AN INQUIRY INTO THE EFFECT OF BLENDED LEARNING AND LEARNING STYLES ON ENGLISH LEARNING OUTCOMES

Pryla Rochmahwati
STAIN Ponorogo
pryla@stainponorogo.ac.id

Rukminingsih
STAIN Ponorogo
rukminingsih19@yahoo.co.id

Abstract: This study is intended to investigate the effect of students' learning styles and their perceptions of blended learning on learning outcomes. The study applied mixed methods research, and the design was sequential design. The population of the study included 94 students of the 6th semester of English Department in the State College for Islamic Studies (STAIN) Ponorogo. Since it applied population sampling technique, the number of sample was the same as the number of population. The researcher employed questionnaires, documentation, observation and in-depth interview as data collection techniques. In line with the objective of the study, the Simple Linier Regression using SPSS 19.00 for Windows was applied. In the second phase, the result of observation and in-depth interview were analyzed by referring to Miles and Huberman's view of qualitative data analysis consisting of data reduction, data display, and drawing conclusion. The findings showed that there is a significant effect of students' learning styles and their perceptions of blended learning on learning outcomes and the equation regression is $Y = 76.784 + 0.595X1 + 0.312X$. During the implementation, the lecturer adapted various models of blended learning to boost students' learning outcomes. The lecturer combines the use of online and offline interaction in the teaching and learning process. It relates to the concept of Blended learning which integrates face-to-face and virtual learning environment. Students are given opportunity to convey their ideas online through Edmodo platform, emails and blogs as well as communicating and discussing particular issues by face-to-face interaction with their classmates and lecturer.

Keywords: *blended learning, learning styles, learning outcomes*

INTRODUCTION

With the role of English as an International language and the development of technology, English language education needs to be carried out in creative and innovative ways using appropriate strategies and potentially useful technology in order to offer conditions needed to promote the transfer of knowledge and skill (Chapele, 2003). However, there is an ongoing debate about whether or not the utilization of a particular platform as a virtual learning environment can improve language learning better compared to face-to-face interaction.

Studies have provided evidence that technology can be used to enhance language learning effectively through the provision of high-quality input. Zhao (2003) stated that the use of technology seems to not only widen the perspective for learning a second language but also have positive implications for the acquisition process. Furthermore, teachers' experiences in integrating technology in their class encourage the supporters of technology in language learning. Technology has been considered as a beneficial resource to increase comprehensible input, improve interaction, make learning authentic and create an encouraging learning environment (Byrom, 2005). Nevertheless, there is controversy related to technology and language learning. Recent studies find that students' social and spatial awareness is more developed in the face-to-face classroom rather than in the virtual class (Wuensh, Aziz, Ozan, Kishore, & Tabrizi, 2008). A study carried out by Hui et al. in Diaz and Entonado (2009) shows that virtual learning environment is better for vocabulary development but less effective in developing listening comprehension skills which are more successful in the face-to-face interaction.

Referring to the debate, there needs to be a balanced approach to integrating face-to-face and virtual learning environment which is called blended learning (Marsh, 2012). Blended learning environment integrates the advantages of e-learning method with some advantageous aspects of traditional method, such as face-to-face interaction. It combines traditional physical classes and aspects of virtual education (Finn & Bucceri, 2004), which ensures that teachers vary their instructional techniques. The outcome is likely to improve educational program. Azizan (2010) describes in more specifics the benefits of blended learning in terms of: (a) improving social interaction, communication and collaboration, (b) offering flexibility and efficiency, (c) extending the reach and mobility, and (e) optimizing development cost and

time (Azizan, 2010). However, it is essential to construct equilibrium between e-learning and face-to-face environments, in view of the advantages of both methods, during the process of designing a blended learning environment. Osguthorpe and Graham (2003) stated that instructional objectives, many different personal learning styles and learning experiences, the condition of online resources and the experience of trainers play an important role in designing an effective blended learning environment and establishing the equilibrium between face to face and e-learning environment. With this in mind, researchers have adopted an approach that involves blending those components of the face to face and e–learning methods and considers the learning outcomes for the course as well as students' learning styles.

Students have different ways of learning. Some can assimilate in a better way the knowledge received visually, auditory or through a certain sense. Students' learning behavior has a big influence on the students' learning process. It is an energy that supports the students to do their activities well and it results in a good behavior of the students in a class. According to Felder and Soloman (n.d.), a learning style is defined as the characteristics, strengths and preferences in the way people receive and process information. It refers to the fact that every person has its own method or set of strategies when learning. Learning a second language is cognitively complex. Smith (2013) proposed VAK learning style. It uses the three main sensory receivers - Vision, Auditory, and Kinesthetic (movement and tactile or touch) to determine learning style. Learners use all three to receive information. However, one or more of these receiving styles are normally dominant. This dominant style defines the best way for a person to learn new information by filtering what is to be learned. A study of learning styles highlights numerous important variables. Such styles can contribute significantly to an understanding of how we learn and even how we teach.

