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Article

# Constructing the Validity of a Reading Assessment Model for 21st Century Education with a Focus on Self-Directed Learning

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A B S T R A C T

The purpose of this study is to validate a theoretically based blended assessment model with SDL and to show empirical validation of it. The study materials developed include a Model Book, a Students' Book, and a Lecturer's Book modeled on an authentic blended assessment framework for Basic Reading. A mixed-methods approach was used, and the validation process involved six expert validators. one-on-one evaluations were conducted with ten students and one lecturer who were purposively selected to be part of the study. The data were collected from validation sheets as well as semi-structured interviews. The results of statistical analysis performed on expert validation showed that the evaluation model has achieved high validity (i.e., content, construct, criteria, and face validity), producing a highly valid prototype of instruction. The findings indicate that there is no need for any further refinements, and the model is thus ready for immediate implementation. Moreover, the intrinsic and impact validity of the authentic blended assessment model was corroborated with the support of empirical user validation (lecturer and students) feedback. This describes the inherent characteristics that include main usability elements like clarity, easy usage, logical mapping, and completeness of learning content. The impact aspect highlights the effectiveness and worthiness of using the products in real-world learning environments. The study addresses an important gap in reading assessment and presents a practical and effective solution for educators and institutions looking to leverage Basic Reading assessor skills within a Self-Directed Learning principles approach. The results can provide an important link to promote autonomous learning, develop evaluation methods, and, finally, enhance students' independent learning ability and academic achievement.

## I. INTRODUCTION

As an essential skill in learning English as a Second/Foreign Language (ESL/EFL), reading is a valuable tool in language acquisition and comprehension, primarily what is written in the text. Reading is a source of information and fun activity and broadens one's language knowledge (Juyandegan, 2016). Within reading skills, students are helped to acquire a foreign language because readers try to understand the text they read. The more accessible students understand the text, the easier they master foreign languages (Rahmat, Fitriyah, et al., 2023). Effective reading instruction

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in EFL classrooms involves fostering cognitive, metacognitive, and linguistic skills, enabling learners to decode, process, and interpret texts efficiently (Baharum, 2024; Grabe & Stoller, 2013). In the traditional approach, teaching reading in EFL classrooms has been teacher-centered, which relies on textbooks and direct instructions. However, with the increasing integration of technology, especially in online learning platforms, blended learning has introduced new approaches for teaching and assessing reading skills in EFL classrooms (Aziz et al, 2024; Handoko & Ayumi, 2022; Tiawati et al., 2022).

Blended learning allows students to experience a more interactive and flexible approach to reading by combining face-to-face instruction with online activities. Incorporating digital platforms into reading instruction will improve students' engagement by utilizing online activities, such as online discussion forums, digital annotation, and adaptive learning to monitor students' progress (Handoko & Ayumi, 2022; Stockwell, 2013). However, this advanced technology integration requires a self-directed learning (SDL) environment that enables students to regulate their learning process, set goals, and assess their progress independently (Garrison & Vaughan, 2008). As the demand for student-centered learning increases, the need for effective and authentic assessment accurately evaluates not only students' linguistics competencies but also their self-directed learning skills.

Knowles' (1975) Self-Directed Learning Theory serves as a cornerstone in adult education, asserting that learners must take initiative in diagnosing their learning needs, setting goals, and evaluating their progress. This aligns with current perspectives that emphasize the systematic approach to self-directed learning processes, which are echoed in various studies and frameworks. For instance, Klerk and Fourie discuss systematic self-directed learning models that coincide with Knowles' five self-instructional steps, indicating that learners engage in an interactive journey that reinforces mastery of content through peer interaction and theoretical understanding (Klerk & Fourie, 2017). Yerrabati also highlights that self-directed learning, as posited by Knowles, is influenced significantly by an individual's life situation, underscoring the diversity in adult learning experiences (Yerrabati, 2017). The process-oriented nature of self-directed learning involves a dynamic interplay of various stages, emphasizing the role of motivation and personal responsibility in adult education (Kvedaraitė et al., 2013; Morris, 2019).

Authentic assessment must be implemented for teachers to reflect on and improve their teaching. As an evaluation process, authentic assessment involves various forms of performance measurement that reflect student achievement, motivation, and attitudes toward learning (Afflerbach, 2010; Brown, 2004; Mulyaningsih et al., 2022). It is an approach to finding out what students know or what students can do through their performance. Thus, teachers must develop authentic assessments to create effective class measures that encourage students to be more active.

Assessment in blended learning is a good option because it helps an educator know whether the learning objectives are achieved or not (Sriarunrasmee, et al, 2015). With the adaptability and effectiveness in integrating technology into the learning environment, the blended learning model is the most practical way to deal with the challenges posed by the 'new normal' (Nantha et al., 2024). The blended assessment provides opportunities for students to be independent and collaborate in using technology in an online learning environment. It is suggested that lecturers maximize the use of technology in assessing students' learning in higher education.

An authentic assessment occurs in context with actual conditions reflecting student learning and achievement. Authentic assessment means evaluating students' knowledge or skills in a context as close to real life as possible (Martika & Zaim, 2021). It is hoped that from authentic assessment, there will be changes in students after the learning process. Authentic assessment measures what is essential for students to know and be able to do, which can be in the form of various works and products produced from time to time (Denisenko, 2015). Thus, an assessment is authentic when the results can be used to improve teaching and contain accurate information about student progress.

Authentic blended assessment is the best way to identify appropriate learning outcomes in higher education. The research found that blended teaching provides a feasible and scientific method for college English reform that exerts

teachers' leading role and allows the learners to be autonomous (Koc et al, 2015; Liu & Dun, 2016; Yingxuan et al., 2023). Furthermore, course designers and instructors should recognize the value of fostering students' self-directed learning in a more flexible learning context that gives the impact of social presence emotionally and socially engaging students in blended learning (Geng et al., 2019). Through technology, students will grow more independently and become self-directed learners. Based on these studies, it can be said that blended assessment supports the implementation of self-directed learning.

Self-directed learning (SDL) is important to be increased for adult learners. A self-directed learner tends to actively engage in the learning processes, such as acquiring information, planning, and evaluating the learning activities that make them active in participation and performance (Geng et al., 2019). Technology utilization is appropriate to facilitate self-directed language learning. Students engage in a variety of self-directed language learning activities outside the classroom, mostly by using technology (Haidari et al., 2019). However, not much empirical evidence is available regarding the use of self-directed learning in the blended setting in assessing students' learning. Consequently, there are limited guidelines and sources to practice authentic blended assessments oriented to self-directed learning, especially for reading.

