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PREFACE

On behalf of the Organizing Committee of World Association of Lesson Studies (WALS) 2014 International Conference, I would like to welcome all participants both local and overseas to the 8th annual conference at Indonesia University of Education in Bandung, Indonesia. The Bandung conference has attracted attention of international community around the globe. There are 782 registered participants from 29 countries with the largest contingent from Indonesia followed by Singapore, Japan, and Sweden.

The theme of WALS 2014 International Conference is **Becoming Reflective Educators and Professionals of Learning**. This theme reflects the continuity of efforts to be reflective educators and professional who never stop learning. Such is represented in the form knowledge, expertise, and other resources which are developed, invested, accumulated, and distributed to improve the quality of teaching and learning.

In this conference, educators and teachers from Africa, America, Asia, Australia and Europe continents come together to share their research and practices on improving the quality of teaching and learning, teacher education and development, school improvement, and learning community through Lesson and Learning Studies.

This proceeding is a collection of papers presented in the WALS 2014 International Conference. It covers 13 strands:

1. Teacher Professional Development
2. Action Research
3. Pedagogies and Teaching Strategies
4. Designing for Learning with Quality in Specific Subjects
5. Research on Lessons in Different Cultures
6. Issues about Leading Lesson Study
7. Learning Communities for School Reform
8. Developing Communities of Practices
9. Creating Knowledge in Practice
10. Student Learning and Development
11. Lesson and Learning Study in Pre-School
12. Lesson and Learning Study in Special Education settings
13. Lesson and Learning Study in Higher Education

We are sure that the papers and discussions from WALS 2014 International Conference will make a major contribution to the national and international dialogue on Lesson/Learning Studies. However, we would like to remind that the views expressed in the papers are those of each author alone and do not necessarily represent those of the organizing institutions or any of their affiliates.

I wish all of us a fruitful conference and opportunities to build networking during the conference. I hope you enjoy the conference and your time at UPI.

Sumar Hendayana, Ph.D.
Chair
Organizing Committee of WALS 2014
International Conference

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The Development and Application of Electronic Portfolio Using Lesson Study for Improving Lecturers' Professionalism in Cell Biology Teaching and Learning

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Abstract: ***Abstract***: The purpose of the study was to develop and implement electronic portfolio based Lesson Study to improve lecturers' professionalism in Cell Biology teaching and learning. The present study involved 6 lecturers and 11 senior students involving in the 14 meetings Lesson Study process, implemented in two different classes. The activities were observed from the development and the implementation of the e-portfolio in form of integrated assignment in lesson plan. The data of the study were obtained from the e-portfolio implementation to the students as a process and evaluation, the assumption questionnaires, and the lecturers' structured interview towards the Lesson Study. The data were analysed by descriptive qualitative method and the students learning results attained from the quiz score. The results of the study related to the development of the e-portfolio through the implementation of the Lesson Study revealed several suggestions; (1) the colour and feature, (2) the uploading deadline should be fixed, (3) the format of the data should be in PDF or Ms. Word. The results of the development based on the evaluation were found that the e-portfolio components consist of (1) user page, (2) profile, (3) friends, (4) private portfolio, and (5) assignments uploading deadline. The results of the e-portfolio implementation to support lecturers' professionalism showed that there was an ability improvement in terms of (1) planning learning activitiesincluding the e-portfolio assignment planning, (2) implementing IT skill during learningactivities, (3) evaluating the students' works, (4) creating a good communication between lecturers and students, (5) identifying the students' problems. The learning results which were observed from the quiz score improved 16.44% beginning from the first meeting to the seventh meeting.

Keywords: e-portfolio, lesson study, lecturers' professionalism, cell biology.

