Mobile learning as a media training of reading literacy: blended learning

S Katoningsih¹, JD Wardhani², Nur fauziah³, Willi Astuti⁴
¹,²,³ PG PAUD Department, Universitas Muhammadiyah Surakarta

Email: ¹ sk773@ums.ac.id

Abstract. Increasing the professionalism of teachers mostly done by the government through various training. Teachers must attend training or other personal development but they were leaving the class or class time, so students do not get assistance in the learning process, they asked the student to do the task, so that the class is out of control and tends to be noisy. The purpose of this research is to develop mobile learning as a medium in literacy training so that training becomes more effective. This research is a research and development study. This research method was develop training models according to the needs of the trainees. The samples of this study were 32 teachers in SMA N Semarang. The results of this study indicate that the training model using mobile learning media and the learning system conducted in blended learning can make literacy training more effective. This training model also provides solutions to the training problems experienced by teachers. Based on the results of the feasibility test of the model through expert judgment shows that the model is feasible in terms of benefits, ease of use, the attractiveness of the model and the existence of innovations produced for the implementation of training.

1. Introduction

Disruptive Technology is an innovation that creates a new market and then replaces the existing market before. This also poses a threat to companies that can be said to be successful and well managed. In its development, this disruptive technology developed in various fields of life. For example in the field of e-mail communication as disruptive innovation has replaced mail delivery through post offices. Email succeeded in replacing postal mail because email can be sent to various parts of the world in a short time and does not use up paper, another example is a telephone that replaces the telegraph. The field of education at this time has emerged as an innovation that changes the way to get an education. One no longer has to go to class, listen to the lecturer teach, but only with an internet connection.

Mobile learning has become a research topic that investigates how to use mobile devices in teaching and learning [1]. M-learning is a learning method using a smartphone, phablet, tablet, netbook or notebook as a learning device and is part of electronic learning (e-learning). M-learning is more flexible than e-learning because students can study anywhere, anytime [2]. Besides, M-learning is a new and important learning strategy because mobile devices are now a necessary tool in students' daily lives. M-learning is more interactive, involving more contact, communication, and collaboration with others. M-learning is a student-oriented approach that makes learning informal, independent and collaborative [3]. University students in Guangzhou prefer to use mobile devices to study outside rather than in the classroom. Besides,
the assessment method is an important factor for using mobile devices for learning. Finally, reading and searching the most done of M-learning activities. These findings can help teachers to design M-learning activities either for a class or outside the classroom and motivate students' attitudes and learning practices [4]. Learning uses mobile learning in making participants more independent.

Self-learning is the process in which students are involved in identifying what needs to be learned and being a controller in finding and organizing answers. This is different from self-study where teachers are still allowed to provide and organize educational material, but students learn alone or in groups without the presence of a teacher [5]. The aspects measured in learning independence include self-management, the desire to learn (desire for learning), and self-control. Self-learning will also enable students to regulate the learning process in the form of self-initiative, independent, self-regulation, self-exploration. Independent learning will give freedom to students in learning activities to develop learning independence and achieve optimal science learning achievement [6]. Comparison to build effectiveness in the classroom view and find that blended learning has an average score higher than non-blended learning environments [7]. Comparisons between blended learning environments have been made to see differences between academic achievement, class dispersion and differences in gender performance and the presence or absence of significant differences found [8].

The teacher-student gap is a major barrier to integrating mobile devices in the classroom. Although teachers' fear of harassment and cheating may apply to some degree, research is needed to understand how to properly teach "Cellular etiquette." Because mobile devices used for social and educational purposes, students must be taught how to use and navigate cell phones appropriately in an educational context. The government through various training mostly does increasing the professionalism of teachers. The results are not optimal, even a lot of training can be considered a failure in improving the performance of classroom teachers. Pedagogic competencies, particularly competencies in providing assessments, apparently the competencies of teachers who have attended the training are not significantly different from teachers who have never attended training [9]. The results illustrate that evaluation training does not have an impact on increasing teacher competence in carrying out assessments.

