



Effectiveness and Practicality of Outcome-Based Education Assessment Tools for Integrated Contextual Indonesian Language Learning Multidisciplinary Interactive E-Modules

Salmah Naelofaria^{1*}, Lili Tansliova², Diah Eka Sari³, Lasenna Siallagan⁴, Izuddinsyah Siregar⁵

¹²³⁴Prodi Pendidikan Bahasa dan Sastra Indonesia, Universitas Negeri Medan, Sumatera Utara, Indonesia

⁵Prodi Pendidikan Antropologi, Universitas Negeri Medan, Sumatera Utara, Indonesia

*E-mail: naelofaria@unimed.ac.id

ABSTRACT

This study aims to examine the effectiveness and practicality of an Outcome-Based Education (OBE)-based assessment instrument designed for contextual Indonesian language learning integrated with an interactive multidisciplinary e-module in higher education. The tool was developed as a strategic continuation of a multidisciplinary interactive e-module produced in a previous research phase, since the assessment system in use had not fully mapped the achievement of Graduate Learning Outcomes (CPL) and Course Learning Outcomes (CPMK). This study employed the Research and Development (R&D) method with the 4D model (Define, Design, Develop, Disseminate). Research subjects consisted of three lecturers and students from four classes in the Indonesian Language and Literature Education study program at Universitas Negeri Medan, selected through purposive sampling. Data were collected through needs-analysis questionnaires, expert validation sheets, practicality questionnaires for students and lecturers, and student work results on two learning materials, then analyzed descriptively and quantitatively. The results show that the developed assessment tool achieved a validity level of 92% (very feasible category), a practicality level of 82% among students and 90% among lecturers (very practical category), and was effective in improving student learning outcomes with an average score of 87.25 across the two materials tested. These findings indicate that the OBE-based assessment tool integrated into a multidisciplinary interactive e-module is feasible for use as an authentic assessment instrument in contextual Indonesian language learning in higher education.

Keywords: effectiveness and practicality, outcome based education, assessment tools, contextual Indonesian language, interactive e-module

INTRODUCTION

The transformation of higher education in the digital era requires learning that is oriented towards learning outcomes and competency development in the 21st century. One of the widely adopted approaches is Outcome Based Education (OBE), which emphasizes the integration between learning outcomes, learning processes, and assessments in a systematic and measurable manner (Gall et al., 1996). In the context of learning Indonesian in higher education, the implementation of OBE has

not been fully followed by the development of assessment tools that are in line with Graduate Learning Outcomes (CPL) and Course Learning Outcomes (CPMK), especially in contextual and multidisciplinary learning (Sirait et al., 2026). The assessments used are generally still dominated by memorization-based written tests that measure low-level cognitive aspects, so they are not optimal in measuring critical thinking skills, reflective abilities, and language application in real, cross-disciplinary contexts. On the other hand, in-

Submitted
28/08/2026

Accepted
09/09/2026

Published
25/09/2026

Citation	Naelofaria, S., Tansliova, L., Sari, D. E., Siallagan, L., Siregar, I. (2026). Effectiveness and Practicality of Outcome-Based Education Assessment Tools for Integrated Contextual Indonesian Language Learning Multidisciplinary Interactive E-Modules. <i>Jurnal Pembelajaran Bahasa dan Sastra</i> , Volume 5, Nomor 5, September 2026, 4407-4414. DOI: https://doi.org/10.55909/jpbs.v5i5.1850
----------	---

Publisher
Raja Zulkarnain Education Foundation

teractive e-modules have developed as a potential learning medium, but their use has generally not been systematically integrated with OBE-based assessment tools, so the assessment function as an integral part of the learning process has not run optimally.

These problems show that the implementation of OBE is not enough only to be realized through the formulation of CPL and CPMK in curriculum documents. The achievement of learning outcomes is largely determined by the extent to which these achievements are translated into indicators, learning activities, assessment instruments, and assessment criteria that can produce evidence of student competence. Premalatha (2019) places course outcomes assessment as an important component in OBE and emphasizes the need to map between course outcomes and program outcomes along with the mechanism for measuring their achievement. In this case, the relationship between learning outcomes and assessments needs to be built explicitly so that the assessment results truly represent the competencies to be achieved. In the context of learning Indonesian in higher education, this need has more complex characteristics because learning outcomes are not only related to mastering language knowledge, but also to the ability to use language as a tool for thinking, building arguments, processing information, producing scientific papers, and communicating ideas. This ability is a performative and contextual competency. Therefore, assessments need to provide opportunities for students to produce products or performances that can be observed, assessed, and given feedback.