1 INTRODUCTION

The implementation of technology to assist the learning evaluation technique in higher education level is massively used to monitor the students' ability in learning as well as to enhance the lecturers' professionalism in integrating IT. The form of the evaluation that might be able to integrate IT and encourage the students' improvement and the lecturers' capability is e-portfolio (Barret, 2000). E-portfolio popularity has been begun from its development as an evaluation instrument for the recent ten years (Tartwijk, *et al*., 2007). As Information and technology (IT) has been developed better, portfolio has been developed as well to become electronic portfolio (e-portfolio) to facilitate the evaluation process especially in education world. However, as a relatively new facility, e-portfolio cannot be directly used and might not directly affect to the improvement of the students' academic ability (Kwok, 2011). It is because there are many factors that contribute e-portfolio successfulness as an evaluation instrument to enhance the students' and the lecturers' ability during teaching and learning process.Chau and Cheng (2010) reported that e-portfolio implementation is basically able to assist to develop the students' ability. It is in line with Abiding and Saleh's (2010) statement that e-portfolio was able to encourage the students to become independent students especially in planning, performance, and evaluation. As for the lecturers, the implementation of e-portfolio might ease to improve their ability to recognize the students' potential through their uploaded and exhibited assignments on e-portfolio. In addition, the implementation of IT, like e-portfolio, becomes an important point to be integrated in learning process to improve the lecturers' competence (Umar and Yusoff, 2014). Therefore, the development of evaluation instrument such as e-portfolio which is integrating IT is categorized as a competence that can improve the lecturers' professionalism.

The implementation of e-portfolio as an evaluation instrument needs to be developed so that

it can be applied properly in order to reach the goal of the learning. One way to optimize the implementation of e-portfolio is through lesson study involving lecturer team in the application. It is because the systematic lesson study stages, namely plan, do, and see, are believed to be able to improve the learning process quality. Thus, the lesson study performance is aimed at developing and implementing e-portfolio as well as to improve the lecturers' professionalism in teaching, especially for those who are directly involved as the lesson study team. As the implementation of lesson study in Indonesia, Marsigit (2007) stated that it was introduced in 2001 through IMSTEP-JICA Project program and has been applied ever since. A lesson study which is begun with team grouping makes the learning activity be able to improve the lecturers' professionalism directly in terms of performance, materials, and evaluation process (Holmes, 2013), as well as to develop the evaluation instrument on learning such as e-portfolio.

The developed and implemented e-portfolio through the lesson study activity is one of the efforts to solve the students' difficulty in comprehending the lecture materials, including Cell Biology subject. As a prerequisite subject in Biology department, Cell Biology subject is considered as a difficult subject to be comprehended by the students. The abstract materials make it hard to be understood. By using different way, Veselinovska, et al. (2011) state that Cell Biology difficulty level is quite high, thus, it needs a specific technique and method developed by lecturers to enhance the students' active participation and learning motivation. The development and the implementation of e-portfolio through the lesson study is an alternative problem solving to deal with the difficulty in learning Cell Biology. The involvement of the lesson study in the learning process is necessary because the e-portfolio was developed and implemented based on the characteristics of the subject itself.

Regarding to the references above mentioned, it is necessary to know how lesson study can be used to develop and implement e-portfolio so that it can improve the lecturers' professionalism in Cell Biology teaching and learning. Therefore, the purpose of the present study was to develop and implement e-portfolio to improve the lecturers' professionalism in Cell Biology teaching and learning.

2 PARTICIPANTS

The present study was involving several lecturers and university students taking Cell Biology subject by developing and implementing e-portfolio through the lesson study activity. There were 52 students involved in this study who were divided into two parallel classes, namely A and B, while the lesson study team involved 6 lecturers and 11 senior students as the team member. The lecturers who were involved consisted of 3 senior lecturers, who have been teaching for more than 10 years, and 3 junior lecturers, who have been teaching less than 10 years. All of the lecturers are IT illiterate in order to support the learning process even though they have tried it in a simple and standard way. As most of the students have already familiar with IT and utilize it to communicate not to support their learning.

3 RESEARCH PROCEDURE

The initial development of e-portfolio was conducted by arranging its component on e-portfolio web consisting of user page, profile, friends, and private portfolio. The result of the initial development was discussed in the lesson study activity especially in the first planning stage in team. Then, it was followed by do and see as the reflection to implement e-portfolio in learning.

The implementation of Cell Biology learning through Students Team Achievement Division (STAD) method was carried out through several activities, like brief explanation, group work, discussion, quiz, and giving reward to a group or a student who achieve better than others. The increasing of the students' quiz achievements was a successfulness indicator of the lecturers' professionalism improvement in improving the learning quality.