Education and training is a series of activities designed to improve one's skills, knowledge, experience, or changing attitudes [10]. Their teachers must attend training or other personal development but they were leaving the class or class time, so students do not get assistance in the learning process, they are only told to do the work so the class is out of control and tends to be noisy. The budget problem becomes greater if there is full face-to-face for 32 hours, which sometimes becomes an obstacle for the government to conduct training. Even the face-to-face process is less effective because many trainees are sleepy, unfocused, arrive late or tell their own stories with other teachers. Therefore, they were only impressed that it was important to attend the training.

Analysis of sub-optimal needs, sometimes only referring to government programs related to the curriculum, has not touched the specific abilities of teachers. The training is still conducted face-to-face for a long period to fulfill 32 hours so that the certificate from the training can be used as a completeness of teacher administration, causing teachers to leave the learning process for a long time. The limitations of the government funding process can cause English teachers do not get training equally. There is no post-training evaluation process. Teachers must disseminate the results of the training to other teachers so that they can increase the knowledge of other teachers.

Literacy in Indonesia ranks 64 out of 65 countries, student-reading level, Indonesia ranks 57th out of 65 countries [11]. The reading interest index is 0.001 (for every 1,000 residents only one read), the adult literacy rate is 65.5 % (UNESCO, 2012). The OECD not only conducted tests that tested the capabilities of the three fields above, but they also measured various indicators of surveying many matters relating to decision making for education. The OECD not only conducts science, reading and math tests to students,
but they also distribute questionnaires to students, principals and parents to get as much data as possible and a complete picture of education in the country being evaluated.

Literacy has meaning and implications from basic reading and writing skills to the acquisition and manipulation of knowledge through written texts, from metalinguistic analysis of grammatical units to the structure of oral and written texts, from the impact of human history to the philosophical and social consequences of western education [12]. Even changes in human evolution are the effects of literacy thinking [13]. Literacy studies focus more on reading skills. As the main activity of literacy in addition to writing, reading also undergoes a paradigm shift. This makes reading experts realize that reading is a complex activity. As stated by Caldwell [14] that "Reading is an extremely complex and multifaceted process ...". The process of understanding reading is not simple [15]. The reader is actively involved in various processes that occur simultaneously.

2. Method
This research is research and development. This study take the preliminary data to formulate factual models and analyze needs. Development step used to develop models based on factual data and needs analysis. This research conducted in Semarang. The population of this research is Semarang High School teachers. The research sample taken by purposively for class X teachers in Semarang N High School. Qualitative data are collected through source triangulation while quantitative data is collected through questionnaires. Qualitative data are analyzed through expert judgment, while quantitative data were analyzed using SPSS.

3. Result and Discussion
The use of mobile learning in reading literacy training can facilitate training participants in attending training without leaving learning in class. The following is a reading literacy training algorithm using mobile learning.

Planning training becomes important for the implementation of good training. Planning is planning many activities predetermined in a certain period to achieve the goals set [16]. Planning in management of PISA oriented reading literacy training based on mobile learning to increasing participant's knowledge of reading and PISA literacy. Initially, teachers who did not understand what PISA was and the uses and ways to implement PISA in reading literacy, the teacher understood and understood it after receiving this training. The next goal is that participants' understanding of the material provided and improved so that
teachers become more creative in presenting material be used to improve PISA-oriented literacy reading by their students as well as teacher skills in making grids and English questions with PISA standards can be improved. So that teachers can improve, their skills in capturing the meaning presented in paragraphs.

Determination of the qualifications of participants needs the material provided is appropriate as needed. In this training, the teacher being targeted is the class X (ten) teacher because PISA is only intended for students at the age of 15 years. After attending the training, the teacher should be able to teach literacy reading with PISA-oriented multi-genre, learning literacy of varied and explorative reading. The training management of reading literacy model must be clearly in the training objectives in the SKL. clarity of the material presented, clarity of hours and training schedules, clarity of instructors who teach on each material, clarity of assignment and discussion activities, instructors can motivate participants and provide material reinforcement, the instructor can facilitate trainees in conveying ideas, the instructor must have at least undergraduate education according to their field of expertise, the instructor has the mastery and ability to deliver material. The instructor must have good interaction skills with the participants and the ability to provide feedback during the discussion, the completeness of the facilities and the availability of facilities facilitate the training process.

