

# PRE–SERVICE POST GRADUATE TEACHERS' FIRST TIME EXPERIENCE WITH CONSTRUCTIVIST LEARNING ENVIRONMENT (CLE) USING MOODLE

By

C. BOOPATHIRAJ \*

K. CHELLAMANI \*\*

\* Ph.D (JRF) Research Scholar, School of Education, Pondicherry University, Puducherry, India.

\*\* Associate Professor, School of Education, Pondicherry University, Puducherry, India.

## ABSTRACT

*The aim of this study is to enlighten and discuss Post Graduate student teachers' first time experiences and their level of satisfaction with the use of Moodle Learning Management System (LMS) during their "Research Methods in Education" course offered online. This study investigated 30 pre-service Post Graduate student teachers' to analyze their first time experiences and satisfaction in a Course Management System (MOODLE). The findings of this study indicated that PG Student teacher's supported and were very interested in learning through the given e-platform. It is also recommended to extend the e-platform for all other courses in teacher education programme.*

*Keywords: Constructivist Learning Environment, MOODLE, LMS, Reflection, Reflective Feedback*

## INTRODUCTION

The teaching-learning process has undergone a deep change with the appearance of new technologies. E-learning environments and in particular, Learning Management Systems (LMS) like Modular Object Oriented Dynamic Learning Environment (MOODLE) have provided capacities and tools which have contributed notably to this change. In the education field, the use of ICTs has created a revolutionary change in the teaching and learning process: new ways of communication, new methods of work, new education techniques have appeared and, as a result, a new educational paradigm has emerged. In this new model, students become active subjects and both students and the activities they do, are the center of the learning process. Moreover, instructors help students to learn and they are no longer mere transmitters of knowledge but designers of courses who supervise and assist in the pupils' learning process (Gonzalez & Wagener, 2003).

## Review of Related Literature

M. Holbl, T. Welzer (2010) highlighted that most of the students are willing to present ideas for potential changes in the application of certain features of the system in our practice, and take initiatives for upgrading of teaching

material and techniques. The 21<sup>st</sup> century is presenting challenges for society of extraordinary importance (Martin, 2007). The inclusion of future thinking in the curriculum provides students with a capacity to appreciate the challenges and contribute to society's response (Hicks, 2012, Slaughter, 2004, Gidley & Hampson, 2005).

## Purpose of the Study

The researcher made an attempt on teaching "Research Methods in Education" course using Moodle e-learning platform. The participants were PG student teachers in teacher education. As it was a new venture, the researcher intended to get students reflections on learning through e-platform. The main focus is to reflect upon the first time experience of the pre-service Post Graduate Teachers in Constructivist Learning Environment using MOODLE. A tool was developed (based on Unal Zafer & Unal Aslihan, 2011 model) and administered to 30 participants. The reflections were analyzed both quantitatively and qualitatively.

## Objectives of the Study

- To provide Constructive learning experience on Moodle e-platform in teaching "Research Methods in Education" for PG student teachers in teacher education.

- To make PG student teachers to reflect upon their learning experience, satisfaction and get their suggestions with the use of Moodle learning platform.

## Methodology

The researcher identified Moodle as a constructivist learning environment platform to implement the developed instructional strategy. The researcher developed the course content in modules using different technological and pedagogical principles. It was tested with students for usability before the course started. The online course extended for four months during 2012-13 academic year and the transaction of the curriculum was on Moodle platform. To understand the learning experiences of the student teachers, the researcher developed a rating scale and an open ended questionnaire. At the end of the course, the reflections of the student teachers were collected through the above developed tools. The rating scale consists of three sections: (1) Overall satisfaction from the course, (2) Experience with Moodle, and (3) Evaluation of the instructor. The survey also allowed the participants to provide additional comments or suggestions on issues that were not addressed in the previous three sections of the open ended questionnaire.

## Sample of the study

30 pre-service post graduate student teachers were used as sample of the study.

## Tools used in the Study

The following are the tools used.

1. A Rating scale on the Pre-Service Teachers' First time Experience with Constructivist Learning Environment (CLE) using Moodle;
2. An Open ended questionnaire on the use and experience of MOODLE platform.

## Results of the Study

The data collected from the three sections of the rating scale were analyzed and the description is given in Table 1. From Table 1, it is inferred that the PG student teachers' 'overall course satisfaction', is positive. The reflections indicate the achievement of the objective of the course. They showed satisfaction on uploaded course materials,

assignments and projects.

