

Optimizing Digital Literacy in Teaching Grammar through E-Portfolio at STKIP Lampung in Indonesia

Masitoh Oktavia*, Januarius Mujiyanto, Hendi Pratama, Dwi Anggani L.B

Universitas Negeri Semarang, Indonesia

*Corresponding Author: oktavia.mudzakir@gmail.com

Abstract. Using digital literacy in teaching Grammar courses by implementing an E-Portfolio meets the communicative purpose of language learning in a digital context. This study explains the idea of assigning students to create an E-portfolio during learning grammar to assess the students' grammar understanding both in the grammar patterns as declarative knowledge and its application in writing as procedural knowledge. This study examines whether there is significance in students' achievement taught Grammar through integrating declarative and procedural knowledge by implementing E-Portfolio. The sample is forty Students for each group, taken from students of grammar class at English Department STKIP Lampung in Indonesia. This research employs an experimental design, the quantitative data taken from students' tests. The finding shows a significant difference in students' grammar understanding between experimental and control groups. The alternative hypothesis is accepted. It concluded that using Electronic Portfolio is positively practical to be implemented in Grammar courses that can integrate both declarative and procedural knowledge.

Key words: e-portfolio; digital literacy; declarative knowledge; procedural knowledge; grammar.

How to Cite: Oktavia, M., Mujiyanto, J., Pratama, H., Bharati, D. A. L. (2021). Optimizing Digital Literacy in Teaching Grammar through E-Portfolio at STKIP Lampung in Indonesia. *ISET: International Conference on Science, Education and Technology*, 7(1), 334-339.

INTRODUCTION

Learning is to learn and validate the information from different sources will increasingly become a great challenge for learners and educators in the future. Digital literacy is a primary competence for learners and teachers of the 21st century. Digital literacy is awareness, attitude, and ability to use digital tools and facilities to identify appropriately, access, manage, integrate, evaluate, analyze and synthesize digital resources, construct new knowledge, create media expressions, and communicate with others. (Martin, 2012).

Johnson (1996) states, declarative knowledge is learning about anything. Declarative knowledge sustains a student to portray a grammar regulation and adjust it in format exercise drills. Procedural knowledge allows the students to use the principle of Grammar to communicate. It does not translate automatically into declarative knowledge; many native speakers can use their language clearly and correctly without stating the Grammar. The declarative knowledge does not translate automatically into procedural knowledge; students may express a grammar regulation but constantly

flop to apply the principle. Meanwhile, knowing Grammar also helps us write sentences and paragraphs in good Grammar.

Teachers and students should adjust the strategy that can involve both declarative and procedural knowledge. Prabhu (1980) states, Traditional Grammar Teaching Methods in Iran, if we observe the grammar teaching class in middle or most schools, we can see that almost all teachers keep up an easy way like this. Firstly, the teacher lists the grammar regulation. Secondly, the students learn by heart all the rules and do some exercises. Lastly, the teacher gives more written activities such as blank-filling or translation.

Grammar courses in the English language department at STKIP PGRI Bandar Lampung intend to help students communicate in English both orally and written entirely by grammar rules in English. Teaching grammar is to help students memorize the form, help students produce the word order, give intensive courses through repetition, provide opportunities for feedback and error correction, give practice in pronouncing new forms, and promote assurance. Production encourages students to find out what they can do, encourages students to use the forms in expressing their content, help students see the

usefulness of what they have learned, check what has learned, and diagnose problems. It is known to everyone that Grammar is an indispensable part of English learning in Iran. Teachers try their best to explain each item apply better output to their students. Almost all students use their time to memorize the regulation of Grammar after their class. In an analogous, grammar class became the duller class, and most students got confused by so many directions. So many teachers or lecturers give the grammar class by using the traditional method. They have their students memorize the rules and then do the exercises.

