Need Analysis of an Authentic Blended Assessment Model Oriented to Self-Directed Learning

Yulmiati¹⁾, M Zaim²⁾, Atmazaki³⁾, Dona Alicia⁴⁾

¹⁾Universitas PGRI Sumatera Barat, Indonesia, ²⁾³⁾Universitas Negeri Padang, Indonesia, ³⁾Khazar University, Azerbaijan *Corresponding Author, email: yulmiati.academic@gmail.com

Received: September, 19, 2024 Revised: November, 11, 2024

Accepted: November, 13, 2024

Abstract

In designing the course or part of the course such assessments, it is well-established to know the lecturers' needs as the preliminary study. This study aims to investigate the lecturer's needs regarding the assessment model for Basic Reading in higher education. The data were collected through structured interviews with three lecturers who have taught Basic Reading subject. The researchers used purposive sampling to select the participants from a private university in Padang City, West Sumatera, Indonesia. The data from the interview were analyzed qualitatively within the thematic analysis. This research provides insights to design an authentic blended assessment model oriented to self-directed learning. This study is an early stage of model development to clarify the lecturers' experience and needs in assessing students' reading skills. It was found that the lecturers needed an authentic blended assessment model oriented to self-directed learning to improve the quality assessment. They need to implement an authentic blended assessment model oriented to self-directed learning in Basic Reading subject, because it helps the students to improve their autonomous learning.

Keywords: Need Analysis, Authentic Blended Assessment, Self-Directed Learning

Introduction

Authentic assessment offers many opportunities to literacy educators in teaching reading, especially in assessing various dimensions of literacy, potential classroom-based information, the capacity to involve students in their evaluation, and using multiple measurements of students' abilities (Hiebert et al., 2014). By authentic assessment, students have the opportunity to show their literacy behavior that reflects their actual learning in reading class.

As the essential activity in a language class, reading is not only a source of information and a pleasurable activity but also a way of increasing knowledge about language (Juyandegan, 2016). Unfortunately, for higher education students, they were not enthusiastic about reading (Yulia et al., 2020). Reading is a cognitive process that incorporates background knowledge and textual information to build meaning (Chongsomboon & Chinwonno, 2024). This statement shows that in reading there is a mental process where prior knowledge and the information from the text come together to create understanding. Reading helps the learners to acquire a foreign language which indicates their understanding of the reading text. While learners easily comprehend the text, language learning has a better language acquisition.

There is an interactive process to catch the meaning of the text in reading. Interesting interactions from the readers are needed to comprehend the text (Shan-Shan, 2013). In reading, meaningful activity also facilitates the learners to find out and explain the ideas of the writers. Reading provides cognitive and affective processes that must be balanced in learning English as a foreign language (Juyandegan, 2016). So, meaningful activities enable students to comprehend information in

reading text that develops students' thinking in learning. The activity can be related to the assessment to see whether learners can get information from the text or not.

Authentic assessment contributes to the development of effective classroom measurement that encourages students to be more active and helps teachers reflect on their teaching and improve instruction (Fitriani, 2017). Authentic assessment is defined as a form of assessment that mirrors real-world tasks and challenges that aims to evaluate students' abilities to apply knowledge and skills in authentic contexts (Jonsson & Svingby, 2019). Through authentic assessment, learners have the experience to practice real-life problem-solving skills, communication, critical thinking, collaboration, and networking (Aziz et al., 2020). Thus, an assessment is authentic when the results contain accurate information about student progress.

In the assessment process, it is recommended to blend online learning and face-to-face classroom teaching to promote learners' autonomous learning and enrich their ability to discover, analyze, and solve problems (Liu et al., 2016). Blended learning means using various methods that combine face-to-face meetings in traditional classes and online teaching to achieve learning goals (Husamah, 2014). In this context, blended learning can be an alternative to offset the information in the 21st-century for students in learning independently.

Meanwhile, online learning provides opportunities for self-directed adult learners to collaboratively use technology in online learning environments for the traditional learning revolution (Edwards, 2015). As adult learners, the students in higher education need to be accelerated as self-directed learners, because they are potentially enabling themselves to be autonomous.

Self-directed learning (SDL) needs to be implemented in higher education because students can learn better when they study independently. SDL is a way of learning designed for adult learning that allows individuals to control their learning with or without the support of others (Sumuer, 2018). Because adults are educated in universities, they need to be trained not to depend on the lecturer's directions.

