The Authentic Blended Assessment Model of Basic Reading for Developing Self-Directed Learning Skills

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***Abstract*—This study aims to identify the needs related to an assessment model, to develop an authentic blended assessment model oriented to self-directed learning for Basic Reading, the foundational skills required to understand written text as a subject learned in university, and to ensure validity, practicality, and effectiveness of the research products. This study employs a design model proposed by Plomp that was conducted in three phases: preliminary research, developing and prototyping, and assessment. There were 55 students and three lecturers participating in need analysis stage, six experts to review the research products, five users in one-to-one evaluation, 15 students in small group, and 35 students in field test. Data collection techniques were carried out through questionnaires to get information about students' needs and characteristics, the products' validity, and the users' practicality. The interview was used to get the lecturer's needs. The effectiveness data of the research products was collected through a comparison of pretest and posttest values. The data were analyzed quantitatively for questionnaire and test and qualitatively for interview. Meanwhile, from the need analysis, it was found that the students and the lecturers in higher education need an authentic blended assessment model oriented to self-directed learning. Based on the context analysis, the authentic blended assessment model has not been implemented yet on Basic Reading subject. It was considered students' learning styles, reading interests, and reading attitudes in developing the assessment model. The validity of the assessment model developed was very high (4.01). The practicality from the lecturers was 4.61 (very practical) and from the students, 3.83 were categorized as practical. The products of the research significantly showed the effect on students' reading ability within the score of t-calculated reached 14.17 higher than t-table 2.02. The authentic blended assessment model developed achieved high validity, practicality, and effectiveness.**

***Keywords*—authentic assessment, blended assessment, self-directed learning, basic reading**

I. Introduction

As part of teaching, assessment plays a significant role. Through assessment, lecturers know the process and learning outcomes achieved by students. In addition, teachers can get information regarding students' learning abilities and achievements. The assessment also enables ESL teachers to assess students' performance in assessing their learning quality [1]. Assessment has impact to educational processes and learning outcomes that is categorized as assessment "for" learning, assessment "of" learning, or the assessment "as" learning [2]. Assessment is used to improve learning, both in terms of the learning outcomes and the learning processes [3]. In this way, assessment becomes an integral part of the learning process [4]. It is beneficial for teachers to use authentic assessment in the teaching process that determines the quality of teaching and learning.

Authentic assessment is an assessment that takes place in a context to evaluate students' knowledge or skills in real-world situation [5]. It needs a variety of techniques to collect information about the progress of the students. Authentic assessment is a way to evaluate individuals in genuine contexts with meaningful opportunities to gauge how much students have learned [6]. It is hoped that from authentic assessment, there will be improvement in students' learning.

In the 21st century, the demand for using technology in education has increased. Blended learning is evident in the use of different blends of technology and pedagogy in both campus-based and distance programs [7]. Blended learning creates active learning approaches to engage students in critical thinking and promote the quality of interactive and collaborative learning assignments [8]. It is proved that blended learning is an efficient and convenient methodology in terms of enhancing students' level of performance and boosting their motivation for sports participation [9]. It relates to the fact in the present study the authentic blended assessment model was effective for students' outcomes.

Blended assessment includes assessments that are usually carried out in face-to-face meetings, then added with online learning assessments [10], because students' responses show that blended learning has been effectively adhered to in their learning and experiences. They can learn more effectively within a blended learning environment [11]. In assessing students, lecturers should implement blended assessment because it supports the implementation of self-directed learning.

Self-directed learning is essential for the sustainable development of education in the 21st century because independence is what students need when they enter the world of work. Therefore, independence needs to be trained during the learning process. Self-directed learning is often conflated with self-reflected learning. Self-directed learning is a way of learning designed for adult learning that allows individuals to control their learning with or without the support of others [12]. Self-reflected learning is the process of integrating experience or past perception with newly received perspectives before further internalization into personal knowledge [13]. Both are a fundamental requirement for students' success. However, this study concerns to self-directed learning because it is more appropriate to students' needs in learning.

In the context of teaching reading for English as a Foreign/Second Language, students still have difficulties

with English reading comprehension even after years of studying English. They can read a text, but it is difficult for them to recognize or understand author's message [14]. Reading is an active and complex process that involves understanding written text, developing and interpreting meaning, and using meaning [15]. In comprehending the text, students need background knowledge to overcome difficulties in understanding the reading of the foreign language they are learning. In a reading curriculum, the teaching/learning activities are designed to ensure students' ability to engage in an active, purposeful, and functional application of reading skills [16]. These reading activities support the development of self-directed learning skills [17].

Nowadays, self-directed learning has been accepted by scholars, because students utilizing self-directed learning can learn better and have a greater capacity to remember what they learn during assessment [18]. It indicates that assessment has an impact on self-directed learning.

Based on the researchers' dialogue with three lecturers who taught Basic Reading, they perceive that blended assessment is needed in assessing students' reading skills, because the students are close to technology. In addition, they realize that authentic assessment is the best way to identify appropriate learning outcomes; however, they are still confused about how to implement it in assessing students' competence. They need valuable sources to practice authentic blended assessments that can be used as guidelines, especially for basic reading in higher education. In addition, the lecturers also perceive that the students are lack of self-directed learning skills, as these are not developed in basic reading classes.

