



Problem and Project Based Learning in Elementary Mathematics

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Abstract

Several studies have shown that there has been an increase in popularity of problem solving and project-based learning. Project based learning is a teaching method that focuses on students gaining knowledge by working on a problem, or challenge for an extended period (Habok and Nagy, 2016). Problem solving based learning is when students are given the opportunity to share their outcomes and solutions (Habok and Nagy, 2016). Studies show that teachers who use project or problem-based learning have more achievement from their students.

Introduction & Research Question

Have you ever worked with a student who is a kinesthetic learner or is unengaged from listening to a PowerPoint lecture? You need different strategies that work for their learning, project-based learning and problem-based learning are great for this type of learning. For one teacher, the problem-solving method worked well for her students on the shy side (Schettino, 2016). Usually her students who pick up math easier would lead the class to solving the problem quickly and those who didn't pick up on math as easily would not get anything from that style of learning. If teachers use project-based learning and problem-based learning in their classroom then students will be more successful in their education and beyond because they are able to engage and apply their complex thinking skills.

Why should teachers use project and problem-based learning to lead their students to success?

Methods

To help find the important information to support my research, the resources were found on UH West Oahu's Library Research Database. Research was also found on peer reviewed article, published by the National Council of Teachers and Mathematics. The articles assisted the research question by providing information on teachers' opinions about project and problem-based learning, why it is useful for students and how teachers can use it with their students.

Results

Benefits

- Supports collaborative learning in Math
- Provides students with more in-depth math concepts
- Allows students to learn life learning skills
- Encourages curiosity in math and how concepts connect to each other

Things to Consider

- It takes a long time to plan thoroughly
- Teacher/Student Unpreparedness
- Time-Consuming

Discussion

Teachers can best support their students by using project and problem-based learning strategies. Some of these strategies can include giving students a problem to solve before teaching the content, allowing students to work on a project where there is a physical project. These strategies can help students who are kinesthetic learners make connections for long learning. Teachers should be aware of their students learning styles and determine if project based or problem based could be the key to their students' success.

Conclusions

Problem based and Project based learning is beneficial for teachers to use if they are aware of the process and their students. By using Problem and Project based learning in Mathematics can help students become more engaged in Math.

References

- Problem-Based Learning and Project-Based Learning.
<https://www.teachermagazine.com.au/articles/problem-based-learning-and-project-based-learning>
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