The Implementation of E-Assessment in Teaching Academic Written Language Skills (AWLS) Using Case Method and Project Based Learning (PjBL) in University

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Abstract. This study explores e-assessment in teaching Academic Written Language Skills (AWLS) using the Case Method and Project-Based Learning (PjBL) approaches in a university. The study aims to foster critical thinking, collaborative learning, and real-world application in writing class. The research used the qualitative insights of 20 students in Universitas Negeri Medan from surveys and interviews. Results indicate that e-assessment provides attractive methods in teaching. The result also shares students' involvement, feedback, and achievement in AWLS. By combining case-method and PjBL in e-assessment of AWLS course has significantly increased students' ability to structure arguments, apply academic conventions, and produce coherent texts. Moreover, e-assessment facilitate global sources, personalized feedback, which supports continuous learning and revision. It is also recommended to integrate e-assessment into curriculum design to promote deeper learning outcomes in academic instruction for further researchers.

Keywords: E-Assessment, Case Method, Project-Based Learning (PjBL), AWLS Course

1. Introduction

The rapid development of digital technology has significantly transformed educational practices, particularly in higher education. The increasing adoption of digital learning tools and automated assessment systems is largely motivated by the demand for immediate feedback, individualized learning opportunities, and more effective evaluation methods. As technology continues to evolve, educators are increasingly encouraged to integrate online platforms into both teaching and assessment activities [1]; [2]; [3].

In this context, conventional assessment practices, such as manual essay grading and paper-based examinations, are often considered inadequate for addressing the demands of modern education. These traditional approaches frequently lack prompt feedback, flexibility, and opportunities for personalized evaluation, which can make it challenging for students to recognize and improve their specific weaknesses [4]. To overcome these limitations, the integration of e-assessment combined with instructional approaches such as the Case Method and Project-Based Learning (PjBL) offers a more innovative alternative. This approach aligns with the policy outlined in Ministerial Decree No. 3/M/2021 and Regulation No. 3 of 2020,

which emphasizes the implementation of Student-Centered Learning (SCL). The regulation highlights that learning processes should encourage interaction, collaboration, and holistic engagement among students [5].

This study seeks to investigate how the implementation of e-assessment within an active learning environment can enhance students' Academic Written Language Skills (AWLS), particularly in their ability to analyze topics and produce well-organized, coherent, and analytical essays. By examining university students who are enrolled in the AWLS course, this research aims to provide valuable insights into effective practices for integrating digital assessment tools that support both cognitive development and writing proficiency.

The novelty of this study lies in the development of e-assessment frameworks grounded in the Case Method and Project-Based Learning (PjBL) within the specific context of academic writing instruction. By addressing this pedagogical gap, the research contributes to the advancement of digital literacy and instructional innovation, particularly within the sphere of higher education.

Highlighting by the previous studies, the research focus on the implementation of e-assessment in academic writing with the formulation of the problem "How does the implementation of E-Assessment in Teaching Academic Written Language Skills (AWLS) Using Case Method and Project Based Learning (PjBL) in University?"

2. Literature Review

2.1 E-Assessment in Higher Education

E-assessment involves the utilization of digital platforms to evaluate student performance through tests, assignments, and projects [6]. Its advantages include immediate feedback, increased accessibility, scalability, and the potential to incorporate multimedia and interactive components. These features promote active engagement, facilitate self-assessment, and enable tailored instruction according to individual proficiency levels.

Research indicates that e-assessment enhances various competencies, including writing structure, grammatical accuracy, and critical thinking [1];[5]. Moreover, the provision of instant feedback enables students to identify errors and misconceptions in real-time, thereby fostering reflective learning and a cycle of continuous improvement.

Additionally, English students in higher education are increasingly prepared for global citizenship through the integration of E-learning [6];[7];[8];[9]. Furthermore, e-assessment has fostered effective pedagogical methods for teaching English, specifically aiming to enhance students' writing proficiency levels [10];[11];[12];[13];[14]. For instance, [15] found that students find e-assessment more convenient due to submission flexibility, while simultaneously reducing the paper-based workload for lecturers.