The previous researches related to this study prove that the problems faced by the teacher in implementing authentic assessment are limitation of time, online classes, and students' low mastery of vocabulary so students have difficulties in understanding the reading text given [5]. It seems that the assessment should be selected from authentic sources in assessing reading skills.

Then, blended learning is an effective approach to teaching reading comprehension [19]. It indicates that blended learning can be implemented for the growth of reading skill. Meanwhile, technology has made learning accessible almost everywhere allowing the students to be self-directed learners [20]. It means that blended learning supports self-directed learning, especially in language learning. It was found that students' self-directed learning is significantly developed in blended learning courses [21]. It indicates that blended learning gives impact to self-directed learning skills.

A gap that persists in this study is the development of authentic blended assessment model of basic reading for developing self-directed learning skill. The formulation of this study is "How to develop an authentic blended assessment model of basic reading for developing self-directed learning skills in higher education?" So, the objectives of this study are:

1) To identify the needs related to an authentic blended assessment model of basic reading for developing self-directed learning in higher education.
2) To develop authentic blended assessment model of basic reading for developing self-directed learning skills in higher education.
3) To ensure the validity, the practicality and the effectiveness of the assessment model for basic reading developed.

II. Literature Review

A. Reading for English as Foreign Language (EFL) Students in Higher Education

Reading is recognized as one of the important skills in the teaching and learning of English as a Second/Foreign Language (ESL/EFL). To help students become proficient readers, teachers must consciously teach them how to read and how to apply the knowledge to comprehend any text [22].

Comprehension is a creative and multifaceted process of certain language skills to acquire knowledge through early life exposure and experience [23]. Reading helps the learners to acquire a foreign language by indicating their understanding of the reading text. While learners easily comprehend the text, language learning has a better language acquisition.

Thus, the development of reading skills in a foreign language depends on a positive attitude towards reading as a key role in the acquirement of reading skills in a foreign language [24]. In line with this statement, reading abilities have focused on the cognitive aspects of reading that involve mental processes of readers in comprehending texts [22]. Cognitive and mental aspects are considered when learners engage in different types of reading in language learning.

Therefore, reading comprehension is one of the skills that is needed to master because it develops one's knowledge [25]. Students should be prepared to develop reading using meaningful activities. Regarding EFL students, they tend to improve themselves by accomplishing reading tasks involving other areas of language learning such as vocabulary, writing, and grammar [26]. It means that in teaching reading, the activities should be focused on how the language is used by giving meaningful experiences to the students that match their ability to complete the task involving vocabulary, writing, and grammar.

In brief, basic reading means that students need to do a rigorous reading activity in English that leads to the improvement of their literacy. Not only has the cognitive component influenced the reading development amongst EFL students, but also the psychological and environmental or ecological components [27]. Considering this statement, providing relevant reading activities and sufficient assessment is important in the reading classroom for EFL students.

B. Authentic Assessment for Reading

Assessment is both a technical and interpretive process that involves the representation of student development. The assessment aims to stimulate students to think, react to new situations, review and revise assignments, evaluate their work and that of others, and communicate the results verbally and visually [28]. In addition, students are guided to be creative in the learning process that contains character values. So, the assessment process can increase student participation in class so that they are better at learning.

In assessment, the students demonstrate their knowledge and apply it to get their success in learning. Teachers assess students' work to identify their strengths and weaknesses, good and bad, and right and wrong in some cases [29]. Students can enhance their learning during assessments because they are motivated to be better. Educators carry out assessments of learning outcomes continuously basis to monitor processes, progress, and improvements in the form of authentic assessment.

Authentic assessment is essential to measure what students know and can do, which can be in the form of various works and products. Through authentic assessment, students have the experience to practice real-life problem-solving skills, communication, critical thinking, collaboration, and networking [30]. Thus, an assessment is authentic when the results contain accurate information about student progress.

Authentic reading assessment requires students to demonstrate reading rather than recognize correct responses. Literacy assessment focuses on how well readers attain various reading comprehension levels or demonstrate proficiency with specific reading skills rather than revealing a reader's cognitive abilities [31].

C. Blended Assessment for Reading

Blended learning in higher education clearly shows how teaching has traditional face-to-face values and integrates with online learning. The aim is to encourage students to become active participants in their learning process through the notion of time and place flexibility that provides students with sufficient conditions to attain actual personalized instruction [32]. This method leads to more effort, concentration, and a keen interest in task accomplishment. With blended learning, students put more effort and concentrate on doing assignments.

In blended learning, teachers can use technology in learning using computers and the internet. Blended learning involves content knowledge, pedagogical skills, and higher-order thinking [7]. Blended learning is a formal educational program through digital and online media using students' control from time to time, place, line, or speed [33]. Thus, it is an alternative to technology-assisted learning that raises the standard of instruction.

Based on constructivism theory, individual learning is an active student who can build their knowledge subjectively, dynamically, and develop. Students build their knowledge based on their experiences [34]. This theory supports the implementation of blended learning where the students can learn independently and actively to improve their knowledge through blended learning.