The lesson study team consisted of six lecturers from Biology department and eleven students of seventh semester taking thesis research. The team members consisted of lecturers from similar major and experienced lesson study program in 2010-2012. Three lecturers of the team once became model lecturer regarding their subjects. Plan-Do-See cycles were conducted for seven times for each class, so there were fourteen lesson study cycles conducted in two classes during the similar Cell Biology subject. The cycle of the lesson plan was adapted from Smith (2010).

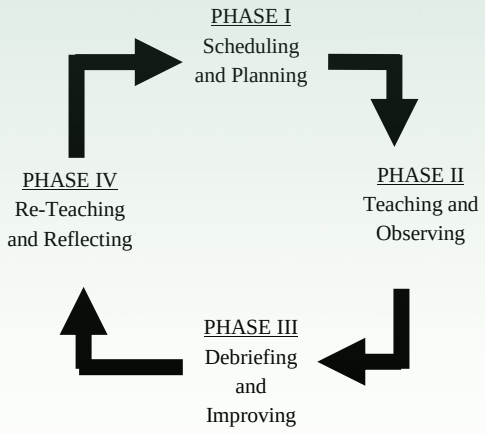

Fig 1. The cycle of lesson study (Smith, 2010)

Based on the arranged, agreed, and conducted schedule as well as referring to the above figure 1, the lesson study activities are presented on the following Table 1.

Table 1 The Lesson Study Schedule of the Two Sample Classes

Material	*Plan (Phase I)*	*Do-See (Phase II)*	*Plan (Phase III)*	*Do-See (Phase IV)*
Cell structure, advantages & disadvantages of learning Cell Biology, tools & technique of learning cell	18th March 2013	22nd March 2013 (Class A)	22nd March 2013 (Class B)	24th March 2013 (Class B)
Function of organic and inorganic chemical component.	29th March 2013	1st April 2013 (Class B)	1st April 2013 (Class A)	3rd April 2013 (Class A)
Structure of cell membrane &the permeability	1st April 2013	8th April 2013 (Class B)	8th April 2013 (Class A)	10th April 2013 (Class A)
Endomembrane System; Supporting Organelle	11th April 2013	15th April 2013 (Class B)	15th April 2013 (Class A)	17th April 2013 (Class A)
Structure& function of Cytoskeleton	18th April 2013	26th April 2013 (Class A)	26th April 2013 (Class B)	27th April 2013 (Class B)
The structure and the function of mitochondria and chloroplast	29th April 2013	2nd May 2013 (Class A)	2nd May 2013 (Class B)	4th May 2013 (Class B)
The nucleus and genetic material	6th May 2013	9th May 2013 (Class A)	9th May 2013 (Class B)	11th May 2013 (Class B)

4 DATA AND DATA ANALYSIS

The lecturers' professionalism data were obtained from the questionnaires delivered to the lesson study team members consisting of six lecturers and eleven senior students. The data were also obtained from the structured interviews to know the lecturers' opinion towards the development and the implementation of e-portfolio in learning. The questionnaires which were delivered consisted of the planning and the form of e-portfolio as well as the advantages of e-portfolio implementation. The questionnaires were delivered after the implementation of e-portfolio during the lesson study activities. While in order to examine the process of the lesson study, an observation sheet and field note were utilized.

The results of the questionnaires data analysis related to the development and the implementation of e-portfolio were categorized as be able to support the lecturers' professionalism if the results reached the minimum point 70%. The data obtained from the observation sheet and the field note were analysed by using data reduction and the conclusion was derived descriptive qualitatively.

5 FINDINGS

The development and the implementation of e-portfolio were conducted in Cell Biology learning through the lesson study activities. During the realization of the lesson study, 6 lecturers and 11 senior students were involved as the respondents. All of the respondents stated that the lesson study activities are able to improve the lecturers' professionalism in terms of planning, implementation, and learning evaluation.

Based on the analysis of the questionnaires, the video recording, the observation sheet, and the reflection activity during the lesson study, most of the team members experienced how to plan and carry out learning in a good structure. The reflection result showed that the lecturers' professionalism improved in the following aspects.