2.2 Active Learning Strategies: Case Method and PjBL

Case Method involves learners analyzing real-world scenarios to develop problem-solving, analytical, and decision-making skills [19]. Its application deepens understanding by contextualizing theoretical knowledge, promoting critical reflection, and encouraging discussion, such as academic writing. It is implemented in Project Based Learning (PjBL).

Project-Based Learning (PjBL) emphasizes collaborative projects where students apply concepts to authentic tasks. PjBL fosters teamwork, creativity, and practical application, essential skills [16].

Both methods support the development of higher-order cognitive skills defined by Bloom's taxonomy (2001), including analysis, synthesis, and evaluation. This aligns with the goal of producing autonomous, critical thinkers capable of tackling complex problems in academic and professional contexts, academic writing in particular. found that writing is often seen as a challenge for EFL students. Further, the studies integrating both Case Method and PjBL in teaching English as a Foreign Language in Indonesia remain limited. Previous studies focus on digital learning applications but few discuss on the implementation of e-assessment in students' writing skills [17].

2.3 Challenges in Traditional Language Instruction

Conventional assessment methods often overlook the dynamic nature of language acquisition, especially in academic contexts requiring complex argumentation and coherence [4]. Manual evaluations do not provide immediate feedback necessary for timely correction and reinforcement. Therefore conventional learning has shifted to e-learning education [5]; [18]; [19]; [20]. As a result, students may struggle with generating ideas, organizing arguments, and producing coherent texts, which directly hampers their academic performance. Furthermore, traditional assessments tend to be teacher-centered, limiting opportunities for self-assessment and peer interaction. This can hinder the development of independent learning habits and reduce motivation .

In Indonesia, [21] found that EFL students taught using Case Method and PjBL achieved higher score (81.4) than those who taught through in conventional way (73.9). Therefore, it is indicating the use of e-assessment in AWLS course has fostered the effectiveness of SCL strategies.

3. Method
3.1 Participants and Context

The study used descriptive qualitative method to explore students' experience in using e-assessment. It is involved a sample of 20 university students enrolled in the AWLS course at a public university in Medan, Indonesia. The participants consists of male and female students average 18-20 years old. It is representing the diversity of students' backgrounds and proficiency levels. These students conducted pre- and post-assessments of their writing skills and provided feedback through questionnaires on their experiences with the e-assessment system.

3.2 Instruments and Data Collection

The primary instrument was a validated need analysis questionnaire designed to gauge students' perceptions of e-assessment effectiveness, motivational factors, and the impact on their cognitive and writing skills. The questionnaire included items related to challenges faced, perceived improvements, and preferences regarding digital assessments.

Pre- and post-tests involved tasks requiring students to analyze case studies and produce essays, integrating the principles of the Case Method and PjBL. Feedback was obtained immediately after assessments via digital platforms, enabling real-time reflection and targeted coaching.

3.3 Procedures

Students engaged in assessments through online platforms equipped with automated scoring and feedback modules. During the process, they analyzed real-world cases, conceptualized ideas, and organized arguments under guided instructions. The PjBL component involved collaborative projects, where students worked in teams to develop solutions and present their findings.

Throughout the implementation, instructors monitored progress, provided personalized feedback, and facilitated peer evaluations, fostering an active and engaging learning environment.

4. Research Findings And Discussion

4.1 Research Findings: The Implementation of E-Assessment in Teaching Academic Written Language Skills (AWLS) Using Case Method and Project Based Learning (PjBL) in University

This study aims to address the research problem concerning the implementation of e-assessment in teaching Academic Written Language Skills (AWLS) through the integration of the Case Method and Project-Based Learning (PjBL) at the university level. The research began with a preliminary assessment that included a needs analysis pre-test, interviews, and observation sheets to identify students' prior knowledge and readiness in learning AWLS [22]. The questions were designed to examine students' familiarity with digital learning, particularly their experiences with e-assessment tools. Participants were asked to select responses in the questionnaire based on their experiences and preferences in using digital platforms. Following this initial assessment, the implementation of e-assessment was conducted during classroom activities. The results indicated that most participants were already familiar with digital learning environments. However, they had not previously used e-assessment accessed through a barcode system to begin course exercises. This new experience increased their interest and motivation to engage with the learning activities, as illustrated in the following chart:

