The Evaluation of iLearn's Implementation on Students' Self-study Session in Faculty of Medicine, Universitas Andalas

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Abstract. E-learning has become a mainstream in most medical schools. It helps the accessibility and sharing of knowledge on par with rapid growth of medical knowledge. iLearn is an e-learning program created by Universitas Andalas. This study was a pilot project to implement the iLearn on students' self-study session, as a part of Problem Based Learning (PBL) curriculum in Faculty of Medicine, Universitas Andalas. It was a quantitative study to evaluate the iLearn's implementation on students' self-study session in Block 2.6 (Respiratory Disease). Filled questionaire was collected from 63 students and 13 tutors. The problems of iLearn could be summarized into technical problems (network, server, website accessibility), personal problems (students' inability to finish the notes, limited time for tutors to assess, lack of feedback from tutors), and managerial (standardized evaluation for self-study). Everything was predictable as the consequences of new system that need some improvement.

Keywords: e-learning, iLearn, PBL, self-study

1 Introduction

E-learning has become a mainstream in most of medical schools in just a few years and acting as new paradigm in teaching and learning.[1,2]. However, the implication of the system leads into several hurdle sucah as face-to-face experience that is still contested, operational cost (in particular, the shift of costs/equity from the institution to the student), infrastructure (such as lack of networks in developing and remote regions), security and reliability, and the constant change disrupting any kind of stability in the e-learning environment. Despite of that, e-learning still hold valuable and innovative method and approaches for healthcare education [3]. As the medical knowledge grow fast, IT in the system of e-learning help the accessibility and sharing of knowledge well [4]. In the implementation of e-learning, the course could be employs exclusively online or a mixture of online and face-to-face activities (usually refered as 'blended learning') [5].

There are many great tools used to deliver e-learning with the most common approach is to use an integrated suite of tools and services, commonly called a learning management system (LMS), course management system (CMS) or a virtual learning environment (VLE). [6,7]. VLEs give a single unified environment for e-learning, including a wide range of intergrated tools for content delivery, interacton, and administration. Some people may find VLEs

confining but they mostly meet teachers' and learners' needs. If VLEs fail to meet specific needs, it can be corrected by applying supplemental programs and services [5].

iLearn is an e-learning method launched by Universitas Andalas. The discussion toward the result of students' self-study could be shared directly to peers and tutors by using Discussion Forum on iLearn. Students could access the iLearn through their academic portal. iLearn was used as a media of group discussing and task submission via email [8]. The iLearn for self-study session could be accessed through site "fk.ilearn.unand.ac.id". The site provides courses materials for every departements under the faculty of medicine.

Self-study is a learning process of student that do individually or per group as a part learning steps in tutorial [8]. It applied in PBL (Problem Based Learning) curricula which summarize all steps involved into seven steps, that are 1) Clarify unclear phrases and concepts in the description of the problem; 2) Define the problem; 3) Brainstorm; 4) Elaborate on the proposed explainatons; 5) Formulate learning issues for self-directed learning; 6) Try to fill gaps in your knowledge through self-study; and 7) Share your findings in the group and try to intgrate the acquired knowledge in a suitable explaination for the phenomena [9]. Self-study is in the 6th step and usually there is two days allocated tofinish it before the next meeting of tutorial [9]. The output of self-study is personal notes that will be submitted and assessed by each tutor in tutorial day 2. Recently, there is no standard when it comes to implement and evaluate the self-study [8].

Since years ago, there were several studies developing computer to support PBL environments [9]. The multimedia could be helpfull in order to solve problem in PBL, such as giving a richer learning environment, facilitating more authentic assessment and individualizing practice, feedback and reflection [9]. The multimedia is also able to stimulate the cognitive effects in PBL[10]. iLearn integration in self-study is a way to implement multimedia in PBL.