Self-directed learning concerns to process and goal. In a process, learners are responsible and able to control their learning and in a goal, it emphasizes learners' desire and tendency for self-direction (Nasri & Mansor, 2016). In addition, students' self-directed learning can refer to students' perceptions of their independent learning and their sense of responsibility that provides their initiative in learning (Geng et al., 2019). In line with this argument, blended assessment is a possible way to sharpen students' responsibility and initiative in learning through technology.

Moreover, self-directed learning prepares the learners to assess their learning needs, secure their learning resources and activities, plan their learning activities, and evaluate their resultant learning (Khiat, 2015). Consequently, self-directed learning makes students interested and motivated in searching for knowledge, practicing skills, and continuing the physical and temporal dimensions of the traditional classroom (Amandu et al., 2013). Then, it also found that self-directed learning was an appropriate technique through project evaluation because the aspects of skills practice produce the learners in thinking and making decisions (Suknaisith, 2014). It indicates that self-directed learning can be used in assessing students' skills.

In this modern era, self-directed learning is favorable to be applied because students can easily access material resources independently (Sukardjo & Salam, 2020). Independent learning is a crucial skill for students to familiarize new normal era after the pandemic of COVID-19 which affected the education system change automatically. The pandemic had affected many sectors involving the education industry. As the higher education sector, the institution had faced academic stress, anxiety, loss of concentration, and frustration (Samsudin et al., 2024). So, it is better to design a course that provides a pleasant learning environment through self-directed learning.

In a course design, gathering information about the lecturer's needs is essential. The information can be interpreted to meet the needs in order to have an effective course (Graves, 2000). Needs analysis is used to gather information to be used in curriculum design (Nunan, 1988). Generally, needs analysis in language learning involves people of certain needs or demands on the language they are learning or planning to learn (Akyel & Ozek, 2010).

Need analysis highlights a procedure for researchers in conducting research and development products (Salam, 2017). The researchers are planning to develop an authentic blended assessment

model oriented to self-directed learning. In this study, gathering information about the needs of the lecturers based on the criteria of need analysis is the first effort to find an effective assessment. Related to the consideration, this study was carried out with the following research question: "What are the lecturers' needs for the assessment model for Basic Reading in higher education?"

Methods

This study followed a qualitative method design. The participants of this research were three lecturers that were selected using a purposive sampling technique that is believed to have clear criteria (Gay et al., 2012). The criteria are: (1) a minimum of five years of teaching experience in higher education, (2) having experience in teaching basic reading, and (3) willingness to participate in interviews. The participants were from a private university in Padang City, West Sumatera, Indonesia. An interview protocol was conducted specifically to gather information about the target situation which had previously been addressed in the initial phase.

The structured interview protocol was used to collect information about lecturers' experience and needs related to the assessment model in Basic Reading. They were lecturers' experience in teaching, lecturers' perception of teaching Basic Reading, lecturers' knowledge about assessment in teaching reading, and lecturers' needs for assessment model in teaching Basic Reading. Then, the interview protocol was validated theoretically by two experts, an expert on research in language education and an expert on teaching reading. The validation result can be seen in Table 1. Table 1. Validation Results of the Interview Protocol

Table 1. Valuation Results of the Interview Protocol			
No	Expert	Score	Criteria
1	Research in Language Education Expert	93.75	Very Valid
2	Teaching Reading Expert	89.5	Very Valid
	Validation Score	92	Very Valid
		-	

The result of validation shows that the questions in the interview were very valid with a score of 92. It can be interpreted that the interview protocol can be used without revision.

The data about lecturers' needs were collected through interviews. The researcher confirmed the appropriate schedule for interviews with all participants. Each participant was interviewed individually in a face-to-face session. The interview process consumed a schedule of one week, from the appointment with participants until the face-to-face interview was conducted. Twenty-one (21) questions were conducted in the interview and the researchers used an audio recorder to record participants' answers concerning the questions.

The data were analyzed qualitatively. After collecting the data, the researchers wrote the transcription of the interview results. Then, the responses from the participants were transformed into categorical organization (Gay et al., 2012). The data analysis was categorized based on the indicators of need analysis from the theory proposed by Grave (2000). Then, data from interviews were analyzed by thematic analysis, because the data collection and analysis were ensured simultaneously (Dawson, 2007).

Result and Discussion

From the interview, the researcher can get the common picture of the lecturer's experience in teaching, the lecturer's perception of Basic Reading course, the lecturer's knowledge and experience in practicing assessment, and the lecturer's need in the assessment model. The interview protocol within 21 questions was used in an interview session with three lecturers.

