



Online Assessment Literacy of In-Service EFL Teachers: A Cross-Sectional Study of Competency Levels and Demographic Factors

Ziddan Marsa Utama, Universitas Pendidikan Ganesha, Indonesia

A.A. Gede Yudha Paramartha, Universitas Pendidikan Ganesha, Indonesia

Luh Gede Eka Wahyuni, Universitas Pendidikan Ganesha, Indonesia

Abstract

Online assessment literacy (OAL) has become increasingly important as teachers are expected to design, implement, and evaluate assessments in technology-enhanced learning environments. However, limited evidence is available regarding teachers' OAL levels and the influence of demographic characteristics on these competencies, particularly in the Indonesian context. This study aimed to investigate the online assessment literacy of in-service English as a Foreign Language (EFL) teachers in junior high schools and examine whether demographic factors influence their OAL scores. A quantitative cross-sectional survey design was employed. Data were collected from 48 in-service EFL teachers in Jembrana Regency, Bali, Indonesia, using an adapted version of the Assessment Literacy Inventory. The instrument consisted of 28 objective items covering seven assessment competency domains. Descriptive statistics were used to determine teachers' OAL levels, while independent-samples t-tests were conducted to examine differences across demographic variables, including gender, educational background, teaching experience, school type, and certification status. The findings revealed that the overall level of OAL was categorized as fair ($M = 15.42$, $SD = 2.89$), with 56.25% of participants classified in the fair category and 35.42% in the good category. Among the assessed dimensions, teachers demonstrated stronger competencies in using assessment results for instructional decision-making and administering online assessments, while lower performance was observed in developing assessment instruments and recognizing ethical issues in online assessment. Furthermore, no statistically significant differences were found across any demographic variables ($p > .05$), indicating that gender, educational background, teaching experience, school type, and certification status did not significantly influence OAL scores. The study concludes that although teachers possess a basic understanding of online assessment practices, further professional development is needed to strengthen competencies related to assessment design and ethical assessment practices. The findings highlight the importance of continuous training and institutional support in enhancing teachers' online assessment literacy in technology-enhanced learning environments.

Keywords: Online Assessment Literacy; EFL Teachers; Digital Assessment; Assessment Literacy; Technology-Enhanced Learning;

Corresponding: ziddan@undiksha.ac.id

Article History: Submitted
May 31st 2026

Revised
July 4th 2026

Accepted
July 9th 2026

APA Citation: Utama, Z. M., Paramartha, A. A. G. Y., & Wahyuni, L. G. E. (2026). Online assessment literacy of in-service EFL teachers: A cross-sectional study of competency levels and demographic factors. *Journal of Educational Study*, 6(2), 140-153. <https://doi.org/10.36663/joes.v6i2.1158>

Copyright © 2026 by Authors, published by Journal of Educational Study. This is an open-access article distributed under the Creative Commons Attribution 4.0 International License (<https://creativecommons.org/licenses/by/sa/4.0/>)





1. Introduction

Assessment plays a central role in contemporary education because it not only measures learning outcomes but also supports and improves the learning process itself. Effective assessment enables teachers to evaluate students' knowledge, skills, and attitudes while providing meaningful feedback that promotes learning improvement (Anderson & Krathwohl, 2001; Hattie & Timperley, 2007). Within constructivist perspectives, assessment is no longer viewed merely as a tool for recording achievement but as an integral component of learning that helps students actively construct knowledge and monitor their progress (Black & Wiliam, 1998; Shepard, 2020). Consequently, assessment has evolved into a holistic process that encompasses cognitive, affective, and psychomotor domains and serves as a mechanism for ensuring educational quality and student development.

Alongside this transformation, technological advancement has significantly changed educational practices. Technology has become an essential component of twenty-first-century education, providing opportunities to enhance student engagement, increase access to information, personalize learning experiences, and prepare learners for future workplace demands (Alkureishi et al., 2021; Mohebi, 2021; Van Petegem et al., 2021). Various digital platforms, such as learning management systems, online collaboration tools, and adaptive learning applications, have enabled teachers to integrate technology into instructional activities and assessment processes (Permana et al., 2024). The growing adoption of online learning environments has further accelerated the use of digital assessment tools, including online quizzes, digital portfolios, learning analytics, and real-time feedback systems, which allow assessment to be conducted more efficiently and flexibly (Basuki & Hidayati, 2019; Pradnyadewi & Kristiani, 2021).