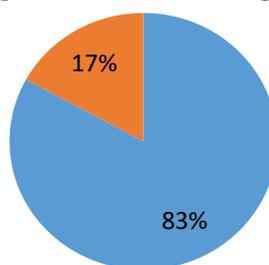**Q1. Have you ever used e-assessment platforms before taking AWLS course?**

Figure 1. Participants results based on their personal experiences

Figure 1 presents the participants' previous experience with e-assessment platforms prior to taking the AWLS course. The findings show that 83% of the students had already used e-

assessment tools, while 17% reported that they had never encountered such platforms before. This result suggests that most students were already familiar with digital assessment systems, although a small proportion still lacked prior exposure. Therefore, the integration of e-assessment in the AWLS course not only corresponds with students' current learning practices but also contributes to strengthening digital literacy within the higher education environment.

Q2. What kind of e-assessment tools have you used during this course? (You may choose more than one)

Goggle Form ■ Quizziz
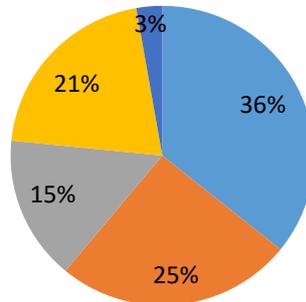Edmodo ■ Kahoot ■ Others

Figure 2. The kinds of e-platform used by participants

Figure 2 shows the different types of e-assessment platforms used by students during the course. The results indicate that Quizizz (36%) and Google Forms (21%) were the platforms most commonly used, followed by Kahoot (25%) and Edmodo (15%). These findings suggest that students interact with a range of digital assessment tools that support both interactive and flexible learning experiences. In addition, the use of various platforms reflects lecturers' efforts to incorporate multiple digital tools in order to create more varied learning activities and sustain students' engagement during the assessment process.

Q3. How often do you use e-assessment tools in this course?

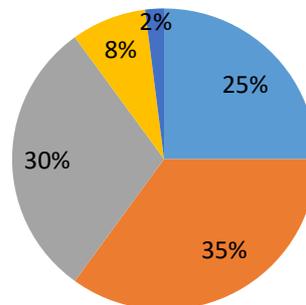■ Always ■ Often
■ Sometimes ■ Rarely
■ Never

Figure 3. The frequency of e-assessment used by participants

Figure 3 presents the frequency of students' use of e-assessment tools during the AWLS course. The findings show that 35% of the students reported using these tools frequently, 30% used them occasionally, and 25% indicated that they rarely used them, while only 8% stated that they used them consistently. These results imply that although e-assessment has already been incorporated into the learning process, the intensity of students' engagement with these tools differs across the participants.

Based on the data presented in these charts, it can be inferred that the participants are generally accustomed to digital learning environments. This is reflected in the finding that 35% of the students reported frequent use of e-assessment tools. Moreover, the implementation of e-assessment in the AWLS course produced encouraging outcomes, as 30% of the participants indicated a high level of motivation, which was largely influenced by the clear instructions provided in the e-assessment activities.

Table 1. The outcomes of e-assessment in AWLS course

No	Question	Not clear at all	Slightly unclear	Clear enough	Mostly clear	Very clear
1	How clear are the instructions given in the e-assessment tasks?	3%	7%	22%	38%	30%
	Question	Not motivated	Slightly motivated	Moderately motivated	Motivated	Highly motivated
2	How much do you feel motivated when using e-assessment for writing tasks?	5%	10%	25%	30%	30%

Table 1 displays students' perceptions of the clarity of instructions and their level of motivation when completing writing tasks through e-assessment. The results show that 38% of the students perceived the instructions as mostly clear, while 30% considered them very clear, with only a small proportion indicating that the instructions lacked clarity. In terms of motivation, 30% of the participants reported feeling motivated, and another 30% stated that they were highly motivated when working on writing assignments using e-assessment. These findings indicate that the design of the e-assessment activities was generally well organized and capable of encouraging active student participation during the academic writing process.

Q6. What are the benefits you get from using e-assessment?