There are several characteristics of the blended teaching model [35]. First, teaching prioritizes student autonomy, where students choose the most suitable teaching content and learning methods according to their character, learning level, interests, and time. Second, teaching takes advantage of the dynamics and diversity of online communication, where students can interact with each other through online teaching platforms. Third, the mixed teaching model can improve independent learning abilities. Thus, the blended learning model can create a positive learning environment for interaction between fellow students and students and their lecturers without being limited by space and time.

Furthermore, the real-time provided through digital technology in a blended learning approach helps teachers distinguish the instruction based on students' various progress [36]. It indicates that blended learning is useful for both students and teachers during teaching and assessment. Therefore, assessment should focus on students' ability to demonstrate their knowledge through higher levels of cognitive learning.

Blended learning can enrich students' learning experience because they can access unlimited resources from the internet while still receiving teacher guidance through face-to-face learning [37]. Since blended learning helps students to explore their experience, it indicates that blended assessment can develop their self-directed learning skills.

D. Developing Self-Directed Learning through Authentic Blended Assessment

Technological developments provide opportunities for students to study independently. By using technology, students perceive independence and a sense of responsibility, they have initiative in learning [38]. In line with this opinion, self-directed learning can view students as owners and managers responsible for their learning process. Independence and responsibility for learning encourage students to be actively involved in the learning process. So, self-directed learning allows students to become more effective learners and social beings in learning.

However, self-directed learning activities still need guidance because educators play a role in fostering a sense of responsibility in students to involve them in learning. In self-directed learning, a learning process makes students responsible for their learning. Self-directed learning is determined by the ability to learn effectively including initiation and persistence in learning, responsibility, discipline, great curiosity, confidence, and a strong desire to learn, and organizing learning time and speed [39]. Therefore, the teacher plays a vital role in fostering a sense of responsibility to increase students' learning awareness, encouraging self-assessment and reflection.

Higher education principles facilitate personal responsibility and personal growth [12]. In practice, using technology allows students to access various sources of information, search for and evaluate information, follow their interests, and interact with experts and colleagues. The use of technology in language learning allows students to practice their language skills wherever they want [20]. In this case, self-directed learning and technology support each other to implement quality learning to the demands of education in this century.

Independent learners possess the knowledge and apply cognitive strategies to gather information, but they may not have the skills to integrate new information with existing knowledge effectively [40]. Independent learners can most adapt to changing social and contextual conditions [41]. Self-directed learning and creativity are relevant to solving problems and students become more aware of learning strategies that suit their learning needs and how to manage academic challenges in teaching and learning [42]. Adult learners may expect to be more independent to engage in

self-directed learning than younger learners [20]. Students must have a supportive environment, sufficient time, and authentic context to actively and confidently build shared knowledge with peers, take responsibility for their learning, and become independent learners [43]. Thus, students have a lot of independent learning experiences by creating learning situations that require students to do so.

Teachers believe students should be more in control and responsible for their learning. To encourage self-direction in learning, educators must make learning more meaningful by supporting the development of responsible critical thinkers and controlling their learning [44].

Assessment supports learners in self-direction, and what matters most in any assessment strategy is whether learners are becoming increasingly self-directed [45]. With self-directed learning, lecturers give freedom to students in learning activities to achieve optimal learning achievement. Instructional design should provide a relevant learning environment to support students in taking responsibility for their learning [46].

III. Materials and Methods

This research consists of three phases: 1) the Preliminary Study Phase; 2) the Development or Prototyping Phase; and 3) the Assessment Phase [47]. The cycle of the development phases can be described in Fig. 1.

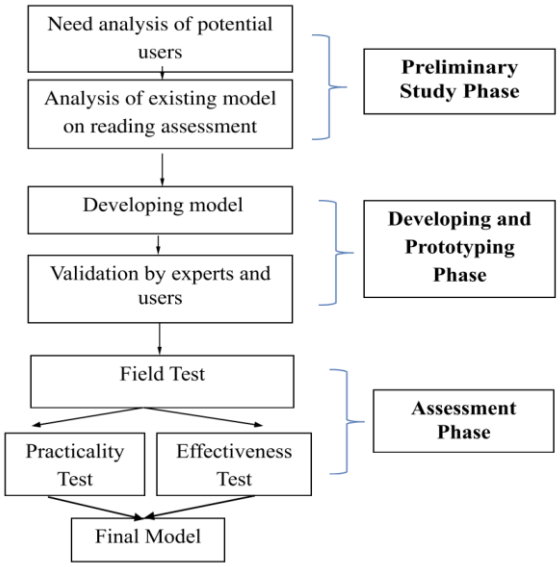

Fig. 1. The developmental research phases.

It took the researchers about a year to complete all the phases of this research.

A. Preliminary Study

In this phase, it was conducted an intensive and systematic preliminary investigation of needs and context. In need analysis, the researcher analyzed students' and lecturers' needs and the actual condition of assessment. In context analysis the researcher analyzed documents and students' characteristics involving students' learning styles, students' reading interests, and students' reading attitudes. To collect data about students' needs and students' characteristics, the researchers used a questionnaire as seen in this link: https://forms.gle/HJJV4GKtjCLKQkpeA. All questionnaires were developed via Google form and distributed through a massaging application to 55 students who took basic reading subject. The data were analyzed using descriptive analysis through software Statistical Package for the Social Sciences (SPSS) using the Likert scale in 5 point format, Strongly Agree (5), Agree (4), Neutral (3), Disagree (2), and Strongly Disagree (1) [48]. The criteria obtained are shown in Table 1.