The integration of technology into assessment has generated new demands on teachers' professional competencies. Beyond understanding assessment principles, teachers are expected to possess assessment literacy, defined as the knowledge, skills, and dispositions required to design, implement, interpret, and utilize assessment effectively to support student learning (Brookhart, 2011; Popham, 2010; Stiggins, 2014; Xu & Brown, 2016). Assessment literacy encompasses conceptual understanding of assessment principles, practical competence in developing and administering assessments, and ethical awareness regarding fairness, validity, reliability, and the responsible use of assessment results (DeLuca et al., 2018). In digitally mediated learning environments, these competencies must be extended to include technological capabilities, resulting in what scholars describe as online assessment literacy (OAL), which combines assessment knowledge with digital literacy and the ability to conduct assessment effectively in online settings (Redecker, 2013; Taylor, 2009).

Online assessment literacy has become increasingly important as educational institutions continue to adopt technology-enhanced learning. Teachers are expected not only to design valid and reliable online assessments but also to utilize digital platforms, interpret assessment data, provide timely feedback, ensure academic integrity, and protect students' privacy (Eyal, 2012; Redecker, 2013; Stödborg, 2012). Effective online assessment also requires teachers to continuously update their professional knowledge and adapt to emerging technologies and assessment practices (Popham, 2010; Xu & Brown, 2016). However, despite



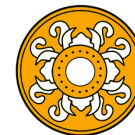
the increasing importance of online assessment literacy, many teachers continue to experience difficulties in integrating assessment principles with technological tools.

In Indonesia, the adoption of technology-based learning and assessment has expanded considerably, particularly following the rapid growth of digital learning environments. Preliminary observations conducted in junior high schools in Jembrana, Bali, indicate that teachers have incorporated technology into both instructional and assessment activities through the use of platforms such as Google Forms, Quizizz, E-Learning systems, and other digital applications. Teachers reported that they regularly use these platforms to administer quizzes, assignments, and examinations. Nevertheless, many of them also acknowledged that their technological competencies remain limited to basic operations, such as creating assessment items using existing templates and utilizing common software applications. While these practices suggest that technology has been integrated into assessment processes, they also raise questions regarding teachers' actual levels of online assessment literacy and their ability to employ digital assessment tools effectively and pedagogically.

The issue of teacher assessment literacy has attracted considerable attention in educational research. Previous studies consistently indicate that teachers' assessment literacy remains uneven and requires further development. Anam and Putri (2021) found that both prospective and experienced EFL teachers in Indonesia demonstrated moderate levels of assessment literacy, although experienced teachers performed better in applying and interpreting assessment results. Similarly, Zulaiha and Mulyono (2020) reported that junior high school EFL teachers required additional training in assessment reliability, validity, classroom testing, and test design. Research conducted by Berry et al. (2019) further revealed that many teachers lacked confidence in developing assessment tasks independently and frequently relied on externally developed assessment materials. Comparable findings were reported by Sultana (2019), who found that teachers often relied on experiential knowledge rather than formal assessment training due to limited access to professional development opportunities.

Recent studies have also highlighted challenges associated with assessment literacy in digital and online contexts. Abduh (2021) reported that EFL teachers generally held positive perceptions toward online assessment but encountered substantial challenges, including limited interaction, difficulties in assessing productive language skills, concerns about academic dishonesty, and technological barriers. Likewise, Al-Bahlani and Ecke (2021) found that although English language teachers perceived themselves as competent in traditional assessment, they exhibited lower confidence in conducting digital assessment. Genç et al. (2020) identified variations in teachers' assessment literacy across different language skills, while Sun and Zhang (2022) concluded that in-service EFL teachers generally demonstrated relatively low levels of language assessment literacy due to inadequate training and limited assessment expertise.