The findings of Susetyo et al. (2026) further strengthen this relevance. This study specifically evaluates the implementation of OBE through project-based academic writing in Indonesian language learning in Indonesia. Student scientific articles are used as evidence of performance that can be observed and measured to see the achievement of learning outcomes programs. The study shows that scientific writing products can

be an important source of evidence in OBE evaluation because it allows student competencies to be observed through authentic academic performance. This perspective is in line with the development of OBE assessment at the international level. Ali (2024) developed a summative assessment framework in OBE that integrates direct measurement with technology. The framework shows that technology can be used not only to digitize conventional instruments, but to strengthen the measurability of learning outcomes and produce more systematic evidence of achievement.

Strengthening the assessment system is also closely related to higher education's need for quality assurance. Mahalingam (2025) offers a framework for measuring learning outcomes programs that connect assessments, performance indicators, and competency rubrics. The framework is designed to produce data that can be used in evaluating the achievement of learning outcomes as well as improving the curriculum in a sustainable manner. These findings provide a conceptual basis that OBE assessments should produce actionable information, both for students, lecturers, and study programs. In this case, the assessment in this study not only functions as a scoring mechanism, but also as evidence of competency achievement and the basis for learning improvement. This is in line with the OBE principle which integrates learning outcomes, learning experiences, assessments, and continuous improvement. Assessment data can also be used to support learning decision-making and quality improvement.

On the other hand, interactive e-modules allow the integration of materials, activities, assignments, assessments, rubrics, and feedback in one digital environment. In learning Bahasa Indonesia, Saragih et al. (2023) show that Simalungun's ethnocultural-based interactive e-modules are feasible to support learning and improve students' technological literacy. These findings are important because they show that Indonesian e-modules can



be designed not only based on material structure, but also based on cultural contexts, student needs, and technology utilization. However, there is still room for development in the integration aspect between e-modules and OBE assessments. E-modules that have interactive content have not automatically produced an assessment system that is able to demonstrate the achievement of CPL and CPMK. Therefore, the integration of content, activities, assessments, rubrics, and feedback is an important aspect that needs to be further developed. The need for an OBE-based digital assessment system has also received support from national research. Kushari & Septiadi (2022) developed a learning outcome assessment information system to facilitate the implementation of OBE. The study places assessment as an integral part of OBE and shows the importance of recording assessment results to support continuous improvement in educational activities. These findings show that technology can play a strategic role in building assessment traceability. In this case, digital assessment systems have a broader function than just providing scores because they can be part of the learning quality improvement mechanism.

The development of OBE-based learning tools has also been carried out in the context of Indonesian higher education. Siregar et al. (2023) developed OBE-oriented learning tools in elementary Civic Education courses using a 4D model. The resulting products were tested from the aspects of validity, practicality, and effectiveness. The results showed that the tools obtained validity by 82.5%, practicality by 88.3%, and the effectiveness of student activities by 81.11%. The research is relevant to this study because it shows that OBE-oriented learning tools can be developed through development research and tested through validity, practicality, and effectiveness. However, the research focuses on the elementary Civic Education learning tools, while this research is specifically directed at the development of assessment tools for Indonesian language learning in higher education that are

contextual, multidisciplinary, and integrated with interactive e-modules.

Based on these conditions, this study formulates the following problems: (1) how the characteristics and needs of OBE-based assessment tools in contextual Indonesian learning are integrated with multidisciplinary interactive e-modules; (2) how is the process of developing OBE assessment tools that are integrated in interactive e-modules to measure Indonesian learning outcomes authentically; and (3) how valid, practical, and effective the assessment tools are in improving students' literacy, critical thinking skills, and communication skills.

This research is a strategic continuation of the team's research roadmap, which in the previous stage had produced a multidisciplinary-based interactive Indonesian e-module to support contextual learning and strengthen students' academic literacy. Although the e-module has provided rich learning content and activities, the assessment system used has not been fully oriented to OBE and has not systematically mapped the achievement of CPL and CPMK. Therefore, this year's research is directed to complement the e-modules that have been developed with digitally integrated OBE assessment tools, so that the e-module not only functions as a learning resource, but also as a vehicle for evaluating measurable, authentic, and performance-based learning outcomes.

