzing the Cost of Water in Your Life"
  - "Web of Interactions"
  - "Introduction to the Drinking Water Crisis"
  - "Reflection: Empathy Over Sympathy"
  - "Environmental Science: Extending the Topic" (options)
  - "Analysis of the Water Crisis in Africa"

Directions

1. Introduce the concept of a personal relationship to water. Ask students to take a moment to think about how they use water in their daily lives, whether their own direct use or by others for indirectly for their benefit. Create a personal or all-class list of water usage.

2. Individual Research and Data Collection: Have students complete the "My Own Water Use" worksheet as a three-day homework assignment. A journal reflection and accompanying worksheet questions can be done daily or at the end of the three days.

Teacher Tip

You might want to come to class prepared with the average cost of local tap water and information from your local water utility to help students calculate costs.

3. Analysis of Data: Hand out "Analyzing the Cost of Water in Your Life." Ask students to complete the questions and to discuss or reflect on what they have learned and how this might relate to global water consumption: "If all people used water the way I do, what would this mean?"

4. Web of Interactions: Students, working individually or in pairs or small groups, will create a presentation and a written analysis of what they've learned from this exercise. Depending on classroom resources, they could create the presentation using posterboard and markers, or using presentation software such as PowerPoint.

5. Provide time for further research and presentation of key learning to rest of the class. You might want to have students consider the additional research questions on the role of water in daily life below. Students should identify "So What?" types of questions; that is, "If we now know this... What does that mean to me? To others?"

Unit Reflection

This unit offers an opportunity for students to reflect on something they have probably come to take for granted: having access to clean water, enough water to use without much consideration to the cost. Provide students with frequent opportunities to reflect on what they currently know, what their classmates currently know, and what they have yet to learn. Reflection should be more than a summative experience. Encourage reflection at key points in process.

Assessment

As this is the second step in organizing a larger relationship with Africa, specifically focusing on water issues, keep assessment focused upon students' thoughtful consideration of water to their own lives and the ability to connect water availability as something less than a given for many on the planet. We are aiming for student awareness so that they may begin to employ empathy rather than simple sympathy toward people facing a shortage of clean water. One goal is to encourage students to engage others with a greater degree of cultural awareness.

Role of Water in Daily Life (Additional Research Questions)

- Who manages the water in your community? How does this water management work?

- How is water managed in a variety of different communities?

- Is there a "water crisis" anywhere in the world beside Africa?

- Do we anticipate a water crisis anywhere else in the world in the future?

- What is meant by a "Crisis of the Commons" when it comes to public spaces such as lakes, rivers, or aquifers? (See Aldo Leopold.)

- To what extend do we trust others with what we consume? What they place into the environment? Why is trust needed? Can it be lost?

"My Own Water Use" Research

Name_____

	Day 1	Day 2	Day 3	Total	Comments
Drinking					
Cleaning Self					
Cleaning Things					
Cooking					
Heat					
Transportation					
For Plants					
For Animals					
Other					
Other					
Other					
How close am I to clean water (measured in meters/yards)				Average distance at this time	Think about how much of your day is spent accessing water
7:00 a.m					
1:00 p.m.					
6:00 p.m.					
9:00 p.m.					
Daily Average					

Analyzing the Cost of Water in Your Life

Name_____

Looking at the chart you created, what is your estimate of the cost of that water use?

Financial cost:
How you calculated this:

Time cost:
How you calculated this:

Cost to the environment (e.g., waste, using up a resource):
How you calculated this:

Cost to your health:
How you calculated this:

Cost to other people's quality of life:
How you calculated this:

What are some aspects of your water consumption that you now see differently?

Is there any action you would like to take as a result?

Web of Interaction

Task

1. Create a Web of Interaction — a visual depiction of the complex relationship that water has in your community: How does water impact the various aspects of community? Where does it come from? How is it used? Where is it most essential? Are large amounts of water used for lower priority activities? Where does waste water go? You will need to create a poster or diagram that shows the interrelationship of events connected to water use. Sketch out a draft of your final display before using the posterboard or creating a computer image. Experiment with different designs. Make sure that the visual helps you to demonstrate the interconnections between aspects of community.

2. Create a poster that thoughtfully predicts (meaning that it includes evidence of research) what your community would be like if it no longer had enough clean water available. Analyze this on a communitywide level and describe a few personal implications.

3. Reflection Paper: Draft a two-page summary reflecting on what you have learned about the role of water in your community and any insights you've gained on how difficult life might be for those who do not have access to clean water.

Some questions to help you design a complex web of interactions:

- How has water availability influenced how your community is designed?
- How has water availability affected the livelihood of your family and ancestors?
- How would your community's history be different if water was not as abundant?
- How would you view and act toward others who have large amounts of water, and were wasteful with it?
- How would it impact the health of your children and other children in your community?
- How would you spend your day? How much time do you now devote to accessing water and how much would you spend if you faced a lack of water?

Introduction to The Drinking Water Crisis
(Information provided by Wateraid and UNICEF)

Read over the following information and think about the following questions:

1. What impact does a lack of clean water have on the individual?
2. Local community?
3. Nation?
4. Continent?
5. World?

The Drinking Water Crisis Around the World

Every 15 seconds, a child dies from unsafe drinking water. Illnesses include:

- Dehydration
- Diarrhea
- Cholera
- Stomach illnesses

The Drinking Water Crisis in Africa

Especially in sub-Saharan Africa, the area south of the Sahara Desert, clean drinking water is in short supply.

Millions of children miss school because they must walk to get water for their families every day...

- They walk as far as 6 miles (10 km) a day to get water
- They carry back 5 gallon (20 liter) buckets that weigh 40 pounds (18 kg) each.

Millions of children, mostly girls, also miss school because they are too sick from drinking dirty water to attend classes and study.

The drinking water crisis falls especially hard on women and girls, because they are usually the ones who have to walk for water and care for sick relatives.