Several studies have explored blended learning and found that it could improve students' engagement and foster more independent learners. Hrastinski (2019) mentioned that blended learning environments foster deeper student engagement by combining both synchronous and asynchronous activities, which encourages deeper engagement among students and facilitates the development of autonomy and self-directed learning skills. This model aligns with advancements in educational practices that allow students to access and interact with learning materials in a more engaging way (Casselman et al., 2019).

Furthermore, Boelens et al. (2018) studied the complexities of assessment design for blended learning, pointing to a clear lack of models that specifically focus on measuring self-directed learning skills (Boelens et al., 2018). They argue that current assessment frameworks—often embedded in personality or intelligence frameworks— do not sufficiently evaluate how well students transfer their learning strategies across different modalities, and hence they suggest a need for new assessment designs that better reflect the blended learning context. This highlights the need for assessments that reliably measure degrees of student involvement and agency during hybrid interactions (Boelens et al., 2018).

Similarly, Albiladi & Alshareef's (2019) research illustrates the beneficial effect of blended learning in improving students' critical thinking and reading comprehension skills in the field of language learning. Their study demonstrates that hybrid instruction methods are effective in fostering learners' analytical skills and enriching their learning experiences (Casselman et al., 2019). It further emphasizes the wider scope blended learning provides being a strategy that does not solely boost academic success but also develops vital abilities needed within the study and actual environment. Although the studies provide valuable insights into the possible positive outcome of blended learning, their main focus is on learning outcomes rather than the development and field testing of assessment models suited for self-directed learning in blended settings (Nassar, et al, 2023). It is essential for future research to address the critical gap between learning outcomes and the methodologies employed in assessing these outcomes effectively (Boelens et al., 2018).

Existing research on blended assessment also underscores the need for more authentic, process-oriented evaluations. For example, Gikandi et al. (2011) suggest that blended learning environments involving higher-order thinking and creative activities are not easily assessed because traditional assessments tend to favor summative assessments rather than formative and self-assessment strategies. Likewise, Graham et al. (2019) highlight to point out that assessments must extend beyond traditional testing and include interactive, technology-based, and performance-based assessments that measure knowledge in a real-life context.

Despite the extensive research on blended learning and its impact on self-directed learning, there remains a significant gap in the availability of validated assessment models that evaluate self-directed learning within blended language learning environments. Most assessment models focus on

traditional face-to-face education or fully online learning, rather than the hybrid nature of blended learning, which requires adaptive evaluation strategies. Moreover, current assessments tend to overlook best practices in authentic assessments, which would require real-world tasks, learner autonomy, and immediate feedback channels. This study aims to establish and validate an assessment model of blended learning in the reading course contexts, paying more attention to self-directed learning. The study seeks to confirm that the model measures the students' self-regulated learning abilities, self-efficacy, and general language performance, as well as meets the requirements of 21st-century education. To achieve this, the study seeks to answer several key research questions:

1. How valid is the authentic blended assessment model in terms of content, construct, criteria, and face validity according to expert validation?
2. How do lecturers and students perceive the usability and effectiveness of the developed materials in supporting self-directed learning?

By conducting this research, it is expected that the proposed assessment model, which will be developed through this research, will provide practical tools to develop students' reading talents through structured, meaningful, and integrated evaluations designed according to blended learning. Afterward, integrating digital with a traditional reading syllabus allows for a less-obligated format of reading and engagement with the text in a much more ideal self-regulated pay-off process. Further, it seeks to provide students with skills for self-directed learning by giving them tools and strategies for self-monitoring, goal-setting, and reading reflection that they can make use of independently. The utilization of the model will promote autonomy and metacognitive awareness by preparing students to oversee the entire learning process, acquiring lifelong skills, critical thinking, and self-motivation along the way. Moreover, the study will add to the existing literature regarding blended learning and assessment by providing a valid process that is fit for the 21st-century education paradigm to ensure students are ready for complex reading tasks being filtered into academic and professional venues.

## II. METHOD

*Design of the Study and Participants*

This study utilized a mixed-method design to enhance a full understanding of the validity of the assessment model. This research used research and development design with ADDIE Model (Analysis, Design, Development, Implementation, and Evaluation). This framework also enables the research process to be organized very effectively. The measure is aimed at powering a model that moves toward the 21st-century educational paradigm and assesses self-guided learning environments with blended environments.

*Participants and Sampling Technique*

A purposive sampling technique (Gay et al., 2012) was used to select the participants to guarantee that only participants who had knowledge relevant to the research area were included. Six experts were engaged who reviewed the research products. There were three experts in teaching reading and instructional design, three experts in educational technology, and experts in graphic design. Experts had to possess a minimum of five years of professional experience in their respective fields, thus guaranteeing a high level of specialization in the use of the assessment model. They had multidisciplinary expertise, which strengthened the validation process. In addition, the sample consists of 10 students on the same course and one of the lecturers on that course. The participants were obtained from a private university in Padang City, West Sumatra, Indonesia, so that the assessment model could be used in the real educational context.

*Data Collection*

Several data collection instruments were used to validate the study at different stages. Using Messick's Validity Theory (1995) as a conceptual framework, a Likert-scale questionnaire was developed to assess the validity of the assessment model. This questionnaire assessed content validity, construction validity, and consequential validity, among others. Semi-structured interviews were also administered to the students and lecturers to provide qualitative feedback on the proposed model. The interviews were constructed with Self-Directed Learning Theories (Knowles, 1975; Garrison, 1997) in mind, to ensure that important aspects of the autonomous learning process would

be recorded. Additionally, an observation checklist was used to interpret the student's engagement and self-directed learning performance in a blended learning environment.

*Research Instruments*

Expert reviews, validation sheets, and interviews with students and the lecturer obtained the data of this study. The validation sheet was created to evaluate the content, construct, criterion, and face validity of the proposed model. Validation items were constructed for indicators and sub-indicators of validity to evaluate the assessment model thoroughly.

Three main research deliverables were assessed through expert judgments: the model book, the student book, and the lecturer book. The experts reviewed the data based on the validation sheet provided, and the results were quantitatively analyzed by calculating the values of the Likert scale for the extent to which the model met the established validity criteria.