There are many researches dealing with Blended Learning. Hew and Cheung (2014) reported a study that examines the effect of using blended learning approaches on social studies students' critical thinking. This study relied on objective measurements of students' critical thinking such as their actual performance scores, rather than students' self-report data of their critical thinking levels. It employed a one-group pre- and post-test research design to examine the impact of a Socratic question-blog cast model on grade 10 students' ability to evaluate controversial social studies issues. A paired-samples t-test was conducted to determine the potential critical thinking gain using a validated rubric. There was a significant difference in critical thinking between pre-intervention (M = 2.33 SD = 1.240) and post-intervention (M = 3.19 SD = 1.388), t(26) = −3.690, p < 0.001, with an effect size of 0.67. They also conveyed students' perceptions of the Socratic question-blogcast blended learning approach to provide additional qualitative insights into how the approach was particularly helpful to the students.

Al Zumor, Al Refaai, Eddin, and Al-Rahman (2013) studied King Khalid University English as Foreign Language (EFL) students' views regarding the advantages and limitations of merging the features of face-to-face language instruction and online language learning via the Blackboard learning management system in a new pedagogical approach called Blended Learning. The study also examined students' suggestions for improving the quality of Blended Learning courses. The sample consisted of 160 male students who were asked to complete a 33-item questionnaire. The results indicated the clear advantages of this new experience in broadening students' reading opportunities and enriching their English vocabulary.

The next research incorporating blended learning is conducted by Behjat, Yamini, & Bagheri (2013). This study was an attempt to discover whether conventional or blended learning environments can better enhance the reading comprehension of EFL learners. 107 Iranian students majoring in English at Abadeh Islamic Azad University and Zand Institute of Higher Education in Shiraz were selected as the participants of the study. A reading comprehension test was administered as the pretest. Then, the participants were put in control and experimental groups. For the treatment, the experimental group received the instruction in the classroom and had assignments through virtual environments whereas the control group had the instruction and assignments in conventional mode. A post-test of reading comprehension was administered, and the participants' performances in both tests were compared. The results indicated blending traditional classroom instruction with technology can help learners outperform in their reading comprehension.

Referring to the previous research above, most researchers conducted research on Blended Learning for social science and there are only few studies on the application of Blended learning in English lessons. Especially in Indonesia, there is a need to conduct more studies on this issue. Therefore, the researcher is interested in investigating the effect of students' learning styles and their perceptions of blended learning on learning outcomes. Furthermore, qualitative insights into how the approach was particularly effective to the students is elaborated.

METHOD

This study employed mixed methods research. It attempts to bring together methods from different paradigms (Spratt, Walker, & Robinson, 2004). The design of the research was sequential designs in which data that are collected and examined in one stage inform the data collected in the next phase (Ary, Jacobs, Sorensen, & Razavieh, 2010). This research applied a quantitative design for the first stage. It is categorized into causal comparative method, or ex post facto research design, as an alternative to classical experimental methods for establishing causal relationships between events and circumstances. Its goal is to find whether there is any significant effect of students' learning styles and their perceptions of blended learning on learning outcomes.

The second stage is qualitative design which Bogdan and Biklen (1998) defined as a research procedure which produces descriptive data such as verbal or nonverbal utterances or words from the object being observed. It presents the information concerning the current status of phenomenon and it is directed toward determining a situation as it exists at the time of the study. The goal is to arrive at a detailed description and understanding of the entity. It dealt with the finding of the effective implementation of blending learning in raising students' English instructional evaluation ability.

The hypotheses of this research are as follows:
1) There is a significant correlation of students' learning styles, perception of Blended Learning and learning outcomes.
2) There is a significant effect on students' learning styles and perception of learning outcomes.

Population in this study was the 6th semester of English Department Students who takes English Instructional Evaluation class at STAIN Ponorogo. The total number of the students is 94 students. Sample is a subset of population (Sternberg & Williams, 2010). It means that the sample is part of the number and characteristics possessed by the population. The sampling technique used is population sampling, so the 94 respondents were assigned to be the sample.

In this research, the researcher employed questionnaires to reveal the data about the students' learning styles and perception of blended learning. The questionnaire is displayed in Table 1.