Bullock and Haw (2005) state that organizing the set of students' work into a portfolio of material encourages them to have a ready reference of where they can track their progress and see the extent to which their abilities, strength, or weaknesses are consistent grammar courses.

The need for teaching grammar through an e-portfolio can improve both students learning Grammar declarative and procedure knowledge. They recognize the patterns of sentence structure but also implement the sentence patterns in writing some paragraphs with the appropriate Grammar. Teaching grammar using an e-portfolio serves as an illustration of students' needs and how an overview of the development of the students give during the learning process. It also provides the impetus for self-reflection, participation, and assessment. It encourages them to participate actively in every aspect of learning in reaching the goals, selecting instructional materials, and having peer assessments. My grammar class promotes to use of e-portfolios to foster a collaborative learning environment where more competent students can provide feedback to peers.

LITERATURE REVIEW

Digital Literacy

Digital literacy has three concepts. Group 1: skills and knowledge to use digital media software applications and hardware devices, group 2: the capability to understand the content of digital media critically, group 3: Knowledge to use digital technology

creatively to produce work (Nelson et al., 2011). The term "digital literacy tools" has included: The

use of computers and personal electronic devices, along with the training required to master activities; Use of digital software for a wide range of life assisting functions; Navigating toolbars, shortcuts, and menus; Communication on mobile phone devices; The use of social media; Blogging; Manipulation of images or video to create a digital storyboard (Tierney et al., 2006). The use of these skills has become as much a first language to digital natives as the use of the Oxford dictionary has been to baby boomers (Ito et al., 2010).

E-Learning

Wheeler et al. (2003) defining E-Learning as delivering content to individuals and groups. Brown (2006) defines eLearning as any learning activity supported by ICT. A learning management system (LMS) to supplement the classroom experience has become standard (Kaliski et al., 2012). The use of an LMS has allowed providers to measure extensive analytics on student behavior, such as; when students access materials, how long students take to complete assignments, productivity in discussion forums, and how often students log in (Kaliski et al., 2012; Weiss, 2011).

Online Learning

Online assessment can help develop meta-cognitive skills, creativity, communication skills, and teamwork in learners (Ridgway et al., 2006). However, the social dimension of relational teaching is also essential in online learning, and the tutor must engage with the online learner in a social dynamic and instructional (Ferrari et al., 2009; Soccio, 2012). For students' online interactions to be successful, a shift towards creative teaching in redesigning content will be required (Chou & Chou, 2011).

Online interaction has stimulated intrinsic motivation because it takes the learner out of the classroom and brings education into their own private space (Chou & Chou, 2011). Motivated learners will pursue study outside course hours, resulting in extra effort and

increased intrinsic motivation (Lerer & Talley, 2010). Engagement can boost online by linking online learning to real-world goals, stimulating deep understanding (DeLotell, et al., 2010). Peers also play a considerable role online, as learners may be interacting with thousands of people (Ito et al., 2010).

Online learning evaluated from student outcomes, attitudes, and satisfaction, researchers are still debating whether it contributes to gains in student engagement (Robinson & Hullinger, 2008). Intrinsic motivation has become more critical in an online setting as the pace (Shroff et al., 2007). Some researchers have been critical of online learning's lack of social contact and failure to inspire deep understanding (Chou & Chou, 2011). Students must put in the effort to engage in an online environment, so the tutor must design the course in a way that stimulates participation (Robinson & Hullinger, 2008).

Johnson (1996) states, "declarative knowledge is learning anything." Declarative knowledge promotes a student to reflect regulation of Grammar and adjust it in format exercise drills. Meanwhile, Procedural knowledge is learning how to do something.

Procedural knowledge promotes a student to adjust a regulation of Grammar in communicating each other". It does not translate automatically into declarative knowledge; many native speakers can use their language clearly and correctly without stating its grammar rules. Also, declarative knowledge does not translate automatically into procedural knowledge; students may communicate a grammar rule but consistently fail to apply the regulation when spoken or written.