It is inferred from the Table 2, that the PG student teachers' first time experience with Moodle Learning Management System was very positive. They were all satisfied with the Moodle platform as it was easy to navigate and comfortable to interact with the teacher and other course participants. They also indicated that, they would prefer MOODLE for their next online course.

Table 3, indicates that, PG student teachers' satisfaction with the course instructor that he/she was knowledgeable related to the subject matter, and also responded that, the instructor was available throughout course transaction and assisted them with respect.

## Responses of the Open Ended Questionnaire

The open ended questionnaire is intended to get true reflections of the student teachers learning experience on Moodle platform. Almost all the descriptive and reflective responses endorse the structured items given in the rating scale. Other than those statements, student teachers specified positive aspects such as, developments in thinking, problem solving ability, efficiency in technical skills and other personal as well as professional development. Their suggestions were on recommendations of MOODLE e-platform for other course learning.

## Reflections on Satisfaction About this Course

The given course material in the form of modules including power point slides, video lecture and diagrams for content, Mind map, flow charts, helped the student teachers to comprehend the course content. The given guidelines were appropriate to follow. The uploaded course content was clear, informative, sequenced and interactive. Communication was very simple and understandable even for those who had missed classes. According to them the study material was highly creative and effective. Student teachers enjoyed the online submission of assignments and group projects. On the whole, student teachers got enriched content knowledge and they started to think and build self-awareness.

*Student reflective statements on Satisfaction about the online course (Sample)*

- "I am highly satisfied with this online course. My sincere

thanks to the investigator for providing us an opportunity to learn through online course”.

- “Communication was very simple and understandable even if I missed classes. I enjoyed the online submission of assignments and group projects. I enriched my content knowledge and I start to think about myself”.

Sl.No	Statements	Mean	SD
1	The course helped me improve my educational research knowledge	4.87	0.35
2	The course helped me improve my educational research competence	4.63	0.49
3	Uploaded resources includes e-content, ppt, pdf, lessons used in this class were helpful for my learning	4.57	0.50
4	The instructions and requirement for the assignment submission helped me to prepare my assignment	4.37	0.49
5.	The assignments and /or projects in this course facilitated my learning	4.17	0.53
6.	The number of quiz activity for each lesson was appropriate	4.60	0.50
7.	The course content was relevant to my teaching profession	4.50	0.51
8.	The course adequately covered its stated objectives	4.40	0.50
9.	I achieved the goals I had when I started this course	4.50	0.51
10.	All things considered, I am satisfied with this course	4.47	0.51
11.	I recommend this course to others	4.40	0.50

Scale Description: Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4), Strongly Agree (5)

**Table 1. Overall Course Satisfaction**

Sl.No	Statements	Mean	SD
1	Moodle course website was easy to use	4.70	0.47
2	Moodle course website was easy to navigate through the course	4.60	0.50
3	Moodle course website was well organized	4.27	0.45
4.	Moodle course website assisted my interaction with my instructor	4.47	0.51
5.	Moodle course website assisted my interaction with my classmates	4.30	0.59
6.	Discussion board on our Moodle course website was easy to use	4.30	0.46
7.	Assignment submission tool on our Moodle course website was easy to use	4.33	0.48
8.	Grades tool on our Moodle course website was easy to use	4.57	0.57
9.	I would take another course offered via Moodle in the future	4.53	0.51
10.	Reflective Journal Entry in the discussion board make me think about myself	4.20	0.41
11.	Online Rubric Assessment for the submitted assignment in Moodle course was interesting	4.50	0.51
12	Constructivist Online Learning Environment Survey was useful in knowing my learning progress	4.30	0.46
13	Incorporated content with multimedia in Moodle course was useful	4.73	0.45
14.	The mind map used in the course was helpful in recalling the content	4.73	0.45

Scale description: Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4), Strongly Agree (5)

**Table 2. Experience with MOODLE**

- I am satisfied with the given instructional method. The course helped me improve my educational research competence. It is useful for my future career.

### *Reflections on Experience in this Moodle course*

This course helped the student teachers to improve their computer knowledge, to increase their interest and thinking abilities. They stated that they had good experience in the Moodle e-platform. For the first time they have learnt many things like typing, uploading, downloading and interactive activities such as quiz, discussion forum, participating in online survey and sending and receiving information with their friends and their tutor. They felt everything as new: experience in submitting online assignment; chance to share their opinions and thoughts to their friends and teachers. They opined that, it was the easiest way to learn the research paper online. It gave them confidence in online learning. Content in Moodle was helpful to recall the lessons. They have got the knowledge of internet and e-mail and hope that it will help in their future learning also.