2 Method

2.1 Design and participants

The study was a descriptive quantitative study with analytic method to evaluate the implementation of iLearn for self-study. This was a pilot project of ilearn's implementation along with self-study session in tutorial steps in undergraduate program Faculty of Medicine, Universitas Andalas. The iLearn was tried in Block 2.6 year 2018. Students were told to submit their self-study in form of notes' pictures in a certain period given by assigned tutor. The tutor would assess their self-study online by wrote the comment in the students' account. Total 254 students in Block 2.6 were participated in iLearn project along with their tutor. 63 students and 13 tutors were consecutively selected to fill the questionnaire to evaluate the process of self-study by using iLearn compared with the conventional method of self-study.

2.2 Study instrument and procedure

The self-studies were guided by appointed tutors. The results were reported directly from the students' personal notes during tutorial and through iLearn. After finishing the tutorials in Block 2.6, students and tutors were given the questionnaire to evaluate their perception of implementation the self-study by using iLearn. The questionnaires were divided into two types, for student and tutor. It consisted of 6 questions with 4 Likert scale (question 1-6) with 4 point

means 'often' and 1 point means 'never' combined with two open questions. The final score of every students in Block 2.6 also submitted to evaluate the impact of iLearn towards their study.

Table 1. Statements for tutors' questionnaire

Number	Statements
1	I collect and assess the students' note of self-study offline
2	I give feedback to the students' note of self-study offline
3	I find a problem when collecting and assessing the students' note of self-study offline
4	I was participated on socialization of self-study online for tutor Block 2.6 (Respiratory Disease)
If ever participate, continue to number 5, if never continue to number 7.	
5	I accept the file of the students' note of self-study through the iLearn website or my email or another social media
6	I find a problem when collecting and assessing the students' notes through internet (iLearn, email, or another social media)
7	My problems when I were collecting and assessing the students' note of self-study (please write the finding below): a) via offline b) via online
8	My suggestion for self-study activity are (please listed below):

The question for the students was similar to the one for tutors. The focus of tutors' was the process of collecting the notes and giving assessment, including feedback, to those. While the students' one focused on completing the self-study notes and summit it.

Table 2. Statements for students' questionnaire

Number	Statements
1	I collect my note of self-study offline
2	I get feedback from my tutor about my note of self-study offline
3	I find a problem when collecting my note of self-study offline
4	I was participated on socialization of self-study online for students Block 2.6 (Respiratory Disease)
5	I send the file of my note of self-study through the iLearn website or my email or another social media
6	I find a problem when sending my notes through internet (iLearn, email, or another social media)
7	My problems when I were collecting my note of self-study (please write the finding below): a) via offline b) via online
8	My suggestion for the self-study activity are (please listed below):

2.3 Data analysis

We categorise the written data from questionnaire and classify into students' problem, tutors' problem, and suggestion. Then, the documented data were interpreted and the descriptive anaylisis was done [11].

3 Results

The perception of students and tutors about the implementation of iLearn in self-study could be seen through their answers in open ended questions (question 7 and 8). The statements were listed and grouped then reported in term of tables (Tables 3,4, and 5). Table 3 listed the statements that counted as problem during process of self-study in students' perspective. The most common problems found during offline self-study were short in time for self-study (30.43%), the students unable to finish the notes (21.74%), and tutors didn't remind students to submit the notes (13.04%). Meanwhile, during online process by using iLearn, the students stated that the problem came from the accessibility of website and server (25.00%), way to operate the iLearn (15.91%), and inefficient work by writing notes followed by scan the notes before upload (15.91%).