- Instant feedback
- Better understanding of mistakes
- Easy access
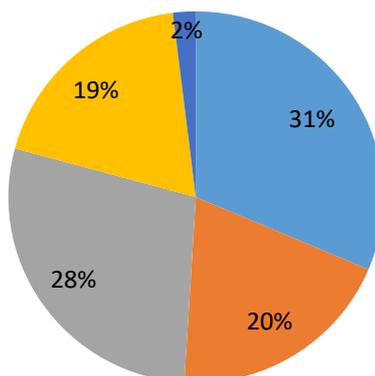- More interactive tasks
- Others

Figure 4. The advantage (benefits) of e-assessment

Figure 4 presents students' perceptions of the advantages of using e-assessment in the AWLS course. The findings show that 31% of the participants considered instant feedback to be the most significant benefit. This was followed by improved understanding of writing errors (28%), the presence of more interactive tasks (20%), and easier access to the assessment platform (19%). These results indicate that e-assessment offers meaningful instructional support, particularly by helping students identify weaknesses in their writing and refine their work more efficiently.

Table 2. Participants' perception on the use of e-assessment in the AWLS course

No.	Question	Not useful	Slightly useful	Moderately useful	Useful	Very useful
1.	How useful is the e-assessment in the AWLS course in helping you to improve your writing skills?	2%	5%	18%	40%	35%

Table 2 illustrates students' perceptions of how effective e-assessment is in improving their writing abilities. The data shows that most participants viewed the use of e-assessment positively, with 40% considering it useful and 35% rating it as very useful. In contrast, only a small proportion of students perceived it as slightly useful or not useful. These results indicate that the incorporation of e-assessment plays a meaningful role in supporting the improvement of students' academic writing skills in the AWLS course.

Moreover, the findings indicate a notable improvement in students' writing performance after the intervention, with the average score increasing by 27.4%. This improvement suggests that combining e-assessment with active learning approaches contributed positively to students' ability to analyze topics, organize ideas, and express academic arguments more effectively. As a result, students showed better development of higher-order thinking skills, such as critical analysis, logical reasoning, and synthesis, which are essential for both academic achievement and future professional practice.

In addition, the feedback reflected an overall positive attitude toward the use of digital assessment methods. Many participants appreciated the immediate and detailed feedback provided through the platform, which helped them identify mistakes and adjust their learning strategies more effectively. Students also reported that participating in case analyses and collaborative project activities increased their motivation and involvement in the learning process. Furthermore, they highlighted that e-assessment tasks integrating various online sources, including international articles and academic journals, expanded their perspectives and supported the development of their idea-generation skills.

4.2 Discussion
The results of this study suggest that incorporating e-assessment plays an important role in improving students' academic writing abilities. The provision of immediate feedback allows learners to detect grammatical mistakes, enhance sentence organization, and strengthen their written arguments more effectively. This outcome is consistent with earlier studies which have shown that e-assessment can increase student engagement and support a more efficient process of learning evaluation [18].

Moreover, the incorporation of the Case Method and Project-Based Learning encourages students to examine real-life problems and develop well-reasoned arguments in their writing assignments. These instructional strategies foster higher-order cognitive abilities, including analysis, synthesis, and evaluation, which are fundamental elements in developing strong academic writing skills.

The findings also show that students generally hold positive perceptions toward the use of digital assessment platforms. Many participants indicated that e-assessment made the learning process more interactive and easier to access. This result supports previous studies suggesting that the use of digital technologies can improve learning effectiveness and increase student engagement in higher education environments [14].

Nevertheless, several challenges emerged during the implementation process. These included unstable internet connections and the initial difficulty some students experienced when adapting to digital assessment platforms. Such issues indicate the importance of adequate technical support and the need to strengthen digital literacy among both lecturers and students to ensure the effective use of e-assessment systems.

4.2.1 Enhancing Academic Writing through Digital Assessment
Implementing e-assessment in alignment with active learning strategies fosters a conducive environment for the development of academic writing skills. The immediate feedback mechanism enables students to identify errors in structure, grammar, and argumentation, thereby facilitating iterative learning. Furthermore, the digital nature of these assessments supports the creation of diverse and authentic tasks that simulate real-world academic scenarios.

Furthermore, the improvement in students' writing performance observed in this study aligns with the findings of Haleem et al. [14], who emphasize that digital technologies in education facilitate interactive learning environments conducive to skill development. Through instant feedback and structured tasks, students are encouraged to revise their ideas, improve coherence, and strengthen argumentation in academic writing.

