

A bibliometric analysis of online assessment platforms in English as a foreign language (EFL) classrooms

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Abstract

This study presents a bibliometric analysis of research on online assessment platforms in English as a Foreign Language (EFL) classrooms, with a focus on Indonesian educational contexts from 2018 to 2022. The analysis highlights the growing recognition of digital tools in enhancing student assessment and learning outcomes. The findings reveal a significant increase in the number of publications on online assessment tools, reflecting the shift toward technology-driven education, especially during the COVID-19 pandemic. Quantitative research methods are predominantly used, emphasizing the objective evaluation of student performance through standardized tests, such as the Cornell Critical Thinking Test (CCTT). However, a noticeable gap exists in qualitative research, which could provide deeper insights into the contextual factors affecting the effectiveness of these tools. Additionally, the study identifies concerns regarding the transparency of data collection instruments, particularly their validity and reliability. The study concludes that while quantitative approaches dominate the field, there is a need for more balanced research methodologies and rigorous validation of assessment tools to ensure credible and comprehensive insights into the role of online assessments in EFL education.

Keywords: online assessment platforms, EFL classroom

INTRODUCTION

The rapid pace of technological advancement has transformed various aspects of society, including education. Fouts (2000) argues that our world has become increasingly dependent on technology, and this trend is expected to continue, making it imperative for educational institutions to adapt. According to Fouts (2002), schools must evolve alongside technological progress, integrating new tools and resources to enhance the learning

experience. The use of digital platforms, mobile applications, and the Internet has become essential in modern education (Heinrich et al., 2009). Teachers are now encouraged to embrace these technological advancements, which have the potential to revolutionize traditional teaching methods and improve student outcomes (Anderson, 2013).

In the context of English as a Foreign Language (EFL) classrooms, formative assessment plays a crucial role in enhancing both teaching and learning processes. Brookhart (2019) defines formative assessment as a process where teachers and students use assessment information to guide learning. This type of assessment encourages active student participation, fostering independence and confidence (Black & Wiliam, 2009). Instructors use assessment data to adjust their teaching methods, while students use it to refine their learning strategies (Sadler, 1989). By focusing on progress and success, rather than failure, teachers can motivate students to achieve better learning outcomes (Stiggins, 2005).

The integration of online assessment tools into EFL classrooms has become increasingly important as education shifts towards digital learning environments. Assessment tools enable educators to make informed decisions about teaching strategies, helping to identify areas where interventions may be necessary to ensure student success (Gikandi et al., 2011). These tools represent a significant advancement in the era of artificial intelligence and automation, promoting human-machine coexistence in education (Kulik, 2013). By grouping students according to their competence levels, teachers can more effectively monitor individual progress and tailor their instructional approaches (Brown & Race, 2013).

Research has shown that the adoption of online assessment tools can enhance the learning process and improve student performance in EFL settings (Chang et al., 2014). The use of these tools allows for continuous assessment and provides real-time feedback, which is essential for effective learning (Gikandi, Morrow, & Davis, 2011). Moreover, online assessments can facilitate the development of cognitive skills, even in environments with limited student engagement (Nicol & Macfarlane-Dick, 2006). This adaptability of students to online-based assessments has been linked to improved learning outcomes, as it enables more personalized and targeted instruction (Hattie & Timperley, 2007).

The purpose of this bibliometric study is to investigate the effectiveness and impact of online assessment platforms in EFL classrooms. By analyzing existing literature, this study aims to identify trends, challenges, and best practices associated with the use of these tools in language education. As highlighted by Brookhart (2019), formative assessments are not only

vital for student development but also for refining teaching methods. This research will contribute to a deeper understanding of how online assessment platforms can be optimized to enhance student learning experiences and outcomes in EFL settings.

Methods

Research Design

This study employs a bibliometric analysis to systematically review and analyze the existing literature on online assessment platforms in English as a Foreign Language (EFL) classrooms. Bibliometric analysis is a research method that uses quantitative techniques to analyze the impact and trends of publications within a specific field (Aria & Cuccurullo, 2017). By examining the frequency, citation patterns, and authorship networks of research articles, this method allows for an objective and comprehensive understanding of the evolution of online assessment tools in EFL education (Donthu et al., 2021). The bibliometric approach is particularly effective in identifying key contributors, influential studies, and emerging trends within the domain (Zupic & Čater, 2015).