Table 3. The students' problem during self-study

No	Statements	n(%)
	Offline method	
1	The students haven't finish their notes	5 (21.74%)
2	The students felt their creativity were being limited to write and choose the notes	2 (8.70%)
3	The students perceive that it unnecessary for tutor to check the notes	1 (4.35%)
4	The allocation of time is limited	7 (30.43%)
5	The tutors didn't remind the students to submit the notes	3 (13.04%)
6	The notes are heavy to bring along	1 (4.35%)
7	The tutors were kept the notes for quite a time and forget to return to the students	1 (4.35%)
8	There was no individual feedback from tutors	2 (8.70%)
9	Tutors have different understanding about self-study note	1 (4.35%)
	Online method	
1	There were problem when accessing the iLearn and server error	11 (25.00%)
2	The files were unable to upload	5 (11.36%)
3	It was troubling to operate the iLearn	7 (15.91%)
4	It troubling because the notes need to scan ahead before upload	7 (15.91%)
5	The notes were delayed to be upload due to unfinished notes written	3 (6.82%)
6	Lack of feedback from tutors	1 (2.27%)
7	The tutors didn't remind the students to upload the files	3 (6.82%)
8	Upload size limits was too small	1 (2.27%)
9	It was unnecessary to do self-study online	1 (2.27%)
10	There was no internet access	1 (2.27%)
11	The time limit giving a burden	1 (2.27%)
12	Tutors didn't apply online self-study	3 (6.82%)

Similar finding of offline self-study was also perceived by tutors that the students didn't finish their notes and submit them within time limit, 20.00% respectively. The problem about iLearn system, website and server, also appeared as the hurdle during online self-study based on tutors' evaluation. Other problems that challenged tutors to do online self-study were inadequate individual time and students' participation (12.50%).

Table 4. The tutors' problem when facilitating self-study

No	Statements	n(%)

	Offline	
1	The students haven't finish their notes	20.00% (2)
2	The students perceive it was unnecessary to collect the notes	10.00% (1)
3	The time window were too short	10.00% (1)
4	The tutorial times were inadequate	10.00% (1)
5	Not every students submit the notes	20.00% (2)
6	It was unnecessary for the students to submit the notes	10.00% (1)
7	The tutorial only focus on discussion, leave a little room to evaluate the notes	10.00% (1)
8	I didn't have enough time to check the notes	10.00% (1)
	Online	
1	The students were unable to use the iLearn	12.50% (1)
2	Not every students done their assignment	12.50% (1)
3	The server didn't have the upload menu to upload the notes	12.50% (1)
4	There was the connection problem during the upload process	12.50% (1)
5	Unable to access the iLearn website	12.50% (1)
6	There was students which haven't included into group during online assessment	12.50% (1)
7	iLearn website didn't work well	12.50% (1)
8	I didn't have enough time to check the notes	12.50% (1)

The last statement in the questionnaire asked both students and tutors about suggestion related to the process of self-study. Most students suggested doing self-study offline only. Means, there is no need to submit the notes and discuss the result of self-study online. The tutors suggested a standardize evaluation about self-study to help them assessing it better. Both parties agreed that the iLearn system should be improved if online self-study will be continued and a need to improve the socialization of iLearn implementation.

Table 5. The suggestion related to self-study system

No	Statements	n(%)
	Students	
1	Facilitate the students so the upload process become convenience	3.45% (1)
2	Repair the system of iLearn	10.34% (3)
3	The tutors should remind and give feedback related to the implementation of self-study	3.45% (1)
4	Making the standard of evaluation for the self-study	6.90% (2)
5	The self-study should be done in offline only	31.03% (9)
6	Improve the socialization process	10.34% (3)
7	The online system seems to be more effective for the students' evaluation by tutors	3.45% (1)
8	The deadline of submission should be removed	3.45% (1)
9	The notes should only be made paperless	6.90% (2)
10	The self-study should be adjusted into students' learning style	10.34% (3)
11	The tutors should encourage students to submit self-study notes	10.34% (3)
	Tutors	
1	Repair the network system	22.22% (2)
2	Consider to make a special evaluation for self-study	11.11% (1)
3	Making rule that underlie the implementation of self-study	11.11% (1)
4	Making the standard of evaluation for the tutors	22.22% (2)
5	The self-study should be done in offline only	11.11% (1)
6	Improve the socialization process	22.22% (2)

The impact of this pilot project was likely projected into the exam score of students at the end of Block 2.6. We tried to compare the result of MCQ test of Block 2.6 exam in Batch 2017 who undergoes conventional self-study (without iLearn) with students in Batch 2018 who participated in this pilot project. The overall score in Batch 2018 which iLearn was implemented showed higher point compared with the conventional self-study.