Although these studies have contributed significantly to understanding teacher assessment literacy, several gaps remain. First, much of the existing literature focuses on general assessment literacy or language assessment literacy, while relatively limited attention has been given to online assessment literacy as a distinct construct. Second, studies investigating teachers' competencies in technology-integrated assessment remain scarce,



particularly within the Indonesian context. Third, previous research has frequently examined teachers' perceptions, training needs, or self-reported competencies, but fewer studies have directly measured teachers' online assessment literacy levels. Finally, while demographic factors have been discussed in several studies, evidence regarding the influence of variables such as gender, educational background, teaching experience, school type, and teacher certification on online assessment literacy remains inconclusive, particularly among Indonesian EFL teachers.

To address these gaps, the present study investigates the online assessment literacy of in-service English teachers in junior high schools in Jembrana, Bali. By focusing specifically on online assessment literacy within a technology-integrated educational context, this study contributes to the growing body of literature concerning teachers' assessment competencies in the digital era. Furthermore, the study examines the potential influence of demographic characteristics on teachers' OAL scores, providing empirical evidence that may inform teacher professional development programs and educational policy initiatives aimed at strengthening assessment practices in technology-enhanced learning environments.

Accordingly, this study addresses the following research questions:

1. What is the level of online assessment literacy among in-service English teachers of junior high schools in Jembrana?
2. Do demographic factors such as gender, educational background, teaching experience, school type, and teacher certification impact teachers' OAL scores?

2. Method

Research Design

This study employed a quantitative cross-sectional survey design to investigate the online assessment literacy (OAL) level of in-service English teachers in junior high schools in Jembrana, Bali. A cross-sectional design is appropriate for examining variables at a single point in time and identifying patterns or relationships among them (Spector, 2019). The design was selected because it enables researchers to capture a snapshot of teachers' OAL levels and examine potential differences across demographic characteristics within a limited timeframe. The study focused on two objectives: (1) measuring the level of online assessment literacy among junior high school English teachers and (2) examining whether demographic factors influence teachers' OAL scores. Data were collected through an online survey and analyzed using descriptive and inferential statistical procedures.

Participants

The participants of this study were in-service English teachers actively teaching in junior high schools across Jembrana Regency, Bali. Due to the specific contextual focus on lower secondary education in the region, this study employed a purposive sampling technique to select in-service English as a Foreign Language (EFL) teachers in junior high schools across Jembrana, Bali. While a stratified random sampling technique would be ideal for broader generalization, purposive sampling was selected to ensure that all participants met the specific criteria of actively utilizing digital platforms (e.g., Google Forms, Quizizz, school LMS) in



their current teaching assignments. A total of 48 teachers participated, representing the accessible population of EFL teachers actively engaging with online assessment in the district.

Data Collection and Instruments

Data were collected through an online questionnaire distributed via Google Forms. The online format was selected because it allowed efficient access to participants across different schools while minimizing disruption to their teaching responsibilities. Prior to completing the questionnaire, participants were informed about the purpose of the study, and all responses were collected anonymously to ensure confidentiality.

The instrument used in this study was adapted from the *Assessment Literacy Inventory* developed by Mertler and Campbell (2005). The questionnaire consisted of two sections. The first section gathered demographic information, including gender, educational background, teaching experience, school type, and teacher certification status. The second section measured teachers' online assessment literacy through 28 closed-ended objective items. Each item provided four response options with only one correct answer. The instrument was designed to assess teachers' knowledge and application of assessment concepts in online learning environments. The questionnaire covered seven assessment competency domains derived from teacher assessment literacy standards: selecting appropriate assessment methods, developing assessment instruments, administering assessments, using assessment results for decision-making, grading and scoring, communicating assessment results, and recognizing ethical issues in assessment practices (Paramartha *et al.*, 2021). To facilitate interpretation, OAL scores were classified into five levels: Very Good (23–28), Good (17–22), Fair (12–16), Poor (6–11), and Very Poor (0–5).

Validity and Reliability

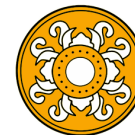
Content validity was established through an expert judgment process involving two senior university lecturers specializing in Language Assessment and Educational Technology. The two experts evaluated the initial 30 items of the adapted OAL questionnaire using a 4-point relevance scale. Following Gregory's (2000) methodology, the expert scores were dichotomized into two categories: Weak Relevance (scores 1–2) and Strong Relevance (scores 3–4). A cross-tabulation contingency matrix was constructed to map the agreement between the two judges across the 30 items, as presented in the table 1 below.

