Zuni Public School District

Project Based Learning: What’s In It for Me?
*Exploring the What, Why and How of PBL*

October 14-15, 2013

Presented by the University of New Mexico and Partnerships Make A Difference through a grant from the W. K. Kellogg Foundation
What? Why? How?
“Essential Questions” to Guide Our Time Together . . .

◆ **What** should high quality Project Based Learning look like? What are its key elements?

◆ **Why** is PBL worth doing? What opportunities and outcomes do we want for kids, and how can high quality PBL help us provide/accomplish these?

◆ **How** can we effectively use PBL to help achieve Zuni Public School District’s goals and priorities?
Welcome and Introductions

Highlights of Previous Sessions

Small Group Activity: “Good Projects”

Reinforcing Video(s)

Progress Reports

PBL in Action: Applying Tips and Tools for Effective Planning and Implementation
- Case Study/Use of Planning Tools
- Mini-Action Project
- Reflection Strategies re: Multiple Intelligences
- Technology Tools and Resources

Small Group Planning/Feedback

Reading Assignments for Tuesday

Concluding Reflections/Insights
Project Based Learning (PBL) is an instructional approach built upon authentic learning activities that engage student interest and motivation. These activities are designed to answer a question or solve a problem and generally reflect the types of learning and work people do in the everyday world outside the classroom. PBL is generally done by groups of students working together toward a common goal.

PBL is a systematic teaching method that engages students in learning essential knowledge and life-enhancing skills through an extended, student-influenced inquiry process structured around complex, authentic questions and carefully designed products and tasks.
A typical service-learning project includes five components:

1. **Investigation**: Teachers and students investigate the community problems that they might potentially address. Investigation typically involves some sort of research and mapping activity.

2. **Planning and Preparation**: Teachers, students, and community members plan the learning and service activities, and address the administrative issues needed for a successful project.

3. **Action (Implementing the Service Activity)**: The “heart” of the project: engaging in the meaningful service experience that will help your students develop important knowledge, skills, and attitudes, and will benefit the community.

4. **Reflection**: Activities that help students understand the service-learning experience and to think about its meaning and connection to them, their society, and what they have learned in school; and

5. **Demonstration/Celebration**: The final experience when students, community participants and others publicly share what they have learned, celebrate the results of the service project, and look ahead to the future.

Assessment is part of all activities to ensure that you can measure the learning and development that occur through service-learning, and to help you diagnose student needs, provide feedback, and improve instruction. These components are the building blocks of any service-learning project.
Demonstrating 21st Century Skills . . .
Doing the Work of Real People

STUDENTS

Conducting Inquiry: What do we need to know?
(research, investigate, interview, conference)
- Skype.com (or FaceTime)
- Oovoo.com
- Email
- Internet

Managing Their Work: How do we keep track of and make sense of what we are learning?
(share, collaborate, edit, comment, collect, update, store, draft)
- Docs.google.com
- Dropbox.com
- Wikispaces.com
- Spreadsheets
- Graphing software

Creating Products and Presentations: How can we demonstrate our learning and who is the authentic audience?
(posters, books, presentations, display online, websites, scripts, newscasts, video, reviews, PSAs)
- Animoto.com
- Xtranormal.com
- Glogster.com
- Storybird.com
- Prezi.com
- Voicethread.com
- Sliderocket.com
- Wordle.net
- Edublog.org
- Sites.google.com
- Kidblog.org
Weebly.com
Blogger.com
Digital portfolio
Kidsvid.4teachers.org
Youtube.com
Amazon.com
Lulu.com

TEACHERS

Managing Your Project
Assessing Your Project/Students
Collaborating with Colleagues

Polleverywhere.com
Dropbox.com
Edmodo.com
Class website
Project blog
Wiki
Edupln.ning.com
Globaleducation.ning.com
Classroom20.com
Ncssnetwork.ning.com
Cilc.org
Twitter.com
Google Forms
Project Based Learning Planning Questions

Name of Project:

Subject/Course:

Other subject areas to be included, if any:

Name(s) of teacher(s):

Grade level(s):

Estimated duration (number of days or weeks; probable amount of time per day):

(1) What’s the topic/main idea of your project? Give a brief summary/description of the issue, challenge, investigation, scenario, or problem you want students to address.

(2) Why did you choose this topic/idea? What impact do you hope it will have on your students and their learning? What impact do you hope it will have on others? (In other words, what difference will it make?)

(3) What Driving Question will guide the project? (Feel free to jot down more than one possibility.)

(4) What Entry Event(s) will you use to engage students and launch the inquiry process? (Feel free to jot down more than one possibility.)

(5) What content standards will you focus on?

(6) What 21st Century Skills will you address and assess? (Remember, PBL especially emphasizes collaboration, communication, and critical thinking/problem solving, but you can certainly focus on others.)
(7) What major products/performances will your students create?

(8) What “authentic audience” will see and respond to their work? What is the benefit of having your students share their work/products with these particular people?

(9) What knowledge and skills will your students need to successfully complete their work? What learning opportunities and resources will you need to provide so they can acquire this necessary knowledge and expertise?

(10) How will you give your students opportunities for “voice and choice” during the project?

(11) How will you build a sense of community among your students throughout the project?

(12) How will you enable them to work in groups/teams, and what purpose/function will these teams serve?

(13) How could the use of technology enhance your project? (Technology can often support students’ research in an engaging way, help make their writing and other work more efficient, and improve the quality of their products. Technology may also help you and your students manage information and monitor progress.)

(14) How will you enable/encourage them to use various multiple intelligences? (Remember MI can be integrated throughout the PBL process, especially in students’ products, performances, reflection, and assessment.)

(15) How will you manage/monitor students’ progress (both individuals and teams) throughout the project? What tools and strategies will help you keep track of how things are going so that adjustments can be made along the way?

(16) How will you assess students’ learning during the project (formative assessment) and at the end of the project (summative assessment)? (Remember, the PBL assessment process should include peer evaluation and self-evaluation as well as evaluation by the teacher. Also, a variety of measures should be utilized, including rubrics.)

(17) How will you enable/encourage students to revise and improve their products throughout the project? (They will need your help in critiquing their own work and the work of others in a constructive manner. The goal here is continuous improvement, not criticism.)
(18) What techniques/strategies will you use to encourage ongoing reflection? (Again, we encourage you to use a variety of strategies so that students’ diverse gifts/talents are incorporated.)

(19) In what ways will you and your students “capture the magic” of their project? What lasting evidence will you gather and keep?

(20) What resources/assistance will you and your students need to successfully carry out this project? (Examples include on-site people and facilities, administrative support, community resource people, field trips/community-based experiences, equipment, materials, etc.)
# PBL Essential Elements Checklist

Whatever form a project takes, it must have these Essential Elements to meet BIE’s definition of PBL.

<table>
<thead>
<tr>
<th>Does the Project . . .?</th>
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<tr>
<td><strong>FOCUS ON SIGNIFICANT CONTENT</strong></td>
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<tr>
<td>At its core, the project is focused on teaching students important knowledge</td>
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<tr>
<td>and skills, derived from standards and key concepts at the heart of academic</td>
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<td>subjects.</td>
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<tr>
<td><strong>DEVELOP 21st CENTURY SKILLS</strong></td>
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<td>Students build skills valuable for today’s world, such as critical thinking/</td>
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<td>problem solving, collaboration, and communication, which are taught and assessed.</td>
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<td><strong>ENGAGE STUDENTS IN IN-DEPTH INQUIRY</strong></td>
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<td>Students are engaged in a rigorous, extended process of asking questions, using</td>
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<td>resources, and developing answers.</td>
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<td><strong>ORGANIZE TASKS AROUND A DRIVING QUESTION</strong></td>
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<td>Project work is focused by an open-ended question that students explore or</td>
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<td>that captures the task they are completing.</td>
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<td><strong>ESTABLISH A NEED TO KNOW</strong></td>
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<td>Students see the need to gain knowledge, understand concepts, and apply skills in</td>
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<td>order to answer the Driving Question and create project products, beginning with an</td>
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<td>Entry Event that generates interest and curiosity.</td>
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<td><strong>ENCOURAGE VOICE AND CHOICE</strong></td>
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<td>Students are allowed to make some choices about the products to be created,</td>
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<td>how they work, and how they use their time, guided by the teacher and</td>
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<td>depending on age level and PBL experience.</td>
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<td><strong>INCORPORATE REVISION AND REFLECTION</strong></td>
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<td>The project includes processes for students to use feedback to consider additions and</td>
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<td>changes that lead to high-quality products, and think about what and how they are</td>
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<td>learning.</td>
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<td><strong>INCLUDE A PUBLIC AUDIENCE</strong></td>
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<tr>
<td>Students present their work to other people, beyond their classmates and teacher.</td>
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<td><strong>Name of Project:</strong></td>
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<tr>
<th><strong>Subject/Course:</strong></th>
<th><strong>Teacher(s):</strong></th>
<th><strong>Grade Level:</strong></th>
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<tr>
<th><strong>Other subject areas to be included, if any:</strong></th>
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### Project Idea

**Summary of the issue, challenge, investigation, scenario, or problem:**

### Driving Question

**CCSS to be taught and assessed:**

### Additional Standards to be taught and assessed:

### 21st Century Competencies to be taught and assessed:

<table>
<thead>
<tr>
<th>Competency</th>
<th>Checklist</th>
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<tr>
<td>Collaboration</td>
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<td>Communication (Oral Presentation)</td>
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<td>Critical Thinking</td>
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<td>Creativity &amp; Innovation</td>
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<td>Other:</td>
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### Major Products & Performances

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<th>Group:</th>
<th>Presentation Audience:</th>
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<th>Individual:</th>
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Beat Michigan! Beat Cancer! Racing to Beat Ovarian Cancer

Written by Katie Benton, Barrington Elementary School, Upper Arlington City Schools — Upper Arlington, Ohio

“You can’t underestimate what 4th graders can do. We raised more than $20,000. If our classes helped prevent one person from getting ovarian cancer, I am satisfied with what we did.”

— Margot, 4th grader at Barrington Elementary

The Big Idea

Fourth graders created a 5K Walk/Run and 1-mile Fun Run to raise awareness of the symptoms of ovarian cancer and raise money for research to find a cure. The idea for this project resulted from the recent loss of a student’s mother to this disease.

Investigation

Every woman is at risk for ovarian cancer, regardless of age, heritage, and/or medical history. Approximately 90% of ovarian cancer cases are sporadic, with no discernible pattern of inheritance. Symptoms of ovarian cancer which are vague include: bloating or abdominal swelling, pelvis or abdominal pain, difficulty eating or feeling full quickly, unusual fatigue, urinary urgency or frequency, back pain, menstrual change, and constipation. Early diagnosis increases survival rates.