Qualitative insights were developed using interviews with students and the lecturer about their experiences and perceptions of the feasibility and effectiveness of the assessment model. This establishes a level of transparency in the evaluation process. The intrinsic and impact aspects are attained from the interview protocol. The intrinsic part comprises the elements of products that include clarity, ease of use, sequence of use, and complete elements of the products. The impact aspect gives us the impact and significance of utilizing the items. The researcher transcribed and interpreted the interview after the interview to obtain the needed data for this research. The interview data was analyzed qualitatively according to Gay et al. (2012) procedures: reading/memoing, describing, and classifying. The validity of the developed model was implicitly and explicitly assessed using quantitative and qualitative analysis.

*Data Analysis*

The data analysis process incorporated both quantitative and qualitative methods to ensure robust findings. Quantitatively, a validity score formula was applied to measure the validity index of the assessment model. The steps to determine the validity were established as follows:

1. Giving the score of the questionnaire response within the following criteria:

   5 = Strongly agree, 4 = Agree, 3 = Neutral, 2 = disagree, and 1 = strongly disagree

$$\text{Validity score} = \frac{\sum score \quad per \quad item}{Maximum \quad Score} \quad x \quad 100\%$$

2. Giving validity value using the formula below:

Determining the level of validity based on the following criteria:

**Table 6. Validity Category**

| Score | Category | Interpretation |
|---|---|---|
| 0 – 20 | Invalid | Cannot be used |
| 21 – 40 | Poorly valid | Can be used with mayor revision |
| 41 – 60 | Fairly valid | Can be used with moderate revision |
| 61 – 80 | Valid | Can be used with minor revision |
| 81 – 100 | Very valid | Can be used without revision |

(Riduwan, 2005)

Besides inter-rater reliability analysis, descriptive statistical methods, such as mean and standard deviation, were used to summarize the expert feedback on the validation sheet. The means reflected a general level of agreement about the model's effectiveness, and the standard deviation reflected variation in how experts rated the model. The quantitative analyses were conducted simultaneously and collectively assisted in identifying strengths and areas for improvement in the proposed blended language learning assessment model, thereby further refining the model and ensuring its suitability for implementation in blended language learning settings.

Qualitative thematic analysis was performed on interview and observation data to further explore student engagement and self-directed learning within a blended learning environment. Data familiarization — In the initial stage of the analysis, transcripts and observational notes were reread to look for repetitive themes. Next, open coding was used to subdivide raw data into separate units of meaning, code words assigned to meaningful phrases and expressions about students' learning experiences, motivation, and engagement with blended learning materials. This initial coding was then developed through axial coding, which was used to connect the specific facets of student engagement, including aspects such as self-regulation strategies, digital literacy, collaborative learning, and issues with adapting

to blended learning. Data were extracted from individual interviews by identifying recurring patterns and enhancing trustworthiness through member checking. Thus, this method guarantees that the views of students and lecturers were not only accurately represented but also served as a complementary tool to the quantitative validation results, providing deeper insights into the practical implications of the proposed model for the implementation of the assessment process to encourage students' autonomous learning in blended language learning contexts.

## III. RESULTS

This study aimed to validate the research products developed for implementing a reading assessment model with a focus on self-directed learning. Two validation processes have been obtained in this research. They were the validation process by experts and the validation process by users.

### Expert Validation

Based on the prototype design, this research generates three products: the model book, the student book, and the lecturer book. Six experts validated the products within the different areas of expertise, including reading experts, language experts, language teaching experts, graphic design experts, educational technology experts, and instructional design experts. Language teaching experts (VCC1, VC2, VCC3) validated the products' content, construct, and criteria. Meanwhile, a graphic design expert (VF1), an educational technology expert (VF2), and an instructional design expert (VF3) validated the visual and instructional aspects of the products. The experts' review determined whether the research products were valid by scoring and giving comments or suggestions based on the questionnaire in the validation sheet. The quantitative analysis of expert validations focuses on assessing the validity of the Model Book, Students' Book, and Lecturer's Book, ensuring that each resource meets academic and instructional standards. Meanwhile, the qualitative analysis is centered on a thematic examination of expert suggestions, identifying key areas for improvement and refinement based on validator feedback. Based on these analyses, necessary revisions and enhancements were implemented, improving the content clarity, structural organization, visual presentation, and overall instructional effectiveness of the books to better support students and lecturers in achieving their learning objectives.

### *Statistical Analysis of Expert Validation*

*Validity of the Model Book*

In the validation process of the model book, a validation sheet with 32 items about content and construct and 16 items about face/graphics was developed. The results of validation for the model book from the experts are displayed in Table 7.

**Table 7. Validation Results of the Model Book**

| No | Aspects | Validators | | | Mean | Std Dev |
|---|---|---|---|---|---|---|
| | | VCC1 | VCC2 | VCC3 | | |
| 1 | Content | 83 | 80 | 62 | 75 | 11.35 |
| 2 | Construct | 90 | 78 | 80 | 82.67 | 6.42 |
| | | VF1 | VF2 | VF3 | | |
| 3 | Face / Graphic | 99 | 75 | 86 | 86.67 | 12.01 |

Insights on the Content, Construct, and Face/Graphic validity of the model assessment are provided by validating the Model Book through expert ratings. An aspect is valid if its mean is > 70, meaning it passes essential quality criteria. However, a high standard deviation indicates inconsistencies among validators, which can further cosmopolis for agreement. Model Book features a Content validation reach the mean score 75.00 ≥70 Valid. Even so, the significant standard deviation (11.36) and the spread in ratings (62 to 83) indicate that experts disagreed. Some validators deemed the content well-structured and relevant; others raised issues with clarity, comprehensiveness, or alignment with learning objectives. The Construct validity (82.67 ±6.43) indicates very high validity and more expert consensus. Based ratings (the pure number of ratings) range from 78 to 90, indicating that experts agree the Model Book has a solid theoretical and structural basis. This means that the Model Book closely represents the constructs, educational, and assessment principles intended to underpin the Model Book. That is relatively low variation indicates a slight and possibly minor improvement otherwise. The Face/Graphic validity showed a mean score of 86.67, indicating that validators had a favorable opinion of the Model Book's design, layout, and visual elements. In contrast, the standard deviation is very high (12.01), and the scores varied from 75 to 99, which may signify that the design was highly effective in the eyes of most experts. Still, some were not

satisfied with the readability, clarity, or usability of graphical elements.

*Validity of the Students' Book*

To determine the validity of the student's book, a validation sheet with 30 items about content, construct, and criterion validity and 13 items about face/graphic validity were developed. The results of validation for students' books from the experts are displayed in Table 9.