Table 1: Design of Questionnaire to Collect Data

Variable	Indicators	IDC
Dependent variable (Variable x): Blended Learning	1. The students' perceptions and attitudes of BL for English course	1,4,7,10,14,17
	2. The negative impressions of BL for English courses from the students' perception	2,5,8,11,15,18,19
	3. The concepts of BL as students perceive them	3,6,9, 12,13,16,20
Predictor Variable Learning Styles	1. Visual	1-20 (A)
	2. Auditory	1-20 (B)
	3. Kinesthetic	1-20 (C)

In order to evaluate students' learning outcome, course assignments, sub scores gained through midterm examinations, students' learning processes, and final projects were marked and analyzed. Final marks of the course consisted of the sum of the marks obtained from course assignments (20%), the marks for the midterm examinations (20%), the marks for the final project (40%) and the marks for their participation in the processes (20%). Furthermore, the observation and in-depth interview were employed to collect data concerning the process of teaching and learning in the classroom using the blended learning approach. Some formula namely (1) Correlation Product Moment and (2) Simple Linier Regression using SPSS 19.00 for Windows were applied to analyze the data.

The next phase was the qualitative data collection concerning the implementation of blended learning. The data on this were collected through observation and documentation, and were analyzed by referring to Miles and Huberman's (1994) theory of qualitative data analysis, which consists of data reduction, data display, and drawing conclusion.

FINDINGS AND DISCUSSION

The Effect of Blended Learning Based On Learning Styles on Students' Learning Outcomes Of English Department In STAIN Ponorogo

The results of statistical calculation showed that there is a significant correlation among independent variables, namely learning styles (X1) and blended learning (X2) and dependent variable that is, learning outcome (Y1). The calculation by using SPPS 19 for windows is presented in Table 2.

Table 2: The Results of Correlation among Learning Style,
Perception of Blended Learning and Learning Outcome

Correlations		Learning Style	Blended Learning	Learning Outcome
Learning Style	Pearson Correlation	1	.527	.688
	Sig. (2-tailed)		.000	.000
	N	94	94	94
Blended Learning	Pearson Correlation	.527	1	.715
	Sig. (2-tailed)	.000		.000
	N	94	94	94
Learning Outcome	Pearson Correlation	.688	.715	1
	Sig. (2-tailed)	.000	.000	
	N	94	94	94

Referring to Table 2, it is immediately clear that there is a significant correlation between the variables. It is proven by the coefficient correlation value for learning style and blended learning, learning style and learning outcomes and blended learning and learning outcomes is 0.527, 0.688 and 0.715 respectively. It implied that alternative hypothesis 1 (H_1) which stated that there is a significant correlation among students' learning style, students' perception of blended learning and learning outcome is accepted.

Then the analysis focuses on the effect of the independent variable X_1 (learning style) and X_2 (Blended learning) on the dependent variable Y (learning outcome). This is shown in Table 3.

Table 3: The Result of Coefficient

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	76.784	4.836		15.877	.000
	Learning Style	.595	.704	.288	.846	.002
	Blended Learning	.312	.076	.216	.153	.0.00
a. Dependent Variable: Learning Outcome						

Table 3 gives a clear description about the equation regression model through Unstandardized Coefficients B. Therefore, the equation regression model is $Y = 76.784 + 0.595X_1 + 0.312X_2 + e$. It also illustrates that learning style (X_1) has a positive effect on learning outcomes as the Unstandardized Coefficients B is 0.595 and it has 0.02 significant level, which is less than 0.05. Moreover, the value of implementation of blended learning (X_2) showed 0.312 and 0.00 significant level. It implied that blended learning give significant effect on learning outcome. It implied that Null hypothesis 2 (H20) is rejected and alternative hypothesis 2 (H_2) is accepted.

The findings above are in line with Bielawaski and Metcalf's (2003) view that blended learning is able to improve achievement of learning objectives by employing the appropriate use of technologies to match various learning styles at the precise time.

The Effective Implementation of Blended Learning Approach for Enhancing Students' Learning Outcomes of English Department in STAIN Ponorogo

Various models have been adopted by the lecturers in implementing blended learning for enhancing students' learning outcomes. Lecturer combines online and face to face interaction in their teaching. It relates to the concept of Blended learning which integrates face-to-face and virtual learning environment (Marsh, 2012). In this case, lecturer varies her instructional techniques in accordance with the discussed topic. Referring to the result of observation and interview, the steps in implementing blended learning is as follows:

a. Do brainstorming related to the topic
b. View the results of group discussion/individual summary from the students' posts on certain platforms, such as Edmodo, Facebook group and blog a day or a week before the offline class.
c. Ask students to respond to their friends' posting online
d. Give comment online
e. Ask each group or individual to present their work in front of the class with the help of media (poster, power point program and SPSS program)

f.   Ask the audience to give comment and suggestion as well as ask questions

g.   Review the results of presentation and discussion

The implementation of blended learning in English Instructional Evaluation class tends to merge traditional classes with elements of virtual education together (Finn & Bucceri, 2004). For example, students are given space for expressing ideas online through Edmodo platform, Facebook group and blog as well as presenting and discussing certain topics by face to face interaction.