This disease took the life of an Upper Arlington resident, Eileen O’Connor, in November 2008 when her daughter, Molly, was a 3rd grader at our school. After seeing all the publicity for the Race for the Cure the next April, nine-year-old Molly was inspired. She recognized that breast cancer received a lot of publicity and awareness, but that didn’t seem to be the case for ovarian cancer. She also knew from her mom’s illness that the symptoms were “tricky” (not easily recognizable), and if more people knew about the symptoms, more lives could be saved. She wanted her class to plan and host a race, like the...
Beat Michigan! Beat Cancer!

Race for the Cure, to raise awareness of the disease and to raise money for ovarian cancer research. Since Molly was in my class for both 3rd and 4th grades, her classmates knew about the difficulty of losing a loved one to cancer and were eager to support her idea as 4th graders.

Dante L., a student in another 4th grade class, lost his grandmother to the same disease around the same time. He wanted his class to participate in planning this event as well. Therefore, their two classes united and created an event that the students named BEAT MICHIGAN! BEAT CANCER!—Racing to Beat Ovarian Cancer.

Columbus, Ohio is home to The Ohio State University, where more than 100,000 people attend each home football game in Ohio Stadium. The University of Michigan Wolverines are the Buckeyes’ biggest rival—hence the name of our event, which took place two weeks before the Ohio State vs. Michigan football game.

Preparation

As a part of preparation, we established partnerships with the Ovarian Cancer Alliance of Ohio (OCAO) and The Ohio State University James Cancer Hospital and Solove Research Institute. OCAO partnered with the students to distribute symptom cards and other materials in race bags for participants, to provide signage about symptoms, myths, and facts for runners to see while on the race course, and to staff a table with information available to the public. The Alliance’s community outreach coordinator also met with the students.

RIGOR . . . Representatives from the James Cancer Hospital came to our school to talk with the students about cancer, the importance of research, and the mission/vision of the research institute. Both partnering organizations played key roles as they interacted with and educated the students before, during, and after the event.

We knew a little about ovarian cancer from Molly, but the students did additional research on the symptoms of ovarian cancer. We also watched a video from Stand Up 2 Cancer, and we invited other guest speakers to our classroom.

In addition, we invited parents and community members to share expertise and knowledge on topics such as event planning, biomedical research, starting a business, advertising, and marketing. These experts helped the students prepare for the race and also gave them real-life career education.

The students came up with three goals for the project: 1) to raise awareness about ovarian cancer symptoms, 2) to raise money for ovarian cancer research, and 3) to show the community that 4th graders can make a difference. Since these students had been together during the loss of both Molly’s mother and Dante’s grandmother, they were very emotionally engaged. They experienced their fellow students’ loss and grief and were all invested in doing something positive to help.

Rigor, Relevance and Relationships

Service-learning has demonstrated the potential to provide a curriculum that is rich in rigor, relevance and relationships—three elements of learning that play a crucial role in the school improvement process, according to Bill Daggett and his associates at the International Center for Leadership in Education. Consistent with these elements, research clearly shows that students who participate in high quality service-learning experiences become more engaged in learning, more committed to their communities, and more empowered to make positive life and career choices.

Racing to Beat Ovarian Cancer

The classes brainstormed together and came up with all the jobs that would need to be done to make this a successful event. We asked a professional race coordinator to meet with the kids to talk about what needed to be done. Kids then created and signed up for committees to carry out specific parts of the project. We formed committees to develop a logo, t-shirts, invitations, publicity, sponsorship, advertising, documentation, production, a fitness/training club, and more. The kids knew what needed to be done, and they were the ones who needed to do it. Their enthusiasm and sense of ownership were incredible!

In order to make this project inclusive, we organized an all-school Pep Rally to get everyone excited about the event, to give all the students a sense of ownership, and to increase participation.

Action

Because our school is very near The Ohio State University’s football stadium and the cancer hospital, our site was ideal for a Beat Michigan! Beat Cancer! fundraiser. The setting for the race included our elementary school and the middle school located right next door, as well as the surrounding neighborhood.

On the race day, kids did a wide variety of tasks—they set up the refreshment tables, put up the race signage, ran water stops along the race course, worked to register runners, and staffed tables where they sold buckeye necklaces and other products. In addition, some students ran a nail painting station where they applied teal nail polish, since teal is the color that represents the effort to conquer ovarian cancer. They staffed different race corners to cheer on walkers and runners, worked the start and finish lines to get people ready and to give out ribbons and prizes, and carried out a seemingly endless number of other jobs.

In addition to planning and running the race itself, the students made football fan-related products (made out of buckeyes) and assembled raffle packages to sell at the race to raise more money for the cause. The project was an authentic learning opportunity for students. The kids planned and ran the entire event with limited help from teachers and parent volunteers. Students created an event in which the entire school and community could participate. They solicited sponsors to raise money for ovarian cancer research and got the word out about ovarian cancer symptoms. More than 900 people participated in the event, and these 4th graders raised $23,000 to fight the disease.

RELEVANCE . . . This project had an overwhelming impact on me. I was amazed at the enthusiasm and dedication of the kids. I was also floored by the success and lasting impact of the event. We never thought we would have that many participants or would raise that much money or that the event would be talked about for months afterward. I told my students never to underestimate what they could do—and that was the truth!

-- Katie Benton

A typical service-learning project includes five components:

Investigation: Teachers and students investigate the community/world problems that they might potentially address. Investigation typically involves some sort of research and mapping activity.

Planning and Preparation: Teachers, students, and community members plan the learning and service activities, and address the administrative issues needed for a successful project.

Action: The “heart” of the project . . . engaging in the meaningful service experience that will help students develop important knowledge, skills, and attitudes, and will benefit the community.

Reflection: Activities that help students understand the service-learning experience and think about its meaning and connection to them, their society, and what they have learned in school.

Demonstration/Celebration: The final experience when students, community participants and others publicly share what they have learned, celebrate the results of the service-learning project, and look ahead to the future.

Assessment is part of all activities to ensure that the learning and development that occur through service-learning can be measured, and to help diagnose student needs, provide feedback, and improve instruction.

K-12 Service-Learning Project Planning Toolkit. Created by RMC Research Corporation for Learn and Serve America’s National Service-Learning Clearinghouse
Beat Michigan! Beat Cancer!

Reflection

Reflection was an integral part of this undertaking from beginning to end. Students did written reflections during and after the project. Since we also received feedback from parents, community members, and the organizations we were supporting, the students were encouraged to ponder the difference that they had made toward finding a cure for ovarian cancer.

We created a scrapbook to document the entire process of the project, as well as a DVD that showed the evolution of the event. At the completion of our efforts, we had students decide on their own personal reflection projects. Each student chose his/her type of response/expression, and the results were incredibly creative and inspiring. These included dioramas of the event, letters to the editor, a letter to a friend, a video, top ten lists, poems, paintings, models, multimedia presentations, mobiles, books, collages, and more.

Celebration/Demonstration

Students felt empowered as word of our event spread and people registered to participate. We celebrated every few days by checking the number of registrants and to see how much this number had increased. We also celebrated each sponsorship as we received it. The students demonstrated their new learning by verbalizing what they were doing, why they were doing it, and what they were learning from the experience.

There was a lot of media coverage to celebrate. Students felt that they were facilitating change, increasing awareness, and addressing an important issue. At the end of the event, we celebrated together with a post-project check presentation and watched a highlight DVD of the entire project.

More celebration came when the students received several prestigious awards:

- The Teal Spotlight Award for Community Service from the Ovarian Cancer Alliance;
- The Youth Community Service Award presented by the Upper Arlington City Council;
- The Annual Award for Philanthropy and Service, presented by the Central Ohio Chapter of the Association of Fundraising Professionals; and
- The Barnum Award from Ringling Brothers Barnum and Bailey Circus for Community Involvement. This award allowed the kids to donate the prize money ($1,000) to the Ovarian Cancer Alliance to continue to raise awareness of the disease.
Racing to Beat Ovarian Cancer

Assessment/Evaluation

The post-project reflection pieces highlighted what the students learned and their passion for the project. They learned a lot in many content areas and shared that knowledge with each other and many others outside our group in a variety of ways (see below).

Curriculum Connections/Standards

We covered so much! This service-learning project really extended our curriculum in a more rigorous and authentic way.

Social Studies: economics; map skills; social issues; citizenship

Mathematics: process-related/word problems; measurement; counting money; using spreadsheets; computation

Language Arts: speech writing; oral communication; letter writing; press release writing; invitations; posters; advertising; etc.

Science: careers in science; scientific research; disease process; genetics; healthy lifestyle choices; and fitness

In addition, kids also learned life skills: creativity, public speaking, time management, customer service, negotiation skills, collaboration, making decisions, meeting deadlines, and more.

The Partnership for 21st Century Skills has identified the elements described in the sidebar on the right as the critical systems necessary to ensure 21st century readiness for every student. Though the Beat Michigan! Beat Cancer! service-learning project clearly demonstrates connections to many of the skills, the following outlines two skills in detail.

As an example of “Creativity and Innovation” and “Leadership and Responsibility,” one student took the project to an entirely new level.

21st Century Skills addressed and demonstrated by the Beat Michigan! Beat Cancer! service-learning project:

- Global Awareness
- Financial, Economic, Business, and Entrepreneurial Literacy
- Civic Literacy
- Health Literacy
- Creativity and Innovation
- Critical Thinking and Problem Solving
- Information Literacy
- Media Literacy
- ICT (Information, Communications, and Technology) Literacy
- Flexibility and Adaptability
- Initiative and Self-Direction
- Social and Cross-Cultural Skills
- Productivity and Accountability
- Leadership and Responsibility


He sought out local businesses and made personal visits and pitches to many of them to garner more event sponsorship. He was able to speak eloquently about the event, provide additional materials, and even make follow-up calls and visits. Because of his individual initiative, we reached several more sponsors and raised...
Beat Michigan! Beat Cancer!

Impact: Kids Using Their “Best Stuff” to Make A Difference

nearly $1,000 additional dollars. ighet awareness, raising money, and meeting their financial goal—far surpassing it, actually! They were thrilled with the outpouring of support and the number of participants. The students were amazed that their race drew more

Now What?
A Call to Action:

Now that you have read about the Barrington Elementary students/teachers and their efforts to help raise awareness of the symptoms of ovarian cancer and raise money to support research to find a cure, what could you and your students do to make a difference? Just like Katie, Bonnie and their kids, there are people everywhere making a difference. Let us know what you and others in your community are doing by posting your information on . . . partnershipsmakeadifference.org

To learn more about how to support cancer research, log on to . . .

Stand Up To Cancer: standup2cancer.org

In addition, you may find these sites helpful:

Ovarian Cancer Alliance of Ohio: ocao.org
The Ohio State University Comprehensive Cancer Hospital: cancer.osu.edu

Next Steps/Call to Action

relationships . . . Molly and Dante honored their family members and felt that they turned tragic events into something positive. This meant a great deal to them and to everyone else involved.

-- Katie Benton

people than any other local first-time race and that they reached more people than the Ovarian Cancer Alliance of Ohio had ever reached before. They were proud of the awards and honors they received. They were most proud of being told what a difference 50 fourth graders made both in their community and in the battle against ovarian cancer.