Implementation in training management is a form of action process carried out to implement all training plans have been made. The implementation of training needs good mobilization and direction. Mobilization is the process of motivating participants for the achievement of objectives [17]. The implementation of mobile learning-based reading literacy training is the coordination of the training organizers followed by the coaching of participants and instructors with coaching between participants and instructors, and the committee can have the same thought in the training process. Registration is to check the trainees present and get a password to log in to MORLISA. Explain the training procedures so that the training runs well. In this training management, the training process with independent learning through MORLISA. The trainees work on assignments following predetermined material namely PISA oriented reading literacy material. Training participants discuss in groups in streaming with instructors and other participants (teleconference); online monitoring and evaluation. Work and discuss assignments by teleconference with instructors in one group, each group there are 8 people with one instructor. In the management of PISA-oriented reading literacy, training based on mobile learning requires teachers to learn independently and actively in discussions streaming, so that the discussion process is evident due to voice and face-to-face interaction between participants and instructors.

Evaluation is an assessment of the effectiveness and efficiency of all activities [8]. Application of the four-level evaluation model [19] namely reaction evaluation, behavior evaluation, learning evaluation, evaluation of results. However, in this management model, only process evaluation and outcome evaluation and post-training evaluations. The process evaluation done by evaluating the instructor, evaluating the material, evaluating the results through pretest and posttest, evaluating post-training by sending the process of implementing the learning outcomes of the post-training evaluation by sending the process of disseminating the results of the training to other teachers. One thing that most influences the training characteristics is the training method then followed by training management, training objectives, training environment, and trainers. Whereas for learning the biggest thing that influences is the training method then followed by the trainer. Training management, training environment, and training materials. Only a few organizations evaluate training in depth because of the difficulty of direct involvement and the lack of a valid and proper instrument model. The most important thing in the training program is experienced training managers in the planning phase, motivated members, good public relations and adequate facilities [20]. The results of the feasibility of applying mobile learning in reading literacy training in table 1.1
Table 1. Recapitulation of Indicators Result

| No | Indicators        | Averages |
|----|-------------------|----------|
| 1  | Training Modul available | 2.67     |
| 2  | Training schedule  | 2.67     |
| 3  | RPP                | 3.00     |
| 4  | Attendance         | 2.67     |
| 5  | Achievement        | 3.00     |
| 6  | Instructor progress| 3.00     |
| 7  | Evaluation         | 3.00     |
| 8  | Controlling        | 3.00     |
|    | Prosentase (%)     | 94.30%   |

The results of the different pretest and posttest reading literacy skills were -27.225 with Sig 0.000 <0.05 meaning that there were differences in the pretest and posttest scores obtained by the test subjects. The mean pretest score was 80.4333, while the mean for the posttest was 94.3667. Based on the results of the analysis, it can be concluded that the management model of PISA-oriented reading literacy training based on mobile learning can improve the literacy achievement of high school English teachers in Semarang. The final model was analyzed for success through a questionnaire of success indicators assessed by respondents from the training supervisor. These results indicate an average of 2.83 or as much as 94.3% in the very good category. The following is a table of recapitulation results from indicators of training success. Management training of reading literacy model based on mobile learning is stated as a valid and feasible as well as effective and successful model in a limited test. The model is ready to be used or used in an expanded test when time and policy allow.

4. Conclusion
The development in the world of technology is very rapid so that various innovations appear one after another. A technology may directly replace technology that has emerged recently or replace technology that has long existed in society. Disruptive Technology is developing rapidly as a technology that is rapidly replacing the technology used by the previous community. Various types of disruptive technology in various fields come and go, in the fields of security, education, electronics, and computer components, and various other fields. Indonesia, as one of the developing countries also felt the impact of this technological development, also the emergence of disruptive technology. The application of mobile learning in training for high school English teachers in Semarang City has been successful in the process of implementation in a limited test. The training process can work well and be more effective with the help of mobile learning. The training process supported by blended learning. The use of Mobile Learning in training has a good impact and is one of the innovations that are feasible to be used as a medium in the training process.