This research has a number of novelties compared to previous studies in the field of OBE assessment and implementation. Previous studies on OBE generally still revolve around concepts, principles, and applications in the context of general curriculum or higher education at large and tend to be limited to authentic forms of assessment such as portfolios and projects without explicitly mapping the relationship between learning outcomes, digital assessment instruments, assessment rubrics, and automatic feedback in a single system. The novelty of this research lies in the conceptual integration between OBE-based

assessments, contextual Indonesian language learning, and multidisciplinary interactive e-modules in one complete development framework, so that the assessment not only functions as an evaluation tool, but also as a driver of a meaningful learning process, while expanding the scope of assessment to the realm of cross-disciplinary disciplines.

METHOD

This research uses a Research and Development (R&D) approach with a 4D model (Four-D Model) developed by Thiagarajan, which consists of four stages, namely Define, Design, Develop, and Disseminate (Sugiyono, 2017; Fraenkel et al., 2012). This model was chosen because it is in accordance with the research objective, which is to produce an OBE-based assessment tool that is tested for validity, practicality, and effectiveness before being implemented more widely.

The research was carried out at the Faculty of Languages and Arts, State University of Medan, in the Indonesian Language course for the even semester of the 2025/2026 academic year. The research population is all students of the Department of Indonesian Language and Literature who take the course. The sample was determined using a purposive sampling technique with the criteria of students who are taking Indonesian language courses in semester 4 and have readiness to take the e-module trial as a whole. Based on these criteria, four representative classes were selected in the context of language learning and academic literacy. In addition to students, the research also involved three lecturers teaching Indonesian language courses as respondents to the needs questionnaire and practicality test.

The research instruments used include: (1) a needs analysis questionnaire that is distributed to the teaching lecturer to capture aspects of understanding, implementation, technical competence, and OBE assessment

practice; (2) a validation sheet for material experts and media/design experts using a 4-point Likert (Carter, 2016; Azwar, 2013), scale (1 = not feasible, 2 = quite feasible, 3 = feasible, 4 = very feasible); (3) a student practicality questionnaire consisting of 35 statements and a lecturer practicality questionnaire consisting of 20 statements, both using an assessment scale of 1–5; and (4) an instrument to assess student work results on two learning materials to measure the effectiveness of the product.

Data collection was carried out through four stages that were in line with the R&D model, namely preliminary studies (observation and informal interviews with lecturers and analysis of syllabus documents/RPS), expert validation (conducted online and offline according to the availability of validators), trials limited to students in general Indonesian courses, and data analysis. Data validity and practicality were analyzed quantitatively descriptive with the formula (Sudjana, 2010; Razak et al., 2020; Nurhayati et al., 2019).

The same formula is also used to calculate the percentage of practicality, which is the comparison of the score obtained with the maximum score multiplied by 100%. The results of the percentage are then converted into the category of validity/practicality as presented in below.

- 1) 81% – 100% Very Feasible / Very Practical
- 2) 61% – 80% Feasible / Practical
- 3) 41% – 60% Quite Feasible / Quite Practical
- 4) 21% – 40% Less Practical / Less Practical
- 5) 0% – 20% Not Feasible / Impractical

RESULT

1. Product Practicality

The practicality test was carried out on two groups of users, namely students and lecturers, using instruments with a scale of 1–5 which included aspects of ease of use, clarity, implementation, conformity with OBE, usefulness, integration of e-modules, contextual-multidisciplinary aspects, and (especially lecturers) aspects of assessment and efficiency. The results of the product practicality test indicated a rating of "highly practical" according to the students. The



lecturers' assessment yielded the same result—"highly practical."

From a student's perspective, the percentage of practicality of 82% shows that the product is easy to use, helps students understand the flow and learning materials, and can be implemented according to the stages designed. The aspect of conformity with OBE and usefulness is also considered good, indicating that the product supports the achievement of learning outcomes while providing real benefits to the learning process. The integration of e-modules is considered to facilitate flexible access to materials, while the contextual-multidisciplinary aspect shows the relationship between learning and real context across fields of knowledge.

From the lecturer's perspective, a higher percentage of practicality (90%) indicates that the product helps lecturers carry out and direct the assessment process according to learning activities, supports the achievement of OBE, and helps optimize digital learning resources efficiently. The percentage difference between students and lecturers indicates that the product is positively received by both user groups, with relatively higher lecturer acceptance due to its position as a designer and director of the assessment process.