I hope that these students were able to learn about planning an event and applying a plethora of organizational skills and other talents. I also hope that some of them will do a senior year capstone project similar to this and that they will continue to work on and create other service-learning projects throughout their lives.

I think other people will realize that a project like this is “doable.” It is a lot of work, but anyone can plan and execute such an event. Hopefully, teachers
Racing to Beat Ovarian Cancer

Other Insights . . . Reflections of the Teacher

will consider an initiative like this if the opportunity arises.

This project had an overwhelming impact on me. I was amazed at the enthusiasm and dedication of the kids. I was also floored by the success and lasting impact of the event. We never thought we would have that many participants or would raise that much money or that the event would be talked about.

“\nI have never seen students so passionate, determined, or proud when working on a project. This is something they will remember forever. The event they created was more successful than we could ever have imagined. It not only raised funds but raised awareness."

— Katie Benton, Barrington Elementary School
What Ideas Can You Add?
Lean on Me for Haiti

Written by Molly Miely, Jones Middle School, Upper Arlington Schools — Upper Arlington, Ohio

“I was able to help lots of people who needed it. I can do anything. I feel unstoppable, and no one can take that away from me.”

— Sarah S., 6th grader at Jones Middle School

The Big Idea

Sixth graders at Jones Middle School used their collective academic and natural gifts to address a critical medical need in Haiti, and in doing so, realized they can make a difference in the lives of others.

Investigation

The day after the devastating earthquake in Haiti in January 2010, students came to school consumed with worry and concern for the Haitian people. In social studies, they viewed a Kids CNN current events report about the earthquake. The story and photographs of the victims compelled them to learn more, so we began to read and research. Students learned more about the country of Haiti, the January 12th earthquake, and the needs of the victims. One of the most intriguing facts to the students was that before the tragic earthquake, Haiti was already the poorest country in the Western hemisphere.

The students also were very concerned as each of the many aftershocks took place. They learned that even before the earthquake, there were many Haitians with amputations and so there was already a huge need for mobility devices. Now, after the earthquake, there was a much bigger incidence of amputations due to the many crushing injuries and to infection. The specific fact that made the most impact on the students was that of the 250,000...
Lean on Me for Haiti

Injured in the Haiti earthquake, **150,000 lost limbs or will lose limbs from infection**. Crutches, canes, walkers and prostheses were needed in Haiti even more now, and the **students were more determined than ever to help however they could**.

**Preparation**

The students learned about Haiti through current events articles on the Internet, and newspapers and magazines provided additional written accounts and photographs of the conditions there. The students learned about the **Haitians’ needs, the weather, the land, the culture, and the native languages**. Every day, a different student posted a “Did you know?” fact about Haiti on the whiteboard in the classroom. Each fact generated quite a bit of interest, discussion, and further research among the students.

Students used the Internet and books to **research all aspects of earthquakes**. They learned about aftershocks, where earthquakes are most likely to occur, and where and when the most tragic earthquakes have taken place in the world throughout history. The students learned **new vocabulary words like magnitude, fester, amputation, prostheses, prosthetist, and prosthetic**.

Through the Internet, **students found Dr. Alan Koslow, a vascular surgeon from Des Moines, Iowa, who had been to Haiti twice since the earthquake to perform amputations and provide medical care.** We read about him and viewed photos of his endeavors on his website. Students wrote business letters to contact him for a Skype session. Before the Skype session, students planned a schedule of events, wrote a welcome, introductions, questions, and planned follow-up questions. They planned to sing “Lean on Me” as students entered the room for the Skype session, and they planned thank-yous, appreciations and good-byes at the end. As the planning for the Skype session took place, students worked together in pairs or small groups to write and edit their presentations.

During the Skype session, Dr. Koslow told stories of his experiences in Haiti and shared firsthand information about the people and their needs. One story included a 7-month-old baby named Moses whom he had helped save. **Dr. Koslow discussed the high number of amputations and suggested that our students could help by providing mobility devices for patients in Haiti.** Students were intrigued by this idea. It was concrete, and a small amount of money they had already raised from having a candy sale could be used in a meaningful way. The students also knew that many of them had crutches no longer being used at their homes and they were ready to donate.

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Rigor, Relevance and Relationships

Service-learning has demonstrated the potential to provide a curriculum that is rich in rigor, relevance and relationships—three elements of learning that play a crucial role in the school improvement process, according to Bill Daggett and his associates at the **International Center for Leadership in Education**. Consistent with these elements, research clearly shows that students who participate in high quality service-learning experiences become more engaged in learning, more committed to their communities, and more empowered to make positive life and career choices.

*International Center for Leadership in Education, www.leadered.com*

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RIGOR . . . At this point in the project, students were motivating each other; and their level of work and engagement increased in an amazing way. I think also at this point, I became facilitator of this project. The students were teaching each other and I, too, was learning from them.

-- Molly Miely
Lean on Me for Haiti

The students got much more from Dr. Koslow than great information and ideas for how to help. His hard work and passion motivated and inspired my students to want to help immediately.

Action

Based on what the students learned from Dr. Koslow about the number of amputations in Haiti and the need for mobility devices, they decided to collect crutches, decorate them with messages of love, hope, support, and encouragement, and send them to Haiti. Dr. Koslow had suggested that students send the crutches to Physicians for Peace, c/o the organization’s headquarters in Norfolk, Virginia.

As the crutch collection got underway, the students became immersed in this project. They set up and decorated donation boxes. They contacted the media and other businesses for their help through email, business letters, phone calls or personal visits. They designed, wrote, edited, decorated, and posted fliers around the school and in nearby businesses.

Some students assumed responsibility for making daily announcements about our collection to the school. Two students wrote, edited, and sent a news article “for immediate release,” and a reporter contacted them for an interview and printed the article.

The students were absolutely thrilled, and the publicity generated additional donations from around Columbus. Another student wrote a business letter to a local orthopedic center, requesting support with donations of crutches. To our students’ delight, the Ohio Orthopedic Center of Excellence (OOCE) responded, and through this partnership, many donations came in. OOCE posted information about our crutch collection on their Facebook page, which boosted our momentum further.

Soon the 6th graders were featured in news articles in The Columbus Dispatch and The Upper Arlington News. Students learned the importance of social networking and the media. Visitors from all over central Ohio came to Jones Middle School or the OOCE to donate crutches and sometimes, monetary funds as well.

Our crutch collection literally took off. Crutches had previously been coming in one pair every other day; after the news article and the Facebook posting, our collection boxes needed to be emptied many times a day. The students were totally amazed and empowered by this. Their project was clearly successful, and they had involved many people beyond their own school community of students, staff, or so; after the news article and the Facebook posting, our collection boxes needed to be emptied many times a day.

RELEVANCE . . . Now, after the earthquake, there was a much bigger incidence of amputations due to the many crushing injuries and to infection. The specific fact that made the most impact on the students was that of the 250,000 injured in the Haiti earthquake, 150,000 lost limbs or will lose limbs from infection. Crutches, canes, walkers and prostheses were needed in Haiti even more now, and the students were more determined than ever to help however they could.

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A typical service-learning project includes five components:

Investigation: Teachers and students investigate the community/world problems that they might potentially address. Investigation typically involves some sort of research and mapping activity.

Planning and Preparation: Teachers, students, and community members plan the learning and service activities, and address the administrative issues needed for a successful project.

Action: The “heart” of the project . . . engaging in the meaningful service experience that will help students develop important knowledge, skills, and attitudes, and will benefit the community.

Reflection: Activities that help students understand the service-learning experience and think about its meaning and connection to them, their society, and what they have learned in school.

Demonstration/Celebration: The final experience when students, community participants and others publicly share what they have learned, celebrate the results of the service-learning project, and look ahead to the future.

Assessment is part of all activities to ensure that the learning and development that occur through service-learning can be measured, and to help diagnose student needs, provide feedback, and improve instruction.

Lean on Me for Haiti

and parents. Crutches and donations coming in from cities even an hour away motivated the 6th graders even further.

During this time, we learned of and invited a prosthetist, Jason Macedonia, to visit. He spoke to the students about his job and shared a wide variety of prosthetic devices, how they were used, and how they were fitted. The 6th graders talked about the demonstration and sharing of prosthetic devices for quite some time. It was a new area of learning for them, and the students were fascinated by the different types of prosthetics and their uses. After the visit with Mr. Macedonia and the Skype session with Dr. Koslow, students wrote and decorated thank-you letters in friendly letter format to both.

The crutch collection was accomplished without any start-up costs; however, money would be needed to mail the crutches from Ohio to Physicians for Peace in Norfolk, Virginia. Physicians for Peace would then take the crutches to Haiti at no cost to us. Our small amount of already-raised funds from the original candy sale was not going to cover the many donations of crutches that now continually overflowed the boxes at Jones Middle School, so the students brainstormed ways to raise more money for shipping. Students decided to host a crutch-game festival at their school. They would charge a small entrance fee to those who attended.

Students planned the lunchtime game festival and named it “Limb-O-Fest.” The cost would be $1 or a donation of a pair of crutches to come to the Limb-O-Fest and play games in the football field area. The 6th graders began designing and practicing the games and publicizing the event over the school announcements. They also put up handmade posters in the hallways of the school.

The games planned were a limbo contest with a crutch, crutch baseball, crutch putting—and in honor of Haiti’s national sport, soccer. The students included an area for students to try out the use of the crutches. They also set up and ran a card-making station. Cards would be decorated and tied onto each set of donated crutches.

For the cards, students researched Haiti’s languages of French and Creole, developed appropriate phrases, and made examples for the other students to see. Some of the French phrases the students used were “Restez Forts!” (Stay strong/brave!), “Nous aimons le Haiti!” (We love Haiti!), and “Appuyez-vous sur les Etats-Unis, Haiti!” (Lean on the United States, Haiti!). Some of the Creole phrases used were “Alo” (Hello), “Mwen regret sa” (I’m sorry), and “Mwen renmen ‘w” (love).

During the festival, some students acted as photographers or videographers, some were money/crutch collectors, some were game runners, and some were information givers. At the end of the Limb-O-Fest the students cleaned up and
Lean on Me for Haiti

returned the crutches to the school where they were stored for shipping.

A few days after the Limb-O-Fest, the students decorated the crutches, walkers, and canes with messages. The art department at Jones helped to determine the best medium to use for decorating the crutches. They decided on permanent sharpie markers of all different colors and sizes. The students used the already generated list of appropriate French and Haitian Creole words to write phrases on them. They also drew pictures and symbols known universally, like hearts and smiley faces. While crutches were being decorated, some students sized, organized, measured, and counted the items to get them ready for shipment.

During the month-long crutch drive, the 6th graders collected over 220 pairs of crutches, as well as over two dozen walkers, more than two dozen canes, some boots and a few braces. A total of $500 was also collected, some from the original small candy sale and loose change collection.