CONCLUSIONS AND SUGGESTIONS

It can be concluded that there is a significant correlation among independent variables and dependent variable. The calculation showed that the coefficient correlation value for learning style and blended learning, learning style and learning outcome and blended learning and learning outcome is 0.527, 0.688 and 0.715 respectively. Furthermore, both learning style and blended learning have significant effect on learning outcome and the equation regression is $Y = 76.784 + 0.595X1 + 0.312X2$. It implied that blended learning can improve the achievement of learning objectives through appropriate uses of technologies to match various learning styles, and combination between online and face to face interaction in the teaching and learning process. Students are given opportunity to convey their ideas online through Edmodo platform, Facebook group, email and blog as well as communicating and discussing particular issues by face to face interaction with their classmates and lecturer.

Several recommendations are offered to the institutions, English teachers and other researchers. It is advisable that institutions support the implementation of Blended Learning by providing facilities and infrastructure in terms of accessibility to internet, and hardware components such as computer and language laboratory for teleconferencing. It is recommended that English teachers make use of blended learning in EFL class since Blended Learning integrates the advantages of the use of technologies especially online platform and traditional classrooms. This type of learning also accommodates students' learning styles and boost their learning outcomes. For other researchers, particularly, those who are interested in using Blended Learning, it is suggested that they conduct research in different field.

REFERENCES

Al Zumor, A. W. Q., Al Refaai, I. K., Eddin, E. A. B., & Al-Rahman, F. H. A. (2013). EFL students' perceptions of a blended learning environment: Advantages, limitations and suggestions for improvement. *English Language Teaching, 6*(10), 95-110.

Ary, D., Jacobs, L. C., Sorensen, C. K., & Razavieh, A. (2010). *Introduction to research in education.* Boston: Cengage Learning.

Azizan. F. Z. (2010). Blended learning in higher education institution in Malaysia. *Proceedings of Regional Conference on Knowledge Integration in ICT.*

Behjat, F., Yamini, M., & Bagheri, M. S. (2012) Blended learning: A ubiquitous learning environment for reading comprehension. *International Journal of English Linguistics, 2*(1), 97-106.

Bielawski, L., & Metcalf, D. (2003). *Blended e-learning: Integrating knowledge, performance, support and online learning.* Amherst, Massachusetts: HRD Press Inc.

Bogdan, R. C., & Biklen, S K. (1998). *Qualitative research in education: An introduction to theory and methods.* Boston: Allyn and Bacon.

Byrom, E. (2005). English Language Learners and Technology Southeast.*Initiatives Regional Technology in Education Consortium.* 2005. 7 (1)

Chapele, C. A. (2003). *English language learning and technology.* Amsterdam/Philadelphia: John Benjamins Publishing Company.

Diaz, L. A., & Entonado, F. B. (2009). Are the functions of teachers in e-learning and face-to-face learning environments really different? *Educational Technology & Society, 12*(4), 331–343.

Felder R, M., & Soloman, B. A. n.d. *Learning styles and strategies.* Retrieved from http://www4.ncsu.edu/unity/lockers/users/f/felder/public/ ILSdir /styles.htm.

Finn, A., & Bucceri, M. (2004) *A case study approach to blended learning.* Retrieved from http://www.centra.com/download/ whitepapers/CaseStudy_BlendedLearning.pdf.

Hew, K. F., & Cheung, W. S. (2014). *Using blended learning evidence-based practices.* Singapore: Springer.

Lee, S. Y. (2011). Hybrid learning utilizing GLOSS. Retrieved from http://ebookbrowse.com/4-29-utilizing-corpus-analysis-software-in-language-teaching-pdf.

Marsh, D. (2012). *Blended learning: Creating learning opportunities for language learners.* Cambridge: Cambridge University Press.

Miles, M. B., & Huberman, M. (1994) *Qualitative data analysis: An expanded sourcebook.* Thousand Oaks, CA: SAGE Publication Inc.

Osguthorpe, R. T., & Graham, C. R. (2003) Blended learning environments: Definitions and directions. *Quarterly Review of Distance Education, 4*(3), 227–233.

Smith, C. *Sensory learning styles: Visual, auditory and kinesthetic learning style in grappling.* Retrieved from http://www.berger.org/ettc/courses/learningstyles/vis-aud-tac.html.

Spratt, C., Walker, B., & Robinson, B. (2004). *Module A5: Mixed research methods.* Commonwealth of Learning