

Assessing Moodle as Learning Management System Platform for English Course Based TOEFL

Irfan Syamsuddin^{#1}, Alimin^{*2}

[#]CAIR - Center for Applied ICT Research

Department of Computer and Networking Engineering

^{**}School of Electrical Engineering

State Polytechnic of Ujung Pandang

Makassar Indonesia

Abstract— This paper reports a research in progress of an academic effort to adopt TOEFL materials into English course for vocational education particularly at State Polytechnic of Ujung Pandang. During the last five years, open source Learning Management Systems called Moodle has been used in the institution as a platform to deliver several science and engineering related courses in blended learning environment. This study investigates and assesses how the similar platform might also be used to enhance English teaching which contents have been enriched based on TOEFL system. Basic features of Moodle were assessed according to three main TOEFL skills namely TOEFL Listening Comprehension (LC), TOEFL Structure and Written Expression (SWE) and TOEFL Reading Comprehension (RC). Our findings suggest that while most Moodle's features ready for delivering TOEFL based English course, except in handling Listening skills. Future works is recommended to apply additional Moodle plugins to tackle the issue addressed in this study.

Keywords— Learning management system, Moodle, English course, TOEFL, vocational education.

I. INTRODUCTION

Information and communication technologies (ICT) have embraced almost all aspects of today's human life. This is also true in educational sector where different ICT technologies widely used to enhance education processes. Prince [1] underline the way ICT technologies have brought advantages for enhancing English course in classroom through many digital features it offers. Using digital technology, English teaching could be enriched through the use of various multimedia data in the form of audio and visual files and also with better data management, all of those materials can be easily stored and retrieved anytime and anywhere.

E-learning is one of the most important ICT technologies to improve knowledge dissemination and transfer particularly in higher education. Through e-learning, both lecturers and students gain benefits to streamline learning process in the way that more productive and efficient [2].

State Polytechnic of Ujung Pandang is a vocational education institution in Indonesia that has implemented e-learning to enhance academic atmosphere. Open source LMS has been used considering its low cost of implementation with

many features and success stories from community all around the globe.

So far, the open source LMS only used by science and engineering courses to deliver course to students. There is no effort yet for non science and engineering courses.

Therefore the study aims to assess whether the LMS can also be platform for lecturer of English course to deliver new curriculum based on TOEFL. The case study is conducted at the Department of Computer and Networking Engineering State Polytechnic of Ujung Pandang, Makassar, Indonesia.

The structure of this paper is organized as follows. Section 2 describes literature review related to English teaching and TOEFL. Section 3 provides technical setup and preparation of Moodle as learning platform. Furthermore, analysis and discussion are given in section 4. Finally, concluding remark and future research direction will end the study.

II. LITERATURE REVIEW

According to Tedick [3] in order to deliver English course effectively, lecturer should has skills, expertise, understanding, awareness and knowledge as fundamental knowledge base. Skills in this case including general teaching skills, classroom management skills, organizing material skills, and delivering lesson skills. This basic approach which is refer to as Pedagogical and Content Knowledge or PCK is improved by [4] by extending it with technological knowledge.

The Technological Pedagogical Content Knowledge (TPCK) framework as depicted in figure 1, focuses on the intersection between the three domain of technology, pedagogy and course content [5]. The framework clearly indicates that in the future there will be strong and close interactions between the three domains.

Technology advancements particularly by ICT have widely influenced learning processes. Among many computer based educational systems, Learning Management Systems is software that automates the administration of training events. All Learning Management Systems manage the log-in of registers users, manage course catalogs, record data from learners, and provide reports to management [6][7].

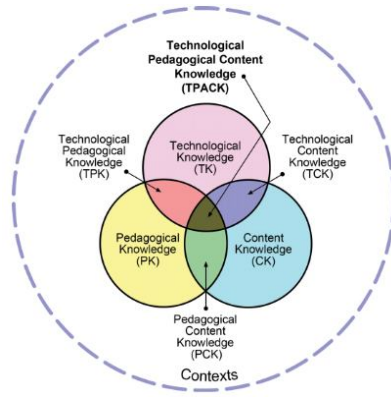


Fig. 1 TPACK Framework [5]

Basically, a LMS has a wide range of applications that support student progress with several features such as authoring, classroom management, competency management, knowledge management, evaluation, mentoring, chat and forum of discussion [8].

In dealing with issues of LMS success, Sun et al [9] suggest to incorporate six dimension LMS namely, learner, instructor, course, technology, design and environmental dimensions. The dimensions must exist in order to successfully achieve the objectives of using LMS as platform for course delivery.

Therefore, assessing LMS from the perspective of software quality is emerging [10]. Software quality can be assessed from the number of user who have implemented it and gives suggestions from its improvements as well as from expert judgments. An example of expert judgment assessment of LMS software is the application of fuzzy multicriteria decision making to evaluate e-learning software quality for successful digital learning environment [11][12].

III. OPEN SOURCE LMS

In the last two decades ago, LMS Learning Management Systems (LMS) was only available as commercial applications with main players as WebCT and Blackboard as generally being applied in a large campus until now. While its advantages have also been realized by other academic institutions in less developed countries, high cost of implementation has hindered its deployment.

