Study of the Application of Economics Class Using PBL Mongolian University

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Abstract This paper applied to the economics subject using PBL(Problem-Based Learning) for improving students many skills in Mongolian University that 21st century demands. The first time at Mongolian University, the PBL problem was developed for the use of PBL and applied to the class and confirmed its effectiveness. The study subjects were 60 freshman students in D university who took 'Economics'. We applied 5 problems for 16 weeks. Students wrote and submitted a reflective journal when they finished the every activity. In addition, they completed a class evaluation form after the PBL program ended. The study showed that they experienced various effects such as understanding of learning contents, understanding of cooperative learning, practical experience, creative problem solving ability, presentation skill, communication ability, self-directed learning ability, self-confidence. In the PBL learning activities, the learning environment was not well prepared yet, so some difficulties were encountered. Mongolian students perceived it as a new and effective way to develop their expertise as a future leader in the 21st century. The main goal of Mongolian university is to produce leaders with professional talent with creative problem solving ability and active learning direction.

Keywords : Communication ability, creative problem solving ability, Economics subject, Effective learning, Problem Based Learning, Self-confidence

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Received September 29, 2018 Revised November 1, 2018
Accepted November 2, 2018 Published November 30, 2018
1. Introduction

Change is constant, and the challenges we face today will surely continue to evolve and increase in complexity. Our future requires a cadre of experts interested in and able to solve problems, both locally and globally.

Problem-based learning is a model of curriculum and instruction in which learning starts with an ill-structured, or open-ended, problem that is designed to lead students to specific content in the curriculum. PBL's goal is to take the instructor out of the information dissemination role and facilitate students becoming increasingly self-directed learners[1]. PBL is to help the students develop flexible knowledge, problem identification and problem-solving skills, self-directed learning, and effective collaboration skills (Hmelo-Silver, 2004). Working in groups, students identify what they already know, what they need to know, and how and where to access new information that may lead to the resolution of the problem. The role of the instructor is not to teach a predefined and fixed curriculum, but to facilitate learning by supporting, guiding, and monitoring the learning process[2]. PBL represents a paradigm shift from traditional teaching and learning philosophy (Hung, 2011), which is more often lecture based. This study helps to understand the experiences of students through the Problem-based learning application for Economics Class in Mongolian University. This study contains Research needs and objectives in Chapter 1, Power of Problem-Based Learning, PBL assessment, PBL design model for Mongolian University, Problem for the PBL program, Methodology, Procedures of the class in Chapter 2, Conclusion in Chapter 3.

2. The main body

2.1 Power of Problem-Based Learning

Problem-based learning is student-centered. PBL makes a fundamental shift—from a focus on teaching to a focus on learning. The process is aimed at using the power of authentic problem solving to engage students and enhance their learning and motivation. There are several unique aspects that define the PBL approach[3]:

- Learning takes place within the contexts of authentic tasks, issues, and problems—that are aligned with real-world concerns.
- In a PBL course, students and the instructor become colearners, coplanners, coproducers, and coevaluators as they design, implement, and continually refine their curricula.
- The PBL approach is grounded in solid academic research on learning and on the best practices that promote it. This approach stimulates students to take responsibility for their own learning, since there are few lectures, no structured sequence of assigned readings, and so on.
- PBL is unique in that it fosters collaboration among students, stresses the development of problem solving skills within the context of professional practice, promotes effective reasoning and self-directed learning, and is aimed at increasing motivation for life-long learning.

Of the eleven identified characteristics, the extent to which the problem stimulates critical reasoning, promotes self-directed learning, stimulates elaboration, promotes teamwork, stimulates interest, and leads to the intended learning issues are such functional properties. In a way, these functional characteristics are reflective of the five principles of constructivist learning and the objectives of PBL (Savery & Duffy, 1995, Mayer, 1999). Benefits of PBL for students, instructors and Institutions following[4]:

For Students
- It’s a student-centered approach.
- Typically students find it more enjoyable and
satisfying.
- It encourages greater understanding.
- Students with PBL experience rate their abilities higher.
- PBL develops lifelong learning skills.

For Instructors
- Class attendance increases.
- The method affords more intrinsic reward.
- It encourages students to spend more time studying.
- It promotes interdisciplinarity.

For Institutions
- It makes student learning a priority.
- It may aid student retention.
- It may be taken as evidence that an institution values teaching.

PBL is an approach to learning and instruction that has the following characteristics: (1) the use of problems as the starting point for learning, (2) small-group collaboration, and (3) flexible guidance of a tutor. Since problems steer the learning in such curriculum, (4) number of lectures are limited. The latter is in line with the idea that (5) learning is to be student-initiated and that (6) ample time for self-study should be available (Hmelo-Silver, 2004; Schmidt, 1993).

2.2 PBL assessment

As well as ensuring that our assessment is aligned with the learning outcomes and the learning and teaching approach adopted, in this case enquiry or PBL, it is important to adopt a more strategic approach to assessment by asking ourselves a series of questions[5]:

1) Why are we assessing the students?