**Table 9: Validation Results of the Students' Book**

| No | Aspects | Validators | | | Mean | Std Dev |
|---|---|---|---|---|---|---|
| | | VCC1 | VCC2 | VCC3 | | |
| 1 | Content | 80 | 88 | 60 | 76 | 14.42 |
| 2 | Construct | 77 | 80 | 65 | 74 | 7.93 |
| 3 | Criterion | 93 | 100 | 68 | 87 | 16.82 |
| | | **VF1** | **VF2** | **VF3** | | |
| 4 | Face / Graphic | 97 | 82 | 85 | 88 | 7.93 |

The expert ratings of the Students' Book offered Valuable data on the Content, Construct, Criterion, and Face/Graphic Validity of the Students' Book. Content scored a mean score of 76.00, suggesting it is a valid threshold. However, the high standard deviation of 14.42 and the wide range of scores (60–88) indicate considerable variation in expert judgment! This means that although a few validators considered the content as "effective" and "relevant," others raised concerns about the clarity, depth, and overall learning standards of the content created. The quality of the Informant content might be improved or made more consistent by yet more specific expert feedback despite detailed areas. The reliable Construct aspect was 74.00 with a standard deviation of 7.94, showing moderate validation with lower variability than the Content aspect. Overall ratings varied between 65 and 80, with most validators agreeing that the structure of the Students' Book was suitable for the purpose. Nevertheless, some discrepancies persisted, indicating that, unlike handiwork, the instructional framework and logical sequencing that form the basis of the implementation could benefit from minor adjustments to strengthen its validity. The Criterion aspect had the second-highest average across the four aspects (87.00 mean ratings) but also had the most significant standard deviation (16.82). The 68–100 range signifies that while many responders rated this aspect highly, there were some perceived weaknesses. This difference indicates room for improvement with the book's alignment to established evaluation benchmarks and measurement standards." The Face/Graphic element had the highest mean score of 88.00, accompanied by a relatively low standard deviation of 7.94, indicating that validators broadly shared similar opinions on the effectiveness of the arrangement, design, and visual aspects of the text. The scores varied from 82 to 97, signifying high acceptance, yet minor readability, visuals, or formatting adjustments could elevate user satisfaction.

*Validity of the Lecturer's Book*

The data from a validation sheet with 15 items about content and construct validity and 16 items about face/graphic validity was developed for the lecturer's book. The results of the experts' validation of the lecture book can be seen in Table 11.

**Table 11. Validation Results of the Lecturer Book**

| No | Aspects | Validators | | | Mean | Std Dev |
|---|---|---|---|---|---|---|
| | | VCC1 | VCC2 | VCC3 | | |
| 1 | Content | 76 | 80 | 69 | 75 | 5.56 |
| 2 | Construct | 90 | 77 | 80 | 82.33 | 6.80 |
| | | **VF1** | **VF2** | **VF3** | | |
| 3 | Face / Graphic | 96 | 84 | 91 | 90.33 | 6.02 |

The validation of the Lecturer's Book based on the Expert Rating gives an idea about the Content, Construct, and Face/Graphic validity of the Lecturer's Book. With a scale of 0–100, the Content aspect scored a mean of 75.00, so it is reasonable to point out that it achieves the minimum for validity. Despite a standard deviation of 5.57 and a score range from 69 to 80, suggesting moderate variability among expert evaluations, The validators rated its content as acceptable, although some gave it marked-down scores, suggesting possible issues around clarity, organization, or comprehensiveness. Improvements in aspects of content delivery and depth of teaching may secure greater consensus among experts and provide ways to mitigate concerns. Finally, the Construct aspect yielded an even better average (82.33), but a similar standard deviation (6.81) suggesting that construct validation was high, but with a more marked dispersion in the ratings (with a range of 77–90). This implies that most validators considered the types of the guide's structure, logical flow, and instructional framework to be rather acceptable. However, there are still lower ratings, which

suggest that small changes in instructional design or alignment with learning objectives could improve its validity. Experts highly valued the visual presentation, layout, and design of the Lecturer's Book, as seen in the Face/Graphic dimension, with the highest mean score of 90.33. Validators reached a high level of agreement about usability, readability, and clear visual structures of the book (S = 6.03, range = 84 - 96). While changes are minor, small tweaks to visual components within the text could improve the aesthetics and accessibility of the materials.

**Thematic Analysis of Validators' Suggestions for the Books**

Feedback from the validators on the Model Book, Students' Book, and Lecturer's Book indicates several major issues that need addressing. These range from clarity in the instructional content and alignment with 21st-century learning needs, refinement of assessment techniques, structural organization of learning activities, and visual and formatting enhancements. Answering these issues will guarantee that the books offer reasonable, organized, and fascinating materials that meet the educational norms and contents and pay a unique mind to what goes well with the learning.

***Clarity in Instructional Content and Learning Models***

A recurring theme in all three books is greater clarity in instructional content, learning syntax, and theoretical frameworks. In the Model Book, a validator emphasized that "*the learning model developed has not accommodated the needs of students in the 21st century. It's better to include them to improve academic literacy*" (VCC3), suggesting that the book should integrate modern pedagogical approaches such as critical thinking, digital literacy, and student-centered learning. Similarly, in the Lecturer's Book, another validator noted that "*it needs to clarify syntax, learning strategy, and learning materials*" (VCC1), underscoring the importance of ensuring explicit guidance on instructional methods.

Additionally, validators highlighted the need for a stronger theoretical foundation for the learning models. A validator in the Model Book recommended that "*the concept of a theoretical model and a hypothetical model should be explained to ensure better implementation*" (VF2). Likewise, in the Lecturer's Book, a validator suggested that the book should "*provide details of its distinctiveness, characteristics, from existing models as well as explanations at the conceptual and theoretical levels*" (VCC3). These comments emphasize the need for a more comprehensive and well-articulated explanation of the learning models to ensure they are both conceptually sound and practically applicable.

***Refinement of Assessment Techniques and Learning Outcomes***

Across all three books, validators stressed the importance of refining assessment techniques and ensuring clearly defined learning outcomes. In the Model Book, a validator recommended that "*learning outcomes need to be detailed as a reference to determine whether the learning goals that have been set are achieved*" (VCC3). Similarly, in the Lecturer's Book, another validator pointed out that "*we should add types of assessment techniques, including formative, summative, diagnostic, and performance assessments*" (VCC3). These suggestions highlight the need to expand assessment strategies to evaluate student learning and progress comprehensively.