We hoped that $500 would be enough to mail our crutches to Norfolk. However, before we could ship them, we found another contact through the Internet. Dan from Lifeline Christian Mission was willing to pick up our entire collection of crutches and deliver them to Physicians for Peace at no cost to us! The students were soon calling this person “Dan the Man,” and he became a true Everyday Hero to them. After a few phone calls to make arrangements, “Dan The Man” came to our school, and students helped load his truck. Later he followed up with an email of photos to us. Because of Dan, 100% of the money we raised went toward the purchase of medical parts to attach prostheses.

Reflection

In each of the months April, May, and June, students did reflective writing about one or more events at school and decorated the pages with original artwork and photos depicting the writing topic of the page. The prompts were, “Think about what you did this past _____ (April and May) for others and write about it. What did you do? How did it make you feel? Be descriptive. Include clip art, photos or original artwork,” and for June, “Think about your year at Jones Middle School. What did you do that was meaningful? What did you do that was important to you? Write about it. Be descriptive. Include original artwork and a recent photo of yourself.” Students compiled their reflections in scrapbooks.

The scrapbook pages from April, May, and June revealed the students’ feelings of fascination, success, and empowerment surrounding this project. One student wrote, “We’ve done service-learning before, but no project this big or this fun!” Students also wrote and decorated thank-you letters to representatives of all partnerships involved.
Lean on Me for Haiti

Celebration/Demonstration

We celebrated in the classroom daily with the posting of a current count of the crutches and other mobility items collected. At first, small success was celebrated. When the boxes were continually being filled multiple times a day, we celebrated in amazement with each new update on the crutch count board.

Students were able to celebrate often because throughout this project we received kind and congratulatory emails from various people in the central Ohio area. Some of these people had seen the article in The Dispatch, and some had seen the Facebook posting. Some wanted to simply tell the 6th graders “Good job,” while others wanted an update on the crutch count. As students read and reacted to the emails, their faces were full of pride.

Finally, when the crutches were picked up by “Dan The Man” to be sent to Physicians for Peace, students celebrated. Some students carried crutches while the other students directed and held doors. As the crutches exited the building and were placed in Dan’s truck, the visual of the truck stuffed with crutches was hugely significant because the students realized all of their hard work was going out the door to the people they intended to help. A group photo was taken, and the students cheered and high-fived each other. The students were realizing the fruits of their labor.

“I read the article in the newspaper. OUTSTANDING! What I could sense was that the students are truly inspired! This is very real for them—they are very connected.”

— Columbus attorney

“I want to congratulate you on the Haiti project. You are doing great, meaningful work.”

— Columbus attorney

and then head out the door to pick up the donations.

The zoning of our classroom phone soon became cause for celebration. Most often the call was from our building secretary letting us know that the crutch collection box was again overflowing or that someone had recently dropped off a batch of crutches and/or a monetary donation for us. A student would answer the phone, take the message and then relay the message to all in the room. Students would cheer,

and then head out the door to pick up the donations.

The Limb-o-Fest was a demonstration/celebration in itself. This event was well planned and executed because the students hosted it— they owned it. It was a huge celebration for the 6th graders because as they said, “It was a blast, and we were making a difference helping others.”

The students also celebrated when they were featured in the news. When the articles appeared, a number of students brought them in and posted them in the classroom.

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“BRAVO! I am so impressed with the effort to help those struggling in Haiti. Congratulations on a wonderful job!”

—retired principal
Lean on Me for Haiti

Assessment/Evaluation

Factual knowledge about Haiti and earthquakes was demonstrated through informational writing. French and Haitian Creole phrases were learned, written, and taught to others appropriately. Sharing of information took place through news articles that were written and published. The skills learned and practiced included: interviewing, business and friendly letter writing, announcement writing and delivery, Skype session planning, flier making and posting, poster making, and emailing. Self and peer editing of all student work occurred throughout the project.

Student reflection journals and drawings were completed monthly and were a part of a bigger 6th grade yearly scrapbook project detailing the events of the students’ 6th grade year.

Individual and group assessments occurred through each student’s involvement in this project. Each student was involved in a meaningful way and contributed significantly in the amount of time committed to making this project work. Students demonstrated collaboration by organizing the group, helping others, listening, problem solving, compromising, and cooperating. Successful completion of the tasks was evidence of this teamwork.

In addition, students verbalized and demonstrated an understanding of real-world work by collaboratively planning and carrying out a complex project to meet a tangible need. And they did so with compassion, insight, and commitment!

Curriculum Connections/Standards

Social Studies: research skills; knowledge of current events; geography, history and culture of Haiti
Language Arts: business and friendly letter writing; persuasive writing; public speaking; vocabulary
Math: measurement; currency
Science/Health: game design; question writing; infectious diseases; body parts; weather
Global Language: reading; writing; French and Haitian Creole phrases
Physical Education: soccer; baseball; golf
Art: drawings on crutches; scrapbooks and cards; research of best medium for crutch decorating
Reading: literature connections; author study
Lean on Me for Haiti

21st Century Skills

The Partnership for 21st Century Skills has identified the elements described in the sidebar on the left as the critical systems necessary to ensure 21st century readiness for every student. Though the Lean on Me for Haiti service-learning project clearly demonstrates connections to many of the skills, the following outlines two skills in detail.

Initiative and Self-Direction: For the Skype session with Dr. Koslow, students self-selected various elements of the Skype session in which to be involved. The order of events planned by the students was a welcome, introduction/bio of Dr. Koslow, questions, follow-up questions, thank-yous, appreciations and good-byes.

One student who struggled in Language Arts volunteered to write and deliver one of the longer parts of the session, and I was not sure the final product would be appropriate. She was, however, unwavering and extremely motivated to deliver this portion of the session.

After researching about Dr. Koslow, she wrote and edited her part independently and practiced at home. Most importantly, she did a beautiful job presenting her portion of the Skype session! No one would ever have guessed that Language Arts was not one of her strengths. I celebrated her success, and so did her peers. Many of the students chose to write about the Skype session as part of their reflection, and they included the wonderful job this student did. This student raised her own level of rigor and was extremely proud of herself in the end.

Impact: Kids Using Their “Best Stuff” to Make A Difference

Students had opportunities to “do the work of real people” in a variety of ways:

Announcers—Mackenzie, Fiona, Samantha, and Taylor made announcements daily to everyone at Jones Middle School.

News article editors/writers—Mackenzie and Madeline wrote to the UA News the first day of this project. Their intent was simply to publicize that we needed crutches donated. Instead, the reporter called, and the students were interviewed for an article.

Letter writing/email—Students wrote and e-mailed letters in business format

Photographers/videographers; Collectors/organizers; Game designers/planners/runners; and Artists—on crutches, cards, posters, and fliers

Students worked during class time, but they also spontaneously came in during lunch, after school, and in between classes to work on the project. They had great ideas to improve and move the project forward. I became the facilitator, and they ran
Lean on Me for Haiti

the project. Each student found his/her own strength and passionately used it in some way.

Students learned a lot about teamwork. They worked in pairs, small groups, and large groups on this project by brainstorming, talking to each other, listening to each other’s views and ideas, and then compromising. They realized that by putting their ideas together, they could make a difference in the lives of others.

They could see concrete evidence of their work toward this project by numbers of crutches collected and money raised. The students were also utterly amazed that they could gain support from others throughout the central Ohio area.

The difference they made was huge in the lives of others and to the students themselves. They found a real-world need and answered it with concrete, tangible help and artistic expression. They felt that the fruits of their labors were able to make a difference both physically and emotionally for those less fortunate than themselves.

Donations began to come in from various parts of the city. The donations also came from a variety of people, many of them seniors in the community who needed help getting the donation into the school building. The 6th graders helped these people with their donations by going to the car with them, unloading the car, and visiting with them along the way. The young adults and older adults were mutually appreciative.

In terms of how I saw some individual students grow throughout the project, Dr. Koslow and “Dan the Man” both had an enormous impact. Students began to talk about how they were looking to the future and were thinking seriously about wanting to do what these two men did to help others. My students have benefited from seeing these examples of real adults doing work that they love.

Because of the intense interest in this project, students were motivated and therefore, they learned at a faster pace and at a high level. They were taking knowledge learned, applying it, and then learning more. And they were choosing to do so even during their non-school hours.

As Charlie M. said, “After our Skype session with Dr. Koslow, I watched

“We collected hundreds of crutches. We helped a lot of Haitians walk again. Ads went in the newspaper, people posted things on Facebook, and the whole community helped. To think that this all started with 6th graders at Jones Middle School is really surprising.”

-- CJ K., 6th grader

some of his Youtube videos, and they were surprising because I did not know the extent of the earth-

“In the month of May, our entire ‘house’ of 104 students did a fundraiser for Haiti, where a terrible earthquake had occurred. Many people in Haiti had lost limbs and needed crutches. We collected so many crutches they all didn’t fit in Mrs. Miely’s room. We’re just a bunch of kids in UA, but we did a lot for Haiti and I’m glad we could help.”

-- Jack C., 6th grader

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**Lean on Me for Haiti**

quake damage. I will remember the information and use it to help Haiti some more in the future.” Charlie M.

**Next Steps/Call to Action**

The **Ohio Orthopedic Center of Excellence** was a huge support to us with this project, and they would love to work with us again. **Physicians for Peace** will be sending back photos and video of our crutches being used in Haiti, and the students look forward to that.

We certainly hope that there is no new disaster, but should there be one, students want to do this type of project again, and a lunchtime game festival would be easy to implement.

**Other Insights . . . Reflections of the Teacher**

Overall, it feels great to help others. The giver and the receiver both benefit so much. At the end of this project, I read this reflection from one of my most challenged students. It was truly inspiring: “**I was so astonished when Dr. Ko-slow talked about the Haiti people and how kind and wonderful they are even though they are not very fortunate. Someday I’d like to go to Haiti. Not to go on vacation, but to help! This project has inspired me.**”

*Gabriella A.*

I was totally surprised at how quickly the phrase “**Dan The Man**” was picked up by the students and used with respect and admiration. “Dan the Man” became an “**Everyday Hero.**”

It was magical when the classroom phone would ring and I would see the wide-eyed look of surprise, pleasure, amazement, and pride on my students’ faces. **Kids were so immediately engaged, connected, and empowered by this project.**

Without my request and starting the very first day, students came after school or before school to write and edit announcements and articles for the newspaper, create fliers and posters, and decorate boxes. **At night, I received emails from students sharing ideas or request-ing editing.** It amazed me that that level of motivation did not wane.

The biggest aha moment was when I realized I was facilitator and part onlooker and not in charge of the action. The magic was totally felt when this **Columbus Dispatch** article appeared. The article was well written, kids were quoted, and the photos were fabulous. After this article appeared, we heard from many, many people.

To read the complete article, log on to: dispatch.com/live/content/
Lean on Me for Haiti

I discovered that when students are truly engaged, they do not care about or want the end of the school day or school year to come.

Timing is key and can be both good and bad. It was important to listen to student voice, which drove this project. However, sometimes the “regular” school or team schedule does not fit well with the immediacy of planning and completing a project such as this—so adjustments must be negotiated.