Table 6. The MCQ score of Block 2.6 exam

	Mean (SD)	Highest score	Lowest Score
Batch 2017	51.47 (14.48)	75.33	23.33
Batch 2018	56.14 (14.62)	82.67	25.33

4 Discussion

After the implementation of iLearn for self-study, the students and tutors commented that the self-study should be done offline only. We perceived that condition as a tension which usually appeared after introducing new technology. Those people wish to perform pre-existing activities more efficiently or faster [5]. However, our prime goal is education, and the outcomes cannot always be predicted. Thus, we have to take risks and see what happen. As for the use of technology in iLearn based self-study, it requires not only engineered set but also adaptability in response to the change.

The process of e-learning need the competent and engaged teachers to accommodate students as a learner [5]. The lack of engagement and commitment during the process of self-study by using iLearn was seen by the students' statement that: 'the tutors didn't remind the students to upload the files; Lack of feedback from tutors; Tutors didn't apply online self-study'. By the end of iLearn trial, students felt that the tutors should give them more attention during the procees of self-study because they likely hadn't used to the implementation. Also, the students felt little encouragement toward their self-study because the lack of feed-back from the tutors, which should be the important appraisal for their improvement.

As important as teachers' participation, students' role has a big impact to the success of system. Both of them need to present a good group work which only able to achieved by active participation. Low levels of participation will be problematic in online learning [12]. [13,14] The students' participation in this pilot project still needs an improvement. It shown by the questionnaire result where the students stated that the obstacle to do online self-study was: 'The notes were delayed to be uploading due to unfinished notes written'. On point with the statement, the tutors stated that: 'Not every student did their assignment' as the obstacle in online self-study. Actually, the problem of unfinished self-study's also happened in offline self-study. The process of online self-study by Thus, that wasn't correlated with the application of iLearn. In addition, it should be the students' motivation, discipline, and eagerness to finish their study and complete the notes that need to be improved.

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Every factors that reduce participation in face to face groups also apply in online groups, moreover, online groups have complication of technical expertise and accessibility [5]. In this study, we could related by the fact that the uploading process of self-study's notes were delayed due to unfinish written notes offline. The self-study session consist of face to face session and online session with iLearn, whole act as a continuation. Thus, when the students faced trouble to finish the notes, for example because inadequate time and too much material to wrote down or maybe because they didn;t felt good to wrote all materials, the online study will be troubled too.

We need to overcome the problem by increasing the participation. Several strategies were already considered to increase participatio[15,16,17,18,19,20], such as setting a minimum numbers of postings awarding marks for certain postings, or creating question that are engaging for the students [5]. Awarding marks is possible increasing postings; however it could be a mini assigments for tutors rather than spontaneous thoughts [5].

The tutors complained about having lack of spare time to assess the online self-study. Besides, the allocated tutorial time also limited if being used to evaluate self-study. The implementation of iLearn in self-study is hoped that the tutors could be more flexible in giving the assessment. E-learning will extend to defeat limitations of time as well as space, challenging the concepts of 'working hours' and 'non-working hours' [3]. This could be benefit because tutors could freely choose the time to assess. However, some people may feel a burden because they working hours could be continue in their personal time. Thus, there should be a reward regarding to every assessment made by tutors online.

As a pilot project, the using of iLearn in self-study brought sense of unfamiliarity for all people involved in learning process [5]. Several students still complained about the using of iLearn, some of them were confuse and unable to use it properly. They stated that:'It was troubling to operate the iLearn' and suggested making it more convenience to use. Responding the problem, we need to facilitate online learning if this implementation was going to be continued.

Since this was a pilot project to implement iLearn in self-study session, there was no standard evaluation to assess the session. Thus, we could find in this study tutors suggest to create a standardize evaluation for tutors when assessing the self study. For some period, the assessment for self-study were included in the evaluation of tutorials. As we know, the tutorial is consist of seven coninuation steps, which means each previous steps will affect the next one. On that point, the self-study session as a form of self directed learning will assessing generally on term of tutorials assessment. However, in iLearn self-study, the tutors were obligated to assess their knowledge formatively by leaving assessment in chat box in related tutorials group. The minus point is the evaluation done subjectively as there is no standard in evaluate the self-study's notes.