Table 1. Validity results

	Expert 2: Weak Relevance (Scores 1–2)	Expert 2: Strong Relevance (Scores 3–4)
Expert 1: Weak Relevance (Scores 1–2)	(A) 0 items	(B) 1 item
Expert 1: Strong Relevance (Scores 3–4)	(C) 1 item	(D) 28 items

The Content Validity Index (CVI) was calculated using the Gregory formula:

$$CVI = \frac{28}{0 + 1 + 1 + 28} = \frac{28}{30} = 0.93$$



According to Guilford's validity classification criteria, a coefficient of **0.93** indicates *very high content validity*. Based on the qualitative feedback from the cells of disagreement (B and C), minor phrasing revisions were implemented to ensure the items explicitly reflected the digital applications (e.g., Google Forms, school LMS, Quizizz) utilized by Indonesian junior high school EFL teachers. Following content validation, a pilot study was conducted with 15 in-service junior high school English teachers who shared identical demographic profiles with the target population but were excluded from the final sample ($N = 48$). The internal consistency of the 30-item OAL instrument was evaluated using Cronbach's alpha (α). The overall instrument yielded a Cronbach's alpha coefficient of $\alpha = 0.83$, while the individual subscales ranged from 0.73 to 0.84. Because these values comfortably exceed the standard measurement threshold of 0.70, the instrument demonstrates strong internal reliability and measurement quality suitable for inferential analysis.

Data Analysis

The collected data were analyzed using descriptive and inferential statistics. Descriptive statistics, including frequencies, percentages, means, and score distributions, were used to determine the overall level of online assessment literacy among the participating teachers. OAL scores were subsequently categorized according to the predetermined classification levels to provide a clearer description of teachers' literacy profiles. Inferential statistical analyses were conducted to examine differences in OAL scores across demographic groups. The analysis focused on five demographic variables: gender, educational background, teaching experience, school type, and teacher certification status. These variables were selected because previous studies have suggested that professional and educational backgrounds may influence teachers' assessment literacy development (Anam & Putri, 2021; Zulaiha & Mulyono, 2020). Given the cross-sectional nature of the study, the findings were interpreted as indicators of associations and differences among groups rather than evidence of causal relationships. The statistical results were discussed in relation to previous literature on assessment literacy and online assessment literacy to provide a broader understanding of the observed patterns among junior high school English teachers in Jembrana.

3. Findings

Online Assessment Literacy Level of In-Service English Teachers

Table 2 presents the distribution of teachers' online assessment literacy levels.

Table 2. OAL Classification of English Teachers

OAL Level	Frequency	Percentage
Very Good	0	0.00
Good	17	35.42
Fair	27	56.25
Poor	4	8.33
Very Poor	0	0.00

The results indicate that the majority of teachers (56.25%) were classified in the Fair category. A further 35.42% were classified as Good, while only 8.33% fell into the Poor category. No participants were classified as either Very Good or Very Poor. The overall mean OAL score was 15.42 (SD = 2.89), indicating a moderate level of online assessment literacy among English teachers in Jembrana. To further explore teachers' competencies, the OAL dimensions were analyzed separately, as shown in Table 3.

Table 3. OAL Dimension Scores

Dimension	Mean	SD
Choosing	2.29	0.80
Developing	1.60	0.89
Administering	2.54	0.99
Using Decision	2.67	0.78
Using Grading	2.19	0.89
Communicating	2.33	1.06
Recognizing Ethical Issues	1.79	0.94

The highest score was observed in the Using Assessment Results for Decision-Making dimension (M = 2.67, SD = 0.78), followed by Administering Assessments (M = 2.54, SD = 0.99). The lowest scores were found in Developing Assessments (M = 1.60, SD = 0.89) and Recognizing Ethical Issues (M = 1.79, SD = 0.94).

Hypothesis Testing

Prior to hypothesis testing, the assumptions of normality and homogeneity of variance were examined as shown in Table 4.