Table 1. Category of questionnaire result

No	Level Score	Category
1	4.00–5.00	Very High
2	3.00–3.99	High
3	2.00–2.99	Middle
4	1.00–1.99	Low
5	0.00–0.99	Very Low

Adapted from [49].

The data on lecturers' needs were collected through interview protocol which was analyzed qualitatively. It was related to their experience in teaching and assessing students and lecturers' needs to the assessment model.

The researcher collected the data through a document checklist to see the actual condition of the implementation of teaching reading, authentic assessment, blended assessment self-directed learning. The researcher checked some documents; Syllabus, assessment instruments, textbook, and activities and learning sources in e-learning.

B. Development or Prototyping Phase

Based on the preliminary research, the prototype of the assessment model is designed for Basic Reading instruction in higher education. There are some activities established in this phase.

1) Designing instructional model

The researcher designed an Instructional Model (syntax, principles of reaction, social system, supporting system, and instructional and nurturant effects) for prototype I.

2) Self-evaluation

Self-evaluation was conducted by the researcher on the prototype developed. The researcher checked the important characteristics related to the specifications of the model developed using a specification checklist. These activities were assisted by colleagues to explore the feasibility of the model developed.

3) Expert review

An expert review is an evaluation that provides an extrinsic view of the products developed. The relevant experts were asked to give suggestions or advice on the products developed. In this study, six experts reviewed all the products: reading expert, language expert, teaching expert, instructional design expert, educational technology expert, and graphic design expert. In this phase, the researcher obtained a validation stage in developing the prototype using a validation sheet. Three kinds of validation have been conducted: 1) Content validation, to see if the assessment model developed accurately reflects the syllabus on which it is based; 2) Construct validation, to see if the assessment model developed reflects the principles of a valid theory of foreign language learning; and 3) Face validation, to see how the assessments model developed looks right and appears to measure the knowledge. The data were collected using a

validation sheet and analyzed quantitatively using SPPS statistical analysis and qualitatively through the three procedures, they are: reading, describing, and classifying. To ensure the result of data analysis, the researchers shared the finding to the participants to confirm the accuracy of the interpretation.

4) One-to-one evaluation

The one-to-one evaluation was conducted by involving three students and two lecturers (as participants) who took a basic reading subject that has been used as the product of the research to evaluate the prototype developed. The researchers and participants had intensive interaction during the evaluation process. This interaction was useful for information related to the intrinsic aspect and impact aspect. The intrinsic aspect consists of clarity, ease of use, sequence of use, and completeness elements of the product. Meanwhile, the impact aspect consists of performance and satisfaction of using the products. This evaluation was conducted to see students' insight into the rough draft of the assessment model developed for innovation. The data were collected by using an interview protocol and were analyzed qualitatively.

C. Assessment Phase

In this stage, the researcher implemented the products in teaching basic reading. Then, formative evaluation was conducted to find the practicality and the effectiveness of the products.

1) Small group

In this stage, the researchers evaluated the product in small groups by distributing the questionnaire to the users including 15 students and two lecturers. The samples of the students were selected using stratified sampling; five students with low scores, five students with moderate scores, and five students with high scores. The data were analyzed using descriptive analysis through SPSS. Small group evaluation was focused on the practicality of the product. These stages were done after the lecturers and the students implemented the authentic blended assessment model oriented to self-directed learning without serious problems.

2) The evaluation in field test

At this stage, the researchers evaluated the research product in a Field Test. The activity was done to see the effectiveness of the product by involving 35 students within the English language proficiency level in B2 level of Standard Common European Framework of Reference for Languages (CEFR). This activity was supported by experimental research with a randomized One Group Pretest-Posttest design. The results of the pretest and posttest were analyzed by comparing the scores obtained in the previous and after the test. The scores were processed by using statistical calculation of the t-test formula with a significant degree of 5%. The t-test was used to find out the average differences gained between the two tests and to get the empirical result of whether there was a significant difference or not.

The researchers ensured the validity and reliability of the instruments used. Two validation processes have been done, theoretically and statistically [50]. Theoretically, the questionnaire was validated by two experts, research in language education expert and Language Teaching Expert. Especially for questionnaires, they were also validated statistically by using SPSS analysis. Then, the researcher analyzed the reliability of all questionnaires. The internal consistency of the scale was measured using Cronbach Alpha formula which indicated that the scale was reliable. The result of the reliability of the questionnaires was for students' needs (0.89), for students' learning styles (0.81), for students' reading interests (0.90), for students' reading attitudes (0.56), and for testing practicality (0.93).

IV. Result

A. Need Analysis

The preliminary study shows that in target need the researchers collected information about what the learner needs to do in the target situation. Meanwhile, in learning needs, the researcher focused on what the learner needs to do to learn. Based on the data tabulation, it was found that the students need the assessment model. The data can be seen in Table 2.

