

Application of Problem-Based Learning (PBL) on a middle school environment through the use of PBL-Coach

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1 Introduction

The teachers that use problems as an approach for their teaching methodology motivate and incite the students' learning. Problem-Based Learning (PBL) is a learning methodology that is focused on the student, using real world problems so the pupils can interact with them and be motivated to learn, promoting the necessary abilities to solve these issues. The objective of this document is to apply a cycle of PBL to a middle school Physics class through the use of PBL-Coach, a virtual learning environment software that promotes creativity and collaboration.

2 Context

Every three years, the Organization for Economic Cooperation and Development (OECD) promotes the Programme for International Student Assessment (PISA), an evaluation that assesses students from all over the world in Sciences, Mathematics and Reading. The state of Himachal Pradesh, India, scored the last position in the years of 2009 and 2012, when India decided to no longer participate in the program. Given this situation, Himachal Pradesh would be a good place for trying a different teaching methodology. Ms. Bala Johnson, Director of Tara International School, in Raison, Himachal Pradesh, has opened up for the opportunity of applying PBL for a short period trial in the Physics' class of the year 8 students, and the support of PBL-Coach was chosen as the most appropriate given the size of the class (9 students) and

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the availability of computers with internet access in the classroom. The project would last for 3 weeks, completing a cycle of PBL (planning, execution, monitoring and continuous enhancements). A team of teachers would also be available throughout the project.

3 Objectives

The objective of this document is to apply a cycle of PBL to a middle school Physics class through the use of PBL-Coach, a virtual learning environment software that promotes creativity and collaboration.

4 Timetable

Activity	Mar	Apr	May	Jun
Proposal elaboration and literature review	X	X		
Teaching and PBL application	X	X		
Results analysis and presentation		X	X	
Preparation for presentation				X

5 Possible Evaluators

- Simone Cristiane dos Santos
- Bruno Bessa

6 References

- [1] <http://www.oecd.org/pisa/>, visited on the 17th of April, 2016.
- [2] <http://timesofindia.indiatimes.com/home/education/news/Indian-students-rank-2nd-last-in-global-test/articleshow/11492508.cms>
- [3] Manual PBL-Coach
- [4] SANTOS, S. C.; LINS, W. C. B. xPBL: a Methodology for Managing PBL when Teaching Computing. Recife, Brazil.

7 Signatures

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