The next time this type of project is conducted, it will need to be run as an International Baccalaureate, Middle Years Program (IB MYP) unit of study (Jones is becoming an IB MYP school). So that will be a new challenge.

“Lean on Me for Haiti” really got to the heart of it all. Students answered a real medical need and combined it with artistic expression.

It sometimes seems risky to take on a project such as this. We, as a teaching team, discussed it and decided that even if we got just ten pairs of crutches, we would be successful. We never imagined that we would collect over 220 pairs of crutches, along with many walkers and canes. That was a wonderful, concrete outcome, but even better was the non-concrete but still visible impression this project left on the 6th graders. They will remember this project and are changed because of it.

“I’ve done service projects before, but nothing this big or educational or fun. It was all a great thing to do, and I hope we do something like it again. I know I will.”

Someday I want to go to Haiti to help the Haitians when I’m old enough. A person can change another person’s life, but together we can change the world. Dr. Koslow has saved lives and made a difference. I want to do that!

— CJ K., Jones Middle School 6th grader
What Ideas Can You Add?
The Lost Boys of Sudan

Written by Loretta Heigle, Jones Middle School, Upper Arlington Schools — Upper Arlington, Ohio

“This project gave me the assurance that I can accomplish anything I put my mind to, any goal I set. I can truly believe after this project that anyone and everyone can make a difference.”

— Claudia, 6th grader at Jones Middle School

The Big Idea

Sixth grade social studies classes at Jones Middle School in Upper Arlington, Ohio not only took on the plight of the Sudanese refugees called the "Lost Boys" -- they learned some valuable life lessons along the way.

Investigation

In an article in Junior Scholastic newsmagazine, our students read of the terrible situation of Sudanese boys who were refugees from the civil war going on there. The boys had to flee Sudan to hoped-for safety in Ethiopia, only to discover that they had to retrace some of their steps to get to a refugee camp in Kenya. During the long journey on foot, they faced wild animals, hunger, a lack of water, and war.

While the sixth graders were influenced by the words of the article, it was really the photographs of undernourished children that most affected them. These suburban children were terrifically impacted by the thought that children their own age had to travel hundreds of miles to find safety without their families to protect them.

I decided to abandon our planned, more traditional study of various countries to focus specifically on Sudan, its people, and how we could help the Lost Boys. The students truly took this project and made it their own.
The Lost Boys of Sudan

Preparation

We used a wide variety of resources to gather information about Sudan and the Lost Boys. We learned of Sudan’s cultures, the civil war, the religions, customs, weather, roles of men women and children, and why there were no Lost Girls.

Articles in news magazines, newspapers, and the Internet gave us facts about the situation in Sudan and Kenya. One student contacted a Lost Boy who had emigrated to the U.S. and was living in Michigan. We set up a phone interview with Emmanuel Makender and asked him questions the students prepared in advance to get his perspective. We also invited a Sudanese woman living in Columbus to come speak with us about life in Sudan. Students created Venn diagrams to compare Sudan and the United States and gathered so much information that they were certain they would never forget it.

Action

Based on our research and conversations with Sudanese people, we decided to send individual boxes of supplies to the Lost Boys at Kakuma Refugee Camp in Kenya. In addition to the personal hygiene supplies that the students first thought were needed, educational supplies such as pens, pencils, and paper were collected. We added the educational supplies because every Lost Boy we knew of spoke of the importance of education to make his country strong again and also spoke of returning to Sudan to help out his people and his country.

The sixth graders also decided to raise money to help the Lost Boys who were still in Kenya and to spread the word here in the United States about the plight of the Lost Boys. Their original goal of $1,000 was quickly surpassed, and they ended up collecting over $4,000.

Sixth graders worked collectively and individually to inform people of the situation of the Lost Boys and to raise money and supplies to help them. Some students prepared presentations and spoke to elementary school classes and community organizations. Everyone was involved in fundraisers such as bake sales, trinket sales, morning doughnut sales, and loose change collections. Some students developed brochures and letters that they sent to friends and relatives asking them for help.

Others contacted television stations and newspapers to ask...
The Lost Boys of Sudan

them to help us get the word out. Individuals wrote to Oprah and other celebrities to try to increase awareness. When a student contacted our congresswoman, her office also helped with research. Various business locations around our community displayed collection boxes that students created in order to collect money and supplies for the Lost Boys.

One of our biggest challenges was finding a way to get materials to the refugee camp in Kenya. Many adults told us that our project was a noble one, but there was no way we would be able to cover the cost of shipping materials to Africa. Those adults hadn’t figured on the ingenuity of 12 year olds. Maggie, a late night television watcher, saw a piece on an international relief organization located in the United States. When resourceful Maggie contacted the organization, they told her that they would get the supplies to the refugee camps if we could get the materials to their office in Oklahoma. This was no small task in itself. But once again,

**RELEVANCE . . .** What could be more relevant than realizing that you are truly impacting the world? These kids had a passion and a purpose for learning and for taking action. As one of my students, Mike, said, “I learned that if everyone did what we did, then the world would be a much better place.”

--- Loretta Heigle

**Reflection**

Students kept journals and portfolios of their work on the project. The portfolios were used for reflection and documentation of individual and small group involvement. There were regular written and graphic reflection times during class, as well as a variety of discussions and presentations. All of these strategies helped students attach personal meaning to their experiences.

**Celebration/Demonstration**

In addition to our own celebrations in the classroom, students were recognized by the Upper Arlington City Council and Columbus City Council. Junior Scholastic newsmagazine ran a follow-up article that spotlighted the sixth graders’ project, the amount of money raised, and the impact this experience had on students.

At the very end of the project, students also researched refugee agencies that were helping the Lost Boys in Kakuma. Groups of interested students presented in the school auditorium to the whole sixth grade to make the case for a specific agency. It was a great example of authentic assessment since everyone was invested in the project and interested in sending the $4,000 to the most worthwhile, efficient agency. After those presentations and follow-

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**K-12 Service-Learning Project Planning Toolkit. Created by RMC Research Corporation for Learn and Serve America’s National Service-Learning Clearinghouse**

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The Lost Boys of Sudan

up discussion, the students chose to send the money through UNICEF.

An unexpected celebration occurred when a group from the Kellogg Foundation visited our school. Former astronaut and Senator John Glenn was a part of the visiting team. It’s hard to describe the thrill of having a real American hero in our classroom to hear about this project.

Assessment/Evaluation

Factual knowledge about Sudan and the Lost Boys was demonstrated through informational writing, Venn diagrams comparing the U.S. and Sudan, verbal sharing of information, morning announcements, presentations to our own class and to other classes in the school and the district, presentations to community groups, and Public Service Announcements (PSAs) on our local radio station, CD101.

Periodic checkpoints were conducted when students documented their involvement individually, in groups, and in class work. These self-assessments were very important as students not only recorded their involvement, but also reflected on its importance and on what they might do next.

In addition, each student maintained a portfolio of individual work where he/she could collect any fliers, articles, persuasive letters, presentations, or other evidence of involvement in the project.

Curriculum Connections/Standards

Social Studies: regions of the world; roles of men, women, and children in a country; geography; latitude and longitude; religion

Language Arts: public speaking; persuasive writing; informational writing

Math: currency; population graphs

The visitors brought along supplies to donate to the Lost Boys. However, part way through the students’ presentation, Senator Glenn got up and began walking in front of the other adults with an empty box. He told them that they hadn’t brought nearly enough to contribute to the hard work of the sixth graders. His spontaneous effort resulted in another $100 for our project.

"We would have learned about countries and found out where they were, but now that we are doing the Lost Boys project, we are learning those things and helping people at the same time."

-- Christine, 6th grader
Partnerships Make A Difference  39

21st Century Skills

The Partnership for 21st Century Skills has identified the elements described in the sidebar on the right as the critical systems necessary to ensure 21st century readiness for every student. Though the Lost Boys of Sudan service-learning project clearly demonstrates connections to many of the skills, the following outlines one skill in detail.

Communication and Collaboration:
Students really talked with each other and honestly listened to ideas from other people. They were aware and appreciative of the skills and efforts of other students. Individual students who were previously on the outside became an integral part of the effort. In addition to collaborating within the school, students tapped into community resources and engaged citizens in our effort.

Students presented to other classes and community groups to persuade them to help us with the project. Students contacted media outlets, legislative offices, and community businesses to get publicity for the project.

Impact: Kids Using Their “Best Stuff” to Make A Difference

Students who were not always academic super-stars provided much of the leadership for this project. They used their interpersonal skills, dogged determination, networking ability, and courage to contact a wide variety of community agencies and media outlets. They were fearless! Other students who had often been “on the outside looking in” became an integral part of the effort. Here are some examples: Maggie used her power of persuasion, contacting countless community members, watching late night television where she discovered a helpful children’s relief organization, and informing the Junior Scholastic staff about the impact of their article. Maggie was invited to New York City to Scholastic headquarters for a tour and several pats on the back.

Jayne organized the sale of student drama performance videos to raise money for the Lost Boys. She and her family duplicated the videos and sold them to interested families.

Holly designed a professional looking flier to mail to family and friends informing them about the Lost Boys’ situation and asking for contributions.

Other students developed informational literature to distribute in their own neighborhoods to raise awareness, supplies, and money.

Relationships . . . The unexpected and wonderful result of this collaborative project was the sense of working together that occurred. People who had never joined together before were shoulder to shoulder, digging into information and working hard to accomplish their goals.

-- Loretta Heigle

21st Century Skills addressed and demonstrated by The Lost Boys of Sudan service-learning project:

- Global Awareness
- Financial, Economic, Business, and Entrepreneurial Literacy
- Civic Literacy
- Health Literacy
- Creativity and Innovation
- Critical Thinking and Problem Solving
- Information Literacy
- Media Literacy
- ICT (Information, Communications, and Technology) Literacy
- Flexibility and Adaptability
- Initiative and Self-Direction
- Social and Cross-Cultural Skills
- Productivity and Accountability
- Leadership and Responsibility

Aaron visited a local party supply store and purchased at wholesale prices various trinkets of interest to middle school students. He then received permission to sell them at school during lunch and as part of bake sales. This raised a surprising amount of money.

I can truly say that the leadership for this project came from the students themselves. My role was mainly as facilitator, cheerleader, and organizer of information. They provided the leadership for each aspect of the project: collecting supplies, raising money, contacting community agencies, and supporting each other’s efforts.

From the first newsmagazine article, students were appalled that children their own age had to travel many hundreds of miles to find relative safety. They also learned about the role of men, women, and children in Sudan and the importance every Lost Boy placed on education and returning to help his country some day. These 6th graders in Upper Arlington, Ohio really got the idea that people in other places face a very different world from theirs. They spoke often of how it made them feel terrific to know that they were helping even one of the Lost Boys to have a better life.

One thing that made the students in this service-learning project especially proud was knowing that they had made a difference in the lives of young people halfway around the world and that they had done it as a group of sixth graders with a vision.

Next Steps/Call to Action

My students said that, “we’ve learned a lot about making a difference.” They’ve learned that no matter who you are, you can make a difference. They’ll take this knowledge into 7th grade, high school, and adulthood. Nothing can hold them back. They can do anything.