2. Product Effectiveness

The effectiveness of the assessment tool was measured from the results of student work on the two learning materials that had been designed in the product. The results of the analysis showed an average score of 87 in Material 1 and 87.5 in Material 2, with an overall average of 87.25. The increase of 0.5 points from Material 1 to Material 2, although relatively small, showed the consistency of student achievement and indicated that the assessment tool was able to facilitate gradual improvement of competence. The high average score in both materials confirmed that students were able to understand the material and complete tasks according to the expected competencies, so that the assessment tool was

declared effective in supporting the learning process and the achievement of student competencies according to the OBE principle.

DISCUSSION

Product Practicality

Practicality from the lecturer's perspective reached 92% and was included in the category of very practical. Lecturers assessed that the product could help the implementation and direction of the assessment process according to learning activities, support the achievement of OBE, and optimize digital learning resources efficiently.

A higher percentage of students shows that the product has a very good acceptance rate in the lecturer group. This can be understood because the tool was developed by considering the needs of lecturers in designing and implementing assessments. The existence of grids, instruments, rubrics, and integration of assessments into e-modules can reduce the burden on lecturers in preparing assessment tools separately.

These findings also show that OBE-based assessment tools have the potential to be an instrument for standardizing the assessment process. In learning practice, one of the challenges of assessment is to ensure that the assessment carried out by lecturers is truly consistent with learning outcomes. With the availability of tools that have mapped CPL, CPMK, Sub-CPMK, indicators, instruments, and rubrics, the assessment process can become more directed.

The high level of practicality of lecturers also shows that the digitization of assessment is not perceived as an additional burden if product design is able to integrate learning and assessment functions efficiently. This means that technology becomes meaningful when simplifying pedagogical work, not just adding new applications or features.

Product Effectiveness

The effectiveness of the product is shown through the results of student work on the two

learning materials. The average score of students reached 87 in Material 1 and 87.5 in Material 2, with an overall average of 87.25. There was an increase of 0.5 points from the first material to the second material.

The average score shows that students are able to complete the assigned assignment with relatively high achievements. The consistency of grades between the first and second materials also shows that the device can be used in more than one learning material context without showing a significant decrease in achievement.

The 0.5-point increase is relatively small, so it is not appropriate to interpret it as a statistically large increase in effectiveness. However, based on the available data, the increase can be understood as an indication of the consistency of student achievement. In other words, the device is able to maintain student performance at a high level when used in the next learning material.

These findings are relevant to the OBE principle because the success of learning is not only determined by the completion of the material, but by the achievement of competencies. An average score of 87.25 indicates that students can demonstrate performance according to the competencies designed in the device. These results reinforce the findings of validity and practicality: the device is not only conceptually and practically feasible to use, but also capable of producing high learning outcomes.

However, methodologically, the effectiveness results in this study need to be positioned proportionally. The data available in the study results only show an average of achievement in two materials and an increase of 0.5 points. Therefore, effectiveness claims should be directed at practical effectiveness in supporting the achievement of competencies, not at causal claims that the product is statistically proven to be more effective than other models or devices. To strengthen the effectiveness claims in follow-up research, experimental or quasi-experimental

design, pretest-posttest, control group, and effect size analysis can be used.

CONCLUSION

This research produced an assessment tool based on Outcome Based Education (OBE) that is integrated with a multidisciplinary interactive e-module for contextual Indonesian language learning, which is developed through a 4D (Define, Design, Develop, Disseminate) model. The define stage reveals the gap between the good conceptual understanding of OBE among lecturers and its implementation that is still low in assessment practice, which is then answered through product design and development at the design and develop stages.

The test results showed that the assessment tool developed was valid with a percentage of 92% (very feasible category), practical use by students (82%) and lecturers (90%) with a very practical category, and effective in improving student learning outcomes with an average score of 87.25 in the two materials tested. Thus, this OBE-based assessment tool integrated with multidisciplinary interactive e-modules is suitable for use as an authentic assessment instrument in learning Indonesian in higher education.

This research is still limited to the Technology Readiness Level (TKT) levels 1–3, so the results have not been tested on a wider implementation scale. Further research is suggested to test the effectiveness of the product in larger populations and in the context of other study programs, as well as to develop a more adaptive automatic feedback mechanism in the e-module to strengthen the real-time tracking of learning outcomes.

ACKNOWLEDGMENTS

The authors would like to thank the Institute for Research and Community Service (LPPM) at Universitas Negeri Medan for the opportunity and funding support provided through the university's internal PNPB funds for the 2026 fiscal year. This



support has played a significant role in the execution and completion of this research.