In many communities the water that people need exists; however, it is located deep underground where it is impossible to reach without a well and pump.

Reflection: Empathy Over Sympathy

Name_____

Have you ever experienced a water-related illness, such as dehydration or giardia? What was the experience like? Do you know others who have experienced a water-related illness?

What is the difference between empathy and sympathy?

Reflect on the following definition of *self-interest*: Self-interest involves the motivations one has for taking an action or stand. One's action is always within a diversity of others such as ancestors, immediate family, community members, peers, and competitors, and is the basis for politics within those relationships.

What is your self-interest in terms of water use? Is it in your self-interest to consider water use issues outside your local community?

Environmental Science: Extending the Topic

The American Association for the Advancement of Science offers an excellent online source for broad analysis of the water issues on the continent of Africa: *Science in Africa: Emerging Water Management Issues* (Philadelphia, 1998). www.aaas.org/international/africa/ewmi/

Topics for Student Research:

1. Explore the water access issues involving surface water vs aquifer/ground water.

2. Analyze the Water Stress Index throughout world by comparing conditions in 1995 & 2006.

   Global evaluation of the water stress index from Boston University (1995): humandevelopment.bu.edu/dev_indicators/show_info.cfm?index_id=191&data_type=1

   UNESCO 2006 includes a map highlighting most stressed areas on planet: www.unesco.org/water/wwap/wwdr2/pdf/wwdr2_section_2.pdf

   Has any portion on the planet significantly changed? What might be implications of decades long high water stress levels upon a society?

3. Evaporation issues: Water Storage and distribution in various climates and through time.

4. How can physics help resolve our water problems? Engineering solutions using simple technology that are sustainable, transportable, and repairable.

   • Ask students to build a model and try to make it work.

   • Come up with simple methods to create parts.

   • Write a step by step instructions for construction of a PlayPump.

   • Make a parts list (raw materials, like a shopping list).

   • Split the class into groups to do this, compare instructions sets.

   • Build your model, try it out to determine quality, sustainability.
   (Note where there are locations of friction, wear, potential failure.)

Analysis of Water Crisis in Africa

Name_____

Read the handout "Water Table" (Go to www.casefoundation.org/c/ document_library/get_file?repository_id=1&file_path=%2Farticles&file_ name=NPCAWaterTable.pdf)and answer the following questions.

What facts do you see as the most serious? Explain briefly why they are serious.

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

Which 10 facts do you believe have the most connections to you and your immediate community?

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

Select three of these issues that you might be interested in working on to find a solution.

1.
2.
3.

Objectives

This unit introduces students to PlayPumps International as a global effort to address the water crisis in Africa. Beyond interesting young people in issues affecting African youths, the intent is to allow students to connect to the vision and mission of this work, to discover how this effort is significant and connected to their own self-interest.

Materials Needed

- Access to the online video MTV video documentary "Diary of Jay-Z: Water for Life," available online at www.mtv.com/overdrive/?id=1545981&vid=120275 and a means for the class to view it

- The PlayPumps International Action Kit. Available online at www.playpumps.org/

- Suggested further readings: "Fetching Water" and "The Pump That Failed" (See page 18.)

Directions

1. Watch and reflect on the video "Diary of Jay-Z: Water for Life." Access to a projector that will allow whole class to view the online video is extremely helpful. Allowing students to see faces and to see the standards of living in Africa can be helpful when encouraging students to understand the importance of water issues in Africa. Watch the video as a class and ask students to respond. Students should list the questions they have for follow-up.

2. Read, Summarize, and Teach. Divide students into groups of five. Give each person from the group a section of the readings from *The PlayPumps International Action Kit* (suggestions: "The Water Problem," "How the System Works," "Benefits of the PlayPump Water System," "U.N. Millennium Goals," or "Our Progress, Our Future"). Each student will read, summarize the reading, and then teach the others in the small group what they believe is essential from the reading. After all the material is presented to the group, ask what further questions they have. Students should write out their follow-up questions to determine if the other readings answer their questions.

3. Reflection: Building Empathy. This reflection allows students to explore their relationship to this issue and their own self-interest. Ask students to reflect on the following three questions in a class discussion or in small groups:

    - What significant global need does PlayPumps International address? How does it meet this need?

- What opportunities exist for the PlayPumps International effort to be successful? Explain.
- What barriers might hinder or prevent the PlayPumps International effort from being successful? Explain.

4. Further Reading and Research. Provide time for students to conduct further research and present key learning to rest of class. Two suggested further readings are included. The "So What?" question should be identified: "If we now know this, what does that mean to me? To others?"

Unit Reflection

Provide students with frequent opportunities to reflect on what they currently know, what their classmates currently know, and what they have yet to learn. This unit is an opportunity for students to reflect on a specific response to a current and very real world crisis.

Assessment

This unit is the third step in organizing a larger relationship with Africa, focused on water issues in Africa. It allows students to gain knowledge about organizations such as PlayPumps International that are doing work that may connect to their own self-interest. This unit is in great part an addition of fact-based knowledge, so there are frequent opportunities to develop true/ false and multiple choice assessments, as well as requiring a deeper analysis. You may want to keep assessment focused upon the thoughtful consideration how individuals can come to identify and gain empathy rather than simple sympathy for someone on the other side of the planet. This curriculum is part of PlayPumps International's effort to build common ground among diverse peoples so they can, together work for the common good.

Further Readings

"Fetching Water" by James Workman
www.casefoundation.org/c/document_library/get_file?repository_id=1&file_path=%2Farticles&file_name=NPCAFetchingWater.pdf

"The Pump That Failed" by Tappan Heher
www.casefoundation.org/c/document_library/get_file?repository_id=1&file_path=%2Farticles&file_name=NPCAPumpFailed.pdf

How do the readings help create a greater sense of what it means to join and care as an active partner in a concern for the planet's water crisis?