4.2.2 The Role of Case Method and PjBL in Cognitive Development

The Case Method promotes deeper comprehension and analytical reasoning by encouraging students to examine real-world issues critically. At the same time, Project-Based Learning (PjBL) supports the development of teamwork, communication skills, and the practical application of knowledge. When these approaches are incorporated into digital assessment activities, they help engage students more actively, stimulate higher-order cognitive processes, and strengthen intrinsic motivation factors that are essential for preparing learners to handle complex academic and professional tasks. This integration also plays an important role in enhancing students' higher-order thinking abilities. As noted by Gunawan et al. [19], such approaches encourage learners to investigate real-life problems and work collaboratively to generate solutions, thereby improving analytical thinking and decision-making skills. In academic writing contexts, these methods assist students in producing more organized and evidence-supported arguments.

4.2.3 Challenges Encountered

Although the results were generally positive, several challenges were also observed during the implementation. Technical limitations, such as unstable internet connections, issues related to platform usability, and concerns about assessment security, were identified as areas that require further improvement. Moreover, some students faced initial difficulties in adjusting to the digital assessment format, indicating the importance of providing adequate orientation and training sessions to support the effective use of these systems.

Furthermore, the positive responses expressed by students in this study support the perspective proposed by Means et al. [22], who argue that online and blended learning environments can increase student engagement and improve learning outcomes when they are accompanied by appropriate instructional strategies. Therefore, the integration of e-assessment with active learning approaches, including the Case Method and Project-Based Learning (PjBL), represents a promising approach for strengthening the teaching of academic writing in higher education.

5. Conclusion

The integration of e-assessment with the Case Method and Project-Based Learning has shown a beneficial influence on the development of students' academic writing abilities in higher education. The results suggest that digital assessment tools not only contribute to better writing performance but also increase students' motivation, participation, and critical thinking skills. In addition, combining e-assessment with active learning strategies helps create a more student-centered learning environment. Therefore, higher education institutions are encouraged to incorporate digital assessment technologies into their teaching practices in order to improve learning outcomes in academic writing courses.

5.1 Future Considerations and Recommendations

To maximize the effectiveness of digital assessment methods, universities should invest in robust infrastructure, comprehensive faculty development, and student orientation programs. Future research could explore longitudinal impacts, scalability, and the integration of emerging technologies such as Artificial Intelligence and Big Data analytics to further personalize the learning and assessment experience.

References

[1] Wirasti NMK, Irawan NRH, Mulyadi N. Digital Literacy Profile of Indonesian Educational Technology students in the era of Digital Transformation. Jurnal Penelitian Dan Pengembangan Pendidikan [Internet]. August 1; 8(2):410–418. Available from: https://doi.org/10.23887/jppp.v8i2.82120

[2] Ahmad S, Umirzakova S, Mujtaba G, Amin MSm, Whangbo T. *Education 5.0: Requirements, Enabling Technologies, and Future Directions.* Cornell University; (2023). Available from: https://doi.org/10.48550/arXiv.2307.15846

[3] Tjahyanti LPA, Saputra PS, Santo Gitakarma M. The role of artificial intelligence (AI) in supporting learning during the Covid-19 pandemic. Komteks.;1(1), 2022

[4] Mutohari M, Suherman S, Rusdiyani I. The English Students Cognitive Improvement Using Interactive Media Based on CAFÉ Method. (Peningkatan kognitif bahasa Inggris siswa dengan pemanfaatan media interaktif berbasis metode pembelajaran CAFE (Content, Activities, Facilitating, Evaluation) menggunakan permainan petualangan. MENDIDIK: *Jurnal Kajian Pendidikan dan Pengajaran*;7(2):173-182 (2021)

[5]; Pratidhina E. Education 4.0: The Shifting of Education as a Consequence of Industry Revolution 4.0. (Pergeseran pendidikan sebagai konsekuensi revolusi industri 4.0). *Humanika Kajian Ilmiah Mata Kuliah Umum*, 20(1):1–12 (2020)

[6] Suswati, R. Book Review: Universities and regional engagement: from the exceptional to the everyday. *Journal of Higher Education Policy and Management*. 2022, vol. 44. (2022). https://doi.org/10.1080/1360080X.2022.2114057