It was found that generally, the lecturers have experience in teaching around 6 - 15 years. Especially for teaching Basic Reading, they experienced about one to two semesters. Although they have long experience in teaching, they were new to teaching Basic Reading.

Related to lecturers' perception of Basic Reading subject, all lecturers take the process as the priority in teaching.

By being process-oriented, the lecturers can see students' improvement, whether in doing the tasks and exercises or their character during the teaching-learning process. Although the product was also considered by the lecturers, the process was considered more. Because the product is not guaranteed to the student's own. It can be that they cheated on other friends.

Regarding lecturers' knowledge and experience in implementing assessment, it was found that all lecturers know about authentic assessment. One lecturer defined authentic assessment as an assessment that is based on input, process, and product. One lecturer perceived that authentic assessment refers to the tasks and exercises done by students. The other authentic assessment consists of affective, cognitive, and psychomotor. The lecturers' knowledge about authentic assessment was good because it is appropriate to the definition from some references.

Furthermore, in the implementation of authentic assessment in Basic Reading class, the lecturers observed students' competence in reading during the learning process. The lecturers were concerned with how the students learn, students' participation, and the tasks and exercises given, and at the end of the semester the lecturers saw the result of the final test. The lecturers combined the assessment domain; affective, cognitive, and psychomotor in formative and summative assessment.

All lecturers used textbooks in teaching Basic Reading. Some tasks and exercises can be used to assess students' competence in reading in this book. So, the book can help the teacher in assessing students. However, the lecturers realized that the textbook had no details yet because it is more focused on assessing cognitive skills.

The assessment that has been implemented by lecturers helps them to know students' ability in reading. According to the lecturers, from the input, students were still in basic ability in reading, when the students followed the process their ability improved. It can be seen from students' ability to read a long passage in a short time. However, some of them were still confused in answering the questions related to reading material. Some of them did not know the answers. The lecturers perceived that students' abilities were moderate because about 80% of their grades were B.

During the pandemic Covid-19, the teaching-learning process was implemented in an online setting. When the researcher asked about the difficulties in assessment, generally their answer related to the difficulties faced through online learning. All the lecturers found that the tasks and exercises done by the students were similar or copy pasted. It indicates that students cheated on one another. In the beginning, they were busy individually doing the assignment given, but at the deadline time, they were busy working in groups to finish the assignment. Consequently, their assignment results were similar. Although the lecturer supervised them in doing tests and tasks, most of them had similar answers or work. So, the lecturers were confused about assessing each student, whether student A or student B who had an original assignment. In addition, when the lecturer taught the teaching-learning process via Zoom, only a few students answered the question given or in discussion indicating they did not know about the lesson.

To solve the problem above, the lecturers had some tricks. The lecturer gave me limited time to submit the assignment. So, the students were busy doing their assignments without help from other students. It is not easy for them to review reading passages in a short time, because they still have basic ability in reading. Another way is by attracting the students to be active in discussion, although they still had difficulties in vocabulary mastery and understanding the text. Lastly, the lecturer developed various instruments for assessment. By doing this activity, cheating can be minimized in online learning.

All the lecturers have assessed online lately, and this condition is supported by the spread of COVID-19 in Indonesia. It influenced the process of education at school and higher education. The lecturers assessed the students from the input, process, and product. In addition, the assessment was more focused on cognitive and psychomotor. However, it is hard for the lecturers to assess students' affective domain. They were only able to observe attendance and the tasks submitted on time or not online. The lecturers cannot observe students' soft skills naturally. It can be said that the implementation of assessment online has not been implemented optimally yet. On the other hand, the lecturers have problems handling the assessment process. Commonly the tasks submitted by students were copy pasted from the friend's internet. Consequently, the lecturer asked the students to resubmit the task that indicated cheating or copy-pasting.

Moreover, the lecturers need the assessment that is connected to their daily life, because they perceive that knowledge can be used in the context of everyday life. In addition, the textbook of basic reading was designed to improve students' character in the reading process, so the questions in assessments were related to everyday life. It was also perceived that hard skills and soft skills are very important for students in their real life, so that is why the lecturers have to consider both settings on assessment.

Questions:

Is it necessary to conduct assessments by linking to students' daily lives? Why do you think it is necessary to do this assessment?