Data Source

The data for this bibliometric study were sourced from articles published in the Science and Technology Index (SINTA) database. The selection criteria included articles published between 2018 and 2022, focusing on research related to online assessment platforms in EFL settings. The SINTA database was chosen for its extensive collection of peer-reviewed Indonesian journals, ensuring a comprehensive analysis of local and international studies (Kementerian Riset dan Teknologi, 2020). The literature included in this study spans various types of publications, including research articles, review papers, conference proceedings, and e-books.

Data Collection and Analysis

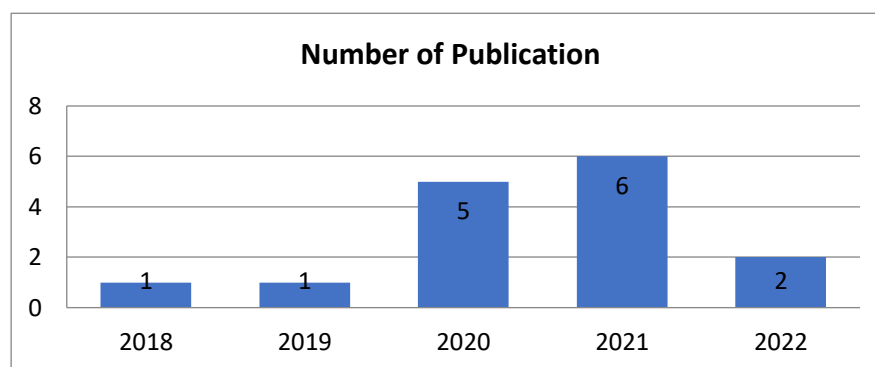
The initial step in data collection involved identifying relevant articles using specific keywords such as "online assessment," "EFL," "formative assessment," and "digital platforms." After filtering for relevance and publication year, the selected articles were analyzed using bibliometric tools such as VOSviewer and Bibliometrix (Van Eck & Waltman, 2010; Aria & Cuccurullo, 2017). These tools enabled the visualization of citation networks, co-authorship patterns, and keyword co-occurrence, providing insights into the intellectual structure of the field (Cobo et al., 2011).

RESULTS AND DISCUSSION

Results

1. Number of publications

The number of published articles indicates how often research is carried out over a certain period of time. Referring to the graph shown in Figure 1, you can find articles on English Online Assessment Tool since 2018.

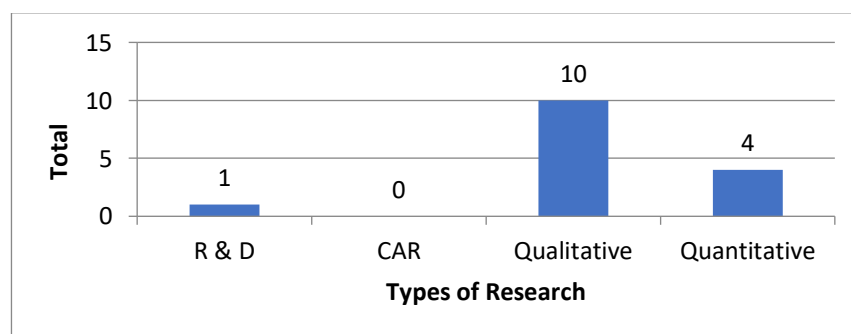


Trend of Increasing Number of Critical Educational Research Thinking Skills as Main Concern in Indonesia in 5 Years Most research results from the researcher's sensitivity to these general issues happening around them. One of the most common problems found today related to the level of critical thinking skills of Indonesian students who are still considered low. Therefore, conducting research is considered the most effective way for the purpose of addressing and overcoming the problem With research. research can identify the most effective learning designs or media possible able to accommodate students' critical thinking skills optimally. The higher the number of studies investigating critical thinking skills, the more positive influence on the development of Indonesian education will. premise is based on the idea that the ultimate goal of research is to improve educational practice. Furthermore, a study will influence educational practice for various reasons, namely: (1) the findings can referred to as credible information that can be implemented by the teacher; (2) can be fundamental basis for educational decision-making, both nationally, locally and specifically institutions; and (3) the findings can influence the way teachers think.