PART 4
The Role of the Citizen

Objectives

- Students will explore the meaning of citizenship at the local, national, and global levels to develop a meaning richer than the legal meaning of the term.

- Students will explore the relationship between good citizenship and leadership.

- Students will then analyze the relationships between the concepts of citizenship, stakeholder and self-interest as they relate to civic actions.

Materials

- Worksheet: "Reflecting on an Educated Citizen"

- Worksheet: "John Donne and My Connections as Citizen of the World"

- Worksheet: "A Reflective Leader Quotes and Questions"

- Questions for Class Discussion, including civic standards in a democracy

Directions

1. Introduce the concept of *citizenship* by asking students to take a moment to think of the meaning of *citizen* or *citizenship*.

   Ask students to craft the definition of a citizen. What qualities make up a good citizen?

   Some may offer a narrow definition, such as a member of a specific nation. For example, "I am a citizen of the United States." Encourage a broader definition: "I am a governing member of our community. I am responsible to act for the good of the whole and hold rights and responsibilities in this local, national, or global community."

   Point out that by reducing the definition of citizen to a legal status within a government, we may relinquish our inalienable rights as one who governs in a democracy formed by, of, and for the people.

2. Hand out the worksheet "Reflections on an Educated Citizen." This activity offers an opportunity for students to connect one of their current and central roles in community with ideas about how that role can be used with purpose and obligation. It also asks students to reflect on the school's purpose in working to build citizens with the capacity to govern as citizens of a democracy.

3. Hand out the worksheet "A Reflective Leader Quotes." This activity is designed to assist students in shaping a personal definition of *leadership*. Students to read what identified public leaders had to say about great

leadership, and then explore their current perceptions of their own values around leadership.

4. Use an all-class discussion to think about civic standards in a democracy and develop a definition of "Responsibles."

Unit Reflection

This unit is an opportunity for students explore a more complex and personal definition of citizenship. Provide students with frequent opportunities to reflect on what they currently know, what their classmates currently know, and what they have yet to learn. The activities allow for frequent value clarification and opportunities for personal and public reflection. For example, students might identify the "responsibles" in their lives or identify for whom and when are they the "responsibles." How has the role of being responsible shaped their values and the direction of their life? Encourage reflection on these ideas at key points in process.

Assessment

This unit has direct relationship to the National Council of Social Studies National Standards in Civics on the Role of the Citizen.

What are the Roles of the Citizen in American Democracy?

What is citizenship?

What are the responsibilities of citizens?

What civic dispositions or traits of private and public character are important to the preservation and improvement of American constitutional democracy?

How can citizens take part in civic life?

Make certain that assessments include an evaluation of student understanding of the above standards throughout the unit. The complexity of a student's understanding is best understood when that identity is tested or applied in a real world experience.

What is Citizenship? *(Possible definition: It is an identity that comes from the common ground for a diverse group of people. Citizenship is where individuals mesh their self-interest with the interests of others seeking to be in "right relationship" with one another. Our role as a skilled active citizen is essential to our democracy and therefore, schools' very central purpose is to support the capacity of each generation to govern as democratic citizens for the good of the whole.)*

Reflecting on an Educated Citizen

Name_____

According to *Reinventing Citizenship: The Practice of Public Work* by the Center for Democracy and Citizenship at the University of Minnesota (Minneapolis, 1995):

> *"For citizenship to be serious, it must be tied to politics of everyday work and problem solving."*

What implications does this statement have for your role as a student?

_____

_____

_____

_____

_____

Citizenship is continually developed over time. It is closely linked to leadership in that it applies skills that require practice. Citizenship is complex and best cultivated in meaningful everyday community, addressing real-world concerns and events around us.

Active citizenship is practiced and developed through associations and mediating institutions. Citizenship is practiced and developed in our schools, faith-based institutions, work places, families — anywhere where we are expected to engage others and hold some degree of influence or authority. These are the places where we can claim our roles as citizens.

How are schools responsible to build the capacity of its citizens so that they are prepared to govern for the common good?

_____

_____

_____

_____

John Donne and My Connections as Citizen of the World

Name_____

What skills or interests can you bring to the public issue of a water crisis in Africa? What is your own self-interest regarding this issue?

Read the following quote and explain what it means in your own words:

> *No man is an island, entire of itself; every man is a piece of the continent, a part of the main; if a clod be washed away by the sea, Europe is the less.... any man's death diminishes me, because I am involved in Mankind...*

> *Perchance he for whom this bell tolls, may be so ill, as that he knows not it tolls for him; and perchance I may think myself so much better than I am, as that they who are about me...may have caused it to toll for me...and therefore never send to know for whom the bell tolls; it tolls for thee.*

John Donne
Excerpts from Meditation XVII
from *Devotions Upon Emergent Occasions*

YOUR SUMMARY

_____
_____
_____
_____
_____

What impact could a major drought and suffering which goes unresolved have on those who live locally or in some other distant part of the world?

_____
_____
_____
_____

20

A Reflective Leader

Name _____

Reflective leaders are those who have the courage to do things they aren't sure they can do. The emphasis is on the doing or action with others. You cannot be a leader working alone.

Without reflection, we can get busy doing things and lose track of our priorities; we end up spending time on less essential activities. We might then diminish the work as well as our own learning from the experience.

The following quotes are samples of reflective leadership. Write what each of these quotes means to you (in your own words) so that you can explain the quote to someone else. Share your interpretations with someone and see if they agree with your interpretation.