On the other hand, advocacy to build the open source community has also begun to explore the LMS at the time. Until then in the last few years we have seen a lot of open source developers introduce non commercial version of LMS without charge even with source code that can be developed and reproduced without paying anything. Until today, we have witnessed several open source LMS have gain lots of attention and deployment even beyond the commercial LMS.

There are at least three reason why users moved to open source LMS as follows [13] :

- Open source LMS provide effective solutions to the customer satisfaction problems that permeate the LMS market
- It also offers credible substitutes to commercial LMS, and
- In a market where innovation is at high value, Open Source LMS can provide greater value than its commercial counterparts.

In addition, open source implementation on LMS offer additional benefits such as [13]:

- Open sources do not rely on particular vendor or in other lock-in is avoided
- Open source enhanced reliability since the software has been developed, maintained and evaluated by a number of experts who have passion in developing reliable software
- Open source do not have licensing costs as a result the budget may be put to other needs
- Open source communities is solid and strong that available to help and share with new users to deal with tutorial, setup and fixing bug or security issues

Considering its many advantages and requirements from faculty members, a new initiative to apply LMS was started in our institution in 2007. Moodle was chosen considering its wide user and active community in the world as well as in Indonesia .



Fig. 2 Moodle as LMS Platform

Until recently, Moodle has been used as the platform to deliver blended learning in the campus. However, the system only used by science and engineering courses particularly in the Department of Computer and Networking Engineering as depicted in figure 2.

The platform is intended to overcome the main issue of relatively huge number of course materials by each course while limited hours per semester for students to finalize considering more portions should be given for practical laboratory activities. As a result, transferring several course materials from face to face class meeting into electronic

learning mode has shown positive results to significantly reduce teaching and learning burdens both from lecturer and students sides.

IV. ASSESSING MOODLE FOR TOEFL BASED ENGLISH COURSE

In order to apply blended learning, English course lecturer required to set up the course on Moodle first. It is exemplified in the following figure.



Fig. 3 Course setup on Moodle platform

The new course adopts TOEFL materials to enrich students skills. The main reason is TOEFL which stands for *Test of English as a Foreign Language* is a standardized test of English language proficiency for non-native English language speakers (TOEFL). Currently, TOEFL is one of the two main English language proficiency tests in the world instead of IELTS which is accepted by many English-speaking academic and professional institutions. By adopting it, students will gain better qualification beneficial for their future career,

Considering widely acceptance as a standard for English proficiency, there is an effort to adopt PBT or Paper Based Test of TOEFL to enrich English course at State Polytechnic of Ujung Pandang. Basically, it assesses three main areas of English skills as follows [14] (*until recently, speaking and additional writing skills are not adopted yet*):

- TOEFL Listening Comprehension (LC): The course focuses on improving students’ ability to understand spoken English. The paper based testing for this course usually takes 30 to 40 minutes with 50 questions.
- TOEFL Structure and Written Expression (SWE): The course addressed students skills to recognize language appropriate for standard written English. The PBT test usually takes 25 minutes for up to 40 questions.
- TOEFL Reading Comprehension (RC): The course is designed to improve students ability to understand non-technical reading material. It’s PBT testing takes 55 minutes for approximately 50 questions.

In general, the Advance English course based on TOEFL could utilize most features provided by Moodle for delivering the course within a semester period. Base on our experiences in using Moodle as LMS platform in the case of TOEFL based course, particular Moodle features are classified and rated.

The set of Moodle features is taken from Šumak e.al. [15] which consists of ten items namely, (1) *course content management*, (2) *synchronous and asynchronous communication*, (3) *the uploading of content*, (4) *the return of students’ work*, (5) *peer assessment*, (6) *student administration*, (7) *the collection and organization of students’ grades*, (8) *online questionnaires*, (9) *online quizzes*, and (10) *tracking tools*.

The ten features were examined to find out whether or not support the English course based on three TOEFL skills namely *Listening Comprehension (LC)*, *Structure and Written Expression (SWE)*, and *TOEFL Reading Comprehension (RC)*. In addition to the assessment, the rate of each feature is presented according to five star rating systems, from one star denoting “feature does not support” to a five star rating representing “feature excellently provide support” [16].

Lecturers’ perception and experiences are the main source of the decision whilst students’ perception is not included in this study. The results are presented in the following table

TABLE I ASSESSMENT RESULTS

No	Feature	TOEFL Skills	Rate
1	Course content management	LC, SWE, RC	*****
2	Synchronous and asynchronous communication	LC, SWE, RC	***
3	Uploading of content	SWE, RC	*****
4	Return of students’ work	LC, SWE, RC	****
5	Peer assessment	LC, SWE, RC	**
6	Student administration,	LC, SWE, RC	*****
7	Collection and organization of students’ grades,	LC, SWE, RC	****
8	Online questionnaires,	SWE, RC	**
9	Online quizzes,	SWE, RC	**
10	Tracking tools	LC, SWE, RC	****

As can be seen on the table, we found that most basic features of Moodle could satisfy three main TOEFL skills, except in terms of Listening Comprehensive (LC) skill. This is due to such skills require additional feature which is not available in basic setup of Moodle. In other words, it requires additional modifications and system management so that Moodle eventually able to support the required skills.