2. Types of research

The type and design of the research determines the focus of the research. As Figure 2 shows, quantitative research is the most prominent form used by researchers in other types of research. This is in line with several previous studies which reported that researchers prefer to conduct quantitative research to conduct field research rather than qualitative research

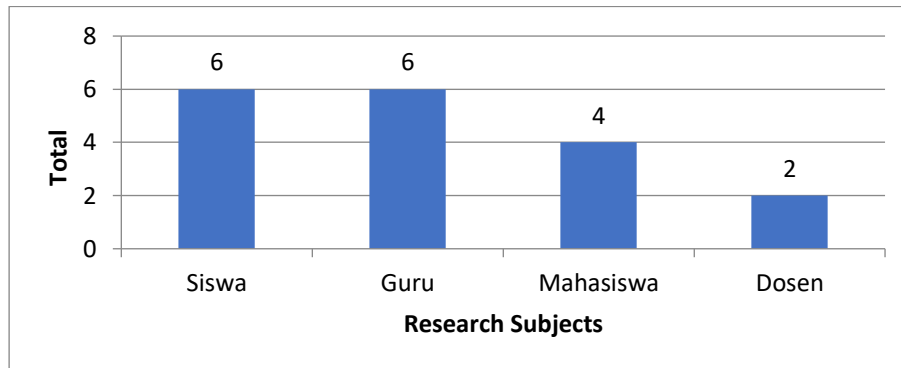
(English Language and Education Study 2019, English Language and Education Study 2022, English Language and Education Study, 6(2), 228 -238, 2019, Horizon of Education, Vol.39, No.2, June 2020, Indonesian Journal of Electrical Engineering and Computer Science, Vol.17, No.2, February 2020, Journal of English Literacy Education, Volume 9, No. 01 , May 2022, retrieved June 22, 2019, revised August 20, 2019, accepted into the classroom (ELT) August 30, 2019, how Edmodo helps students engage in the classroom, and how Edmodo influences teacher learning outcomes. Qualitative methods have been used and 286 (Educational Horizons , Vol. 39, No. 2, June 2020) However, the trend of design quality has been shown to increase (Indonesian Journal of Electrical Engineering and Computer Science Vol. No. 2, February 2020), and determines the research objectives so unlucky. This includes some matters of education (Studies in English and Education, 9(3), 1041-1058, 2022), journal of the association for arabic and english (2020), Jo-ELT (Journal of English Language Teaching (June 2020), Anthony Anggrawan and Christofer Satri (2020), saga, Vol.2(2), (August 2021), Journal of Language and Literature 16(1) October (20210, Acitya: Journal of Teaching & Education, Vol. 3 No. 1 (2021)). Thus, the lack of quality research is an excellent opportunity for future researchers to adopt quality designs and focus their research. with an online assessment tool



Dissemination of Research Based on Critical Thinking Skills as Main Concern about the Type of Research However, these findings reveal the rarity of R and D research on critical thinking skills pitted by the study of Fauzi & Pradipta. Their research claims that quantitative research is the most selected type of research published in 2020 (Agus Husein As Sabiq1 & ikipmataram, 2020). R&D research is one of the latest trends in Indonesia educational Research. In research of this kind, researchers often produce educational product based on the result and process of a pure online English assessment tool they have done before. The product can then be in the form of books, modules (Agus Husein As Sabiq1 & ikipmataram,

2020). In connection with this research, it was revealed that between R and In research by Indonesian researchers, critical thinking skills are still not equipped as a fundamental basis for developing their research. Of the 15 most used articles is the quantitative methods.

3. Research subjects



From the Journal of English Language Studies and Education (6(2), 228-238, 2019). This research uses quasi-experimental research to evaluate the role of interactive online assessment in students' English learning outcomes. The study involved 86 TESL undergraduate students, 53 of whom were randomly assigned to the online group and 33 to the control group (Yulia, Husin, and Anuar 2019).