Leader	Quote	What it means to me
Hellen Keller	I am only one; but still I am one. I cannot do everything, but I can still do something; I will not refuse to do the something I can do.	
Marian Anderson	Leadership should be born out of the understanding of the needs of those who would be affected by it.	
Anthony D'Angelo	You don't have to hold a position in order to be a leader.	
John Gardner	Leaders come in many forms, with many styles and diverse qualities. There are quiet leaders and leaders one can hear in the next county. Come find strength in eloquence, some in judgment, some in courage.	
Martin Luther King Jr.	Injustice anywhere is a threat to justice everywhere.	
R.J. Baughan	We find the greatest joy, not in getting, but in expressing what we are... Men do not really live for honors or for pay; their gladness is not the taking and holding, but in doing, the striving, the building, the living. It is a higher joy to teach than be taught. It is good to get justice, but better to do it; fun to have things but more to make them. The happy man is he who lives the life of love, not for the honors it may bring, but for the life itself.	

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Name_____

Find a quote that you believe captures the leadership qualities you have or would like to have. You may prefer to draft your own "quote" or statement that best reflects your leadership qualities or qualities you most admire.

Do you know anyone that is the sort of leader you admire? What qualities do they have that make you see them as a leader? Do you believe they where they born with these qualities or do you think they learned them or earned them over time?

What qualities would you like to add to yourself? How would these qualities improve your ability to be a good leader? In what ways?

How could you practice leadership skills? What opportunities do you have in your life to strengthen your leadership capacity?

Would the project of connecting the PlayPumps International effort provide you with the sort of leadership opportunities you would be looking for? In what way?

Questions for Class Discussion

As your classroom prepares for a service-learning effort, leading a thorough analysis of the statements in the four bullet points below will be very useful to ensure students engage community members and themselves according to democratic, civic standards. Civic standards require that stakeholders are given opportunity to influence, be held accountable, be a part of policy-making, and contribute to the sustainability of community action.

It is also accurate to recognize that not all stakeholders will act in their own self-interest on any given issue. Who you must engage are those who educator John Gardner described as "The Responsibles":

> *All citizens should have the opportunity to be active, but all will not respond. Those who do respond carry the burden of our free society. I call them the Responsibles. They exist in every segment of the community — ethnic groups, labor unions, neighborhood associations, businesses — but they don't know one another across segments. They must find each other, learn to communicate, and find common ground. Then they can function as the keepers of the long-term agenda.*

1. Ask students to define *primary stakeholder.* If a stakeholder is someone with an interest in an activity or idea, what does the word *primary* imply?

2. What are the implications of getting engaged with an issue when you do not see any meaningful self-interest?

3. What are the implications of the following civic standards for any action or organizing for change?

    - Those impacted by a problem help to define the problem in light of democratic ideals and the real-world pressures.

    - All stakeholders are accountable for producing resources to solve the problem.

    - All stakeholders are a part of the policy making.

    - All stakeholders are accountable for contributing to sustainability by acting within and across community lines.

4. Read the above Gardner quote on "Responsibles" to the class. Ask students to identify the "responsibles" in their lives or identify for whom and when are they the "responsibles." How has the role of being responsible shaped their values and the direction of their life?

PART 5
Action Through Service-Learning

This is a guide for the action that is central to a service-learning experience. The previous four parts will have prepared students for the experience by building a base of knowledge for water issues both locally and in Africa, with an in-depth look at the PlayPumps International program. In this part of the project, effective service-learning practices infused into the students' project will increase the quality of the experience.

1. PREPARATION

Linking to Prior Knowledge

Divide students into groups of three or four, and assign each group one of the following review topics: Africa, water access, PlayPumps International, active citizenship. Have them list as many problem or issue statements as they can, related to what they have learned. For example: "It is an issue that girls are responsible for hauling water for families in Africa, and thus receive less education than boys."

Hang onto these lists, as they will later help the students develop service-learning projects.

Service-Learning and Related Concepts

At this point, it is optimal to introduce the concept of service-learning. You may want to begin by simply querying what students believe service-learning is. It is often helpful to get them to focus on the hyphen in the term. Why are the concepts linked? What might that imply about the concept that would be different without the hyphen? What concepts would be similar to service-learning? What would be their key differences? Consider listing the following related terms for students to read and discuss:

Service: Notions of service vary across ethnic groups and cultures, but all refer to helping without asking for payment. Effective service-learning practice supports a basic understanding of the cultural contexts of service.

Volunteerism refers to the act of freely choosing to perform some service or good work without pay — usually with such charitable institutions or community agencies as scouting, 4-H, church, or youth groups. It differs from service-learning in that it is not explicitly linked with learning objectives.

Community Service is often a form of volunteerism, but it can also have a punitive meaning in the context of the judicial system. It is done within a defined community, which could be a classroom, school, town, or city. Again, it does not typically have any intentional tie to learning; the emphasis is strictly on service.

Community-Based Learning is a term used for any learning experience that occurs in the community. Common forms of community-based learning are project-based learning, field trips, internships, and apprenticeships, which offer important experiences for students to master skills within a real-life setting, but have no formal service dimension.

Service-Learning Definition

Former U.S. Senator and astronaut John Glenn describes service-learning as "academics in action."

For example:

Cleaning up a river is **service**.

Sitting in a science classroom, looking at water samples under a microscope is **learning**.

Students taking samples from local water sources, analyzing them, documenting the results, and presenting scientific findings to the local pollution control agency for suggested action is **service-learning.**

Service-learning is not just passively sitting in a classroom; it is taking the content learned in the classroom and applying it to real-world problems.

Service-learning is a method of teaching that enriches learning by engaging students in meaningful service to their schools and communities through integration of the experience with established curricula or learning objectives. It is a form of active learning that values critical thinking and problem-solving. It also is a community development model where real issues such as pollution control, hunger, and homelessness are addressed. Service-learning is a youth development model that embraces young people as community resources. It views all people as citizens with capacity — regardless of age. Hence, in most school settings there would less likely be a service-learning class than a service-learning teaching approach, much other learning delivery styles (such as lectures or labs).