REFERENCES

- Ali, Q. I. (2024). Towards More Effective Summative Assessment in OBE: A New Framework Integrating Direct Measurements and Technology. *Discover Education*, 3(1), 107. <https://doi.org/10.1007/s44217-024-00208-5>
- Azwar, S. (2013). *Validitas dan Reliabilitas Tes*. Yogyakarta: Pustaka Pelajar.
- Carter, S. R. (2016). Using Confirmatory Factor Analysis to Manage Discriminant Validity issues in Social Pharmacy Research. *International Journal of Clinical Pharmacy*, 38(3), 731-737. <https://doi.org/10.1007/s11096-016-0302-9>
- Gall, M. D., Borg, W. R., & Gall, J. P. (1996). *Educational Research: An introduction*. London: Longman Publishing.
- Kushari, B., & Septiadi, L. (2022). A Learning Outcome Assessment Information System to Facilitate Outcome-Based Education (OBE) Implementation. *Jurnal Pendidikan Teknologi dan Kejuruan*, 28(2 SE-Articles), 238–250. <https://doi.org/10.21831/jptk.v28i2.42339>
- Mahalingam, T. (2025). Program Learning Outcome Assessment: A Scalable Framework for Quality Assurance in Outcome-Based Education. *Quality Assurance in Education*, 34(2), 360–377. <https://doi.org/10.1108/QAE-07-2025-0215>
- Nurhayati, N., Hardoko, H., & Warman, W. (2019). Pengembangan Evaluasi Pembelajaran Tematik dengan Menggunakan Rubrik Kelas IV di Gugus IV Kecamatan Samarinda Ulu. *Diglosia: Jurnal Kajian Bahasa, Sastra, dan Pengajarannya*, 2(1), 47-58.
- Premalatha, K. (2019). Course and Program Outcomes Assessment Methods in Outcome-Based Education: A Review. *Journal of Education*, 199(3), 111–127. <https://doi.org/10.1177/0022057419854351>
- Razak, A., Syihabuddin, S., Damaianti, V. S., & Mulyati, Y. (2020). The Effectiveness of Islamic Characters by Approaching Constructivism in Reading Understanding Ability. *JOMSIGN: Journal of Multicultural Studies in Guidance and Counseling*, 4(2), 1-12.
- Salim, A., Narongraksakhet, I., Hayani, A., Rouzi, K. S., Putri, M. A., Hassama, A., & Abdullah, A. A. (2026). Outcome-Based Education, E-Learning, and Student Satisfaction: Evidence from Indonesia and Thailand. *Jurnal Ilmiah Peuradeun*, 14(1), 531-550. <https://doi.org/10.26811/peuradeun.v14i1.1285>
- Saragih, V. R., Sianipar, V. M. B., Purba, N. A., & Pane, E. P. (2023). Pengembangan E-Modul Interaktif Berbasis Etnobudaya Simalungun untuk Meningkatkan Literasi Teknologi Mahasiswa pada Pembelajaran Bahasa Indonesia. *Pendidikan Bahasa Indonesia dan Sastra (Pendistra)*, 157–165.
- Sirait, J., Tambunan, M. A., Simanjuntak, H. C., Purba, J. R., & Yolanda, S. R. A. (2026). Desain Kurikulum Berbasis OBE dan MBKM Pada Mata Kuliah Perencanaan dan Model Pembelajaran Bahasa Indonesia Prodi PBI FKIP-UHKBPNP. *PIJAR: Jurnal Pendidikan dan Pengajaran*, 4(2), 858–870. <https://doi.org/10.58540/pijar.v4i2.1705>
- Siregar, W. M., Gandamana, A., Sujarwo, & Putri, S. R. (2023). Pengembangan Perangkat Pembelajaran Berorientasi Outcome Based Education pada Mata Kuliah Pendidikan Kewarganegaraan SD. *JS (Jurnal Sekolah)*, 8(1), 104–113. <https://doi.org/10.24114/js.v8i1.52936>



Sudjana, N. (2010). *Penilaian Hasil Proses Belajar Mengajar*. Bandung: Remaja Rosdakarya.

Sugiyono, S. (2017). *Metode Penelitian Pendidikan Pendekatan Kuantitatif, Kualitatif, dan R&D*. Cetakan. XXV. Bandung: Alfabeta.

Susetyo, A. M., Wuryaningrum, R., & Nurkamilah, N. (2026). Evaluating Outcome-Based Education: A Mixed-Methods Assessment of Project-Based Academic Writing in Indonesia. *Jurnal Pendidikan Progresif*, 16(1), 610–636.