Table 4. Normality Test

Variable		Category	Shapiro-Wilk		
			Statistic	df	Sig.
OAL	Gender	Female	.96	39	.21
LEV		Male	.90	9	.30
EL	Educational Background	Bachelor	.97	42	.58
		Master	.89	6	.34
	Teaching Experience	0-10 Years	.97	26	.73
		11-20+ Years	.90	22	.04*
	School Type	Public	.95	40	.11
		Private	.91	8	.42
	Teacher Certification	Certified	.93	22	.05
		Uncertified	.96	26	.58

The Shapiro–Wilk test indicated that most groups were normally distributed ($p > .05$). However, the group with 11–20+ years of teaching experience showed a slight deviation from normality ($p = .04$), while the certified teacher group was at the borderline of normality ($p = .05$). Overall, the data were considered sufficiently normal for further analysis. Levene's test was conducted to assess the homogeneity of variance as shown in Table 5.

Table 5. Homogeneity Test

Variable		Statistic	Levene		Sig.
			df1	df2	
OAL LEVEL	Gender	.25	1	46	.61
	Educational Background	4.51	1	46	.03*
	Teaching Experience	3.24	1	46	.07
	School Type	.27	1	46	.60
	Certification	.89		46	.348

The results showed that the homogeneity assumption was met for gender ($p = .61$), teaching experience ($p = .07$), school type ($p = .60$), and certification status ($p = .34$). However, educational background did not meet the homogeneity assumption ($p = .03$). Therefore, Welch's t-test was applied for educational background, while standard independent-samples t-tests were used for the remaining variables.

Independent-samples t-tests were conducted to examine differences in OAL scores across demographic variables as shown in Table 6.

Table 6. Independent Tests Results

Variables		t	df	Sig. (2-tailed)	Mean Difference	Remark
Gender	Equal variances assumed	-1.12	46	.26	-1.20	Ho is retained
Educational Background	Equal variances not assumed	-1.37	5.57	.22	-2.38	Ho is retained
Teaching Experience	Equal variances assumed	.51	46	.60	.43	Ho is retained
School Type	Equal variances assumed	-.35	46	.72	-.40	Ho is retained
Certification	Equal variances assumed	-.28	46	.78	-.23	Ho is retained

The results revealed no statistically significant differences based on gender, $t(46) = -1.12$, $p = .26$; educational background, $t(5.57) = -1.37$, $p = .22$; teaching experience, $t(46) = 0.51$, $p = .60$; school type, $t(46) = -0.35$, $p = .72$; and certification status, $t(46) = -0.28$, $p = .78$. Although slight variations in mean scores were observed across groups, all p-values exceeded the .05 significance level. Therefore, all null hypotheses were retained, indicating that none of the examined demographic variables significantly influenced teachers' online assessment literacy scores.

3. Discussion

The findings indicate that the online assessment literacy (OAL) level of junior high school English teachers in Jembrana was generally classified as *Fair*. This result is consistent



with the findings of Putra et al. (2024), who reported that the majority of EFL teachers in Denpasar also demonstrated moderate levels of online assessment literacy. The overall mean score suggests that teachers possess a basic understanding of online assessment practices; however, their competencies have not yet reached an advanced level. This finding implies that while teachers are capable of utilizing digital tools for assessment purposes, further development is needed to strengthen their ability to design, implement, and evaluate online assessments effectively.

The moderate OAL level observed in this study may reflect the increasing integration of technology into educational practices, particularly through the use of digital platforms such as Google Forms, learning management systems, and other online assessment tools. Nevertheless, familiarity with technology does not necessarily translate into strong assessment competencies. As argued by Xu and Brown (2016), online assessment literacy requires not only technological proficiency but also a comprehensive understanding of assessment principles, including validity, reliability, feedback, and ethical considerations. Therefore, teachers may be able to administer online assessments successfully while still experiencing difficulties in developing high-quality assessment instruments and interpreting assessment outcomes effectively.