Research shows that when service-learning is effectively implemented, students gain in measures of academic achievement, school engagement, character, and citizenship. (*Growing to Greatness: The State of Service-Learning 2004 Report*, NYLC, March, 2004)

Principles Of Effective Practice for K-12 Service-Learning

Note: This material may be more helpful to teachers than to students, depending on the interests and capacity of the students.

In 2007, the following research-based Principles of Effective Practice were adopted by a group of service-learning experts. Within the year, they are expected to be codified as national standards for service-learning.

Curriculum Integration: Practitioners integrate service-learning with content standards in disciplinary and/or interdisciplinary contexts, enriching student cognitive, civic, social-emotional, and personal development.

Cognitively Challenging Reflection: Service-learning practitioners engage youth in ongoing reflection that is cognitively challenging and uses multiple methods requiring critical and creative thinking to achieve intended academic, civic and social outcomes.

Youth Voice: Service-learning practitioners will integrate the ideas, actions, and leadership of young people into each stage of the service-learning experience, empowering them to contribute to and shape society.

Diversity: Service-learning intentionally addresses diversity to develop respect for all learners and engage them through a range of activities, contents, and competencies to prepare students for global citizenship.

Meaningful Service: Projects address identified community needs; engage students as active learners, problem solvers and citizens; and result in valued outcomes for young people and community.

Process Improvement: Service-learning practitioners collect, analyze, and use evidence to review processes and progress to improve, enrich, and sustain the quality of service-learning practices.

Intensity/Duration: The service-learning practitioner ensures that service and learning experiences are of sufficient intensity and duration to address community needs and achieve desired student social, academic, and civic outcomes.

Reciprocal Partnerships: Effective service-learning partnerships are reciprocal and feature active involvement and mutual recognition of strengths and resources to assure an effective response to agreed upon community need and to support student learning.

The Service-Learning Quiz

Decide which of the Principles of Effective Practice for K-12 Service-Learning are present in these scenarios. List which service-learning strategies are incorporated, and which are missing. From that assessment, determine whether you consider each project to be community service or service-learning. You will be asked to defend your choice, and explain what missing elements could be added to strengthen the projects.

Remember, the Principles of Effective Practice include youth voice, meaningful service, reciprocal partnerships, curriculum integration, diversity, duration, reflection, process improvement. (For quiz key, see page 29.)

1. Young people who are part of a club associated with a high school decide that they will raise money to support an HIV/AIDS prevention effort in South Africa. They plunge into the effort certain that holding a fund-raiser will be the best first step. After a successful campaign of only two months, they are able to wire nearly $1,000 to the recipient agency, one they discovered by researching HIV/AIDS prevention organizations online. They send the money off, satisfied that they have made a difference in the lives of people they may never know.

   _____ community service?   _____ service-learning?

2. Having lost an uncle to AIDS, Rachel felt she had to help her suburban peers understand that HIV isn't just a disease concerning those who live overseas in impoverished conditions. Inspired by her health teacher who had covered the basics of the disease and its transmission, Rachel asked if she could earn extra-credit by taking her studies further and developing a way to act locally. With the teacher's go-ahead, she began by researching local service providers. Her online research led her to a local hospice, which she called, asking if there were ways in which she could help. Because she was particularly interested in the nutritional needs of those living with the disease, she asked if she could help with meal preparation. This made the project relevant to her health class' learning objectives related to the new "food pyramid." Soon, she was soliciting donations from local grocery stores and learning the science of providing nutritionally balanced meals to those on various medications. By the end of the semester, her presentation of the food pyramid as adapted to those with particularly dietary needs was so engaging and informative that she was asked to develop a modified version for younger students. She wrote a jingle to help them memorize the importance of five fruits and vegetables daily — a rhyming verse that the physical education teacher uses when the students are jumping rope.

   _____ community service?   _____ service-learning?

3. Two middle school boys earning their scout merit badges learned of the struggles Ryan White endured as a child living with HIV-positive status. After a heated discussion about whether such acts of bigotry could happen in their community, they decided to take preventive action and tackle the larger issue of hate crimes — a project their scout leader agreed would make them eligible for a merit badge and would likely have positive results for the community. The boys worked hard to put together a special assembly during the month of February, African-American history month. Their rationale was that such hate crimes had happened due to race in America's history, and that the Ryan White story was similarly based on bias a misunderstanding. Unfortunately, when the day came, many teachers refused to let their students attend the special assembly. The students were dejected, and said the teachers' inflexibility was just the sort of rigid thinking they were trying to address with their project. Still, those who attended the assembly gave it high marks, and the boys felt they had conveyed their message.

_____ community service?   _____ service-learning?

Key to Service-Learning Quiz:

1. Community service

Principles of Effective Practice present: youth voice, meaningful service (possibly), curriculum integration

Principles of Effective Practice missing: diversity, reflection, process improvement, duration, reciprocal partnerships

2. Service-learning

Principles of Effective Practice present: youth voice, curriculum integration, reciprocal partnerships, duration, reflection, diversity (of learning approaches), meaningful service

Principles of Effective Practice missing: process improvement (none explained)