They also said that they hope that the things they’ve been doing for the Lost Boys will encourage the next 6th graders that will come to work on the project and hope they can continue the project.

To learn more about how to help children affected by civil war, log on to partnershipsmakeadifference.org

Help Bring Hope: sudanclinic.org

In addition, you may find these sites helpful:

International Rescue Committee: theirc.org
U.S. fund for UNICEF: unicefusa.org
Children’s Defense Fund: childrensdefense.org
Haitian Health Foundation: haitianhealthfoundation.org

“I have learned that almost anything horrible can be solved. The first time I heard about this project I thought there was no way we could help the Lost Boys because there are so many of them. But then we started to brainstorm ideas -- ideas that I thought wouldn’t work. But then we raised all that money and got all those shoeboxes. And now I know that we’ve already made a difference. And we can make more.”

-- Kelsey, 6th grader

“I’ve learned what a legacy is. I’ve learned what a survivor is, too. I’ve learned how to get positive attention. I’ve learned how to make a difference in the world. Every little thing you do can make a difference. You don’t have to be an adult to make a difference.”

-- Hilary, 6th grader
Other Insights . . . Reflections of the Teacher

I saw the students work together—**they truly became a team working on a common goal**. This was the first time in my experience that a group of students was truly the organizing, driving force behind a project. Once they became determined to take on this project, they worked collaboratively to make it successful.

The project took on a life of its own as the students encouraged each other, built on their successes, sought out resources, and took action to change the world. I wish that we had administered an attitude survey at the beginning of the project so that we could compare the results at the end. It would be great to be able to document the progress. I also wish I had taken more pictures of everyday moments of working on the project: counting money, working on presentations, packing boxes. Those images exist only in our memories.

> Service-learning is real world magic. And sixth graders can change the world.

—Loretta Heigle, Jones Middle School

**The Lost Boys of Sudan**

**Service-Learning Project**

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What Ideas Can You Add?
Build-A-Boat: Set Sail with St. James

Written by Vicki Petrella and Colleen Gomez, St. James the Less Catholic School, Diocese of Columbus — Columbus, Ohio

“What?”
A few fast facts . . .

- Students and teachers wanted to help in some way after the 2004 tsunami.
- 50 eighth graders
- Teachers: Vicki Petrella Colleen Gomez
- Curriculum Area(s): Language Arts, Communication Arts, Social Studies, Science, Music, Art, Religion
- Community Partners: Precious Blood Priests

This publication was created by the Legacy Group, Partnerships Make A Difference for Learn and Serve Ohio. Funds for this project came from the Corporation for National and Community Service.

The Big Idea

Our students answered a call for help from a Precious Blood Mission in India that serves a community devastated by the December 26, 2004 tsunami in the Indian Ocean. They built a boat, which restored a family’s income; built a daycare center; and revived a village’s sense of hope.

Investigation

Together with our students, we investigated ways in which, as a parish, we could help a Precious Blood Mission (which is an order of priests and nuns that staff a particular parish) in another part of the world. We contacted our former assistant pastor, Fr. Angelo Anthony. He came and spoke to our students. Fr. Anthohy explained that a Precious Blood Mission in India needed help to restore a fishing village that had been affected by the 2004 Tsunami.

We knew the students wanted a tangible goal toward which to work, so we decided to earn money for a boat, fishing nets, and a motor. We found out that it would be possible to purchase all of these items for around $3,000. The students were amazed by how much $3,000 could buy in a developing country. This was a valuable lesson for our students about the disparity of wealth in the world.

“Service at St. James is different from other schools because we understood the problem and fundraised to address the need. We didn’t just collect money for a cause.”

— Heather, 8th grader at St. James the Less School
We want students at St. James to appreciate the legacies of people who have “made a difference.” Beyond this, we want the students themselves to make a positive difference and continuously create legacies of which they can be proud. Toward this end, we use the Celebrating Everyday Heroes materials (available from Partnerships Make A Difference) in our Religion curriculum for 6th, 7th, and 8th grades to help students identify positive role models in the world and in their own lives.

At the end of each year, our 6th grade students recognize their “Everyday Heroes” at our Service-Learning Awards Ceremony. This recognition helps initiate the 6th graders into service-learning and prepares them to take a more active role the following year. Building on the 6th graders’ interest, we then implement a two-year model for service-learning that begins with student exploration of a given project and related issues during their 7th grade year and continues with fundraising and other positive action during their 8th grade year.

For the “Build-A-Boat” project, our 7th graders did a great deal of research. During Communication Arts class, they learned about tsunamis, relief organizations, India, weather alert systems, and the Precious Blood Order. In Social Studies, each student completed a project about a country in the area affected by the tsunami, for which they examined damage reports and relief efforts in each of the countries.

We made a connection through email and postal mail with the Precious Blood priest who was servicing a refugee camp for the people from a fishing village in the southeast corner of India. After the research, the students had a better understanding of the issues facing the tsunami survivors and were excited that they could help.

The teachers decided a good way to initiate the service-learning project was to choose a school theme for the year that would support the Build-A-Boat project. The theme “Set Sail with St. James” was chosen and provided the larger framework for the project and related activities.

In 2005, the outgoing 8th grade class wanted to leave a parting gift to contribute towards the Build-A-Boat project. They took a collection after their Lenten performance for the parish, and these donations served as our seed money for this project. This set a wonderful precedent for all future projects,
and our students have made the collection a tradition for the last five years. The collection has allowed the 8th graders to “pay it forward.” The 7th graders also wanted to contribute, so they organized a bake sale for the family picnic on the last day of school.

At the beginning of the Build-A-Boat project, students, teachers, and parents brainstormed fundraising projects. Our big events included the annual OSU/Michigan Submarine Sandwich Sale and a pancake breakfast. Parents helped with our fundraising efforts by volunteering their time for our activities and events.

Eighth grade students continued the research they had started as 7th graders. Using print sources and the Internet, they learned about tsunamis, which countries were affected in 2004, and what other countries did to help with relief. They also researched Red Cross efforts and Precious Blood Missions around the world.

Throughout their fundraising efforts, students worked together using spreadsheets to keep track of sandwich orders, and to make invitations for presentations to the whole school using the program Publisher. They also made presentations for the celebration at the end. Our original goal was to raise $3,000, but with the proceeds from our fundraising and donations, we earned $3,700.

Our students were able to realize that they could make a difference from the other side of the world by taking small actions in big ways. Mr. Kulthouse, the recipient of our money from Build-A-Boat, wrote to the children and said, “In January of 2004, I lost my oldest son in a fishing accident. He drowned in the water before my eyes. In December of that year, the tsunami took everything else from me, including my wife. My remaining son and I waited in the refugee camp for relief. Your boat has given me my life and my livelihood back.

-- Mr. Kulthouse, the recipient of the money from Build-A-Boat

RELEVANCE . . . In January of 2004, I lost my oldest son in a fishing accident. He drowned in the water before my eyes. In December of that year, the tsunami took everything else from me, including my wife. My remaining son and I waited in the refugee camp for relief. Your boat has given me my life and my livelihood back.

-- Mr. Kulthouse, the recipient of the money from Build-A-Boat

Attached to his letter was a picture of the boat with our school’s name on it. As an added surprise, we also received pictures of a daycare center. There was enough money left over from our contribution to provide this for the children of the area.

Students reviewed the “Celebrating Everyday Heroes” materials, which helped them think about legacy, role models, the gifts they have, and the gifts they see in people around them. They reflected about their own role models, and we tied this in with our study of saints before students received the


Build-A-Boat: Set Sail with St. James

sacrament of Confirmation. Students studied the work of Mother Teresa of Calcutta, and how her efforts impacted so many. They discussed and read her speech about being a “pencil in the hand of God.” Students then wrote essays that tied all of this together and explained how their service-learning work helped them make a difference. As a group, they wrote a song entitled “I Am a Pencil in the Hand of God,” and it has become an integral part of all our service-learning celebrations.

Students also reflected in journal format on what service-learning meant to them. Chris wrote, “Other 8th graders in neighboring schools raised money to pay for a school trip to Washington D.C., while we raised money to help someone around the world by being global citizens.” Heather said, “Service at St. James is different from other schools because we understood the problem and fundraised to address the need. We didn’t just collect money for a cause.”

We were fortunate to have great publicity for this project. The Precious Blood Priests sent a journalist from their publication, CPPS Today, to interview the students and learn about our efforts. The Catholic Times also came to do a story about our project. The students shared their efforts and helped the journalists gather information for the articles. Alexandra F. said, “We get to do projects that let us show our creativity. We do our own thing while we are still learning.”

Our students created a PowerPoint presentation as a summary of their project. They invited family and friends to celebrate at a party where they displayed pictures from the fundraising events that led to our success. They also built in time to thank some of our special donors and supporters. They created many displays of reflections and research projects and debuted the song that they had written as a class, which one of our 8th graders, Kim S., had put to music. Our students’ success story was shared with enthusiasm, creativity, and commitment and inspired other students and parents to become excited about future service-

Celebration/Demonstration

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Source: National Youth Leadership Council (www.nylc.org)

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K-12 Service-Learning Standards for Quality Practice

Meaningful Service: Service-learning actively engages participants in meaningful and personally relevant service.

Link to Curriculum: Service-learning is intentionally used as an instructional strategy to meet learning goals and/or content standards.

Reflection: Service-learning incorporates multiple challenging reflection activities that are ongoing and that prompt deep thinking and analysis about oneself and one’s relationship to society.

Diversity: Service-learning promotes understanding of diversity and mutual respect among all participants.

Youth Voice: Service-learning provides youth with a strong voice in planning, implementing and evaluating service-learning experiences with guidance from adults.

Partnerships: Service-learning partnerships are collaborative, mutually beneficial, and address community needs.

Progress Monitoring: Service-learning engages participants in an ongoing process to assess the quality of implementation and progress toward meeting specified goals, and uses results for improvement and sustainability.

Duration and Intensity: Service-learning has sufficient duration and intensity to address community needs and meet specified outcomes.

Source: National Youth Leadership Council (www.nylc.org)
Build-A-Boat: Set Sail with St. James

Assessment/Evaluation

learning projects. In language arts, students conducted research and wrote formal research papers about the global issues related to this project. In social studies, they were assessed on their knowledge of geography and world regions. By analyzing a United Nations report, they also demonstrated their understanding of the problems caused by the tsunami, and what those in the region who were not directly affected were doing to help their neighbors.

Curriculum Connections/Standards

region who were not directly affected were doing to help their neighbors.

Social Studies: regions of the world, latitude and longitude, international issues (such as distribution of economic activities), landforms, climate, seismic activity, identifying information from primary and secondary sources

Religion: mission of service for the church, development of the Christian person’s call to dignity, relationship, and service

Communication Arts: comprehension skills, writing process, utilizing a variety of print and non-print text for multiple purposes, writing informational essays or reports, using technology to summarize and present information.