Answer from Participant 1 In my opinion, it is necessary, because knowledge can be used in the day-to-day context. Answer from Participant 2 Yes, because in the book there is an assessment that is related to everyday life in the form of questions. Yes, that is what is done. Because the book that we developed improves students' character in the reading process. Answer from Participant 3 Yes, so that students feel that the assessment is close to their lives so that they do not experience significant difficulties

The lecturers were also aware that the combination of online and offline assessment is needed in assessment. Through offline the lecturers directly observe the process, but online, the lecturers don't know how students do their assignments. Offline learning can complete the disadvantages of using online and vice-versa. The combination of offline and online helps the lecturers control students' assignments, whether they complete them on their own or with others' help (cheating).

Questions:

Is it necessary to combine online and offline assessments? Why do you think it is necessary?

Answer from Participant 1

In my opinion, this is very necessary, because for the offline ones, we can directly observe the process but for the online ones, we don't know how students do their assignments. So, a combination of online and offline assessments is needed.

Answer from Participant 2

Nowadays, the assessment is more online. So if offline is not yet. Yes, it is necessary, not only online but offline, so that we can see what students' abilities are like. Now we don't see what their abilities are like.

Answer from Participant 3

Yes, so that students do not feel bored with one learning mode.

Moreover, the lecturers also need to consider the independence of students in the assessment process. They perceived that educators should create a generation that has critical thinking. If students can't work independently, how can they have bright ideas in their future? The students work together in doing the task in the form of group discussions, but when they do the task individually, they have to be independent in doing it. The lecturers also perceived that students' independence is part of soft skills.

Questions:

Do you need to consider students' independence in doing the exercises and assignments given? Why do you think it is necessary?

Answer from Participant 1

Yes, it is necessary, we need to consider the independence of students because, after all, we are creating a generation that can have critical thinking, so if they cannot work independently, how can they have brilliant ideas in the future?

Answer from Participant 2

Yes, it is very necessary, because even if they work together on the task it is in the form of group discussions, but when they do the task they still have to be independent in doing it.

Answer from Participant 3

Necessary. If, for example, students do not do it themselves, this means that they are not processing the teaching-learning process. This means that their soft skills are lacking.

There are several suggestions from the lecturers related to the next development of the assessment model. Commonly they suggested that the instruments of assessment developed must be balanced in hard skills and soft skills. In addition, because the assessment process takes a long time, it is better if there are assessment instruments that reflect the process more than the inputs and outputs. So if the lecturer has a truly valid instrument, it would be better to assess student abilities. These suggestions reflect the lecturers' need for the assessment model to improve the quality of teaching and learning.

From the result of the interview, the lecturers had experience in teaching for 6-15 years. Although their experience in teaching Basic Reading was only 1 - 2 semesters, they realized that authentic assessment is important to be implemented in teaching Basic Reading. They perceived that process-oriented is the priority in teaching Basic Reading subject. The lecturers have textbooks in teaching Basic Reading, but the textbook has not been detailed yet, because it is more focused on assessing cognition and skill. The assessment that has been implemented by lecturers helps them to know students' ability in reading. However, some of the students were still confused in answering the questions related to reading material. Some of them did not know the answers. The lecturers also need a combination of online and offline assessments. The combination of offline and online helped the lecturers to control students' assignments to minimize cheating. Moreover, the lecturers also need the students' independence in the assessment process which will be useful for their work independently in the future. The results of the interview indicate that the lecturers need an authentic blended assessment model oriented to self-directed learning.

The lecturers of Basic Reading were aware of using authentic assessment in teaching. Besides using the material from a life context, they also preferred to be process-oriented in assessing their students. It is supported by the fact that the literature identifies multiple benefits to students from the use of authentic assessment but the lecturers lack a robust concept on which to base guidance for assessment design and operation (Villarroel et al., 2018).

Furthermore, the lecturers have a good insight into authentic assessment. They made some effort to implement authentic assessment in Basic Reading subject. The lecturers also implemented the assessment in a blended setting. Unfortunately, the lecturers still have problems in assessing students, because students almost had similar tasks and exercises that indicated cheating. It was assumed that the lecturers needed the assessment that made the students work independently without any kind of academic dishonesty such as cheating, plagiarism, etc. Self-directed learning is the solution needed by lecturers in assessing students. It is in line with the finding that in self-directed learning the learners take responsibility for their learning (Haidari et al., 2019).