There are thee features in which Listening Comprehensive (LC) could not be accomplished by the platform, namely *uploading content*, *online questionnaire* and *online quiz*. As a result, they are identified with low rating (two stars).

V. DISCUSSION

The only issue of using Moodle as a platform for delivering TOEFL based English course in this case study is unavailability of basic feature to handle listening skills. In the future this will remain a serious issue when Speaking test to be implemented by the lecturer. Therefore, additional tool must be engage to deal with the current issue.

There are two options can be taken into account for Speaking solution with Moodle. The first option is by running a recording tool which is default in every operating system anytime students need to record their voice in speaking test. Secondly, by finding a plugin or additional software to be installed within Moodle so that voice recording can be done purely on browser.

Our decision goes to the second option where current Moodle LMS platform must be improved by having additional plugin of voice recording capability without relying on the third party. Considering not all students has access to laptop with minimum hardware requirement to run browser and recording voice, it is recommended to improve current computer laboratory with earphone with microphone the structure current topology of our LMS platform.

The recommendation will be considered for future research since it requires time and additional hardware resources to perform installation, testing and modification of the current LMS platform to enable all TOEFL skills delivered perfectly

VI. SUMMARY

In this study, we have shown how Moodle, an open source Learning Management Systems could be used to assist English lecturer in delivering new learning materials based on TOEFL. Ten basic features of Moodle were used as assessment elements for three TOEFL skills of TOEFL Listening Comprehension (LC), TOEFL Structure and Written Expression (SWE) and TOEFL Reading Comprehension (RC). Assessment is performed from lecturer's perspective.

In conclusion, the preferred LMS platform shows positive results in most elements except for *uploading content*, *online questionnaire* and *online quiz* for Listening Comprehension (LC). To tackle the issue, a specific recommendation for integration of voice recording tool is proposed for further research.

ACKNOWLEDGMENT

The authors would like to thank support from Politeknik Negeri Ujung Pandang to carry out the research.

REFERENCES

- [1] P.Prince (2012). Towards an Instructional Programme for L2 Vocabulary: Can a Story Help?. *Language Learning & Technology*, 16(3), 103-120.
- [2] N. P., Ololube (2014). Blended Learning Methods in Introduction to Teaching and Sociology of Education Courses at a University of Education. *Advancing Technology and Educational Development through Blended Learning in Emerging Economies*, 108-127.
- [3] D. J. ,Tedick (2009). K–12 language teacher preparation: Problems and possibilities. *The Modern Language Journal*, 93(2), 263-267.
- [4] M.,Koehler and P. Mishra (2009). What is technological pedagogical content knowledge (TPACK)?. *Contemporary Issues in Technology and Teacher Education*, 9(1), 60-70.
- [5] M.,Koehler and P. Mishra (2008). Introducing tpck. *Handbook of technological pedagogical content knowledge (TPCK) for educators*, 3-29
- [6] S.R. Robbins (2002). *The evolution of the learning content management system. Learning circuits.*
- [7] D.Weaver, C.Spratt, and C.S. Nair. (2008). Academic and student use of a learning management system: Implications for quality. *Australasian Journal of Educational Technology*, 24(1), 30-41.
- [8] B.Beatty & C.Ulasewicz (2006). Faculty perspectives on moving from Blackboard to the Moodle learning management system. *TechTrends*, 50(4), 36-45.
- [9] P. C.Sun, R. J. Tsai, G.Finger, Y. Y Chen and & D. Yeh (2008). What drives a successful e-Learning? An empirical investigation of the critical factors influencing learner satisfaction. *Computers & Education*, 50(4), 1183-1202.
- [10] S. H. Kan (2002). *Metrics and models in software quality engineering.* Addison-Wesley
- [11] I. Syamsuddin (2012). Fuzzy Multi Criteria Evaluation Framework for E-Learning Software Quality. *Academic Research International*, 2(1), 139-147.
- [12] I. Younas and D.Martin, (2005) *An Expert System Measuring Effectiveness of an E-learning Environment.*
- [13] M. Aberdour. (2007). *Open source learning management systems.* Available on: www.epic.co.uk/content/news/oct_07/whitepaper.pdf.
- [14] TOEFL Wikipedia Available on: en.wikipedia.org/wiki/Test_of_English_as_a_Foreign_Language
- [15] Šumak, B., Heričko, M., Pušnik, M., & Polančič, G. (2011). Factors affecting acceptance and use of Moodle: An empirical study based on TAM. *Electrical Engineering*, 35, 91-100
- [16] Akpinar, Y. (2008). Validation of a Learning Object Review Instrument: Relationship between Ratings of learning objects and Actual learning outcomes. *Interdisciplinary Journal of E-Learning and Learning Objects*, 4(1), 291-302.