The main purposes are normally, firstly, to support their learning through engaging them in learning activities and providing feedback; secondly, to measure learning against the stated learning outcomes; and, finally, to assure the standards of awards. Whilst the second purpose may dominate students’ experience, particularly if they are focussed on marks and institutions emphasis the need to assure standards, our main focus should be on how well assessment promotes effective student learning.

2) What are we assessing?

Traditionally assessment has been about finding out how much students know, usually in terms of knowledge or content. Increasingly skills are seen as being important for students’ future employability. Attitudes and values have also been added to the list. However, in enquiry and PBL what we are really interested in is the students’ ability to perform in a professional context, to recognise their need to acquire new knowledge and skills, and to view learning holistically rather than atomistically.

2.3 PBL design model for Mongolian University

PBL instructional design model is made up of demand, analysis, performance objectives determining, assessment tool designing, teaching strategies development, teaching materials preparing, implementation, formative implement assessment, final evaluation and formative evaluation (Fig.1).

2.4 Problem for the PBL program

The contents of the problem draft are specified and detailed, and constitute a problem to be presented to learners. At this point, it is necessary to clearly describe the part where the learner is likely to be blurred or confused, but should be a matter of taking advantage of the characteristics of the PBL utilization problem. The following ‘Problem’ is (Fig.2) presented for the students.
**Problem 1.** You are graduated from the Economic University and have been working at the College of Economics for 10 years as a teacher. You do lesson plan and instruction easier to understanding and interesting. You resent it on the dates outlined below. The contents of lesson plan requires The Fundamentals of Economics & Economic Organizations, Utility, Wealth, Production, Capital, Central Problems of an Economy, Production Possibility Curve (Transformation Curve), Theory of Demand (meaning, determinants of demand, law of demand, elasticity of demand-price, income and cross elasticity) and Supply (meaning, determinants, law of supply and elasticity of supply). Equilibrium, Theory of Production (meaning, factors, laws of production-law of variable proportion, laws of returns to scale), Cost of Production (concept of costs, short-run and long-run costs, average and marginal costs, total, fixed and variable costs)[6].

2.5 Methodology

Data was gathered from surveys to 4 classes within a bachelor degree program that incorporated PBL into a required course for students who were in their first year. The online surveys administered for each course were part of the program overall curriculum and course procedures used to monitor student learning and engagement in the program. Students were distributed across 10 teams. Measures were created to represent the PBL design components described in the beginning, and learning outcomes were measured using items from the final survey administered to the students at the end of the course. The measures described below for the Problem, Motivation, Collaboration, Facilitation, Evaluation were adopted from metrics and created by facilitator.

2.6 Procedures of the class

PBL procedures included exploring issues, writing what they know, defining the problem statement, list out possible solutions, list actions, collect information,
write the solution and review the performance below[7]:

1) Explore the issues:
Instructor introduces an "ill-structured" problem to students. Discuss the problem statement and list its significant parts. Students will have to gather information and learn new concepts, principles, or skills as you engage in the problem-solving process.

2) List "What do we know?"
This includes both what students actually know and what strengths and capabilities each team member has.

3) Write out the problem statement
A problem statement should come from the group's analysis of what they know, and what they will need to know to solve it. They will need:
- a written statement
- the agreement of their group on the statement
- feedback on this statement from their instructor.

4) List out possible solutions
List them all, then order them from strongest to weakest. Choose the best one, or most likely to succeed.

5) List actions to be taken with a timeline
- What do we have to know and do to solve the problem?
- How do we rank these possibilities?
- How do these relate to our list of solutions?

6) List "What do we need to know?"
Research the knowledge and data that will support students' solution.
They will need to information to fill in missing gaps.
- Discuss possible resources
  Experts, books, web sites, etc.
- Assign and schedule research tasks, especially deadlines

7) Write up the solution
Students may need to present their findings and recommendations to a group or classmates. This should include the problem statement, questions, data gathered, analysis of data, and support for solutions or recommendations based on the data analysis: in short, the process and outcome.

8) Presenting and defending conclusions
They have to prepare
- State clearly both the problem and conclusion
- Summarize the process they used, options considered, and difficulties encountered
- Help others to learn
Sharing findings with teachers and students is an opportunity in demonstrating that students have learned.

9) Review the performance
This debriefing exercise applies both to individuals and the group.

3. Conclusion
Students experienced cooperative learning, creative problem solving, presentation, self-directed learning, self-confidence in the PBL class. Even though PBL is new for them it was active program at all. But the learning environment should be well prepared. Mongolian students perceived it as a new and effective way to develop their experience. In the survey of this study PBL was effective in Mongolian University, 90% of the students answered that they were helpful, understanding of learning contents (87.5%), understanding of cooperative learning(81.2%), presentation skill(98.2%), communication skill(96.2%), self-directed learning ability(87.3%) and self-confidence (98.2%). Further study seems to explore strategies more effective for students.
References


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