In a course design, needs analysis is the most prominent feature in starting it (Hutchinson & Waters, 1987). It is the early stage of course and curriculum development, because the information gathered can be used to highlight the program objectives and to select relevant material for the syllabus (Eshtehardi, 2017). A successful course begins when both teachers and students are involved to convey information about their expectations. In designing assessment as a part of course, it is better to analyze the needs of teachers and students first. In this study, the researchers are planning to develop an assessment model, gathering information about the lecturers' needs based on the criteria of need analysis is the first effort to find effective assessment.

Based on the results of the need analysis, the lecturers needed the authentic blended assessment model oriented to self-directed learning. Unfortunately, the existing assessment in the Basic Reading course was not appropriate yet for the assessment model that would be developed. In this globalization era, the development of technology is dynamic, involving the educational system. The demand for using technology in education relates to the increasing of educators' knowledge and skill in using it. On the other hand, the use of technology such as e-learning characterized by zero cost, usability, expandability, and flexibility, provides an effective platform for college English (Liu et al., 2016). This research offers the students to use technology, by designing learning activities and assessments that combine technology and face to face in its process.

In assessing students, educators are recommended to implement blended assessment. Using technology combined with the traditional mode of testing can reduce the number of hours spent on

marking and enable teachers to give immediate feedback to students (Janier & Shafie, 2009). It is better for educators to use blended assessment when evaluating students. Since the result of students and lecturers need analysis in this study shows that the lecturers need to maximize the use of technology in assessing students' learning in higher education beside pencil and paper tests.

Conclusion

The findings and discussion indicate a need for an assessment model for the Basic Reading course that incorporates key assessment characteristics within a blended learning environment, promoting self-directed learning among students. The assessment should be as authentic as possible that involves characteristics of authentic assessment, enabling students to engage with texts that relate to their daily lives. Combining online and offline assessments will help foster student independence in completing tasks. Additionally, lecturers should emphasize self-directed learning to instill a sense of responsibility and initiative in the assessment process to promote students' self-directed learning skills. Therefore, it is essential to develop an authentic blended assessment model oriented to self-directed learning to enhance the quality of the Basic Reading course.

References

- Akyel, A. S., & Ozek, Y. (2010). A language needs analysis research at an English medium university in Turkey. *Procedia - Social and Behavioral Sciences*, 2(2), 969–975. https://doi.org/10.1016/j.sbspro.2010.03.136
- Amandu, G. M., Muliira, J. K., & Fronda, D. C. (2013). Using Moodle E-learning Platform to Foster Student Self-directed Learning: Experiences with Utilization of the Software in Undergraduate Nursing Courses in a Middle Eastern University. *Procedia - Social and Behavioral Sciences*, 93, 677–683. https://doi.org/10.1016/j.sbspro.2013.09.260
- Aziz, M. N. A., Yusoff, N. M., & Yaakob, M. F. M. (2020). Challenges in using authentic assessment in 21st century ESL classrooms. *International Journal of Evaluation and Research in Education*, 9(3), 759–768. https://doi.org/10.11591/ijere.v9i3.20546
- Chongsomboon, R., & Chinwonno, A. (2024). Learning-Oriented Reading Assessment : A Design for EFL Students. *International Journal of Instruction*, *17*(3), 565–580.
- Dawson, C. (2007). A Practical Guide to Research Methods. How To Books Ltd.
- Edwards, N. (2015). An Analysis of the Characteristics of Self-Directed Learners and Strategies to Enhance Self-Directed Learning in Education Systems: Transcending Boundaries. *The Asian Conference on Education 2015*.
- Eshtehardi, R. (2017). Needs Analysis and Course Design; A Framework for Designing Exam Courses. *International Journal of Applied Linguistics and English Literature*, 6(6), 274. https://doi.org/10.7575/aiac.ijalel.v.6n.6p.274
- Fitriani. (2017). Implementing authentic assessment of curriculum 2013: teacher's problems and solution. *Getsempena English Education Journal (GEEJ)*, 4(2), 164–171.
- Gay, L. ., Mills, G. E., & Arisian, P. W. (2012). *Educational Research; Competences for Analysis Application*. Pearson Education Inc.
- Geng, S., Law, K. M. Y., & Niu, B. (2019). Investigating self-directed learning and technology readiness in blending learning environment. *International Journal of Educational Technology in Higher Education*. https://doi.org/10.1186/s41239-019-0147-0

Graves, K. (2000). Designing Language Courses: a Guide for Teachers. In TeacherSource (p. 308).