According to Horizon Education Magazine (Vol. 39, No. 2, June 2020), this study involved 286 high school students who voluntarily participated in the study (Sumardi and Muamaroh 2020). From the Indonesian Journal of Electrical Engineering and Computer Science (No. 3, June 2021) (Harimurti et al. 2021). The data used in the clustering process consists of 41 students with 10 characteristics namely divided into 3 groups (clusters) (Sumardi and Muamaroh 2020).

Journal of English Literacy Education (vol. 9, no. 01, May 2022) This study involved 100 grade 12 junior high school students. School children in Malang, Indonesia A total of 286 general education school students voluntarily participated in this study using a qualitative method (Luthfiyyah et al. 2022).

Journal of Computer Science 2020 Three stages of assessment were carried out in this study. This research is a combination of qualitative and quantitative research methods (Anggrawan and Satria 2020). Journal of Language and Literature 16 (1) 2021 Descriptive qualitative This study aims to find out the English teacher's conception of

formative assessment online teaching and learning (Lisyowati, Wiyaka, and Prastikawati 2021).

Saga No. 2, 2021 This study involved 215 junior high school students in Bali, Indonesia and involved 8 students from the entire sample as participants in the interview (Kristiyanti 2021).

(Professional Journal of English Education), No. 3, May 2021 student perceptions of using online assessment in class X SMA Muhammadiyah 2 Surakarta in the 2019/2020 Academic Year (Wibowo and Novitasari 2021).

Journal of english language teaching volume 8 Number 2 (2021), this research was conducted at SMK Muhammadiyah 3 Makassar (Yakkop, Basri, and Negeri Makassar Murni Mahmud 2021).

Juornal of the association for arabic and english 2020, This research was conducted at a SMK in Banyumas Regency, Indonesia, with an English teacher and 36 of her students (As Sabiq and Fahmi 2020).

4. *English Topics Selected when Conducting Studies*

An assessment tool used to measure and track students' understanding of the content used to teach students, Quizizz is a useful assessment tool with interactive features that can help students and teachers make assessments during online learning. English Literacy Study, Vol.9, No.1, May 2022). The research results consisted of three main themes: perceived effectiveness, benefits, and challenges of using Quizizz. Questions 1 to 4 about EFL student performance on Quizizz. Questions 5 to 10 focused on the benefits of using Quizizz, while items 10 to 14 related to students' EFL problems using Quizizz, 100 grade 12 students of SMP Negeri 15 Malang responded to the questionnaire (Luthfiyyah et al. 2022).

5. *Data Collection Instruments*

In conducting research, researchers need instruments to help them collect data. Students' critical thinking ability can be measured by various instruments developed by previous researchers. Based on the graph shown in Figure 6, the test has been carried out the most commonly used instrument to collect data on critical thinking skills. In essence, critical thinking skills are a way of thinking that can be accessed by or graded based on students' answers to high-level questions. Additionally, data collection through tests is considered more objective than questionnaires and observation. There are several tests that can be given to measure students' critical thinking Skills. The most frequently found in

Indonesian publications is Cornell Critical Thinking Test (CCTT), along with an assessment of critical thinking skills in forms essay developed by Zubaidah, Corebima, & Mistianah (2015). Unfortunately, some researchers did not inform what instruments were used to collect critical data thinking skills in their papers. There are those who use the test as the main technique of data collection collection does not inform whether the instrument has been tested in terms of validity and reliability. This is the key point that the validity and reliability of the instrument must be tested before being used to collect any data (Bajpai & Bajpai, 2014). In other words, information about validity and reliability is considered important to convince the target reader.

