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The Power of Project Based Learning Sara Gailey, Environmental Science Specialist Suzanne Bolar, Principal

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This fall, Shadow Valley Elementary's fourth through sixth grade scholars used their developing 21st Century Skills to complete a project-based learning (PBL) task. PBL is one of many instructional approaches that advocates for experiential learning. John Dewey (1916) emphasized the benefits of creating learning opportunities that are experienced based. Helmo-Silver (2004) emphasizes "PBL is focused, experiential learning organized around the investigation, explanation, and resolution of meaningful problems." The project designed and described below is an excellent example of PBL and the power it has to increase student learning, engagement, problem solving, and collaboration skills.

By allowing our scholars to participate in project based learning, we provided them with the powerful opportunity to be in charge of their own learning. Research shows that teachers need to challenge their students to think, to reason, and to make sense of things in their own minds. We have to trust our learners, to permit them to feel the anxiety of plotting, planning, and executing and entire project. In fact, students need to be encouraged to make their own decisions and then with those decisions, learn to make the needed adjustments to succeed. This truly allows them to be in charge of their own thinking and their own work (Pete & Fogarty, 2005).

During the first phase of this project, scholars were presented with an environmental problem by one of our school science specialists. Shadow Valley is an environmental science magnet school. We try to integrate this into every subject. The problem that was presented was about the recycling crisis locally and globally. Students then spent time investigating the causes and effects of this problem and brainstorming solutions. They indicated that one of the biggest things that can be done is to bring awareness to the problem to the community.

The next step was for our scholars to figure out how to bring awareness to this issue. With the guidance from the environmental science specialist, they decided to have an environmentally sustainable costume contest. In addition, they decided to create activities and events from reusable and recyclable materials for our annual United Nations Children's Fundraising Carnival. Fourth and sixth grade scholars worked in groups using math, language arts, art, and science to

design a Halloween costume created from 100% reusable and/or recyclable materials. They created costumes made from materials including cardboard, plastic bottles, batteries, and even used school wide reward tickets given for good behavior by teachers. The fifth grade scholars created a carnival to bring awareness to UNICEF and raise money to donate. This year they wanted to design their game booths using reusable and recyclable materials. All three grades created a catch phrase they displayed to explain how one of the materials used in their costume impacts the environment.

On Halloween the entire school and community was invited to come look at the costumes created and vote for their favorites as well as celebrate the holiday by attending the environmentally sustainable carnival. The following week we held a fashion show where the costumes were modeled and the winners for each grade level were announced and received an award.

Phases and Steps to Implementing Project Based Learning Approach

Phase One: Understand the Problem

This first phase of implementation is where students are presented and explore the problem.

STEPS -

- Explore the issue. Scholars will be presented with the problem or issue and then use background knowledge to try and understand what is happening.
- What do they need to know. After exploring what they already know, students (with the guidance of the teacher if necessary) will identify what they need to learn about the issue or things relating to the issue.
- Define the problem. When they have explored what they know and what they need to learn students should define the problem in their own terms and create a plan to investigate it further.

PHASE TWO:

Explore the Problem

During this phase students research the problem, share what they have learned, and come up with possible solutions based off of evidence they gathered.

STEPS -

- Research the Problem. Students will use the plan they created to research what they need to know about the problem that is unknown.
- Share Information. After gathering the information they researched, Scholars share what they have learned to the class or in groups. This is essential so they can learn from one another and gain insight that was otherwise unknown individually.
- Generate Possible Solutions. For the final step of this phase students should first generate their own possible solutions.

PHASE 3:

Resolve the Problem

The 3rd phase of PBL is where scholars collaborate in groups to design and present a solution.

STEPS -

- Investigate possible solutions. Individual scholars should present their possible solutions to a group. The group should then investigate the solutions.
- Come to a consensus. After investigating the solutions the groups should create a group solution where the entire group comes to a consensus. If students don't agree it is important that they learn how to discuss their ideas using evidence they gathered previously.
- Design and create. If applicable, this is the point where students would create their designs for the solution with their group and create them.
- Present the solution. Scholars will present their solutions to the class, school and/ or community.

PHASE 4: Review Your Performance

The final phase is where the students review their performance and learning. It is crucial for scholars to evaluate their own performance and plan how they can do better to improve their problem solving skills.

This project took time and a lot of space to store the materials used. However, the benefit to our scholars learning was worth it. Our scholars integrated subjects that are often taught in isolation to bring awareness to our community about an important issues. They learned valuable lessons in

math, language arts, science, engineering, art, problem solving, and collaboration. PBL projects like this have the power to teach 21st century skills.

References:

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Steps for Problem-Based Learning Approach. (n.d.). Retrieved September 15, 2019, from https://teach.its.uiowa.edu/sites/teach.its.uiowa.edu/files/docs/docs/Steps_of_PBL_ed.pdf.

Pictures from the project to include if you would like:















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