Regarding demographic factors, the findings revealed that none of the examined variables significantly influenced teachers' OAL scores. Although female teachers obtained slightly higher mean scores than male teachers, the difference was not statistically significant. This finding supports the argument of Liyanage and Bartlett (2013) and Hargittai and Shafer (2006), who suggested that gender differences in digital competence tend to diminish when individuals have comparable access to technological resources, training opportunities, and practical experience. The results indicate that online assessment literacy is more likely to be shaped by professional experiences and learning opportunities than by gender itself.

Similarly, educational background did not significantly affect OAL scores, despite teachers holding master's degrees demonstrating slightly higher average scores than those with bachelor's degrees. This pattern may suggest that advanced academic study contributes to broader pedagogical and technological knowledge, as proposed by Redecker and Johannessen (2013) and reflected in the TPACK framework developed by Mishra and Koehler (2006). However, the absence of a significant difference indicates that formal educational attainment alone is insufficient to explain variations in online assessment literacy. Practical engagement with digital assessment tools and continuous professional development may play a more important role in developing OAL competencies.

Teaching experience also showed no significant relationship with OAL scores. Although less experienced teachers achieved slightly higher mean scores, the difference was not statistically significant. This finding suggests that years of teaching experience do not automatically translate into stronger online assessment competencies. While less experienced teachers may be more familiar with digital technologies, experienced teachers may compensate through their pedagogical knowledge and assessment expertise. Consequently, both groups



appear capable of adapting to technology-enhanced assessment practices when provided with adequate support and opportunities for professional learning. This interpretation is consistent with Ertmer and Ottenbreit-Leftwich (2010), who emphasized the importance of continuous support and training in fostering teachers' technology integration skills.

The results further indicated that neither school type nor certification status significantly influenced OAL scores. Teachers from public and private schools demonstrated comparable levels of online assessment literacy, suggesting that institutional classification alone does not determine teachers' digital assessment competencies. This finding supports Tondeur et al. (2017), who argued that institutional support, access to technological resources, and professional development opportunities are more influential than school type in shaping teachers' digital competence. Likewise, the absence of significant differences between certified and uncertified teachers suggests that formal certification does not necessarily guarantee stronger online assessment literacy. Consistent with Puentedura's (2010) SAMR model, effective technology integration depends more on meaningful engagement with digital tools and assessment practices than on formal credentials alone. Overall, the findings suggest that demographic characteristics are not primary determinants of online assessment literacy among English teachers in Jembrana. Instead, OAL appears to be influenced more strongly by contextual and professional factors, particularly access to technology, participation in professional development activities, and opportunities to apply digital assessment practices in authentic teaching contexts. This finding highlights the importance of providing continuous training and institutional support to strengthen teachers' online assessment competencies regardless of their demographic backgrounds.

The findings have several implications for both theory and practice. From a theoretical perspective, the results support the TPACK framework (Mishra & Koehler, 2006), which emphasizes the integration of technological, pedagogical, and content knowledge in effective teaching practices. The findings also reinforce the notion that access to technology and professional learning opportunities may play a greater role in shaping online assessment literacy than demographic characteristics alone. From a practical perspective, educational institutions should prioritize professional development programs focusing on digital assessment design, implementation, and evaluation. Such initiatives may help teachers strengthen competencies that extend beyond basic technology use and support more effective assessment practices in online learning environments.

Several limitations should be acknowledged. First, the study involved only 48 participants, which may limit the generalizability of the findings. Second, the research was conducted exclusively in Jembrana Regency, Bali, where local educational conditions may differ from those in other regions. Future studies should involve larger and more diverse samples to provide a more comprehensive understanding of online assessment literacy among English teachers in different educational contexts.



4. Conclusion and Suggestion

This study investigated the online assessment literacy (OAL) of in-service English teachers in junior high schools in Jembrana, Bali. The findings revealed that the overall level of OAL was categorized as *Fair*, indicating that teachers possess a basic understanding of online assessment practices but still require further development in designing, implementing, and evaluating digital assessments. Among the assessed dimensions, teachers demonstrated stronger competencies in administering assessments and using assessment results for instructional decision-making, while lower performance was observed in developing assessment instruments and recognizing ethical issues in online assessment. The study also found no statistically significant differences in OAL scores across gender, educational background, teaching experience, school type, or certification status. These findings suggest that demographic characteristics are not primary determinants of teachers' online assessment literacy. Instead, OAL appears to be influenced more by contextual and professional factors, such as access to technology, opportunities for professional development, and practical experience with digital assessment tools. Overall, the findings highlight the need to strengthen teachers' online assessment competencies to ensure that technology-enhanced assessment practices effectively support student learning in increasingly digital educational environments.