E-assessment (knowing as computer aided assessment (CAA) or comuter-based testing (CBT) able to support knowledge-based assessment, performance-based assessment, practice-based assessment, or behaviour/attitude-based assessment [5,21]. The students will be assessed based on four, knowledge, performance, practice, and behavior/attitude. In iLearn based self-study, the assessment was executed formatively in term of knowledge based and behavior/attitude based. The knowledge based assessment was seen by the coverage of learning objective written in their notes. Meanwhile, the behavior/attitude based assessment was included in the tutors' rubric.

During the process of online self-study by using iLearn, tutors would leaving a message as a eedback in online study group. The students would be able to check the assessment throug the iLearn program. These was a part of collaborative facility that provided by iLearn, as an e-

learning system. There is variety of collaborative facilities such as chat, message board, online conferencing, and e-mail. It could be adopted into e-learning environment just like iLearn self-study session. The collaboration is define as a structures exchange between two or more participants design to enhance achievement of the learning objective [22]. The collabortion means the students will learn altogether, and theoritically is better than study alone [23]. However, this study didn't evaluate the students'score after implementing iLearn self study.

The main frame of this study is how to create an ideal integration of PBL and e-learning. PBL model itself is one of suitable media to implement e-learning [24]. Actually, Faculty of Medicine, Universitas Andalas, has conduct e-learning during the course. However, implementing e-learning in self-study session is the first time. Theoritically, integrating PBL with ICT (Information Communication Technologies) like using web or e-Learning will improve learning outcomes, showing a good results [25]. In the final score of MCQ test for Block 2.6, Batch 2018 scored was higher than Batch 2017scored that didn't implement e-learning. However, further study is needed to determine wether e-learning improve the results or other factors do. Studies show that the learning outcomes are influenced by PBL model with e-Learning, students' motivation, and the interaction between PBLusing e-learning and students motivation [24,26,27].

5 Conclusion

We conclude that several problems are happened during the first implementation of iLearn in self-study process based on the students' and tutors' opinion. The problems arouse from the technical problem as network, server, and website accessibility that sometimes hardly acessed. Including several students who unable to join the group in online self-study.

Another problem was personal which means the human resources who took a part in the process, mainly students and tutors. Students perceived that it'll be better to do self-study offline only. The problems were inefficient work because the students need to work twice, completing written notes than upload the pictures of it, participation during online self-study wasn't maximum, and incomplete notes to be uploaded. Meanwhile, the students problem also influenced the tutors' work because they can't evaluate well if the students didn't participate well. Tutors felt that they need more time slot to evaluate the self-study during tutorial process and also they didn't have enough time to assess the self-study notes online. There was also the problem of motivation from the students. Also, both party believe that there was a problem with familiarity toward the project. Thus, they believe better socialization of iLearn will cover it up.

A category that also appear to be a problem in the implementation of iLearn was the management. There was no standardize assessment of self-study and it concern the tutors on how they should assess the students. On that poin, we should begin to make the evaluation standard for the self-study process to assess objectively. Avoid the possibility of tutors being confuse and having double standard during the assessment.

In contrary with the previous statement, there was argument which supporting the online system of self-study, thinking it will be more effective. It could be a good sign to continue the iLearn for self-study process. There always be a problem when we trying to adapt a new system, and hardly change the confort of old users. But, iLearn as a method of e-learning propose benefit that worth all the problem. Thus, the opposition for the iLearn in this study should be acting as fuel to improve the program and polish it near perfection. On that point, the coordination between stakeholders, academic staff, teachers, and students are very important.

Further studies is needed to acheive a best plan of iLearn's implementation. A trial should be hold again after resolve the problems as mentioned before. It will be better if the system is not only implemented in one Block but also in every Block running in the same time interval. The subject of studies should represent students from all grade, every tutors, and in bigger value of samples. The opinion from stakeholder should be included in the future study. The future goal is to create a good system for blended learning in PBL system in medical education.

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