Implementation of Problem Based Learning in Post Graduate Class for Research Methodology Course

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Abstract: Teaching Learning process involves different activities. Problem based learning is student centred, motivational and skill development teaching learning dynamic classroom activity. The paper focused on problem based learning applied on research methodology PG course. In this PBL based course, students achive in depth knowledge of research methodology which is more suitable for their research. This activity helps students to acquire knowledge through problem based learning and case studies. The RM course PBL activities are designed in such a way that students gain step by step in depth knowledge of research methodology steps, testing, evaluation, presenting and publishing the work done. This PBL course increases the experiential learning of research methodology and engage the students by providing the ownership of the course.

Keywords: Research methodology, Problem based Learning, case study, course, learning.

1. Introduction

Problem based learning is the student-centred learning. In this activity teacher roll changes from content delivery to facilitator. Many researchers proved that PBL supports for experienced learning as students undergo learning by going through guided path. Project based learning applied for the PG course had structured and strategic learning. In problem-based learning students undergo design, develop and provide hands on solution to the problem. PBL empower the students as skills of the required course. Many researchers proved that well designed PBL increases the students' skills in that course. PBL also supports for solving the complex real-world problems. For post graduate students' problem-based learning provides the opportunity to tackle the open-ended problems and offers the different ways of learning. The PBL is collaborative teaching and effective activity. Research methodology had applied problem-based learning activity for first year M. Tech course. Problem based learning is effective collaborative teaching tool implemented for first M. Tech., First semester course.

Literature Review:

Traditionally STEM education involves highly selective schools, consisting brilliant and academically strong students. The report, particularly focused on inclusive environment, such as low-income student, female, minority etc. Barbara and her colleagues reported about the selective and inclusive schools. Inclusive schools survey reports that lab-based science learning is done effectively but workplace learning is not done effectively. Few STEM schools focussed on technology, but workplace learning is on least priority. A report published in 2010 by national science foundation for STEM learning, it showed that STEM schools should be small enough that teachers and students can do effective collaborative work. In PBL Students must be able to solve real world problems. Critical thinking using of available resources is developed in students. STEM subjects offer an integrated curriculum in which two or more courses are linked together. Instruments are involved in emerging technology, which will increase the resources in STEM Schools. By using the internet, students will connect the outside world in digital STEM school. Students and professional mentors are collaborating for effective learning in STEM schools. Inclusive STEM involves looping methodology Interaction of minority students with minority mentor will give very positive outcomes in a question answer session between role models and students is also very effective. Project selection and design are the main part of PBL Model. Project based learning and interdisciplinary approach provides capstone projects.[1]

James Taylor says that PBL is a primary vehicle for effective learning in real world project for students. They found out the effective technology tool, Interaction of students and teachers is a very effective tool. Instead of text book learning, PBL involves learning of course subject with team work which enhances the collaboration, communication and critical thinking skill of the student. In this report the different technology tools are analysed. The CatLog has seventy different technological tools which are analysed. The analysis found that collaboration tools are very effective compared to content development, assessment and planning tools. This method, for completion of project follow up questions are reviewed. Most of the students reported that specific collaboration tools are very important. The report also suggested that interaction between student interest and teacher effectiveness is 0.7884. The PBL learning includes time management for a project which is very useful for the