Table 2. The result of students' need analysis

Students Need	Percentage	Category
Students' Perception of Basic Reading	4.11	Very high
Student's Perception of Assessment in Basic Reading	3.93	High
Students' Knowledge and Experience in Basic Reading	4.52	Very high
Students' Want the Assessment in Basic Reading	4.07	Very high
Students' Attitude toward Basic Reading	4.32	Very high
Students' Need on the Assessment in Basic Reading	4.40	Very high
The Average of Students' Need	4.22	Very high

From the result of the students' needs analysis, the researchers got the common picture of students' experience and perception of assessment in basic reading subject. This data also helped the researchers to consider developing an authentic blended assessment model oriented to self-directed learning, because generally, the students need this assessment model with a very high category, with a score of 4.22.

From the result of the lecturers' need analysis, the researchers got information that the lecturers perceived that authentic assessment is important to be implemented in basic reading. They believed that process-oriented is the priority in teaching basic reading subject. Although the lecturers have textbooks for teaching basic reading, the assessment of the book has not been detailed yet. 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 to control students' assignments and to minimize cheating. Moreover, the lecturers also need the students' independence in the assessment process, because it will be useful for their future work. The results of the interview indicate that the lecturers need an authentic blended assessment model oriented to self-directed learning.

The information from the document checklist indicates that the authentic blended assessment oriented to

self-directed learning has not been implemented yet in basic reading subject. This actual condition was considered to develop the prototype of authentic blended assessment oriented to self-directed learning for basic reading.

The characteristics of the students were considered in developing an authentic blended assessment model oriented to self-directed learning in this research. The characteristics consist of students' learning styles, students' reading interests, and students' reading attitudes. The result of the questionnaire about students' learning styles in reading can be seen in Table 3.

Table 3. Students' learning style

Learning Style		Percentage	Category
Perceptual Learning Styles	Visual	3.81	High
	Auditory	3.50	High
	Reading/writing	3.42	High
	Kinesthetic	3.48	High
	Tactile	3.40	High
Sociological Learning Styles	Group	3.75	High
	Individual	3.38	High

From the data analysis, it was found that perceptual learning styles are generally in the high category. The students preferred having a visual style in learning basic reading within the high category (3.81) as the highest score. Then, it was followed by auditory (3.50), kinesthetic (3.48), and reading/writing styles about 3.42. The last preference is tactile with each score 3.40. There is no significant difference between the styles. It indicates that the students have no dominant style. Meanwhile, in sociological learning styles, the students preferred to study in groups, with a score of 3.75 within a high category than studying individually (3.38). These data were considered in designing the prototype of an authentic blended assessment model. The activities in the assessment will be matched to the result of students' preference in learning basic reading later.

Students' reading interest was also considered as the important characteristic of the students in designing the prototype of the assessment model. Generally, students' reading interest was almost high, with a score of 3.01. It indicates that the students still need support to make them enjoy reading. The degree of their enjoyment in reading still needs improvement basic reading subject has the potential to make them interested in reading. In selecting material, the lecturers need to consider their preference in reading.

In developing the assessment model, the researcher also considered students' attitudes in reading. It was found that the attitude of students to reading was positive. It can be seen from Table 4.

Table 4. Students' reading attitudes

Reading Attitudes	Percentage	Category
I enjoy reading English.	3.93	High
I have a strong desire to read English.	4.24	Very high
I like to spend my leisure time by reading English.	3.40	High
I like English reading assignments because they enable me to read well.	3.84	High
I like reading English because it helps me to improve my learning achievement.	3.95	High
I will not read English if it is not required by the lecturer.	2.11	Middle

Table 4 shows students' general feelings about reading. They like reading English text within the high category (3.93). Their desire to read English text was very high (4.24). Their reading of English text in their spare time was high with a score of 3.40. The students also have a good attitude in reading English text, if they have motivational stimulus, the stimulus that encourages learning was high 3.84 and the stimulus that assists learning was also high 3.95. They believed that they read English texts to improve their reading achievement. Their attitude to reading was in the middle category if there was no stimulus given, 2.11. Consequently, they only read English text, if the lecturer asked them to read.

The result of the preliminary study shows that the students and lecturers need the authentic blended assessment model oriented to self-directed learning in basic reading subject. From students' characteristics, there is no significant difference between the learning styles. It indicates that the students have no dominant style. Then, generally, students' reading interest was almost high. So, in selecting material, the lecturers need to consider their preference in reading. The last, it was found that the attitude of students to reading was positive. These findings were considered in developing the prototype of the authentic blended assessment model oriented to self-directed learning in basic reading.

B. The Design Model of an Authentic Blended Assessment Oriented to Self-Directed Learning for Basic Reading

The teaching model has five characteristics: Syntax, Principle of Reaction, Social System, Support System, and Effects of Model [51].

1) Syntax of the model

The researchers developed the syntax of the model becoming the new prototype that consists of eight steps for the syntax of authentic blended assessment model oriented to self-directed learning (Fig. 2).