### *Student reflective statements on Experience in the Moodle online Platform (Sample)*

- This course improves our computer knowledge, increases interest, thinking abilities etc. I had a good experience with this Moodle course. The study material was highly creative.
- It is the easiest way to learn research papers online. It gives me confidence in online learning. Content in Moodle is easy for us in recalling the lessons. I got the knowledge of internet and e-mail and I hope it will help in my future learning also.
- It was a good experience to share my own learning process and experiences with my friend. It is interesting,

Sl.No	Statements	Mean	SD
1	The instructor's competency in knowledge of the subject material was	4.67	0.48
2	Instructor's skills in teaching the online course was	4.73	0.45
3	The instructor's interest in your learning was	4.53	0.51
4.	The instructor's fairness in assessing your progress in the course was	4.43	0.57
5.	Availability to assist students was	4.60	0.56
6.	Rapidity of instructor's response was	4.67	0.48

Scale description : Strongly Poor (1), Fair (2), Good (3), Very Good (4), Excellent (5)

**Table 3. About Instructor**

very easy to navigate. Grading, quiz activity makes me assess myself where I am in research. It is a kind of self-testing in the research field.

### *Reflection on Suggestions for the e-platform*

The student teachers gave suggestions as,

- This online platform may be provided to other subjects teaching also. It may extend to even schools. This kind of constructive learning framework may be included in the teacher education curriculum.
- If it is possible, to make it in Tamil language (Mother tongue), and add more pictures.
- Glossary may be given for the difficult words as foot note.
- Encouragement should be given to all teacher education students to be aware of this technology in teaching and learning process.

### **Discussion**

The PG student teachers' reflection from the survey data collected during this study indicated that, they have established their learning outcomes and course satisfaction positively. It is also clearly found that they were interested and supported the Moodle e-platform. The course in the Moodle platform is not only a space with static information, but also a course with strategies that encourages student-to-student, student-to-teacher and student-to-content interactions (Carolina Armijo Vega, Lewis M S. 2011). Based on the number of interaction records (Appendix – I), it is clear that the level of student-to-student and student-to-teacher communication encourages positive insights towards the course and the teacher concern. Kearsley (1995) indicated that, technology increases human abilities, so it can help teachers to perform better in their courses, but will not be of much help in the absence of skills and competencies of the teacher, noting that, if it is to promote effective and efficient use of educational technology, one must pay special attention to items that support excellence in teachers. The adopted Moodle e-platform provides the opportunity that a limited computer skill is more than sufficient to work with this platform. The reflections are that student teachers state their comfort in Moodle e-platform

interaction, the confidence in completing the given tasks and interest to learn other subjects in the same way.

### **Conclusion**

This study has both internal and external implementations. Overall, the student teachers are very much satisfied with the course given in Moodle e-learning platform. Moreover, they have an alert of the benefits of e-learning and are therefore welcoming further implementations into their teaching practice. It might be concluded that Moodle extends a very good e-learning platform. Still Moodle is only a platform and the quality of the teaching process is in the hands of the teachers in terms of course preparation and implementation. At the end of this study, the researcher concluded that use of Moodle in this particular online platform can not only be an alternative to the current practices in teaching but also a tool to build up the future teaching professionals' everlasting challenges in their life.

### **References**

- [1]. Carolina Armijo de Vega, Lewis McAnally-Salas (2011). "Finding Support in Moodle: A Face-to-Face Chemistry Course for Engineers", *US-China Education Review A1* pp.10-21.
- [2]. Gonzalez, J., & Wagener, R. (2003). "Tuning educational structures in Europe" (Final report [phase one]). Universidad de Deusto. Retrieved from [http://www.relint.deusto.es/TUNINGProject/documentos/Tuning\\_phase1/Tuning\\_phase1\\_full\\_document.pdf](http://www.relint.deusto.es/TUNINGProject/documentos/Tuning_phase1/Tuning_phase1_full_document.pdf)
- [3]. Gidley, J. M., & Hampson, G. P. (2005). *The Evolution of Futures in School Education Futures*, Vol.37(4), pp. 255-271.
- [4]. Hicks, D. (2012). "The Future Only Arrives When Things Look Dangerous: Reflections on Futures"
- [5]. Kearsley, G. (1995). "The nature and value of interaction in distance learning". Presented at the *Third Distance Education Research Symposium*.
- [6]. Martin, J. (2007). "The Meaning of the 21st century : A Vital Blueprint for Ensuring our Future". London: Eden Project Books.
- [7]. M. Holbl, T. Welzer (2010). " Students' Feedback and Communication Habits using Moodle // Electronics and Electrical Engineering. – Kaunas: Technologija, 2010. – No. 6(102). – pp. 63–66.