In applying declarative knowledge, teachers try their best technique to explain each item and to the students. Almost all students spend most of their time memorizing the rules of Grammar after class. Correspondingly, grammar class became the dullest class, and most students got confused by so many directions. Many teachers or lecturers give the grammar class by using a traditional method. They just have their

students memorize the rules and then do the exercises.

E-Portfolio

Bullock and Hawk (2005) emphasize that E-Portfolios are a creative means of organizing, summarizing, and sharing artifacts, information, and ideas on teaching and learning, along with personal and professional growth. The reflective process of portfolio development can be as important as the final product. In many cases, they use faculty and student evaluation and other assessment tools such as standardized tests.

On a generic level, electronic portfolios are part of a personal online space with a repository function and an organizing function supporting collaboration and feedback (Bullock and Hawk, 2005).

An e-portfolio forms a structured context for students and teachers, quickly processing and integrating synchronous and asynchronous communication functions (Abrami & Barrett, 2005).

In some cases, they can complete the exercise without the students understanding the forms they learn. Baston & Chen (2008) also emphasizes that implementing E-portfolio is an ideal vehicle of academic and professional development of technology suitable with digital application. It provides a digital application that enables interaction, collaboration, and sharing, thus providing an unprecedented learning experience. Many teachers have turned to digital portfolios or "e-portfolios" for their students to get more effective teaching strategies.

E-Portfolio with blog

The students' basic skills are reading and writing texts online. They require to be educated citizens in the next century. The opportunity to engage students in these literacy activities provides in teaching with blogs. The strategy has the extra benefit of enabling students to publish their writing easily and share it with an authentic forum. Blogs serve as an integral part of a lively literacy community when students write entries and comment on their peers' entrances. Students could mail the topics like

a journal, reflect their writing in detail on their research, comment on recent events or readings, and draft other essays. Teaching with blogs also provides the opportunity to engage students in these literacy activities. The strategy has the additional benefit of enabling students to publish their writing easily and share it with an authentic audience. Reinig (2008) states that a blog is a medium where the students can express their ideas, reflect on their experiences and talk to their friends.

METHODS

This study employs a quantitative design that uses an experimental study to measure the effectiveness of integrating declarative and procedural knowledge by implementing electronic portfolio assessment in grammar courses. To calculate whether the students' E-portfolio can apply in grammar class more accurately is more effective than learning Grammar only with English pattern drills.

Hypothesis

The hypothesis of this research is: there is a significant difference between students' grammar achievement who are taught by integrating declarative and procedural knowledge by implementing E-portfolio and

students trained in conventional teaching techniques.

Setting and Participants.

The writer has conduct research on "STKIP PGRI," Bandar Lampung in Indonesia. The participants are in the fourth semester of the English Department of STKIP PGRI Bandar Lampung in the fourth semester. From the target population, in the present study, only two classes were taken as samples. The researchers employed 2019 consisting A as the control group, and 2019 B composed of 40 students.

Treatment

Teachers taught the two selected groups in different ways. The experiment group taught Grammar using a student portfolio in a communicative approach, while the control group taught using pattern practice drills or conventional methods.

Here is the treatment or teaching techniques used in this research:

Essential Features in The Teaching Technique of Grammar by implementing a students' E-Portfolio to assess integrating declarative and procedural knowledge in grammar course.

