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The Impact of Project based Learning on Students' Performance

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ARTICLE

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Long past are the times when Teachers used to teach content just in case a student might need it. But things have changed now. Instead of just teaching the content directly, different ways are adopted to teach the content. One of that is project based teaching and learning. A good teacher will devise a way to give the learners an urgent reason to learn skills or knowledge and then let them show they have learned it by what they can do. This is called project based learning.

The experience of thousands of teachers across all grade levels and subject areas backed by research confirms that PBL is an effective and an enjoyable way to learn. PBL makes school more engaging for the students. Nowadays students are more active learners than passive. Students like to experience real world experience for learning which is provided by the project based learning.

PBL improves learning of the students.

After completion of the project -

- Students understand content more easily, gain more content knowledge, retain the content for a longer period of time as the students themselves have done the research work and learnt the topic.

- PBL makes teaching more enjoyable and rewarding for the students. Teachers work more closely with the students and teachers also find joy doing research along with their students.
- Get opportunity to demonstrate what they learn. Students create high-quality products and present their work to other people.
- Project based Learning is one of the best ways to prepare students for the demands of life, citizenship and work in today's world.

Keeping in view the utility of PBL, a small project was prepared to measure its utility and usefulness. It was just a small trial to judge how far the PBL works. The objectives, populations and the results are as follows:

Research Objectives

1. To study the need of Project Based Learning.

2. To study the effectiveness of Project Based Learning on students.

3. To understand the students engagement by going through the models prepared by them.

4. To find out how project based learning leads to differentiated instructions.

5. To find out the difference in learning through Project Based Learning in grades six and seven.

Population

Total 40 students from Grade 6 and 40 students of Grade 7 were asked to do their respective projects.

Major findings of the study

The results of the research revealed the benefits of the PBL. Curriculum for group projects, using technology and hands-on activities in this study, were the group-approaches to improve continually their projects. The findings of the study are that a specific PBL strategy using hands-on activity helped students learn and assist in the acquisition of scientific concepts, skills and knowledge. In addition, PBL improved students' attitude towards learning science with the use of technology tools and involvement of hands-on activities. Also the students' awareness and understanding of scientific concepts improved as a result of their participation in PBL.

The students visualized the underlying scientific concepts very easily through hands-on activities. The construction of model allowed the students to understand the concept of rain water harvesting. Collaboration and discussions within the groups were highlighted as an important factor to the completion of the model and the final presentation. The ability of the group members to communicate and to interact with each other helped to confirm the understanding of the scientific concepts and ideas.

Besides, being able to work together, promoted teamwork and allowed for the delegation of project tasks. Students with limited proficiency with their academic skills could rely on their team members to clarify their doubts.

Discussion of Results

From the results I came to the conclusion that the students of the experimental group performed better and secured better marks than the students of the control group in the post-test. In the experimental group, no student got zero mark out of total ten marks in the post test. Whereas in the control group, only one student out of twenty (that is only five percent) students got zero mark out of ten marks.

The students of the experimental group did the project based learning and then were given the post test. They studied the chapter, did the project, made charts, power point presentation, did research work on the topic and presented the topic to the class.

The project based helped the students to understand the topic better.

The students of the control group were not able to get good marks in the post test as they were not exposed to PBL [Project Based Learning]. The topic was not thoroughly understood by the control group students. They could not answer the questions of the post-test as they did not know most of the things.

From the results of the pre-test of the experimental group the researcher found that fifteen percent students obtained five marks, thirty five percent students obtained four marks, twenty five percent students obtained two marks and twenty five percent students obtained only one mark. The highest marks obtained by students were five marks out of the total ten marks. No one secured more than five marks out of the total ten marks.

In the post-test that was taken after the students were exposed to do PBL the marks obtained are as follows: Thirty five percent students got full marks that is ten marks out of ten marks, fifteen percent students obtained nine marks out of ten marks, twenty percent students

secured eight marks out of ten marks, twenty five percent students got seven marks out of ten marks, five percent students got six marks out of ten marks. No student got below six marks out of total ten marks.

The best indication of the success of the PBL is in the performance of the students in the pre-test and the post-test. From the results of pre-test and post-test of the experimental group it is evident that the PBL helped the students to learn better and attempt the answers. PBL was done before the post-test. The post-test results of the control group show that it would have benefitted the group if PBL was done by them.

Implications and Conclusions of the study

PBL is a learning strategy that can be used with or without technology and hands-on activities. Providing an appropriate amount of time for groups to plan and collaborate is important. The time allocated to students helped them to conceptualize and plan the next steps more effectively. Management roles and leadership structures evolved naturally to support learning as group members came together during the process of the projects.

Student leadership role was observed to be important factors in groups and revolved in a variety of ways as group members interacted with each other as they completed their project tasks. The group members helped each other to learn the concepts, explained certain terms which someone did not understand. The PBL projects cemented their technology skills, conceptual content understanding.

The technology tools students used in a PBL curriculum was considered carefully. The types of technology tools used, enabled the students to search for pertinent information, cleared up conceptual misunderstandings, helped in development of project products and in creation of a presentation related to the success of the project. With PBL students were more heavily engaged and remained active in their learning. This can be seen in experimental group's post-test scores. The use of pre-test and post-test was done to assess students' knowledge prior to the start and end of the project.

PBL enabled the students to relate scientific concepts to the real world situations. Through this process some of the students were able to connect scientific concepts with real- world issues that involved other subjects. Incorporating other subjects helped the students to appreciate how scientific concepts are applied.

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Besides the teacher's own findings, some help was taken from the internet.

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