Math: currency, data analysis, problem solving strategies

21st Century Skills

Science: physical science, weather, earthquakes, tsunamis

The Partnership for 21st Century Skills has identified the elements described in the sidebar on the right as the critical systems necessary to ensure 21st century readiness for every student. Though the Build-A-Boat: Set Sail with St. James service-learning project clearly demonstrates connections to many of the skills, the following outlines two skills in detail.

Financial, Economic, Business, and Entrepreneurial Literacy and Leadership and Responsibility: Our students realized that they were leaders by taking on responsibilities for learning and fundraising. They used their many individual gifts to make the project successful. They realized and appreciated each other’s strengths and talents. This built real community within the class and the parish. The project allowed them to feel valued. They were each able to make a big difference in their own way.
Impact: Kids Using Their “Best Stuff” to Make A Difference

How did your students use their individual gifts, passions and strength of character in carrying out this project?
The students used their gifts of writing, composing, singing, and technological expertise. They used their talents of persuasion to sell and their artistic abilities to draw advertisements. They used their speaking talents to present information. Each one shared the responsibility of fundraising by making and selling baked goods and submarine sandwiches.

Do you think your students felt empowered by this project? What “voice” and leadership roles did they have? How did they “take charge” of certain aspects of the project?
Yes, our students felt empowered. The pictures of the boat and daycare along with Mr. Kulthouse’s letter made a huge impact on the children. There was no doubt in anyone’s mind that we had made a difference. These students set the standards for service-learning at St. James. They left big shoes for future classes to fill.

In what ways did they develop a deeper appreciation/understanding of other viewpoints, perspectives, circumstances and/or backgrounds?
Service-learning helped them have a better understanding of problems around the world and allowed them to take ownership for finding a solution that they could accomplish.

How did they experience and demonstrate a stronger sense of community (within the classroom, locally and/or globally) and/or civic engagement?
The students educated the parish community when they requested its support. They also felt a close connection to the people of the fishing village in India. They had a better appreciation for the Precious Blood priests who serve our parish and those who serve around the world.

What aspects of the project made your students especially proud?
Our students were proud that they raised enough money to change many lives with simple actions. They also felt valued when they read the letter from the man who received the boat we bought. They were especially proud that the Dominican Sisters used the surplus to build a steel-framed daycare center for children who had lost a parent in the tsunami.

From the students’ perspectives, what difference did their efforts make?
They knew and believed that they gave people across the world hope and a brighter future.

Yaw said, “At St. James, we are changing the world; we just have to do it one village at a time!”

Are there any ways you haven’t yet mentioned in which the project benefited your students? Your school? The community/world and those you were trying to help?
Our project has been an inspiration
to those who have heard our success story. It set the bar for future service-learning at St. James. It made our parish aware of the great things our kids were doing at the school. Without our help, this man and his family would still be struggling to make a living and to shake off his depression from losing his wife, son, and livelihood. As an added bonus, we were able to help children have a safe place to stay while their single parents worked to make a better life for them, instead of roaming the streets without supervision.

**Other Insights . . . Reflections of the Teacher**

We always reflect on what worked and what needed improvement. We decided (in the future) we needed to incorporate the entire school in the service-learning project.

“(This service-learning project) excited me and allowed me to change up my teaching and explore another creative outlet.”

— Colleen Gomez, St. James the Less School

“I can’t describe how incredible it was when I read Mr. Kulthouse’s letter and saw the pictures. It made such an impact on the students when we shared it with them. This really was an example to all of our students about how service-learning can be so successful.”

— Vicki Petrella, St. James the Less School
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Reflection Guide - Day 5

• What have I learned today?

• What has moved me/resonated with me?

• Where does service-learning “fit” for me?
  -- How does it reflect/support my personal beliefs and values?
  -- How does it reflect/support my professional beliefs and values?
  -- Where does it fit in the legacy I hope to create?
  -- What gifts and passions can I bring to the process?
Project Based Learning: What’s In It for Me?

Exploring the What, Why & How of PBL

Session 6: October 15, 2013

Transitions from Monday

“Habits of Mind” Poster Activity

Jigsaw Activity: Insights from the Model Projects

Brain Research: Why Does This Stuff Work?

Small Group Planning/Feedback

Reinforcing Video(s)

Additional Tools, Resources, and Strategies

“Elevator Speeches” Activity

Concluding Reflections/Insights
PROJECT OUTCOMES

HABITS OF MIND

What behaviors are indicative of the efficient, effective problem solver? Just what do human beings do when they behave intelligently? Research on thinking and behavior reveals some identifiable characteristics of effective thinkers. It is not necessarily scientists, artists, mathematicians, or the wealthy who demonstrate these behaviors. They have been found in mechanics, teachers, entrepreneurs, salespeople, and parents—people in all walks of life.

The following habits of mind can be included in project outcomes and assessed through self-reflection, journals, discussions, or rubrics.

Persisting

Good problem solvers stick to a task until it is completed. They don’t give up easily. They are able to analyze a problem and develop a system, structure, or strategy to attack it. They have a repertoire and employ a range of alternative approaches. They collect evidence that their strategy is working, and if one strategy doesn’t work, they know how to back up and try another.

Managing Impulsivity

Good problem solvers have a sense of deliberativeness. They think before they act. They intentionally form a vision of a product, a plan of action, a goal, or a destination before they begin. They strive to clarify and understand directions, develop a strategy for approaching a problem, and withhold value judgments until they fully understand an idea.

Listening to Others with Understanding and Empathy

Good problem solvers learn to devote their mental energies to listening to other speakers and thinking through their positions. We wish students to hold in abeyance their own values, judgments, opinions, and prejudices in order to entertain another person’s ideas. This is a very complex skill, requiring the ability to monitor one’s own thoughts while attending to someone else’s words.

Thinking Flexibly

Good problem solvers are flexible thinkers and display confidence in their intuition. They tolerate confusion and ambiguity up to a point and are willing to let go of a problem, trusting their subconscious to continue creative and productive work on it.

Striving for Accuracy and Precision

Good problem solvers value accuracy, precision, and craftsmanship and take time to check over their products. They review the rules by which they are to abide, the models and visions they are to follow, and the criteria they are to employ, and they confirm that their finished product fits the criteria exactly.

Questioning and Posing Problems

Good problem solvers know how to ask questions to fill in the gaps between what they know and what they don’t know. They recognize discrepancies and phenomena in their environment, probe for explanations and information, and are inclined to ask a range of questions.

Applying Past Knowledge to New Situations

Good problem solvers learn from experience. When confronted with a new and perplexing problem, they will often turn to the past for guidance. They call upon their store of knowledge and experience for sources of data and for processes that will help them solve each new challenge. Furthermore, they are able to abstract meaning from one experience, carry it forth, and apply it in new and novel situations.

Continued on next page
HABITS OF MIND, Continued

Gathering Data through All Senses
Good problem solvers know that information gets into the brain through all the sensory pathways: gustatory, olfactory, tactile, kinesthetic, auditory, and visual. Most linguistic, cultural, and physical learning is derived from the environment by observing or taking in through the senses.

Creating, Imagining, and Innovating
Good problem solvers have the capacity to generate novel, original, clever, or ingenious products, solutions, and techniques. Creative human beings develop that capacity, trying to conceive different problem solutions by examining alternative possibilities from many angles. They tend to project themselves into various roles using analogies.

Responding with Wonderment and Awe
Good problem solvers have not only an “I can” attitude, but also an “I enjoy” feeling. They seek challenges for themselves and others. They delight in making up problems to solve on their own, and they request enigmas from others. They enjoy figuring things out by themselves and continue to learn throughout their lifetimes.

Taking Responsible Risks
Good problem solvers tend to go beyond established limits; they “live on the edge” of their competence. They accept confusion, uncertainty, and the higher risks of failure as part of the norm, and they view setbacks as interesting, challenging, and growth-producing. However, they do not behave impulsively. Their risks are calculated. They draw on past knowledge, are thoughtful about consequences, and have a well-trained sense of which risks are worthwhile.

Finding Humor
Good problem solvers can laugh at themselves. Laughter is universal medicine. Its positive effects on physiological functions include a drop in the pulse rate, the secretion of endorphins, and increased oxygen in the blood. It has been found to liberate creativity and provoke such high-level thinking skills as anticipating, finding novel relationships, using visual imagery, and making analogies.

Thinking Interdependently
Good problem solvers realize that all of us together are more powerful, intellectually and physically, than any one individual. We find ourselves increasingly more interdependent and sensitive to others’ needs. Problem solving has become so complex that no one has access to all the data needed to make critical decisions; no one person can consider as many alternatives as several people can.

Learning Continuously
Good problem solvers are continually learning. Their confidence, in combination with their inquisitiveness, allows them to constantly search for new and better methods. People with this habit of mind are always striving for improvement, always growing, always learning, always modifying and improving themselves. They seize problems, situations, tensions, conflicts, and circumstances as valuable opportunities to learn.

SMALL GROUP ACTIVITY
INSTRUCTIONS

“It’s About Problem Solving” – Integrating Habits of Mind

Read the descriptions of the specific Habits of Mind that are assigned to you. Then prepare to briefly explain your items to other group members by giving them some memorable highlights (stuff that will stick with them). For example, share with them:

1. A few key words or phrases (especially verbs) that capture the essence of each Habit.
2. A symbol that you would associate with each Habit.
3. A role model/well-known person that you would associate with each Habit.

“Elevator Speeches”

In your small group, prepare a 30-40 second “elevator speech” designed to tell your colleagues (those with little or no familiarity) three significant highlights about PBL. Specifically, please follow the instructions below:

1. If you are in a “What?” group, you need to identify three key characteristics of PBL that help answer the question, “What is it?”
2. If you are in a “Why?” group, you need to identify three reasons that help answer the question, “Why is it worth doing?”
3. If you are in a “How?” group, you need to identify three implementation tips that help answer the question, “How do you carry it out effectively?”

56 Partnerships Make A Difference
TOP 10 WAYS
PBL AND SERVICE-LEARNING ARE CONNECTED TO HOW OUR BRAINS WORK!!
TOP 10 WAYS PBL & SERVICE-LEARNING ARE CONNECTED TO HOW OUR BRAINS WORK!!

10. Research indicates that students involved in PBL/service-learning are less likely to use drugs or alcohol.

- When thinking about the effect of alcohol on an adolescent brain, think of rain on a fully constructed house versus rain on an addition under construction. Alcohol use during adolescence causes severe damage because the brain is still under construction.

- Heavy alcohol use interferes with the encoding of new memories. Alcohol interferes with the glutamate neurotransmitter. Glutamate aids the neurons in storing new memories and in learning. In the adolescent brain if glutamate effectiveness drops even a little bit, it can have a very negative effect. The negative effects persist into the early twenties.

- Any adolescent who is a heavy drinker has a smaller hippocampus, the structure that records new memories. Adolescents who drink a lot of alcohol end up having more memory and learning impairment than adults who drink the same amount because their brains are more susceptible to damage.