Teaching Grammar by implementing a students' E-Portfolio to assess integrating declarative and procedural knowledge in the grammar course (experimental group)	Teaching grammar in Pattern practice drills (control group)
<p>Introduce the concept of a grammar form, and the grammar lecture explains the rule and the idea.</p> <p>Have the students submit the students' responses in participle as their assignment before having a discussion.</p> <p>Activate the lecturer's and the students' blogs,</p> <p>Read the lecturer's material in her blog</p> <p>Explain step-by-step procedures to do with the students' portfolios in their blog</p> <p>Discuss the materials about pattern drills as declarative knowledge</p> <p>Give the students some exercises of the pattern drills as declarative knowledge in their blog.</p> <p>Compose some paragraphs related to the material in their blog as procedural knowledge</p> <p>Divide the students into groups, each of 5 students, and comment on other groups' blogs.</p> <p>Discuss the students' opinions in their notes, exercises, and paragraphs with their classmates and their lecturer in their blog.</p> <p>The lecturer or teacher gives feedback on her every student's blog.</p> <p>Ask the students to revise their notes, exercises, and paragraphs</p> <p>The lecturer gives a score to students' portfolios.</p> <p>Assess their writing by using a primary trait score which the lecturer considers the usage and application on participle.</p> <p>Get students to correct or edit their writing after having the score from the lecturer.</p>	<p>Introduce the concept of a grammar form, and the grammar lecture explains the rule and the idea.</p> <p>Have the students submit the students' responses in participle as their assignment before having a discussion.</p> <p>Have the students perform the presentation, discussion, questions, and response on the material, participle.</p> <p>The lecture enables students to describe a rule of Grammar and apply it in pattern practice drills.</p> <p>Get the students to do exercises such as room tests (multiple choice and fill the blanks).</p> <p>The lecture discusses the students' answer then give feedback and positive washback.</p> <p>The last, give the test and the form of exercises related to participle.</p> <p>The last, assess the students' achievement in Grammar by using multiple choice test because it enables her to measure the effectiveness of the specific learning objective.</p>

Research Instrument

The test is constructed in the form of multiple choices and composing some paragraphs (writing context). In this study, the tests divide into pretest and posttest. Pretest gave before treatment. The objective of holding the pretest was to know the previous Grammar in partipicle of the students before treatment. And posttest was administrated to see the effectiveness of teaching grammar by integrating it into writing context on students' grammar achievement after the treatment.

Data Collection and Analysis

The researcher uses a pretest and test to reveal the students' achievement data in a

quantitative research design. It is categorized into a quasi-experimental method to measure whether the students' E-portfolio can apply in grammar class more accurately is more effective than learning Grammar only with English pattern drills. The study employs a test as a quantitative data collection technique. Anova analyzed those instruments. Furthermore, qualitative data analysis consisting of data reduction, data display, and concluding.

RESULT AND DISCUSSION

The significance of different students' achievements is taught Grammar through integrating declarative and procedural knowledge by implementing E-Portfolio.

Table 1. Descriptive Statistics of Pretest

	Teaching Method	N	Mean	Std. Deviation
Pretest Scores	integrating declarative and procedural knowledge by implementing electronic portfolio assessment in the grammar course	40	57.75	7.005
	Pattern practice drills	40	59.75	5.300

Table 2. Descriptive Statistics of Posttest

Teaching Method	Mean	Std. Deviation	N
integrating declarative and procedural knowledge by implementing electronic portfolio assessment in the grammar course	76.25	6.578	40
Pattern practice drills	64.50	8.973	40
Total ;	7	9.801	80

The table of descriptive statistics of posttest shows that the mean score of the experimental group (in this case integrating declarative and procedural knowledge by implementing electronic portfolio assessment in grammar course) is 76.25 (s.d. = 6.578). The increase of mean score from the pretest means the score is 14.23 or 31%, while the mean score of a control group (in this case, Pattern practice drills) is 64.50(s.d. = 9.801) 1.46 or 3.6 %. The mean score of integrating declarative and procedural knowledge by implementing electronic portfolio assessment in grammar courses is higher than the practice pattern group. E-Portfolios provide ideal context shapes which monitor direct experience in the assessment and learning process. (Barret, H.C. 2006). Baston & Chen (2008) state that

implementing an E-portfolio is an ideal vehicle of academic and professional development of technology suitable with digital application.