Moreover, one validator in the Students' Book questioned whether "*students are facilitated with all the text in the Identifying Learning Needs section*" (VCC2), indicating that learning resources and assessment methods should be carefully reviewed to ensure accessibility and effectiveness. Implementing these refinements will help ensure that the books provide clear learning goals and robust assessment frameworks that support student growth and achievement.

***Structural Organization of Learning Activities***

The need for better structuring of learning activities was another consistent theme across the books. In the Lecturer's Book, a validator noted that "*learning activities carried out on each topic must be by the syntax previously designed by the model developed*" (VF2). A similar concern was raised in the Model Book, where a validator emphasized that "*in reviewing the learning model, there are three main activities: planning, implementing, and evaluating*" and recommended that "*each phase should be explicitly outlined in the book*" (VF2).

A standard recommendation clearly distinguished instructional phases, ensuring that

planning, implementation, and evaluation were systematically structured. For example, in the Lecturer's Book, a validator pointed out that "*the lecturer still uses a model that does not separate planning activities, implementing activities, and evaluating activities*" (VF2). This suggests that a more structured presentation of learning activities is needed to provide educators and students with a clear roadmap for teaching and learning.

***Visual and Formatting Enhancements***

Validators provided extensive feedback on layout, aesthetics, and structural formatting, particularly regarding cover design, text formatting, and content organization. In the Model Book, a validator recommended that "*the layout of the book should be aesthetically appealing" and emphasized the need to "improve the header and footer design for better visual presentation*" (VF2). A similar recommendation was made for the Lecturer's Book, where a validator noted that "*the font size of the cover book should be given a sharp emphasis so that it stands out from the others*" (VF1), indicating the need for more visually distinct cover elements.

Additionally, formatting issues such as misaligned figures, text cutting, and inconsistent spacing were identified across the books. In the Students' Book, a validator suggested that "*the level of text density on the page should be reduced so as not to seem too dense and make readers bored*" (VF2). Another validator in the Lecturer's Book pointed out that "*Self-Evaluation in Part E on Page 16 should be moved to the next page*" to improve content flow and readability (VF3). Ensuring consistent formatting, structured text placement, and clear visual hierarchy will significantly enhance the usability and professionalism of the books.

***Proofreading and Grammar Accuracy***

The need for thorough proofreading and grammar accuracy was frequently mentioned. In the Model Book, a validator recommended that "*mechanics of writing should be paid attention to*" (VCC1) and emphasized correcting grammatical errors (VCC2). Similarly, in the Students' Book, another validator suggested "*checking the book for some English grammar mistakes*" (VCC2) and correcting typos such as 'Mocrosof,' which should be 'Microsoft'" (VF3). This feedback highlights the importance of linguistic accuracy in ensuring that the books maintain high academic standards.

**Revision and Enhancement**

The content clarity, instructional coherence, and overall presentation of the Model Book, Students' Book, and Lecturer's Book were significantly improved based on experts' recommendations. These updates were designed to align the books with academic standards, enhance readability, embed digital tools, and provide an overarching structure to the learning experience, both for students and lecturers.

The Model Book also got some of the biggest upgrades around, including a new cover image showcasing reading in the classroom — to make sure that the book comes with an image that matches the content. Validators had red-marked writing mechanics — spelling, punctuation, sentence structure — and this all got addressed and corrected. Finally, based on extensive expert feedback, these changes were supplemented with some logic and grammar corrections, increasing the content's linguistic accuracy and overall readability. A second major refinement came from revising the theoretical foundation, where we embraced ecological theory as a guiding framework. This shift told us that ecology theory resonates more consistently with many themes and the context of the reading materials, providing a more cohesive conceptual foundation for the book that is more relevant and pedagogically appropriate.

Revisions on the Students' Book were dedicated to improving readability, format consistency, and internationalization of digital learning tools. The book cover was updated with a visual of learning activities, emphasizing the practical and instructional approach of the book. The main body spacing of the text was changed from 1.15 to 1.5, creating greater distance to improve readability for students. Grammatical and sentence structure improvements refined the writing mechanics, while improved organization of references was also added by placing the references on a new page, which allows seamless navigation. An additional critical revision included converting reading activities to an online format to allow more interaction between technology and the material. Multimodal engagement evolving from visual, auditory, and written aspects was then enhanced with video explanations from YouTube accessible through QR code scanning. The teacher can consider different types of students with varying styles of