5.1.PlanningLearning Activities including E-portfolio Assignment Planning

The planning of the assignment being uploaded by the students in form of e-portfolio was arranged based on the lesson plan in *plan* stage by the lesson study team. Table 2 presents the planning and assignment in form of the developed e-portfolio.

Table 2. The Percentage of the Assignment Planning in form of E-portfolio

Feedback based on the questionnaires	Percentage	Criteria
The planning of assignments being uploaded in form of e-portfolio consisting of Cell Biology materials	80.9	Very endorsing
The types of the assignment used as e-portfolio materials is interesting to be discussed	83.8	Very endorsing

The reflection result showed that the team members feel an improvement in terms of the lesson plan arrangement related to the assignment type as the e-portfolio component. The lecturers feel an improvement in terms of observing and revising the lesson plan with several assignments as the e-portfolio component.

5.2.Implementing IT Skill during Learning Activities

The developed and implemented e-portfolio improved the lecturers' ability in implementing IT in order to support the learning. It is reflected on the following Table 3.

Table 3. The Percentage of IT Utilization Skill in Learning

Feedback based on questionnaires	Percentage	Criteria
IT utilization in learning activity through e-portfolio is a technology integration need to be learnt.	95.6	Very endorsing
Uploading the complete assignments in form of e-portfolio is easy	91.2	Very endorsing
The lecturers and the students are able to learn IT besides the main materials	97.1	Very endorsing
The lecturers possess a skill in utilizing IT especially in arranging the e-portfolio	94.1	Very endorsing

A team member reported a condition in detail that it is necessary to improve the students' ability in learning a particular material, yet it is better if the lecturers are able to operate the IT facility first to support the learning activities. This statement was recorded on *See* on 10th April 2013 by Linda:

> *'As a junior lecturer, I think we need to enhance our skill as a consequences in improving the lecturers' professionalism. One thing that I think it is necessary to improve is the integration of IT and the existence of e-portfolio is very relevant to fulfil our need. This is not only good for the students to improve themselves but also to motivate lecturers to always implement it in every learning activity. In this case, the lecturers will learn how to use IT and develop their own capability indirectly.'*

(Taken from the reflection note on 15th April 2013).

The above statement indicated that the lecturer himself feel the advantage of the implementation of e-portfolio, especially in improving the IT skill. Linda informed the importance of e-portfolio for lecturers in assisting them to contribute skill, organize, deliver materials, give advice, discuss, and communicate regardless time and place.

5.3. Evaluating the Students' Works

The lesson study team members showed a positive behaviour by stating to the students that e-portfolio is an alternative way to evaluate the students. The lecturers stated that e-portfolio is not only used to examine the students' ability based on the uploaded assignments but also to help the students to study and recognize their own personal ability.

Table 3 The Percentage of E-portfolio Implementation to Support the Evaluation Process

Feedback based on questionnaires	Percentage	Criteria
The existence of e-portfolio ease the lecturers to score the students	86.8	Very endorsing
The existence of e-portfolio facilitates the lecturers as an evaluation instrument towards the students' ability.	92.6	Very endorsing

During the implementation of e-portfolio, the lecturers were more critical in observing the students' work. It is assumed from the field note of a member of the lesson study as follow:

> *'I think I can see the students' work better after observing their works on e-portfolio. At the beginning I felt confused especially in terms of the important component structure and the important component placing of e-portfolio, yet that condition were fixed at once. Therefore, I think the implementation of e-portfolio is an effective way to evaluate the students' learning result.'*

(Taken from the reflection note on 3rd April 2013).

5.4. Creating a Good Communication between Lecturers and Students

One of e-portfolio facility is discussion forum which can be carried out between lecturer and student or among students. It is reflected on the statement:

> *'The communication process happen in e-portfolio facility makes the comprehension towards Cell Biology materials more detail. The students can upload their statements and some supporting data or relevant link related to the materials being discussed.'*
> (Taken from the reflection note on 27th April 2013).

5.5.Identifying the Students' Problems

The observation activity during the learning process showed that the observer was able to examine the difficulty experienced by the students both in utilizing e-portfolio and in comprehending the material. It is reflected on the following recording:

> *'The continuous observation enables me to observe the students' problem meticulously. From the observation I can see that most of the students can hardly comprehend the materials, they tend to re-open the files on the e-portfolio. It seems that it helps them to re-learn their notes during the lecturing.'*
> (Taken from the reflection note on 4th May 2013).