Based on the findings, several recommendations can be proposed. First, educational institutions and policymakers should provide continuous professional development programs focusing on online assessment design, implementation, and evaluation. Particular attention should be given to developing teachers' competencies in constructing valid digital assessment instruments and addressing ethical issues related to online assessment. Second, teacher education programs should integrate online assessment literacy into pre-service teacher preparation curricula. Providing prospective teachers with opportunities to engage with digital assessment tools and authentic assessment practices may better prepare them for technology-enhanced learning environments. Finally, future studies should involve larger and more diverse samples from different regions to improve the generalizability of the findings. Further research may also examine other factors influencing online assessment literacy, such as access to technology, institutional support, digital literacy, and participation in professional development programs.

References

- Abduh, M. (2021). Full-time online assessment during COVID-19 lockdown: EFL teachers' perceptions. *Asian EFL Journal Research*, 28(1).
- Al-Bahlani, S. M., & Ecke, P. (2021). Assessment competence and practices including digital assessment literacy of postsecondary English language teachers in Oman. *Cogent Education*, 10(2), 1–18.
- Anam, S., & Putri, N. V. W. (2021). How literate am I about assessment: Evidence from Indonesian EFL pre-service and in-service teachers. *English Review: Journal of English Education*, 9(2), 109–119.



- Anderson, L. W., & Krathwohl, D. R. (2001). *A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives*. Longman.
- Ashraf, H., & Zolfaghari, S. (2018). EFL teachers' assessment literacy and their reflective teaching. *International Journal of Instruction*, 11(1), 425–436. <https://doi.org/10.12973/iji.2018.11129a>
- Basuki, Y., & Hidayati, Y. (2019). Kahoot! or Quizizz: the Students' Perspectives. *Proceedings of the 3rd English Language and Literature International Conference, ELLiC*, 27th April 2019, Semarang, Indonesia. <https://doi.org/10.4108/eai.27-4-2019.2285331>
- Berry, V., Sheehan, S., & Munro, S. (2019). What does language assessment literacy mean to teachers? *ELT Journal*, 73(2), 113–123.
- Black, P., & Wiliam, D. (1998). Assessment and classroom learning. *Assessment in Education: Principles, Policy & Practice*, 5(1), 7–74. <https://doi.org/10.1080/0969595980050102>
- Brookhart, S. M. (2011). Educational assessment knowledge and skills for teachers. *Educational Measurement: Issues and Practice*, 30(1), 3–12. <https://doi.org/10.1111/j.1745-3992.2010.00195.x>
- DeLuca, C., Chapman-Chin, A., LaPointe-McEwan, D., & Klinger, D. A. (2018). Student perspectives on assessment for learning. *Curriculum Journal*, 29(1), 77–94.
- Ertmer, P. A., & Ottenbreit-Leftwich, A. T. (2010). Teacher technology change: How knowledge, confidence, beliefs, and culture intersect. *Journal of Research on Technology in Education*, 42(3), 255–284.
- Eyal, L. (2012). Digital assessment literacy: The core role of the teacher in a digital environment. *Educational Technology & Society*, 15(2).
- GENÇ, E., ÇALIŞKAN, H., & YÜKSEL, D. (2020). Language assessment literacy level of EFL teachers: A focus on writing and speaking assessment knowledge of the teachers. *Sakarya University Journal of Education*, 10(2), 274–291. <https://doi.org/10.19126/suje.626156>
- Hargittai, E., & Shafer, S. (2006). Differences in digital skills and their impact on educational practices. *New Media & Society*, 8(2), 211–233.
- Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of Educational Research*, 77(1), 81–112. <https://doi.org/10.3102/003465430298487>
- Liyanage, I., & Bartlett, B. J. (2013). Digital literacy and the impact of gender and age: Findings from a systematic review. *Computers & Education*, 67, 255–266.
- Mertler, C. A., & Campbell, C. (2005). Measuring teachers' knowledge and application of classroom assessment concepts: Development of the Assessment Literacy Inventory. Paper presented at the *Annual Meeting of the American Educational Research Association*.
- Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record*, 108(6), 1017–1054.