3. Community service

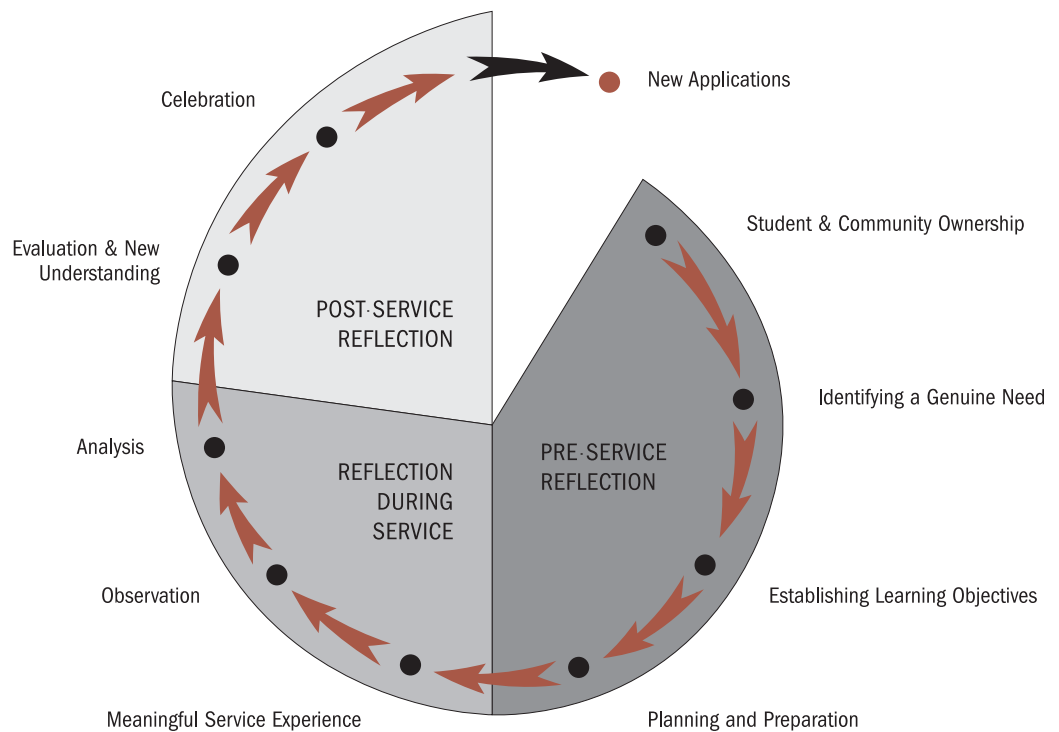Principles of Effective Practice present: curricular integration, youth voice

Principles of Effective Practice missing: reciprocal partnerships, process improvement, meaningful service (at least from the description, it's hard to know), duration, diversity, reflection

The Service-Learning Cycle

After helping students grasp the concept of service-learning, it is important for them to understand the nature of the process.

Service-learning is best thought of as a cycle, where each step in the process leads to the next. As the diagram of the Service-Learning Cycle illustrates, the process doesn't end with the completion of the service activity. A project may be completed, but service-learning is a transformational process, where young people, practitioners, and communities continue to grow.

The Service-Learning Cycle

New Applications

Celebration

Student & Community Ownership

Evaluation & New Understanding

POST·SERVICE REFLECTION

Identifying a Genuine Need

Analysis

PRE·SERVICE REFLECTION

REFLECTION DURING SERVICE

Observation

Establishing Learning Objectives

Meaningful Service Experience

Planning and Preparation

WHAT?•SO WHAT?•NOW WHAT?

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Every part of the cycle is rich with learning and growth opportunities, many of them happening as young people are guided through the process of identifying, planning, and carrying out service activities. It's important for practitioners to recognize the learning potential in each phase of the process and get students reflecting so that real learning takes place.

With each step in a service-learning project, discussing three deceptively simple questions with the participants helps everyone understand what they've accomplished, learned, and need to do next:

What?
What has happened? Take stock of what participants did, saw, and felt. Get their initial observations of what has happened.

So What?
What's the importance of all this? Discuss what participants are thinking and feeling about the experience. Ask them what they've learned and how things have changed.

Now What?
What should we do next? It's time to decide how best to channel this new understanding into continued action and transformation.

The service-learning cycle, illustrated on page 33, helps both teachers and students grasp that there are many stages to the work, and that there are cycles within the cycle.

Perhaps most important is that those involved maintain attitudes of curiosity, adaptability, persistence, and empathy throughout the process.

Types of Service

In addition to grasping the differing concepts underlying service- terms, it is also important to recognize the different types of service students may offer in service-learning experiences.

Direct Service: These activities involve students establishing personal contact with people in need. (For example: working with senior citizens to create oral histories, tutoring younger students, delivering meals to people with physical limitations.)

Indirect Service: These activities usually happen at the school site, channeling resources to the area of need rather than working directly with those in need of the service. (For example: beautifying school grounds, writing children's books to be donated to a homeless shelter or hospital, creating a recycling program.)

Advocacy: These activities involve students lending their voices and talents to help eliminate a specific problem. In a sense, this is also a form of "indirect" service. (For example: making a presentation to the city council or school board about the need for longer hours at libraries or advocating on behalf of a traffic calming effort.)

Establishing Learning Objectives

A project is not truly service-learning unless it is connected to specific learning objectives. Learning objectives can be identified by the students, with support from the teacher, and should be clearly posted so that all can refer back to them throughout the project. This process will be simpler if state standards are already familiar to students.

The type of learning objectives may vary by setting. In a classroom, for example, the objectives may be tied to a certain discipline or curriculum standards.
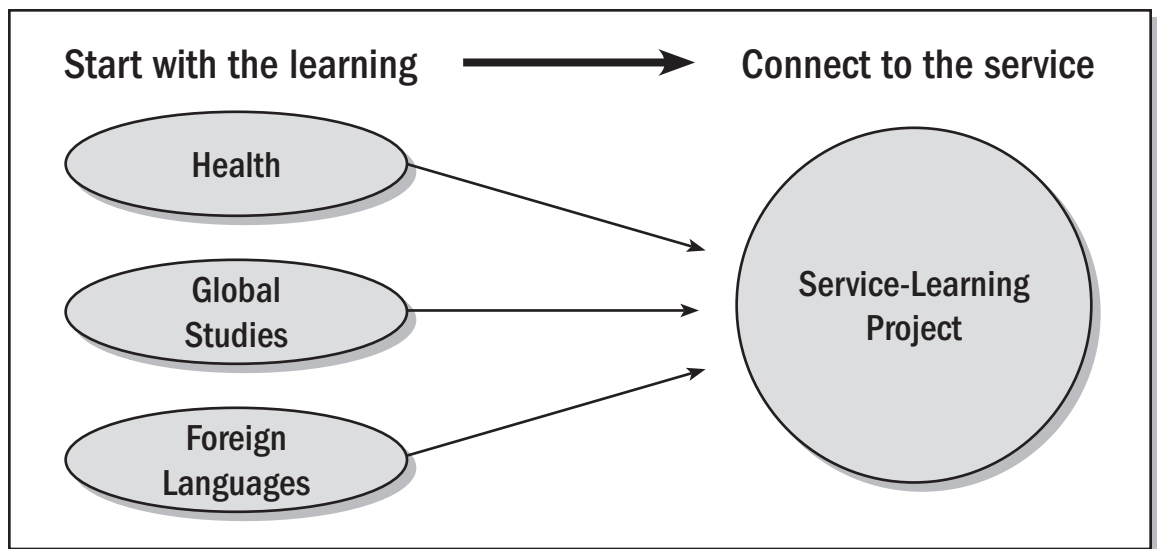
In a community-based or extracurricular setting the objectives will more likely be focused on life skills or interdisciplinary in nature. This allows the youths more flexibility in establishing learning objectives.