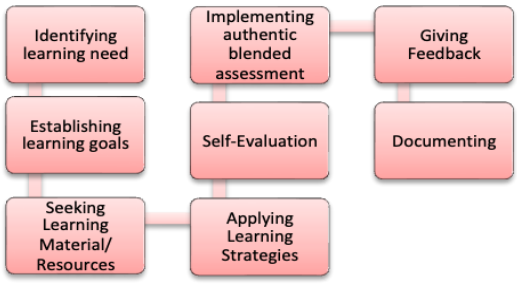

Fig. 2. The syntax of authentic blended assessment model oriented to self-directed learning.

a) Identifying learning need

The lecturer gives some choices about reading material and allows students to choose the most exciting reading material to identify their needs related to the topic. This activity was done by the students in the online setting. Fig. 3 is the sample of reading choice in e-learning.

b) Establishing learning goals

The lecturer delivers learning goals while allowing students to determine their goals for the topic freely.

c) Seeking learning material/resources

The lecturer prepares material about the topic and allows the students to search their reading sources and material. The

students are asked the students to view the material on YouTube by scanning the QR code. Fig. 4 is a sample of learning material in an online setting. Then the students write notes or questions related to the material.

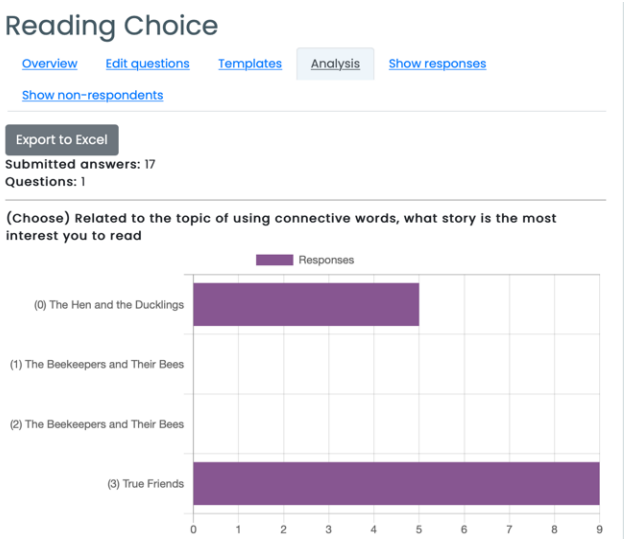

Fig. 3. The layout of reading choice.

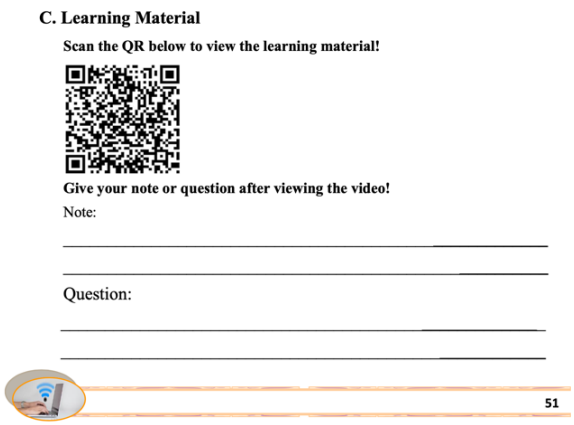

Fig. 4. The layout of the learning material.

d) Applying learning strategies

The lecturer provides some strategies to learn the material and gives opportunities to students to choose their own strategies.

e) Self-evaluation

The lecturer asks the students to do some activities/exercises. Then, the lecturer gives the answer key to the exercise and asks the students to correct their exercises for self-evaluation.

f) Implementing authentic blended assessment

The lecturer engages students in authentic reading assessment involving a text with comprehension questions in an offline setting and retelling and cloze passages in an online setting that provides criteria related to learning objectives for judgment-making practice.

g) Giving feedback

The lecturer gives feedback on students' work by providing scores for their tasks.

h) Documenting

The lecturers document students' assessment results in a portfolio, so students can check whether they achieved their goals or not.

2) Principle of reaction

The principles of reaction relate to the lecturer's way of responding assessment process. The learners are to be the center of learning, and the lecturer monitors the learning process by implementing an authentic blended assessment model oriented to self-directed learning. In addition, this assessment model also helps the lecturer to evaluate learning. By the assessment result, the lecturer can give judgment to students related to their learning outcomes.

3) Social system

The social system in this assessment model is multidirectional, within interaction lecturer to students and students to students. The teacher can be a facilitator, motivator, and observer in the assessment process. Moreover, the students can also be self-directed learners and the center of learning.

4) Supporting system

In blended learning, supporting systems are involved in e-learning/Moodle, YouTube, internet access, laptops, and PowerPoint. These supporting systems engage the students in using technology. At the same time, the supporting system for the model involves an assessment model book, an assessment book for the lecturer, and an assessment book for students.

5) Effects of the model

The effects of Authentic Blended Assessment Model's consist of instructional effects and Nurturant effects. In instructional effects, the students are mastering concepts (cognitive) and skills (Psychomotor) that related to the topic they learned in basic reading subject. They are: a) Understanding the Topic, Main Idea, and Supporting Details; b) Using Reference, Connective Words, and Context Clues; and c) Applying Previewing, Predicting, Skimming, Scanning, and Summarizing. Then, the nurturant effects are students' master influence that consists of honesty, responsibility, curiosity, independence, and active.