Acknowledgments
We thanks for the Universitas Muhammadiyah Surakarta colleagues were allowed to join and to publish this article. Thanks for the PAUD department was allowed to expand the knowledge and carrier. It provided insight and expertise that greatly assisted the research.

References
[1] Horn, M.B. & Staker, H. 2011. The rise of K-12 blended learning. New York, NY: InnosightInstitute.
[2] Peters K. 2005.“Learning on the move: Mobile Technologies in Business and Education” Flexible
Learning Framework. Queensland: Australian.

[3] Yousuf MI. 2007. Effectiveness of Mobile Learning in Distance Education. *Turkish Online Journal of Distance Education* 8(4):114-124.

[4] Wong, L. 1999. *Essential Writing Skills*. Boston: Houghton Mifflin Company (http://www.pisa.oecd.org/) 12 Maret 2016. PISA

[5] Kirkman, S., Coughlin, K., & Kromrey, J. 2007. “Correlates of Satisfaction and Success in Self-Directed Learning: Relationships with School Experience, Course Format, and Internet Use”. *International Journal of Self-Directed Learning*. 4(1). 39-52.

[6] Song, L., & Hill, J. R. 2007. “A Conceptual Model for Understanding Self Directed Learning in Online Environments”. *Journal of Interactive Online Learning*. 6(1).27-42

[7] Kenney, J., & Newcombe, E. 2011. “Adopting a Blended Learning Approach: Challenges, encountered and lessons learned in an action research study”. *Journal of Asynchronous Learning Networks*. 15(1). 45–57.

[8] Demirkol, M., & Kazu, I. Y. 2014. “Effect of Blended Environment Model on High School Students’ Academic Achievement”. *The Turkish Online Journal of Educational Technology*. 13(1). 78–87.

[9] Jalmo, Tri. 2008. “Penggunaan Pendekatan Keterampilan Proses Dalam Upaya MenumbuhkanKecakapan Hidup Siswa Pada Pembelajaran Biologi di Kelas IIIC SMP Negeri 16 Bandar Lampung TahunPelajaran 2005/2006”. *Jurnal FMIPA Unila*. 9(1): 13-20

[10] Simamora, H., 1997. *Manajemen Sumber Daya Manusia*, Edisi 2, SITE YKPN, Yogyakarta. P 345.

[11] PISA.2007. Reading Literacy. OECD

[12] Gomes, Faustino Cardoso. 2003. *Manajemen Sumber Daya Manusia*, Yogyakarta, Andi Offset.

[13] Donald, M. 1991. *Origins of the modern mind: Three stages in the evolution of culture and cognition*. Cambridge MA: Harvard University Press.

[14] Caldwell, J. S. 2008. *Comprehension Assessment: A Classroom Guide*. New York: Guilford Press.

[15] Kintsch, W. & Kintsch, E. (2005). “Comprehension”.*Children’s Reading Comprehension and Assessment*. Mahwah, NJ: Erlbaum.

[16] Traxler, J. 2007. “Defining, Discussing, and Evaluating Mobile Learning: The moving finger writes and having written”. *International Review of Research in Open and Distance Learning*, 8(2).

[17] Richardson, J. C., & Swan, K. 2003. “Examining social presence in online courses in Relation to Students’ Perceived Learning and Satisfaction”. *Journal of Asynchronous learning networks*, 7(1), 68-88.

[18] Rothwell, W, J. & Kazanas, H. C. 2003. *Planning and Managing Human Resources Strategic Planning For Human Resources Management*. Human Resource Development Press, Inc.22 Amherst Road Amherst p.352-364

[19] Kirkpatrick, D. L., & Kirkpatrick, J. D. 2006. *Evaluating training programs: The four levels* (3rd ed.). San Fransisco: Berrett-Koehler Publishers.

[20] Thomas Andersson, 2010. “Struggles of Managerial Being and Becoming: Experiences from Managers’ Personal Development Training”. *Journal of Management Development* 29(2): 167-76.