The e-portfolio facility basically eases the students to re-correct their works and compare the works to others'. This helps the students learning process indirectly; it was proven by the result of the questionnaire on Table 4.

Table 4. The Percentage of E-portfolio Implementation to Encourage the Students' Learning Process

Feedback based on questionnaires	Persentase	Criteria
E-portfolio eases the students to compare their works one another	83.8	Very endorsing

5.6. Improving the Self Confidence

The developed and the implemented e-portfolio through the lesson study activities can improve the lecturers' confident in teaching. It was felt by the model lecturer who play an important role during the lecturing process. Even though the other team members in Cell Biology subject did not perform as the model lecturers, they also confirmed that the implementation of e-portfolio supported by the lesson planning helps the lecturers' work. One of team members, Waskito, stated that:

> *'I can feel that the revised stages of the implementation of e-portfolio based on the previous suggestions optimized the e-portfolio for the students. The assignment deadline encourages the students to make a plan to finish their assignments every week. The e-portfolio is an appropriate instrument to give an instruction or guidance to the students so it creates a conducive learning atmosphere. Therefore, the lecturers might be more confident in teaching since they are supported by a proper planning and a proper instrument.'*
> (Taken from the reflective note on 10th April 2013).

5.7.Improving the Students' Learning Result

One of the lecturers' improving professionalism indicators in learning by implementing e-portfolio was the students' learning results. In the present study, the learning data based on the students' quiz score on each meeting on each cycle during the lesson study were taken. The quiz average score of the students is presented on the following Figure 2.

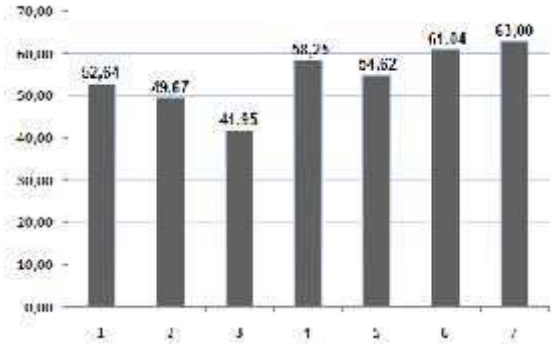

Figure 2.The Histogram of the Quiz Average Score from the First Meeting to the Seventh Meeting

The above Figure 2 revealed that the quiz score average on each lesson study cycles increased even though the average score decreased on the third meeting. The increasing quiz average score from the first meeting to the seventh meeting was 16.44%.

5.8.The Developed E-portfolio Profile

The results of the development of e-portfolio during the lesson study activities are presented on the following Table 5.

Table 5. The Development of E-portfolio Features during the Lesson Study

Features	Description
User Page	The students register and get the lecturing materials as well as the information needed during the lecturing activity.
Profile	A place for the students portfolio and is completed by the students' identity and photograph.
Friends	Connect the users to other friends to do the assignments and share some information.
Private Portfolio	The uploaded assignments can be in form of file, photograph, or video.
Assignment Uploading Deadline	The deadline when the students have to upload their assignments. The deadline is a week after the lecturing activity started, after that the uploading session is closed.

6 DISCUSSION

The findings of the study showed that the lesson study was an important effort and process that supported the development and the implementation of e-portfolio in Cell Biology learning, especially in improving the lecturers' professionalism. The instrument was developed in the beginning of the study and improved during the implementation of the lesson study made the lecturers were able to discuss and observe its implementation. The lesson study team discussion process is a collaborative characteristic as an effort to improve the learning quality (White and Southwell, 2010). Furthermore, Garret, *et al*. (2001) stated that the development of the educators' comprehension is significantly enhanced through several activities and experiences to improve their professionalism, one of which is through the development and the implementation of e-portfolio.

The application of the lesson study for fourteen meetings in two Cell Biology classes showed an increasing ability of the lecturers in planning the learning activities, conducting the learning, and evaluating the learning by using e-portfolio. The lecturers' professionalism improvement was in line with the learning performance in class. Verhoef&Tall's (2011) study verify that the professionalism development was supported by the practical activities in class and discussion with the lesson study team.