Start with the service → **Connect to the learning**

Letter Writing

Creative Expression

Service-Learning Project

Leadership Skills

Communications Skills
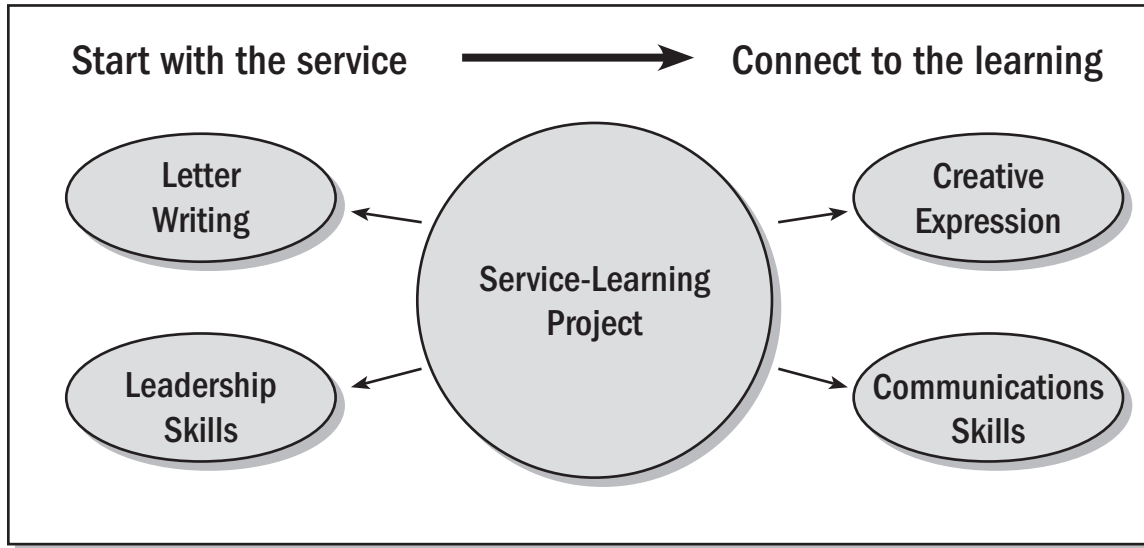
Water Access Service-Learning and Curriculum Integration

Following are some examples of water access-related service-learning projects tied to specific academic subject areas:

Subject Area	Learning Objective	Project
Math	Graphing skills	Research water availability trends and statistics; create graphs to show changes over time; and display in school to educate others.
Science/ Health	Understanding of water-borne illnesses	Learn how poor-quality water can lead to illness and how such illnesses affect the body. Create a brochure explaining this to distribute to peers or community members in a health fair.
Social/Global Studies	Understanding of impact of limited water access on Africa	Explore through the internet how water access is affecting countries in Africa, and learn about intervention efforts there. Connect with a "sister" youth organization in Africa to share project ideas.
Physical Education	Endurance	Organize a run to publicize water access and/or quality issues. Train for the run, collect donations, and promote it in the community. Donate proceeds to PlayPumps.
Foreign Languages	Vocabulary expansion	After studying related vocabulary, translate water-issue educational pamphlets from a local resource center into Spanish or another popular language. Have a bilingual community member proofread the pamphlets to be sure they are correct before producing and distributing them.

Pre-Reflection
(PEPs: Cognitively Challenging Reflection, Youth Voice, Intensity/Duration, and Curriculum Integration)

It is now time to refer back to the lists the students generated earlier about what they have learned in the previous four units. At this stage, they will move from issue-identification to project development.

Have the students post their groups' lists of issues. Then, as a large group, establish four to five criteria upon which they are going to vote for which issue they will develop a project to address. While the students should develop the majority of the criteria, the teacher will want to reserve the right to add one or two criteria as well. For example, students may suggest:

- Is it the most important issue we identified?

- Will it be do-able within the quarter?

- Will it be fun?

To which you might want to add: Will it address the necessary learning objectives?

Once the class agrees on the criteria, they will need to develop a grid listing the issues identified in the problem statements down the left hand side, and the 4-5 criteria along the top of the chart. The class will then give each area a "finger vote" with one finger indicating "no"; two fingers indicating "maybe" and three fingers indicating "yes." The teacher can either total the votes and divide by the number of students for each area, or can get a quick visual sense of whether the class average for each criterion is a 1, 2, or 3 vote. Once the class has voted on all the issues and the criteria, a student or the teacher can find the average score for each issue area, by averaging the column scores. This will determine which issue the students have chosen to address through a service-learning project.*

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* This criteria-based decision-making process was developed by Earth Force. For more information see www.earthforce.org.