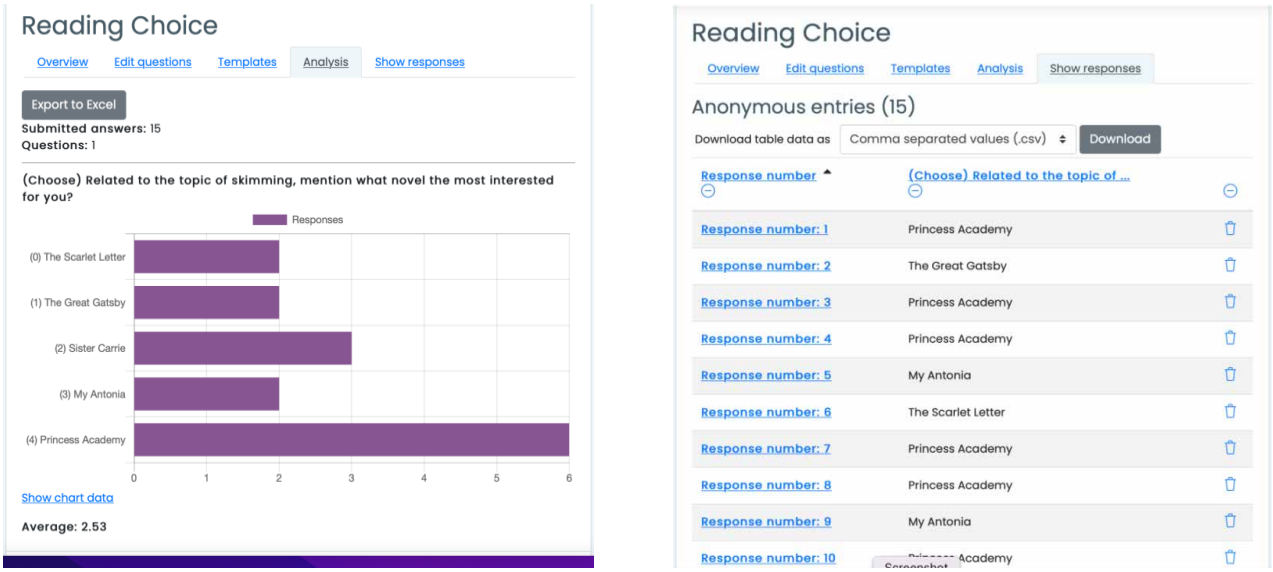


**Figure 1. The Display of Reading Choice in E-learning**

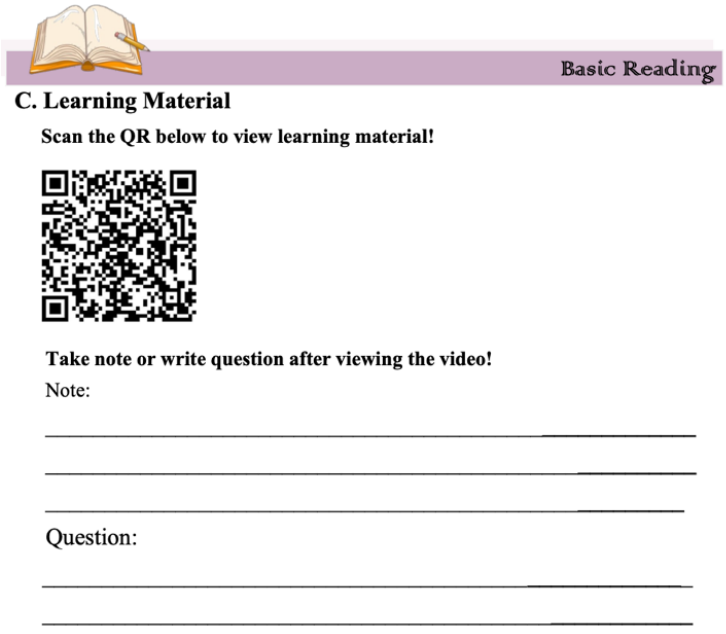


**Figure 2. The Display of the Revision of Learning Material**

learning and encourage self-directed learning, which allows students to reach course materials at different points in time and away from depending on textbooks. With technology-enhanced learning, the incorporation of QR codes addresses the physical and static nature of textbooks and leads to enriched digital content, which is more interactive and accessible.

The Lecturer's Book was also revised where it was needed for structural clarity, grammatical accuracy, and graphical presentation. A learning activities image was used to update the cover design to better represent the book's instructional purpose. The book was meticulously proofread, with extensive corrections to spelling, punctuation, and grammar where necessary to ensure maximum academic integrity and professionalism. Besides further language refinement, formatting issues in precise shapes, lines, and visual components were also fixed for better overall aesthetic quality and readability of the book. These revisions guarantee that the Lecturer's Book is a well-formatted, organized, and professional document, which helps lecturers deliver organized and structured classes.

The revisions were across all three books and centered on conceptual reinforcement, readability, integration of digital tools, and visualization. This new version of the Model Book introduces stronger

theory (ecosystem theory), clean and unambiguous language, and a better-designed cover that aligns to provide a more cohesive teaching experience. Other design elements of the Students Book were adjusted; there was also greater integration with YouTube and QR codes for websites to access resources to either build a wider knowledge of what was being studied or provide further references or readings to assist with topics. At the same time, the Lecturer's Book was tweaked for grammar, formatting consistency, and professionalism so that it could act as an organizational tool throughout the course, looking as official and clear as possible. These changes allow the books to be more effective devices to support students and lecturers in achieving their learning outcomes in a structured, interactive, and pedagogically valid way.

**Users Validation**

The validation of students and the lecturer is grouped into some key themes that were noted from the evaluation of the Basic Reading book, such as clarity, ease of use, sequence of use, completeness of the material, product impact, and worthiness. These categories informed further analysis of the overall strengths and weaknesses of the book and allowed us to gain a better sense of the user experience and perception of the book. Through the breakdown of each of these themes, educators and authors alike can address user needs, improve the quality of instruction, and enhance the effectiveness of the Basic Reading book in helping students learn how to read and enable independent learning.

***Clarity***

Respondents overwhelmingly agreed that the book was clear and easy to understand, emphasizing consistency and conceptual clarity throughout the chapters. Student 1 stated, "*All parts are clear, and everything is conceptualized to have the same flow, making it easy to understand.*" Student 3 similarly noted, "*Nothing, all parts are clear, and there is always a reading text in each chapter that helps the reader better understand the meaning of the chapter title.*" However, some concerns were noted regarding unclear explanations, typographical errors, and duplicated content. Student 4 mentioned, "*some explanations are still lacking examples, such as on page 98 about skimming*," while Student 10 identified duplication issues stating, "*the content on pages 53 and 55 is the same or duplicated.*" Student 9 added, "*Nothing, because all parts are well explained.*" The Lecturer supported the overall clarity, remarking, "The material presented in this Basic Reading Book is very clear."

***Ease of Use***

Feedback on ease of use indicated that while most students found the reading texts manageable, specific challenges were highlighted. Student 1 stated, "*For the reading text, it is easy to understand*," but also pointed out layout issues on pages 13 and 21. Student 4 explained, "*I lacked time to complete the exercises because I had to reread the text to understand the meaning of the questions*," and Student 2 noted vocabulary issues, stating, "*some words are still mistyping. Page 31, Section B. Learning Material*." Student 7 reported, "*I can still understand it, but sometimes I need to use a dictionary to comprehend difficult words,*" highlighting vocabulary challenges. Student 10 remarked, "*the text about biography is too long for me,*" suggesting text length as an area needing adjustment. The Lecturer emphasized careful vocabulary selection and manageable text lengths, suggesting, "*Even though the material to be taught is skimming, we should also consider the number of words in a text and the difficult words.*"

***Sequence of Use***

The structured sequence of the book was praised consistently by respondents, as it facilitated comprehension and independent learning. Student 5 articulated this clearly: "*The sequence of activities is clear, and it challenges us to follow the instructions in the book*." Student 6 echoed this sentiment, noting, "*The sequence is quite clear for me and is very helpful in understanding the reading materials.*" Student 8 added positively, "*I understand it quite clearly, and the lecturer also helps explain it*," while Student 9 appreciated the variety, mentioning, "*The sequence of activities is varied, and some also provide choices for us.*" The Lecturer recognized the effectiveness of the structured approach, stating, "*All the materials are very helpful for students to master Basic Reading, but the material on context clues might be considered to be placed at the beginning*."