In designing the instructional model, the researcher considered the result of the preliminary study that the students and lecturers need the authentic blended assessment model oriented to self-directed learning. The researchers designed the assessment model to develop the research products.

C. The Validity of the Products

In validating the research products, the researchers asked for expert review. Six experts have validated the products within the different areas of expertise: reading expert, language expert, language teaching expert, graphic design expert, educational technology expert, and instructional design expert. A different area of expertise was needed to make the products better from their valuable suggestion.

Three research products have been developed in this study namely model book, students' book, and lecturer's book. The validation results and suggestions provided by validators were used to revise the content, the construct, and the appearance of the books. The results of validation from experts for the research products are displayed in Table 5.

Table 5. Validation result of the research products

Research Products	Validation Result	Criteria
Model Book	4.01	Very Valid
Students' Book	4.00	Very Valid
Lecturer's Book	4.01	Very Valid

From Table 5, it can be seen that all the products achieved the validity criteria. The model book was very valid with a score of 4.01, the students' book was very valid (4.00), and the lecturer's book was very valid with a score of 4.01. It means that the research products can be used without revision.

From the result of the one-to-one evaluation, the book was valid from the review of the students and the lecturer as the users of Basic Reading book in the implementation of the authentic blended assessment model oriented to self-directed learning in the teaching-learning process. The book is clear, easy to understand, helpful, and complete. The book also has a good impact on students' attitudes, perceptions, and reading ability and makes the students and the lecturers satisfied in using it. This book can be used with little revision because there are some mistyping or errors in the writing mechanism.

D. The Practicality of the Products

The evaluation in small groups aimed to know the practicality of the developed product. The data in the table below were the lecturers' responses to the practicality of basic reading books developed.

Table 6 shows that the product was very practical with an average score of 4.61. Meanwhile, the data in the table below were the students' responses to the book on basic reading.

Table 6. The practicality of the product from the lecturers

Practicality Aspects	Percentage	Category
Scoring	4.63	Very Practical
Administering	4.75	Very Practical
Time and Cost	4.50	Very Practical
Ease of Interpretation	4.57	Very Practical
Average	**4.61**	**Very Practical**

Table 7 shows that the product was practical with an average score of 3.83. Based on the students' responses, the developed product was easy to use, and the time and cost were appropriate.

Table 7. The practicality of the product

Practicality Aspects	Percentage	Category
Easy to understand	4.00	Very Practical
Easy to do	4.04	Very Practical
Easy to carry	3.50	Practical
Appropriate time and cost	3.78	Practical
Average	**3.83**	**Practical**

E. The Effectiveness of the Products

The evaluation in field tests to know the effectiveness of student learning outcomes is done by giving a Pretest and Posttest. A pretest was carried out before using the authentic blended assessment model oriented to self-directed learning. After using the developed model, the posttest was given to the students. The results of the pretest and post-test have been carried out within statistical analysis in Table 8.

From Table 8, the total of students who followed the pretest was 35 students. The mean score of the pretest result was 49.34, while the mean of the posttest was 66.17. It indicates that while the students use the authentic blended assessment oriented to self-directed learning, their scores were higher than before when they did not use it.

Table 8. Pretest–posttest Samples Statistics

Pretest–Posttest	Mean	N	Std. Deviation	Std. Error Mean
Score before treatment	49.3429	35	10.69894	1.80845
Score after treatment	66.1714	35	10.63149	1.79705

The result of correlation analysis of the pretest-posttest is shown in Table 9.

Table 9. Paired samples correlations

	N	Correlation	Sig.
Score before treatment–Score after treatment	35	0.783	0.000

The information in the table above states that there was a significant correlation between the score before treatment and the score after treatment. The results of the *P* value (0.00) were lower than 0.05 within the correlation 0.78.

Related to the t-test analysis, the researchers found t-calculated was higher than the t-table as seen in Table 10.

Table 10. Paired samples test

	Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (2-tailed)
Score before treatment –Score after treatment	–16.82857	7.02720	1.18781	–14.168	34	0.000

It was found that the t-calculated was 14.17 at the degree of freedom 34 and the level of significance 0.05 within the t-table 2.04. It is possible to infer that the authentic blended assessment model oriented to self-directed learning has a significant effect on students' reading ability because the t-calculated is higher than the t-table (14.17 > 2.02). In addition, the sig. score was 0.00 < 0.05 means that the effect of treatment was significant.

V. Discussion

A. The Needs of the Authentic Blended Assessment Oriented to Self-Directed Learning

Based on the results of the need analysis, generally, the students and the lecturers need 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. The finding shows that the students prefer to learn in a combination of face-to-face and online settings. This situation was influenced by the need for technology in learning was decreased. During the COVID-19 outbreak, English as a Foreign Language students realized that using online learning is the best way because it contributes more to students' learner autonomy [52]. Consequently, the students were close to technology in

learning. Technology was also found as a valuable additional instructional strategy for effective teaching [53].