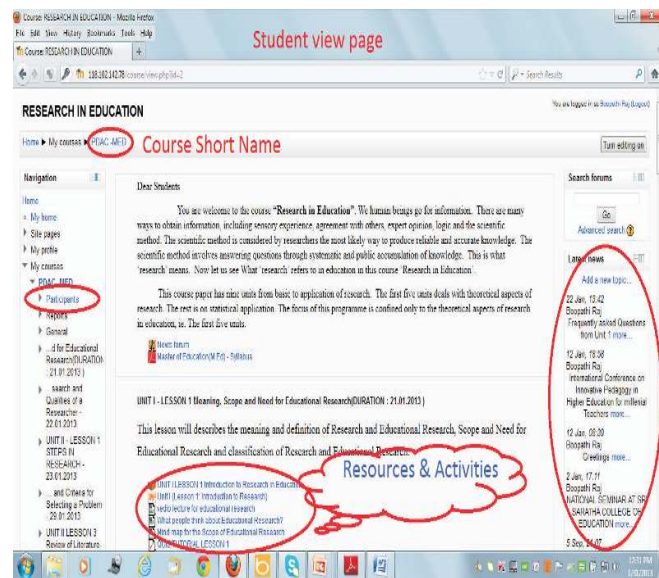
# RESEARCH PAPERS

[8]. National Curriculum Framework for Teacher Education, (2009) , NCTE, New Delhi.

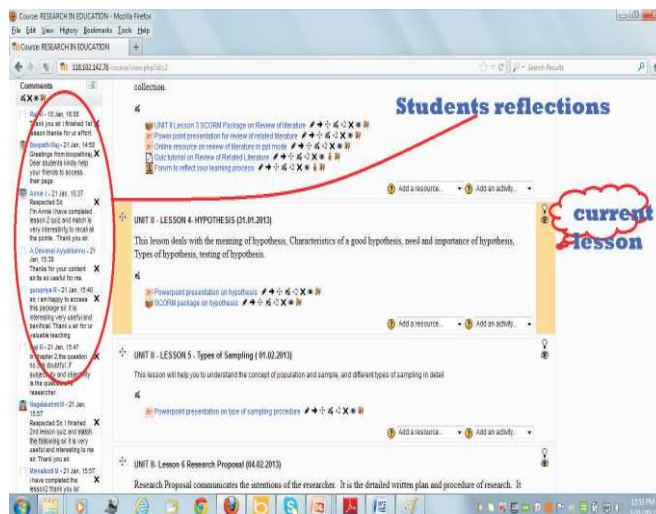
[9]. Slaughter, R. (2004). "Futures Beyond Dystopia: Creating Social Foresight". London; New York: Routledge Falmer.

## Appendix I

Screen shot of the implemented learning strategy in E-Learning Platform using MOODLE ( Student View Page)



Screen shot of the implemented learning strategy in E-Learning Platform using MOODLE (Student to student and student to teacher interaction)



## ABOUT THE AUTHORS

Mr. C. Boopathiraj is Research Scholar at School of Education, Pondicherry University, Puducherry and at present he is working as Social Science School Teacher at Government High School, Kadambur, Villupuram, Tamilnadu. He has completed his PG Degree in History from Bharathidasan University, Trichirappalli, Tamilnadu. He earned his B.Ed and M.Phil (Education) from St. Xavier's College of Education, Palayamkottai affiliated to Tamilnadu Teachers Education University, Chennai. He attained his M.Ed Degree from the Department of Education, University of Madras, Chennai. He has presented many research papers in Seminars and Conferences at State and National level. He has published a book titled "Powerpoint Presentation in Teaching History: An Experiment" by Lambert Academic Publishing, and also published research papers in reputed Educational Journals. His academic and research areas include Techno-Pedagogy in Teacher Education, Learning Management System, Emerging technologies, Reflective Practice and E-portfolio.



Dr. K. Chellamani is currently working as Associate Professor in the School of Education at Pondicherry University. She has more than 14 years of experience in the field of Education. She has authored 35 research papers in reputed National and International indexed journals and also authored 10 books in the area of metacognition, Reflective practices, Portfolio writing and science of education at University level. Her areas of interest are Think-Aloud protocol, Comprehension Monitoring, Writing competence and construction of e-portfolios and Portfolio assessment etc.