- Paramartha, A. A. G. Y., Dewi, N. L. P. E. S., & Wahyuni, L. G. E. (2021). Readability of English Teacher Assessment Literacy Instrument in Indonesian Context. *Proceedings of the 4th International Conference on Innovative Research Across Disciplines (ICIRAD 2021)*, 221–226. <https://doi.org/10.2991/assehr.k.211222.035>
- Permana, I. G. Y., Rismadewi, N. W. M., & Putra, N. C. A. (2024). Gamification in EFL Classroom: Results of Implementation and Teachers' Point of View. *Journal of Ultimate Research and Trends in Education*, 6(1), 1–11. <https://doi.org/10.31849/utamax.v6i1.19297>
- Popham, W. J. (2010). *Classroom assessment: What teachers need to know* (6th ed.). Pearson Education.
- Pradnyadewi, D. A. M., & Kristiani, P. E. (2021). Use of Quizizz in improving students' reading skill. *The Art of Teaching English as a Foreign Language (TATEFL)*, 2(1), 1–6. <https://doi.org/10.36663/tatefl.v2i1.93>
- Prensky, M. (2001). Digital natives, digital immigrants. *On the Horizon*, 9(5), 1–6.
- Putra, I. K. K. D., Paramartha, A. A. G. Y., & Mahayanti, N. W. S. (2024). Online assessment literacy level of EFL teachers in Denpasar. *Measurement in Educational Research*, 4(1), 49–56. <https://doi.org/10.33292/meter.v4i1.321>
- Redecker, C. (2013). *The use of ICT for the assessment of key competences*. Joint Research Centre of the European Commission.
- Redecker, C., & Johannessen, Ø. (2013). Changing assessment—Towards a new assessment paradigm using ICT. *European Journal of Education*, 48(1), 79–96. <https://doi.org/10.1111/ejed.12018>
- Shepard, L. A. (2020). *Classroom assessment principles to support teaching and learning*. University of Colorado Boulder.
- Spector, P. E. (2019). Do not cross me: Optimizing the use of cross-sectional designs. *Journal of Business and Psychology*, 34(2), 125–137. <https://doi.org/10.1007/s10869-018-09613-8>
- Stödtberg, U. (2012). A research review of e-assessment. *Assessment & Evaluation in Higher Education*, 37(5), 591–604. <https://doi.org/10.1080/02602938.2011.557496>
- Sun, H., & Zhang, J. (2022). Assessment literacy of college EFL teachers in China: Status quo and mediating factors. *Studies in Educational Evaluation*, 74, 101157. <https://doi.org/https://doi.org/10.1016/j.stueduc.2022.101157>
- Sultana, N. (2019). Language assessment literacy: An uncharted area for the English language teachers in Bangladesh. *Language Testing in Asia*, 9(1), 1–14. <https://doi.org/10.1186/s40468-019-0077-8>
- Taylor, L. (2009). Developing assessment literacy. *Annual Review of Applied Linguistics*, 29, 21–36. <https://doi.org/10.1017/S0267190509090035>



- Tondeur, J., van Braak, J., Ertmer, P. A., & Ottenbreit-Leftwich, A. T. (2017). Understanding the relationship between teachers' pedagogical beliefs and technology use in education: A systematic review of qualitative evidence. *Educational Technology Research and Development*, 65(3), 555–575. <https://doi.org/10.1007/s11423-016-9481-2>
- Xu, Y., & Brown, G. T. L. (2016). Teacher assessment literacy in practice: A reconceptualization. *Teaching and Teacher Education*, 58, 149–162. <https://doi.org/10.1016/j.tate.2016.05.010>
- Zulaiha, S., & Mulyono, H. (2020). Exploring junior high school EFL teachers' training needs of assessment literacy. *Cogent Education*, 7(1), 1–13. <https://doi.org/10.1080/2331186X.2020.1772943>