***Completeness of Material***

Feedback on completeness indicated that the book successfully covered essential components like reading choices, learning goals,

and assessment sections. Student 3 noted, "I*t is very helpful because, before I dive deeper into the reading text, this book provides reading choices, learning goals, and learning materials, which guide my understanding effectively.*" Student 5 confirmed the comprehensive nature of the book, highlighting, "*It is quite comprehensive because it includes materials, exercises discussed in class, and an assessment section.*" Student 8 expressed satisfaction, stating, "*Complete. The activities are varied and aligned with our capabilities,*" while Student 10 appreciated the guidance provided, remarking, "*I like the activities provided, as they also guide us toward independent learning*." Some respondents, however, requested additional explanatory examples, as mentioned by Student 4: "*Each explanation should be accompanied by examples*." The Lecturer confirmed the completeness, noting the book effectively reached the assessment component.

***Impact of Using the Product***

Feedback indicated a predominantly positive impact, fostering increased student engagement and improved attitudes towards reading in English. Student 1 mentioned, "*Yes, I found it easier to understand the material. Previously, I was not interested and afraid it would be difficult.*" Student 4 acknowledged an increased interest, "*Previously I was less interested in Basic Reading, but it turns out that Basic Reading is enjoyable*." Student 5 remarked positively about reading habits, "*I have become more diligent in reading because of the requirements in the book*," and Student 6 added, "*Some of the provided texts are entertaining, making me enjoy reading*." The Lecturer positively assessed the book's impact, stating, "*I am positive about this Basic Reading book because it is very helpful for a lecturer in teaching.*"

***Worthiness***

Respondents highlighted various practical issues, such as submission difficulties, typographical errors, and overly lengthy texts. Student 1 expressed a specific difficulty: "*I found it difficult to submit the assessment in retelling*." Student 2 mentioned vocabulary difficulty, stating, "*Some vocabularies are still unfamiliar for me. I still need a dictionary*." Student 5 recommended corrections, "*Some typos need to be corrected, such as on page 87*," and Student 8 pointed out duplication issues, "*There are three duplicate questions on page 31*." Practical adjustments were suggested, including reducing text length and enhancing writing mechanics, as noted by the Lecturer, "*I think the writer should pay more attention to the mechanics of writing, such as punctuation and spelling, and the fonts used are too diverse and not the same size*."

As the students and the lecturer used the Basic Reading book in the implementation of the authentic blended assessment model geared to self-directed learning in the teaching-learning process, the book was deemed valid based on the results of the one-on-one evaluation. The book is comprehensive, helpful, easy to read, and clear. Along with improving students' attitudes, perceptions, and reading skills, the book also makes both students and lecturers satisfied when they use it. This text can be utilized with minimal editing despite various typos and writing mechanism flaws.

## IV. DISCUSSION

The findings of this study provide empirical support for the validity, usability, and effectiveness of an authentic blended assessment model designed for Basic Reading instruction within the Self-Directed Learning (SDL) framework. The findings reinforce prior research on reading instruction, assessment design, and the integration of technology in language learning, confirming the significance of comprehensive, multimodal, and iterative assessment approaches in modern education.

The study's validation process aligns closely with Knowles' (1975) Self-Directed Learning (SDL) Theory, which emphasizes the learner's autonomy, responsibility, and ability to self-regulate learning. The results confirm that the developed reading course materials effectively foster independent learning, student engagement, and self-assessment, reflecting the core principles of SDL. As outlined in the introduction, SDL requires learners to diagnose their own learning needs, set learning goals, and evaluate their progress (Haidari et al., 2019; Klerk & Fourie, 2017; Song & Hill, 2007; Yoo, 2024)). The study's findings reinforce this claim, as students found the materials effective in promoting independent reading practices while incorporating digital resources, such as QR codes for YouTube video explanations and online reading platforms, which allowed for greater flexibility and self-paced learning. The validation results indicate that students responded positively to these

resources, demonstrating improved engagement, comprehension, and autonomy in their learning process.

Furthermore, the results strongly support authentic assessment theory, which advocates for assessments that reflect real-world applications rather than relying solely on standardized testing (Mulyaningsih et al., 2022; Valencia, 2010). The high validity scores from expert validation confirm that the developed model effectively incorporates formative, summative, diagnostic, and performance-based assessments, which provide students with meaningful opportunities to apply reading skills in practical, real-world contexts. This aligns with Martika & Zaim (2021), who emphasized that authentic assessment should measure students' ability to perform real-life tasks. Similarly, the findings indicate that lecturers recognized the model as a practical tool for evaluating students' critical reading skills, engagement levels, and reading comprehension progress.

The results also align with Blended Learning theory, which highlights the integration of traditional and digital instructional strategies to create flexible and interactive learning experiences (Graham, 2006; Qin, 2019). The implementation of digital tools, particularly the use of QR codes for video explanations, aligns with prior research suggesting that technology-enhanced reading instruction increases student motivation and engagement (Cronje, 2020; Ferdiansyah et al., 2023; Handoko & Ayumi, 2022; Hamzah et al., 2022; Nguyen et al., 2023; Stockwell, 2013; Suriaman et al., 2023). Content validity refers to the extent to which the instrument reflects the desired content that accurately reflects the syllabus on which it is based (Syahrum & Salim, 2012; Setiaman, 2020). The suitability of the book content has been considered with the syllabus, the level of students, the needs of teaching materials, and the correctness of the substance of the learning material. Construct validity, the extent to which measurement results can be interpreted according to the elements of the construct or concept, in accordance with the principles of foreign language learning theory. It consists of presentation and language elements. The criteria of presentation elements are systematic, logical, and clear. The criteria for language elements are grammatically correct, language level, clarity of information, readability, and punctuation. The user validation phase of this study confirmed that students benefited significantly from the multimodal approach, as it provided additional context for reading tasks and improved comprehension. The research shows that blended learning fosters deeper student engagement by integrating synchronous and asynchronous learning activities (Adinda & Mohib, 2020; Gaa & Aliazas, 2024; Hrastinski, 2019).

The findings of this study support the studies that have previously identified a lack of attention to self-directed learning evaluations in blended learning contexts. Studies by Boelens et al. It also pointed out that Transactions A did not reflect this for the most part since previous blended learning assessment research focused on student learning results and not on assessing self-directed learning skills (Albiladi & Alshareef, 2019, 2018). This study addresses this gap by validating an assessment model that explicitly measures self-regulated learning behaviors — including goal setting, self-monitoring, and problem-solving independence. This point is repeated in the thematization of validator comments as this expert considers that structured self-assessment activities and reflective learning tasks should promote higher-order thinking and self-regulated learning strategies.