Hypothesis Testing

In the table test-subject, teaching methods showed that the value of the F-value is 3024.342 and the significant matter is 0.005. Thus, it can conclude that both the experimental and control groups differed significantly. It means that the alternative hypothesis (Ha) revealed that integrating declarative and procedural knowledge by implementing electronic portfolio assessment in grammar course better achievement than students who taught using English sentence patterns or pattern drills accepted and Ho is

rejected.

CONCLUSION

The studies reported in this article have looked at the concept of digital literacy and explored the experience and digital literacy levels of English language learners in teaching Grammar by implementing electronic portfolio assessment in grammar courses. Finally, the students can apply better communication by integrating declarative and procedural knowledge use an E-portfolio assessment in grammar courses. Students write for real readers (not just for their teachers) by writing and commenting on blogs. As a result, students focus on clear communication and get immediate feedback on whether they communicate effectively. Therefore, it suggested that the e-portfolio is a tool for constructing and managing students' knowledge in a digital context. The findings contribute significantly to teach a foreign language. Based on this study, it is shown to the teachers that it is crucial to consider that implementing E-Portfolio is an effective teaching technique.

More research is needed to understand these issues better. I suggest that EFL teachers discuss the problems related with other teachers to equip the student's ability in mastering grammar by applying digital literacy in teaching grammar through an e-portfolio.

REFERENCES

- Barret, H.C. (2006). Digital Stories in e-Portfolios: Multiple Purposes and Tools. From <http://www.storycenter.org>. index=5
- Batson, T. & Chen, L., (2008). Next-Generation e-Portfolio, Academic Impressions.
- Bullock and Hawk. (2005). Developing a Teaching Portfolio. Pearson, Merrill Prentice Hall.
- Brown, L., Murphy, E., & Wade, V. (2006). Corporate e-Learning: Human resource development Implications for large and small organizations. [Article]. Human Resource Development International, 9(3), 415-427.
- Chou, A. Y., & Chou, D. C. (2011). Course management systems and blended learning: an innovative learning approach. [Article]. Decision Sciences Journal of Innovative Education, 9(3), 463-484.
- Ferrari, A., Cachia, R., & Punie, Y. (2009). Innovation and creativity in education and training in the EU member states; fostering creative learning and supporting innovative teaching. European Commission Joint Research Centre Institute for Prospective Technological Studies.
- Johnson, K. (1996). Language Teaching and Skill Development. Oxford: Blackwell Publishers, 1996
- Johnson, R.S., (2010). Developing portfolios in education: A guide to reflection, Inquiry, and assessment (2nd ed.). Thousand Oaks, CA: Sage.
- Kaliski, J. A., Booker, Q. E., & Schumann, P. (2012). A proposed architecture for Dynamic E-learning environments based on student activity and learning styles. [Article]. Global Conference on Business & Finance Proceedings, 7(1), 596-600.
- Larsen-Freeman, D. (Ed.). (2000). Techniques and principles in language teaching (2nd ed.). Oxford: Oxford University Press.
- Little, D. (2009). Language learner autonomy and the European Language Portfolio: Two L2 English examples. Language Teaching, 42, 222-233.
- Martin, A. (2012). Digest: concepts and tools for digital literacy development.
- Nelson, K., Courier, M., & Joseph, G. W. (2011). Teaching tip an investigation of digital literacy needs of students. [Article]. Journal of Information Systems Education, 22(2), 95-109
- Reinig, M. (2008). Blogging a Head. Retrieved October 10, 2009, from <http://proquest.umi.com/pqdweb/index=4>.
- Ridgway, J., McCusker, S., & Peard, D. (2006). Literature review of e-assessment. Futurelab series.
- Wheeler, K., Byrne, J., & Deri, A. (2003). E-learning and education for sustainability (EFS). [Article]. International Review for Environmental Strategies, 4(1), 95-105
- Weaver Constance. (1996). Teaching Grammar and Usage. The English Journal vol. 85 no7.