Sample Criteria-Based Decision-Making Chart

	Is this the most important issue we identified?	Can we sufficiently address the issue within the quarter?	Will the issue be fun to address as a group?	Will it let us address the necessary learning objective?	**Average**:
Water quality in our community	2	3	2	3	2.5
Water access in sub-Saharan Africa	3	1	3	2	2.25
Girls' access to education in Africa	3	2	3	3	2.75

According to the sample chart, the class would have just voted to work on girls' access to education in Africa.

This process engages students' analytical skills, considered as reflection in the service-learning process. Refer back to the service-learning cycle, and you will see that it is ongoing, throughout the preparation for, implementation of, and follow-up after the project itself. Without pausing to help the students process what they have learned, service-learning can easily become standard volunteerism, and lack the cognitive gains associated uniquely associated with service-learning.

Varying the means by which you reflect — whether through journal-writing, rap lyric development, interpretive dance, or the visual arts — is also key to integrating the multiple intelligences identified by educator Howard Gardner.

Project Development
(PEPs: Meaningful Service, Youth Voice, Intensity/Duration, and Curricular Integration)

Once the issue has been agreed upon, the next stage will be project development. To help this stage along, it may be helpful to do brainstorm:

- What do we know about the issue?
- What do we need to know?

From this step, various options exist for primary and secondary research, involving the web.

Once the research has been completed, students can brainstorm possible ways to address the issue area. This brainstorming exercise may result in another democratic finger-voting experience, with the possible projects listed down the left-hand side of the chart, and the student- and teacher-generated criteria listed across the top.

For example:

	Will this project have a significant impact?	Can we finish the project within the quarter?	Do we need additional funding?	Is it possible to address the required state standards?	**Average**
Developing a children's book to help teach younger students.					
Developing a public service announcement about the issue of girls' access to education in Africa.					
Hosting a benefit run to raise money to donate a PlayPumps system.					

Reciprocal Community Resources (Diversity, Youth Voice, and Reciprocal Partnerships)

Once the project has been agreed upon, students need to consider the resources related to the issue that exist in the community, however "community" is defined, as region, city, neighborhood, or school site. This also becomes an exercise in identifying potential community partners in the project. Lead a discussion about this, and encourage the students to share the things they have heard or seen about the issue in their community.

This assessment of community resources can be done in a number of ways:

- Brainstorm the needs and assets of the community.
- Walk around the community and record observations.
- Search media sources for related news stories.
- Survey members of the community.
- Interview "experts" from community organizations, businesses, and agencies.
- Talk with the other experts — perhaps those who have immigrated from Africa and now live in the community.

2. IMPLEMENTATION

Action-Planning (Youth Voice, Meaningful Service, and Curricular Integration)

Creating an action plan will help track the progress of the project.

Construct a chart that includes: (See page 39 for a sample.)

- Project Name: How will you refer to the project?
- Project Goals: What does the club want to accomplish in the community? The goals should be tied to the learning objectives.
- Preparation: What type of training will the club need — beyond the initial service-learning training — before carrying out the service? This may include knowledge, skills, procedure orientation, or safety precautions.
- Tasks: What specific steps will need to happen to successfully complete the project? Consider how each task connects to the learning objectives.
- Timeline: When should each task be accomplished?
- Role and Responsibilities: Who is responsible for completing each task?
- Resources: What resources are necessary to accomplish each task, and how will those resources be obtained?
- Partnerships: What individuals or groups in the community can help the group complete the service project, and how?
- Budget: Will funding be required for any part of the project? Where can that funding be obtained?
- Public Relations: How will you notify the community about the project?

Action-Planning Grid

Project Goal(s): _____

Project Name: _____

Task	Person	Community Partner	Resources Needed	Due Date	Status	Other...

Safety/Liability Issues

As with many experiential education opportunities, service-learning activities can involve some risk. Like athletics, work experience program, or field trips, some precautions must be taken to ensure the safety of all involved.

Investigate Liability Policies

- Discuss potential risks with the school or agency's legal advisor and explore existing policies for risk management.
- Check the school's coverage parameters.
- Tie the service-learning activities to the same policy as work-study, where possible.
- Check with the state's volunteer office about liability issues particular to your state.
- Clarify whether state laws allow students to drive themselves or others to sites.
- Be sure that all drivers have insurance coverage.
- Tie service projects to other nonprofits such as scouts of environmental groups.
- Do not deviate from established school safety policies.
- Remember, most schools have effective coverage for activities such as football.

Practice Safety

- Develop lists of student service-learning placement sites.
- Use school's parent permission and/or release forms.
- Provide clear and adequate supervision and training.
- Clarify rules for safety with students, such as walking on the sidewalk and knowing the potential medical needs of service recipients.
- Assign tasks that are age-appropriate.

Student Assessment

Student assessment in a service-learning project can often be the standard assessments required by the state or tied to No Child Left Behind. When service-learning is treated as an educational methodology, students should be gaining the same academic skills that they might through other methods of direct teaching.

As in any learning experience, it is important that the teacher has worked with the students to establish objectives initially. If existing student assessments are not appropriate to the service-learning experience, often rubrics can help measure student gains, with the end result described as "unacceptable,

"acceptable," or "exceptional." At each level, attributes of the measure of achievement are described in greater detail. Such rubrics are helpful in evaluating student portfolios, videos, plays, writings, or other performances.

Project Evaluation

Often confused with student assessment, project evaluation has the outside world (service recipients, funders, school boards, administrators) as its key audience, and they can also be involved as assessors. Often, gathering baseline data is critical to evaluation of project impact. Such elements as the number of participants, hours of service, development of end products, and the community response to those products are typical elements of project evaluation.

3. CELEBRATION

The culminating celebration of the service-learning project is often an event that gathers all its constituents: students, teachers, community partners, parents, etc. It can be a form of reflection, in which student present their findings or products to the larger community. This can be a natural time to engage the media in the project, as service-learning projects often have positive outcomes for the community.