The completing e-portfolio instrument was done together with the completing of learning materials and the media, and the evaluation process was done after *do* stage or the continuous implementation. Therefore, the lesson study team members could learn how to adjust the learning materials and the supporting instruments as well as the evaluation process. It is in line with Wood's (2013) statement that the arrangement of the learning materials based on the learning situation might become a systematic experience for the lecturers, in terms of (1) understanding the materials object, (2) developing the materials object, and (3) implementing various techniques to arrange the next learning.

The development of the lecturers' competence to improve their professionalism is an important point in this study. All of the lesson study team member agreed that e-portfolio was an important part to develop their capability and self-potential as a lecturer. The advantage of the pair discussion, sharing, and giving feedback from the students' learning result session in form of e-portfolio made the lecturers more focus and confident in teaching. Rock & Wilson (2005) confirmed that the lesson study activity might increase professionalism which can be carried out independently by any universities. Besides, it saves more money compared to send the lecturers to improve their professionalism to other universities. In this case, there will be more fund saved that can be allocated for other activities.

This study also showed that the IT integration was an important thing needed to increase skill. Besides as an evaluation instrument, e-portfolio could also be used by the lecturers and the students to enhance their skills in utilizing IT, in which has been improving for the last 10 years in education world. Umar and Yusoff (2014) showed that the IT skill is positively correlate to the utilization frequency. Hence, the more the lecturer implement e-portfolio, the more they get the improvement in terms of IT utilization as the learning instrument.

The lecturers' professionalism due to the IT utilization through the lesson study activities could be seen from the planning side and the focus of the learning. Whenever the e-portfolio was implemented, the lecturers could observe the students' uploaded assignments in form of digital format, such as powerpoint, pdf, video, or photograph which could easily be used. Klement, *et al*. (2014) confirm that the IT support needs to be designed as easy to use as possible. This might make the lecturers know the strengths and weaknesses of the students in learning as well as the lecturers' awareness in observing the students' works.

The opinion stated by one of the lesson team members who actively participated in the

development and the implementation of e-portfolio showed an interest and willingness to utilize the same instrument in his/her learning. It is because the existence of e-portfolio helps to integrate IT so it can improve his/ her capability. It revealed that the lecturer was aware to the importance of IT support in the learning process, which also became an indicator that the lecturer had a willingness to improve his/her own capability through e-portfolio implementation. The experience of implementing e-portfolio as an evaluation strategy to support learning is known as an activity that can be implemented to improve the learning quality.

The IT has become a required instruments to be used to support the learning process in order to assist lecturers to deliver materials and evaluate, such as e-portfolio. The evaluation process, by using e-portfolio for instance, is an important point in learning because lecturers can be more focus on observing the students' ability through their uploaded works. As Taylor, *et al.*, (2005) stated that it is important to find a solution towards the learning problem nowadays. This is an important thing need to be considered since it eases the lecturers to evaluate the students' works during the Cell Biology learning.

The assignment planning process which needs to be uploaded to e-portfolio based on the Cell Biology curriculum involved the lesson study team. Practically, it might help the lecturers to enhance the lecturers' professionalism for it encouraged the team members to work in learning community in which (Taylor, *et al*., 2005; Marsigit, 2007; and Rock and Wilson, 2005) state that it supports the learning activity in class in terms of the planning and the evaluation.

The learning result was the learning quality process improvement indicator which could be assumed from the students' improving average scores during the seven meetings. It revealed that the learning plan through various assignments which had been discussed beforehand in the plan stage and was uploaded in form of e-portfolio was able to develop the student thinking ability. The learning plan made through some discussion by the lesson study team members eased the process of the Cell Biology learning. The team collaboration in planning activity became the important aspect in the successfulness of the learning, as it revealed in Inprahista's (2014) study.

The plan and do support in the lesson study activities helped to improve the lecturers' professionalism in several aspects, namely (a) comprehend the Cell Biology materials subject more detail due to the discussion among the lesson study team, (b) develop the capability in planning lesson, conduct and report the observation activity, (c) be focus on the students' difficulties related to the uploaded assignments in e-portfolio, and (d) observe the activities during the learning process to be adapted and implemented later.