Haidari, S. M., Yelken, T. Y., & Akay, C. (2019). Technology-enhanced self-directed language

learning behaviors of EFL student teachers. *Contemporary Educational Technology*, 10(3), 229–245. https://doi.org/10.30935/cet.590003

- Hiebert, E. H., Valencia, S. W., & Afflerbach, P. P. (2014). Understanding authentic reading assessment: Definitions and Perspectives. In Authentic Reading Assessment: Practice and Possibilities. TextProject, Inc. https://doi.org/10.5860/choice.31-5572
- Husamah. (2014). Pembelajaran Bauran (Blended Learning) Terampil Memadukan Keunggulan Pembelajaran Face-to-Face, E-Learning Offline-Online dan Mobile Learning. Prestasi Pustaka. https://doi.org/10.24260/at-turats.v9i2.318
- Hutchinson, T., & Waters, A. (1987). *English for Specific Purposes: A learnig-centred aproach* (p. 188). https://doi.org/10.1016/0346-251X(87)90056-X
- Janier, J., & Shafie, A. (2009). Blended Assessment: A Strategy for Classroom Management. *Proceeding 14th Asian Technology Conference in Mathematics, January*, 193–199. http://atcm.mathandtech.org/EP2009/papers_full/2812009_17221.pdf
- Jonsson, A., & Svingby, G. (2019). The use of scoring rubrics: Reliability, validity and educational consequences. *Educational Research Review*, 2(2), 130-144.
- Juyandegan, M. (2016). The Relationship between Self-Esteem and Reading Comprehension of EFL Iranian Pre-University Learners. *International Journal of Asian Social Science*, 5(5), 303–313. https://doi.org/10.18488/journal.1/2016.6.5/1.5.303.313
- Khiat, H. (2015). Measuring Self-Directed Learning: A Diagnostic Tool for Adult Learners. *Journal of University Teaching & Learning Practice*, 12(2), 2.
- Liu, X., Li, S., & Dun, X. (2016). Study on Blended Learning Model for College English Teaching Based on Moodle System. Advances in Intelligent Reserach, 130(Mcei), 489–493. https://doi.org/10.2991/mcei-16.2016.101
- Nasri, N. M., & Mansor, A. N. (2016). Teacher Educators' Perspectives on the Sociocultural Dimensions of Self-Directed Learning. *Creative Education*, 07(18), 2755–2773. https://doi.org/10.4236/ce.2016.718257
- Nunan, D. (1988). The Learner-Centred Curriculum. *The Learner-Centred Curriculum*. https://doi.org/10.1017/cbo9781139524506
- Salam, S. (2017). Developing Needs Analysis Based-Reading Comprehension Learning Materials: A Study on the Indonesian Language Study Program Students. *Advances in Language and Literary Studies*, 8(4), 105. https://doi.org/10.7575/aiac.alls.v.8n.4p.105
- Samsudin, N. H., Azimah Mohd Bukhari, N., & Mansur, A. (2024). Covid-19 Era Alternative Strategies: Exploring Blended Learning Methods in Malay Language. *International Journal of Language Pedagogy*, 2(2), 113–126. https://doi.org/10.24036/ijolp.v2i2.46
- Shan-Shan, K. (2013). Exploring the Useful Reading Strategies among EFL College Students in Taiwan. *Chinese Studies*, 02(04), 193–196. https://doi.org/10.4236/chnstd.2013.24031
- Sukardjo, M., & Salam, M. (2020). Effect of Concept Attainment Models and Self-Directed Learning (SDL) on Mathematics Learning Outcomes. *International Journal of Instruction*, *13*(3), 275. https://eric.ed.gov/?id=EJ1259428
- Suknaisith, A. (2014). The results of Self-Directed Learning for Project Evaluation Skills of Undergraduate students. *Procedia - Social and Behavioral Sciences*, 116, 1676–1682. https://doi.org/10.1016/j.sbspro.2014.01.455

- Sumuer, E. (2018). Factors related to college students' self-directed learning with technology. *Australasian Journal of Educational Technology*, *34*(4), 18–33.
- Villarroel, V., Bloxham, S., Bruna, D., Bruna, C., & Herrera-Seda, C. (2018). Authentic assessment: creating a blueprint for course design. Assessment and Evaluation in Higher Education, 43(5), 840–854. https://doi.org/10.1080/02602938.2017.1412396
- Yulia, M. F., Sulistyo, G. H., & Cahyono, B. Y. (2020). Affective engagement in academic reading: What EFL student teachers reveal. *International Journal of Evaluation and Research in Education*, 9(3), 791–798. https://doi.org/10.11591/ijere.v9i3.20635