The blended learning model can answer the needs of the learning process in the new normal. Blended learning is the most appropriate solution for the learning process that fits the learning needs as well as the learning styles of students [51]. It not only covers students' preferences to learn in an offline setting but also covers students' preferences in an online setting. In addition, blended learning enables the educator to adopt active learning approaches, engage students in critical thinking, and promote the quality of interactive and collaborative learning assignments [8].

Moreover, the lecturers of basic reading were aware of using authentic assessment in teaching. Besides using the material from 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 [54]. In addition, the teachers experienced challenges in implementation covering student-related issues, time and effort-consuming, validity issues, reliability issues, resource administration, evidence transformation, and subjectivity [55].

Regarding the fact that there was no implementation of self-directed learning in assessing students' reading previously, this condition is in contrast with the fact that self-directed learning is becoming increasingly required in today's society with wide access to online learning resources [43]. The researchers believed that students require the ability to process their knowledge independently in self-directed learning. The actual condition that was found in the preliminary study motivated the researcher to develop the assessment model using technology in the form of a blended setting.

It is supported by the finding that most of the students felt they needed help in finding the correct learning resources. In implementing self-directed learning, the students should be focused, motivated, and stress-free, have time management skills and be able to search for learning resources [17]. By self-directed learning, the students are more independent, because they are provided with the chance to have the choice in learning.

B. The Design Model of the Authentic Blended Assessment Oriented to Self-Directed Learning

In designing and developing the prototype phase, from the result of self-evaluation, almost all criteria of reading, authentic assessment, blended assessment, and self-directed learning were achieved in the research product. However, the product was revised because two criteria of authentic assessment were not found in the book. The researchers developed the assessment model following the criteria of the authentic assessment proposed by some experts [56].

Nowadays, learning activities are designed using technology as a teaching aid. The combination of face-to-face and technology is a strategy for an acknowledgment of teaching and learning, context, pedagogy, and value [56]. With the further development of information technology, blended teaching is the alternative method that not only highlights the dominant position of students' learning but also can play the role of teachers to guarantee the effective implementation of education goals [57]. The present study considered blended assessment in the design of the model.

Moreover, one model that can increase students' independence and reading achievement is implementing self-directed learning model that causes students to have initiative on reading activities. In addition, through the implementation of self-directed learning, students are given autonomy in managing their learning, leading to independent learning [58]. Self-directed learning is a process in which students identify what needs to be learned and become in control of finding and organizing answers.

C. The Validity, the Practicality, and the Effectiveness of Research Product

The researchers in this study have developed an authentic blended assessment model oriented to self-directed learning within high quality valid, practical, and effective. From the experts' review, the research products were very valid theoretically, and from the users' (the students and the lecturer) review the research product was valid with little revision. It indicates that the products can be used to implement an authentic blended assessment model oriented to self-directed learning.

Then, the assessment model developed helps the students to improve their learning outcomes. The average score of student learning outcomes at the pretest (49.34) was different from the posttest (66.17). Furthermore, the results of calculating the t-test achieved a score of 14.17 higher than t-table 2.02. Therefore, it can be seen that the Ha hypothesis was accepted.

The finding of this research relates to the other research that found the assessment in a blended learning model significantly improved students' motivation and engagement [59]. It was also found that the learning model of blended learning is valid, practical, and effective in teaching [33, 52, 60]. It indicates that blended learning is efficient in enhancing students' level of performance and motivation.

Blended learning enabled the educator to adopt active learning approaches, engage students in critical thinking, and promote the quality of interactive and collaborative learning assignments [8]. It is proven that blended learning is efficient in enhancing students' level of performance and boosting their motivation for sports participation [9]. It relates to the fact in the present study that the authentic blended assessment model was effective for students' outcomes.

Combining online and onsite learning in teaching and assessing students is beneficial to make them independent in learning. It was supported by the previous research finding that the blended learning classroom students had higher scores in self-directed learning and communication skills than the normal classroom students [61]. It refers to the use of blended learning to support students to be self-directed learners.

A self-directed learning environment is needed to teach students to improve their learning. It has potentially restricted the insight into the understanding of how creative learning

outcomes might be supported [60]. It is the learner's responsibility to claim control of their learning. Then, it was found that self-directed learning readiness affects critical thinking and general self-efficacy characteristics as it influences other aspects related to education [62]. The implementation of self-directed learning gives benefits in teaching-learning.

VI. Conclusion

This study aimed to develop an authentic blended assessment model of basic reading for developing self-directed learning skills. The proposed model refers to the syntax involving eight steps. This model can be the guideline for the instructors in designing activities in blended learning. The assessment model developed was based on the preliminary research by considering students' needs and characteristics. The research products were very valid based on the review from six experts. Based on the evaluation from the small group, the product was very practical and can be implemented without serious problems. The effectiveness of the research products shows the result that the t-calculated was higher than the t-table. It infers that there was a significant effect of using the assessment model developed on students' reading ability. This research product is recommended for use in teaching Basic Reading in higher education because this model is very valid, very practical, and effective.

Conflict of Interest

The authors declare no conflict of interest.

Author Contributions

Yulmiati was responsible for the conceptualization of the study, data collection, and data analysis. M. Zaim was responsible for the literature review and the methodology. Atmazaki was responsible for reviewing and editing the article as well as data interpretation. All authors had approved the final version.

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