7 CONCLUSIONS

The development and the implementation of e-portfolio through the lesson study activities were able to improve the lecturers' professionalism in Teacher Training Institute of PGRI MADIUN. The assignment planning process in form of e-portfolio which was based on Cell Biology curriculum helped to develop the lecturers' overall ability in planning a learning activity, carrying out and observing condition through observation, and reporting the result of the learning. In the end, the lecturers might feel the impact of the implementation of e-portfolio as an optimum teaching instrument to support the learning activity.

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9 REFERENCES

Abidin, A.Z., and Saleh, F., 2010.Soft Skills in the Development of Team-Based Electronic Learning Portfolio.*Procedia Social and Behavioral Sciences.*8; 626-633.

Barrett,H.C. 2000. Create Your Own Electronic Portfolio:Using Off-the-Shelf Software to Showcase Your Own or Student Work. *Learning & Leading with Technology*, 27(7);15-21.

Chau,J. dan Cheng, G. 2010. Towards Understanding the Potential of e-Portofolio for Independent Learning: A qualitative Study. *Australian Journal of Educational Technology*. 26(7); 932-950.

Fernandez,M.L., 2005. Exploring 'Lesson Study' in teacher preparation.*Proceeding of the 29th Conference of the International Group for the Psychology of Mathematics Education*.2; 305-312.

Garet,M., Porter,A., Desimone,L., Birman.,B. and Yoon, K.S. 2001. What Makes Professional Development Effective? Result from a National Sample of Teachers. *American Educational Research Journal*, 38(4); 915-945.

Holmes. B,. 2013. School Teachers' Continuous Professional Development an Online Learning Community: Lessons from a Case Study of an e-Twinning Learning Event. *European Journal of Education*. 48(1); 97-109.

Inprasitha,N. 2014. Perceptions on Proffessional Development of Supervisors in the Non-Project and Project Schools Using Lesson Study.*Procedia-Social and Behavioral Science*. 116; 2069-2073.

Klement,M., Dostal, J., &Maresova,H. 2014. Elements of Electronic Teaching Materials with Respect to Student's Cognitive Learning Styles.*Procedia Social and Behavioral Sciences.*112; 437-446.

Kwok, L. 2011. College Students' Participation in E-Portofolio Learning in Relation to Academic Ability and Motivation.*Electronic Journal of Foreign Language Teaching*. 8(2);246-267.

Marsigit. 2007. Mathematics Teachers' Professional Development through Lesson Study in Indonesia. *Eurasia Journal of Mathematics & Technology Education*. 3(2);141-144.

Rock, T.C., and Wilson,C. 2005. *Improving Teaching through Lesson Study.Teacher Education Quarterly.*Winter.

Tartwijk, J.V., Driessen,E., Vleuten, C.V.D., and Stokking,K. 2007. Factors Influencing the Successful Introduction of Portfolios.*Quality in Higher Education*. 13(1); 69-79.

Taylor, A.R., Anderson, S.,Meyer, K., Wagner, M.K., and West C.,. 2005. Lesson Study: A Proffessional Development Model for Mathematics Reform. *The Rural Educator*.17-21.

Umar,I.N., and Yusoff, M.T.M., 2014. A Study on Malaysian Teachers' Level of ICT Skills and Practices, and its Impact on Teaching and Learning.*Procedia Social and Behavioral Sciences*. 116; 979-984.

Veselinovska,S.S., Gudeva,L.K., and Djokic,M. 2011. Applying Appropriates Methods for Teaching Cell Biology. *Procedia Social and Behavioral Sciences*. (15); 2837-2842.

Verhoef and Tall. 2011. Lesson Study: The Effect on Teachers' Professional Development. *Proceedings of the 35th Conference of the International Group for the Psychology of Mahematics Education.* 4; 297-304.

White, A.L., and Southwell, B. 2010.*Lesson Study: A Model of Professional Development for Teachers of Mathematics in Years 7 to 12.*University of Western Sydney.

Wood, K,. 2013. A Desaign for Teacher Education Based on a Systematic Framework of Variation to Link Teaching With Learners' Ways of Experiencing the Object of Learning. *International Journal for Lesson and Learning Studies (IJLLS)*. 2(1); 56-71.

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