In addition, this study also reaffirms the relevance of a structured validation process when developing assessment models, and that endorses Brookhart (2013), who indicated that assessment in education should be aligned with learning goals and that students should be provided with helpful feedback. Highly favorable content and construct validity scores from validators confirm that the model developed adheres to established pedagogical best practices. User validation empirical data confirms that the model was correct as students and lecturers found it helpful, easy to use, and practical. Blended learning and self-directed learning models need careful structuring to ensure students are engaged and develop their skills.

Based on the results of the research, the model on Figure 3 can be a framework for developing a reading course assessment that aligns with self-directed learning (SDL) principles.

The Reading Assessment Model is a widely structured framework framework that helps create effective, valid, and reliable reading assessments aligned to Self-Directed Learning (SDL) principles.

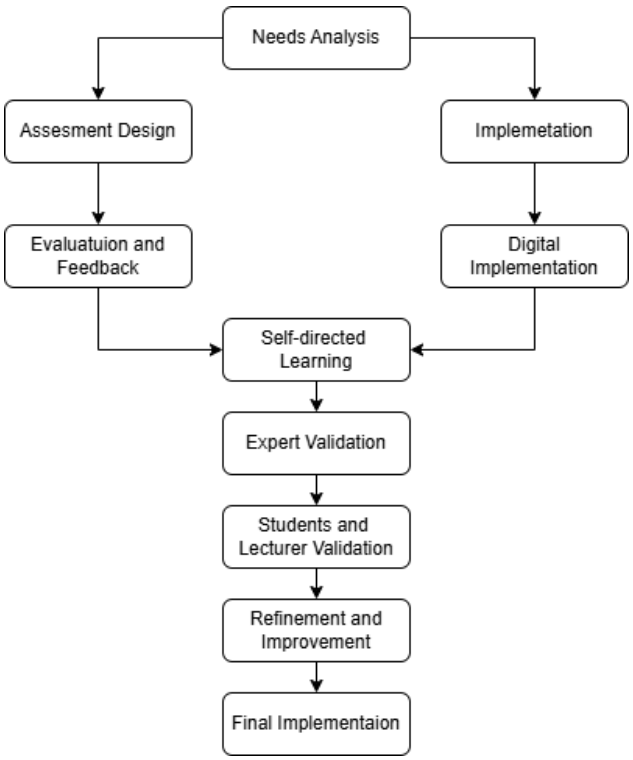


**Figure 3. Model for Developing Reading course with Self-Directed Learning (SDL)**

This has an iterative step where the expert gets to provide feedback based on user reviews to keep on making the estimate better. It starts with *Needs Analysis*, whereby students' reading proficiency levels, instructional goals, and curriculum requirements are identified. This step ensures that the assessments are suitable not only to the needs of the learners but also to target significant literacy skills, understanding skills, and assessment standards. This model includes formative, summative, diagnostic, and performance-based assessments, embedded in authentic environments, that assure valid and reliable evaluation of reading comprehension, critical thinking, and engagement. The *Evaluation & Feedback* has many facets, collecting data on student performance that is potentially enriched through digital integration, allowing usage of QR codes, multimedia resources, and online platforms to increase the interactive and multimodal learning experience. So, this model focuses on self-directed learning while encouraging students to take ownership of their education by self-assessing themselves. Finally, to promote academic robustness, Evaluation by *Experts & Student and Lecturers Evaluation* assesses content, construct, criteria, face validity, and usability/effectiveness. While these two stages of user testing allow feedback to inform the Refinement & Improvement stage, allowing for *Final Implementation*, the final output takes the model back into *Needs Analysis*, where continuous refinement occurs. This iterative process allows the model to continually adapt to changing student needs and conditions, improving reading instruction, self-directed learning, and literacy development.

The result of this research contributes to the implementation of Self-Directed Learning, Authentic Assessment, and Blended Learning. Validation of a rigorous, multimodal assessment model adds further support for the hypothesis that students are afforded independent learning strategies if they are given flexible, technology-enhanced materials. The results advocate for the incorporation of digital tools, multimodal assessments, and organized feedback mechanisms in reading instruction for educators and curriculum developers. Analysis of the feedback received regarding QR-based learning materials suggests that the students are more motivated when the assessment models include interactive resources. Moreover, the study identifies the need for expert validation and iterative revisions, thereby indicating best practices for material development in higher education contexts.

Though it makes contributions, this study has limitations. Validation was done with limited data from only a few students, lecturers, and expert validators. Although the results offer convincing evidence for the model's robustness, the study's participant pool should be expanded in future work. Moreover, this study was concerned only with the area of Basic Reading instruction in an EFL-focused instructional context, and future inquiry could address other linguistic skills or more general areas of education.

Future research would expand and broaden the sample size and use longitudinal studies to explore the long-term effects of blended assessment models compared to traditional measures of reading comprehension and self-directed learning behaviors. Future studies may consider comparative study design to validate whether our model outperforms traditional assessment frameworks. Machine Learning: Machine learning can complement traditional data-driven assessments to create even more adaptive and personalized learning experiences, especially for blended learning reading programs.

## V. CONCLUSION

In designing the prototype of a reading assessment model, three products were validated: the model book, the student book, and the lecturer book. Six experts with different expertise areas were involved in the validation process to ensure the validity of the research product theoretically. The result shows that all of the research products were valid with little revision. Considering the suggestions from the experts, the research products were revised for the draft to be implemented in basic reading class. In the process of the implementation, the researchers asked users' opinions about the research products during one-to-one evaluation. The users, lecturers, and students perceived that the research products were also categorized as valid.

Based on the result of this study, it is implied that since the reading assessment model with a focus on self-directed learning is implemented in online and offline settings, lecturers and students should have the skills to use technology. In addition, the availability of the internet network is needed. The model developed provides students with basic reading opportunities anywhere and anytime independently, so the next research is recommended to examine the implementation of this model at other reading levels.

## ETHICS STATEMENT

The authors have read and followed the ethical requirements for publication in Jurnal Arbitrer and that the current work does not involve human subjects, animal experiments, or any data collected from social media platforms.

## CREDIT AUTHOR STATEMENT

**Yulmiati**: conceptualization, methodology, data curation, writing original draft, review and editing, supervision. **Andiopenta Purba**: methodology, formal analysis, data curation, review and editing. **Harisnawati**: investigation, data curation, software, visualization. **Akhyaruddin**: methodology, formal analysis, data curation, review and editing. **Adrias**: conceptualization, methodology, investigation, resources, supervision. **Nazhifah**: investigation, data curation, software, visualization. **Weni Yulastri**: investigation, data curation, writing original draft.

## DECLARATION OF COMPETING INTERESTS

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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