[7] Xu and Knijinik. Teaching the English language in Chinese higher education: Preparing critical citizens for the global village. *Journal of Teaching Higher Education.* 2024;29(1). Available from: https://www.tandfonline.com/doi/full/10.1080/13562517.2021.1955339

[8] Costea. Global village, different customs. "Ovidius" University Annais, *Economic Sciences Series*. 2023;XXIII(1)

[9] WorldEconomic   Forum. (WEF). (2016). Available from: https://www.weforum.org/meetings/world-economic-forum-annual-meeting-2016/

[10] Thompson et al.,. Innovative tech centers for future teachers. *Journal of Digital Learning in Teacher Education*. Vol. 41, 2025-Issue 1

[11] Haleem et Al.,. The Role of Digital Technologies in Education. *International Research Journal on Advanced Engineering and Management.* https://goldncloudpublications. Com. e ISSN: 2584-2854 Volume: 02 Issue: 06 June 2024 Page No: 2029-2037

[12] Davies et al.,. Digital learning, face-to-face learning and climate change. *Future Healthcare Journal.* 11 (2024). journal homepage:https://www.sciencedirect.com/journal/future-healthcare-journal.

[13] Taye et al.,. Identifying and analyzing common English writing challenges among regular undergraduate students. *Heliyon*. Science Direct. Vol. 10, Issue 17 (2024)

[14] Hutasuhut,.M, L., Chen, H., Matruglio, E. Engaged at the first sight! Anticipating your audience as a way to think critically in writing an argument. *Indonesian Journal of Applied Linguistics*. Vol. 12, No. 3, January 2023, pp. 680-693

[15] Howe, E. L. Perceptions of e-assessment by students and lecturers. (2020)

[16] Wawan Gunawan, Eka Cahya Prima, Yanty Wirza. CM & TBP Method & Team Based Project to Achieve IKU 7 in University (CM & TBP Untuk Pencapaian Indikator Kinerja Utama (IKU) Ketujuh

Perguruan   Tinggi).   Book.   pp   1-218.   (2022).   Avalaible   from: http://www.researchgate.net/publication/376174102

[17] Means, B., Y. Toyama, R. Murphy, and M. Baki. "The effectiveness of online and blended learning: A meta-analysis of the empirical literature". *Teachers College Record*.vol. 115, no. 3, pp. 1-47 (2013)

[18] Widodo, Yohanes Bowo, Khoironi Fnana Akbar. Effectiveness of Technology Use in Indonesian High Schools: Student Engagement, School Capacity, Teacher Performance. International Journal of Bussiness Law and Education. 5(1):615-627. (2024). DOI: 10.56442/Ijble.v5l1.442

[19] Zhamanov A, Sakhiyeva Z, Suliyev R, Kaldykulova Z. IoT smart campus review and implementation of IoT applications into education process of university. In: 2017 13th International Conference on Electronics, Computer and Computation (ICECCO); Nov; 1–4. IEEE. (2017). Available from: 10.1109/ICECCO.2017.8333334

[20] Ahmadi, H., Nilashi, M., Shahmoradi, L., & Ibrahim, O. Hospital Information System adoption: Expert perspectives on an adoption framework for Malaysian public hospitals. *Computers in Human Behavior*. 67, 161–189.(2017). https://doi.org/10.1016/j.chb.2016.10.023

[21] Rosidah, C. T., Pramudia, P. & Susiloningsih, W. The Analysisi of Teachers' Readiness in Implementing Authentic Assessment in Curriculum Merdeka (Analisis kesiapan guru mengimplementasikan assessmen authentic dalam kurikulum merdeka belajar). *Jurnal Pendidikan Dasar*, 12(1). 87- 103. (2021). https://journal.unj.ac.id/unj/index.php/jpd/article/view/21159

[22] UNIMED. FIP UNIMED. Siap Integrasikan Kurikulum OBE Menuju Akreditasi Internasional ("Ready to Integrate the OBE Curriculum Towards International Accreditation"). 2024 Jul 23 [cited 2024 Dec 7]. Available from: https://www.unimed.ac.id/2024/07/23/fip-unimed-siap- integrasikan-kurikulum-obe-menuju-akreditasi-internasional/WawaWirasti