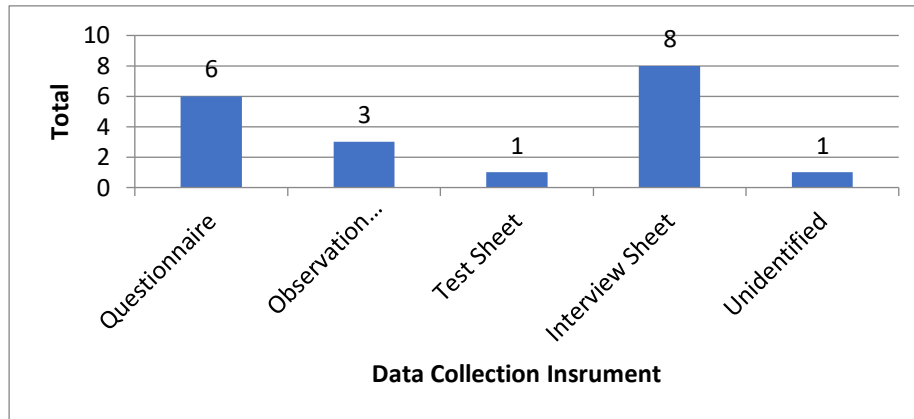
The results have shown that 60% of the subjects' performance have improved with the help of the system. The students were given feedbacks on the topic they did poorly as well as how to improve their performance (Rodzman et al. 2019).

The results revealed that the online assessment group performed better on the four assessments tested listening and reading skills. The control group performed significantly higher in assessments involving presentations (evaluated speaking skill) (Yulia, Husin, and Anuar 2019).

The results of the study revealed that although there was an obstacle to fully implementing Quizizz; most of the students gave a positive attitude to the use of Quizizz as an assessment tool (Ukhrowiyah, Nasihah, and Pratawati 2021).

Results From the data collection it is known that the assessment carried out by the lecturer is in accordance with student characteristics .(Luthfiyyah et al. 2022)

Correlation with the results of the classification test with three iterations, three practicum scores result in a classification process successfully carried out with the appearance of students divided into five groups includes very good, good, fair, poor, and very poor. Data used in clustering process consists of 41 students with 10 (Harimurti et al. 2021).



Distribution of Selection of Data Collection Instruments in Several Educational Research

Discussion

The findings reveal significant trends in the use of online assessment tools in English as a Foreign Language (EFL) education, particularly in the Indonesian context. Over the past five years, there has been a noticeable increase in research publications related to online assessment platforms. This surge reflects the growing recognition of technology's role in enhancing the educational process. The increasing number of publications suggests that researchers are becoming more attuned to the challenges and opportunities posed by digital assessment tools, particularly in the wake of the COVID-19 pandemic, which forced a shift to online learning environments.

One of the most striking observations is the dominance of quantitative research methods in studies related to online assessment tools. This preference aligns with previous reports indicating that researchers often favor quantitative approaches for their ability to provide measurable and generalizable results. Quantitative research's prominence in the field may also be attributed to the nature of assessment, which often involves the collection and analysis of numerical data to evaluate student performance. However, the relatively lower occurrence of qualitative research points to a potential gap in exploring the nuanced, contextual factors that influence the effectiveness of online assessment tools.

In terms of research subjects, the studies predominantly involve students at various educational levels, from high school to tertiary education. The focus on students highlights the central role they play in the assessment process and the importance of understanding how online tools impact their learning outcomes. The involvement of a diverse range of student groups across different studies suggests that online assessment tools are being tested in

various educational contexts, which can provide valuable insights into their adaptability and effectiveness.

The types of data collection instruments used in these studies also shed light on the methods researchers prefer to gauge critical thinking skills and other learning outcomes. Tests, particularly standardized ones like the Cornell Critical Thinking Test (CCTT), are the most frequently used instruments, emphasizing the objective nature of assessing critical thinking. However, the discussion also highlights a concerning trend: some studies lack transparency regarding the validity and reliability of their data collection instruments. This omission raises questions about the rigor and credibility of the findings, underscoring the need for researchers to ensure that their tools are both valid and reliable before drawing conclusions.

CONCLUSIONS

The analysis of recent research on online assessment tools in EFL education reveals a strong focus on quantitative methods and standardized testing, reflecting a preference for objective, measurable data. While this approach has its merits, there is a clear need for more qualitative research to explore the deeper, contextual factors that influence the effectiveness of these tools. Moreover, ensuring the validity and reliability of data collection instruments is crucial for producing credible and actionable insights. As the trend of using online assessment tools continues to grow, future research should aim to balance quantitative and qualitative approaches and prioritize methodological rigor to enhance the field's understanding of how these tools can best support student learning.

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