- The earlier a youngster starts to drink the higher probability that he will have alcohol problems or alcoholism as an adult. Drinking while the brain is developing encourages the brain to decide that it needs alcohol. Adults would have to drink more heavily to be as likely to write a tendency for alcohol use into their mature brains.

- Adolescents are oversensitive to the damage and undersensitive to the warning signs of too much alcohol. The sedation effects of alcohol are not as pronounced in the adolescent brain. The impairment of motor coordination is also delayed. That means that adolescents don’t experience the 2 major warning signals that go off in the adult brain—sedation, or tiredness, and motor problems, like slurring words or stumbling.
• It takes an adolescent drinker a lot more alcohol before these problems take effect. By then they can be dangerously drunk. It is most often adolescents we hear about who die of alcohol poisoning, not adults.

9. **Research shows that students involved in PBL/service-learning are less likely to use tobacco products.**

• Nicotine influences almost 2 dozen neurotransmitters. Neurotransmitters help the cells connect to one another and carry impulses from one brain cell to another and can affect our moods.

• Nicotine increases the receptors for itself in key brain areas so the brain adapts to the presence of nicotine and reacts negatively when it is absent, resulting in a craving and withdrawal.

• Nicotine increases the production of dopamine. Smokers really do feel good when they have a cigarette and feel down when they don’t.

• Nicotine affects the adolescent brain differently than it affects an adult’s. Tobacco company research showed that if a young person got to the age of 18 without lighting up, the odds were 5 to 1 that he or she would never use tobacco.

• Because of the different chemical/hormonal make up of the brain, nicotine affects the adolescent brain differently than an adult’s. They are more likely to get addicted and will get addicted more quickly.

8. **PBL/service-learning projects involve student choice, and choice changes the chemistry of the brain, as does working toward a desired goal.**

• When learners choose a task, their stress for performing that task is lower. They feel more positive about the task, look forward to participating, and this positive thinking triggers a release of brain chemicals called **endorphins**: dopamine and serotonin.

• Dopamine is the **feel-good hormone**.
  -- Humans are attracted to things that increase levels of dopamine.
  -- Drugs and alcohol increase the levels of dopamine in our brains, which is why we crave them—and that is also why illegal drugs are called **dope**!

• Serotonin is the **mood stabilizer**.
  -- With proper amounts of serotonin we feel relaxed and confident.
-- A lack of it causes depression or aggression
-- Prozac and Xanax increase our levels of serotonin
-- Chocolate increases levels of dopamine and serotonin, which may explain why some people actually crave chocolate.

• In addition, when the brain is involved in goal-setting, the brain’s attention span is narrowed to the task at hand, providing more hope of attaining the goal.
• The anticipated pleasure that comes from the hope of reaching a goal directs the brain to release more endorphins, such as the ones listed above.

7. PBL/service-learning involves individual decision-making which engages the pre-frontal cortex and aids in its development.

• The prefrontal cortex (PFC) is the executive center of the brain. Its job is to think ahead to consequences and to control impulses that shoot out of other regions of the brain.
• The PFC is still developing in adolescents. Teens do not have impulse controls like adults.
• Because the PFC wiring is incomplete, the adolescent PFC cannot always distinguish between a good decision and a bad one, no matter how intelligent a student is.
• The pre-frontal cortex develops with increased opportunities to practice this decision-making skill.

6. PBL/service-learning put students in novel situations. The brain is wired to find novelty in events and tasks. The brain recognizes and reallocates nerve cells to other areas and stimulates better neuronal connections when it is faced with a novel situation.

• The mind gravitates toward novelty and it is an essential need of the mind. Novelty means “unknown,” and the brain demands to know the unknown.
• We seek stimulation that comes from novelty, which keeps our attention and interest.
• The brain also seeks a challenge, which is the essence of natural, intrinsic motivation.

5. PBL/service-learning requires students to process factual information with greater depth of meaning. When students process information thoughtfully, they are learning, which causes the growth of dendrites.
• The more ways we learn something and in more situations, the more pathways that are created. This allows us to more easily access what was learned easier and much later on.
• In addition, we learn better when what is learned (content) is embedded in our spatial memory with a location (context).
• Context provides dozens of sensory cues that can better trigger memory and recall later on.
• For example, one can read a paragraph in a gardening book about planting OR plant some actual seeds. The more similar the context is, the more difficult the retrieval. For instance, learning all the content of a course in the same setting or classroom is similar to naming all your computer files the same name.
• Location and circumstance provide the brain more identifying clues for better retrieval.

4. The reflection element involved in PBL/service-learning causes physiological changes to the brain.

• Learning is acquiring new knowledge and skills.
• Memory is retaining knowledge and skills for the future.
• Learning does not increase the number of brain cells, but it does increase their size, their branches, and their ability to form more complex networks.
• The brain goes through physical and chemical changes when it stores new information as a result of learning.
• Learning occurs when synapses make physical and chemical changes so that the influence of one neuron on another also changes.
• A set of neurons learns to fire together. Repeated firings make successive firings easier and eventually, automatic under certain conditions, thus a memory is formed. Reflection provides opportunities for new learning to be revisited, assisting in memory creation.

3. PBL/service-learning provides many opportunities for students to ask questions and learn the answers for themselves. The brain is naturally curious and is more receptive to questions than to answers.

• Curiosity is a distinct physiological state. It triggers changes in our posture, eye movements, and promotes the chemical reactions that help with better arousal, learning, and recall.
• When we ask a question of ourselves, the brain continues to process it even after we have arrived at an answer.
• To your brain, the process is far more important than the answer.
2. PBL/service-learning provides opportunities for learning that are connected to *emotion*.

- Events that stimulate emotion make things meaningful to the brain.
- Also meaningful to the brain are events which impact the learner’s personal life.
- Research shows that feelings are critical to the learning process. Our feelings help determine:
  -- if we *want* to learn something;
  -- how we feel about a topic; and
  -- how long we remember the information
- Learning without feelings is incomplete. Learning is not real to the brain until we *feel* it.

1. PBL/service-learning experiences produce laughter among students. *Laughter* increases the flow of the brain’s neurotransmitters and thus improves learning.

- Neurotransmitters are needed for alertness and memory.
- Laughter decreases stress and improves the functioning of the immune system.

**SOURCES FOR THIS INFORMATION:** (Developed by Dr. Marjori Krebs, University of New Mexico)


Dreaming Up Some Ideas . . .

Potential Topic(s)/Theme(s)

Driving Question(s)

Entry Event(s)

Authentic Product(s)

Authentic Audience(s)
Curriculum Connections Web

ISSUE

Social Studies

Language Arts

Math

Science/Technology

Health/PE

Art/Music

Other

Foreign/Global Language
Goals and Commitments

School __________________________________________

Contact Person ____________________________________

• Existing efforts I/we plan to enhance . . .

• New PBL ideas/possibilities I/we plan to explore . . .
• Strategies for involving additional staff members . . .

• Agencies/organizations with whom I/we would like to collaborate . . .

• Resources/support/assistance I/we need . . .
Reflection Guide - Day 6

• What have I learned today?

• What has moved me/resonated with me?
Workshop Facilitators

Ellen Erlanger was a teacher and administrator for the Upper Arlington City Schools, Upper Arlington, Ohio, for 27 years and was involved in service-learning, career development, character education, vocational education, guidance, staff development and community education throughout that time. In addition to fulfilling her local program responsibilities, she provided consultation, training and technical assistance to other public and private schools on a regional, statewide and national basis. Ellen retired from the Upper Arlington City Schools in December 2002 after 30 years in the field and is now Vice President of Legacy Consulting Group and a consultant with the Legacy Group of Partnerships Make A Difference, a non-profit corporation providing training and educational materials development.

Ellen has authored a variety of instructional materials and education-related articles as well as other books, works of poetry, and newspaper and magazine articles. She is also active in relevant education organizations at the state and national levels. During her leadership, the Upper Arlington City School District achieved the rare distinction of having all three of their secondary schools selected by the Corporation for National Service as “National Service-Learning Leader Schools.” Ellen holds a B.A. and M.A. from the University of Michigan.

Kathy Meyer, an educator for more than 30 years, served as an administrator for the Worthington Schools, Worthington, Ohio, from 1985 to 2000 and supervised service-learning, career development, character education, vocational education, guidance, science, and after-school and summer school programs. Under her leadership, Worthington was selected as a model school district by Learn and Serve Ohio. Kathy retired from the Worthington Schools in December 2000 and is President of Legacy Consulting Group. In addition, she is associated with the Legacy Group of Partnerships Make A Difference.

In these roles, Kathy has authored and published a variety of instructional materials and provided related training programs in many public and private schools throughout Ohio and a number of other states. She has provided expertise in a variety of other settings and is active in many professional organizations. Over the years, she served in a number of leadership positions, including President of the Ohio Career Education Association. Kathy holds a B.A. from Wittenberg University and an M.A. from Wright State University.

Dr. Marjori M. Krebs, an Assistant Professor in Teacher Education at the University of New Mexico, has been involved in service-learning firsthand as a student, teacher, administrator, and researcher. Marjori has presented numerous teacher workshops and graduate-level courses on many aspects of service-learning. She holds a BA from the University of Oklahoma, an MA from The Ohio State University, and an EdD from Bowling Green State University.

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The Legacy Group of Partnerships Make A Difference is a non-profit organization dedicated to providing educators, parents and students with the tools and inspiration to do great things. We are committed and experienced educators whose ultimate vision is to help young people develop a sense of passion and purpose and learn to apply it throughout their lives.

The “Growing Together” Network utilizes service-learning/Project Based Learning as an instructional strategy to enrich the teaching/learning process, enhance student success, improve school climate, and actively address a wide range of significant local and global needs and issues. This “community of service-learning/PBL practitioners’ fosters effective partnerships among schools, community agencies/organizations, higher education partners, and philanthropic sponsors so that desired results can be achieved over time.
Please rate the following by circling the appropriate number:

1. **Workshop Content (overall)**
   a. Content was geared to participant needs: 4 3 2 1 0
   b. Handouts were helpful and relevant: 4 3 2 1 0
   c. Content is applicable to my situation: 4 3 2 1 0

   Comments:

2. **Workshop Process (overall)**
   a. Helpful variety of methods and media: 4 3 2 1 0
   b. Relevant examples and applications: 4 3 2 1 0
   c. Sufficient time for questions and discussions: 4 3 2 1 0

   Comments:

3. **Presenters (overall)**
   a. Well-prepared: 4 3 2 1 0
   b. Competent: 4 3 2 1 0
   c. Interesting, easy to listen to: 4 3 2 1 0

   Comments:
Complete the following:

What part(s) of the workshop were most helpful to you? (Be as specific as possible.)

What part(s) of the workshop could be improved? (Be as specific as possible.)

What were the two or three most important ideas/concepts you learned at this workshop that you can take home and apply to your situation?

Name (optional): ___________________________  School (optional): ___________________________

On behalf of the University of New Mexico, Partnerships Make A Difference and the W.K. Kellogg Foundation, we thank you for your participation in today’s workshop.