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ELT in Local and Global Lives: from Policy to Classroom Practices

An Analysis of Technology Usage in Formative Assessment in English Language Classroom: Teachers' Experience

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ABSTRACT

The purpose of this research is to analyse the use of technologies in formative assessments in English language classroom which focus on types of tool, frequency use, challenges, and usage impact in using the tools. The research methodology employs a qualitative approach with a descriptive design. Data were collected through interviews with teachers to get insight about their experiences in using technology applied in formative assessment. The study involved five selected high schools in Indonesia that integrate technology into their formative assessments. Data analysis was conducted using thematic analysis techniques to identify key patterns and themes related to the use of technology in assessment. The results indicate that the use of technology in formative assessment allows teachers to provide quicker and more personalized feedback to students. Additionally, students demonstrated increased motivation and engagement in learning when formative assessments were conducted using digital tools such as Quizizz, Google Forms, Kahoot, Lumio, Wordwall, Instagram, Youtube, Edpuzzle, Quizlet, and Gmail. The conclusion of this study is that technology can significantly support teachers and helps students on the implementation of formative assessment in English language classrooms.

Keywords: Assessment tools; Educational Technology in English Teaching; formative assessment; student feedback

INTRODUCTION

Technology is playing an increasingly important role in the world of education, including in the process of formative assessment in English language classrooms. The use of technology can provide quick and in-depth feedback, as well as help students improve their language skills more effectively (Van, L. K., et.al, 2021; Li, J., Brar, A., & Roihan, N. (2021; Fitria, T. N, 2021; Alakrash, H. M., & Abdul Razak, N, 2021). The importance of the development of both teachers' and students' technological skills and engagement in technology education has already been discussed in teacher-education research (Boeve-de Pauw et al., 2020; Rossouw et al., 2011; Sherman et al., 2010; Wright et al., 2018). This research is important because technology-supported formative assessment allows teachers to monitor students' progress in real-time, which is relevant to the needs of 21st-century education. As Agaoglu, O., & Demir, M. (2020) emphasize that to equip today's students with 21st Century Skills, teachers need enough knowledge background, whereas teaching environments need tools and technological infrastructure.

The main objective of this research is to analyse the use of technology in formative assessment in English language classrooms which is breakdown into four points they are types of tools, frequency,

impact of tools, and challenges faced by teachers and students in utilizing technology to enhance the teaching and learning process in integrating technology for formative assessment. This study focuses in high school teachers who apply the technology in their English language classroom.

Although the potential of technology in formative assessment is significant, there are still some gaps in research, particularly in the Indonesian context. One of the gaps identified is the lack of understanding regarding the effectiveness of technology in accelerating feedback and increasing student engagement in learning. Additionally, many teachers have not yet fully utilized technology due to limitations in resources or technical knowledge. The abundance of these technological options often overwhelms educators, challenging them to make informed decisions about which tools to incorporate into their online instruction (K.F. Hew, T. Brush (2007). The failure to integrate these options is often attributed to educators' limited technological skills. This limitation can lead to frustration and resistance toward technology, ultimately fostering a negative attitude toward online instruction (D. Conrad (2024). Given the increasing importance of technology use in education, especially after the COVID-19 pandemic, it is urgent to evaluate how technology can be optimized in formative assessment. This is important because the effective use of technology can help students develop critical thinking skills and self-reflection in English language learning.

The importance of this research lies in its potential to provide valuable insights into how technology can enhance formative assessments, improve feedback efficiency, increase student engagement, and address challenges faced by teachers, ultimately contributing to more effective teaching and learning practices in English language classrooms. By examining the use of technology in formative assessment within English language classrooms, this study provides important insights into the implementation of formative assessment practices.

The integration of technology in the classroom has become increasingly prevalent. Globally, educators and researchers are recognizing the transformative potential of digital tools to enhance various aspects of teaching and learning (Timotheou, S., et.al, 2023; Deroncele-Acosta, et.al, 2023). However, while technology offers promising benefits, its implementation in formative assessment—an essential component of the learning process—presents both opportunities and challenges. Formative assessment, designed to provide ongoing feedback and support, is critical for helping students understand their learning progress and areas for improvement (Khursheed, S., & Shahid, M, 2023; Alt, D., et.al, 2023). The integration of technology into formative assessment has been widely discussed in educational research. Technologies such as online quizzes, digital feedback tools, and interactive platforms have been shown to offer numerous benefits, including immediate feedback and increased student engagement (Zainuddin, Z., Shujahat, M., Haruna, H., & Chu, S. K. W, 2020; Plump, C. M., & LaRosa, J, 2017; Pinto, M., & Leite, C. (2020; Andriani, R., 2024; Shaik, A. H., et.al, 2023; Krishnan, J, 2023). The integration of technology into formative assessment practices has gained attention for its potential to revolutionize how feedback is delivered and utilized (Cusi, A., Aldon, G., Barzel, B., & Olsher, S,

2024; Hopfenbeck, T. N., Zhang, Z., Sun, S. Z., Robertson, P., & McGrane, J. A., 2023). The global shift towards digital learning tools raises important questions about their effectiveness in formative assessment practices, particularly in diverse educational settings (Berisha, F., Vula, E., Gisewhite, R., & McDuffie, H., 2024).

Specifically, in the context of English language classrooms, there is a growing interest in understanding how technology can support and improve formative assessments (Taufiqulloh, T., Nindya, M. A., & Rosdiana, I., 2023; Moorhouse, B. L., & Kohnke, L., 2023). Assessment is the process of gathering information and evaluating an individual's abilities, knowledge, skills, or performance within a specific context. The primary purpose of assessment is to measure and evaluate a person's understanding and achievements in relation to the established learning objectives or standards. Studies have highlighted that digital tools can facilitate more personalized feedback, allowing teachers to address individual learning needs more effectively (Pardo, 2014). Additionally, technology can make assessments more engaging and motivating for students by incorporating interactive elements and instant results (Dornyei, 2001; Heitzmann, 2016). By incorporating such technologies, educators aim to enhance the efficiency of feedback and increase student engagement and motivation. Feedback given to students as part of formative assessment helps them detect any gaps between the intended goals and their current knowledge and guides them to take the appropriate strategic measures to accomplish their goal. This enhances their metacognitive abilities, enabling them to be more self-aware, self-reliant, and to concentrate more on their areas of weakness (Otaki F, Gholami M, Fawad I, Akbar A, Banerjee Y, 2023; Veugen MJ, Gulikers JT, Den Brok P, 2021; Ozan C, Kincal R, 2018).

Formative assessment is one of the strategies to assess students that should be empowered to help teachers identify the individual development of students through activities that will be planned with the aim of improving the teaching process (Black, P., 2015). Formative assessment makes the teachers aware of the student's progress and areas of difficulty so that they are better able to make the required instructional adjustments, such as reteaching, which improves student accomplishment (Veugen, M. J., Gulikers, J. T. M., & Den Brok, P., 2021).

William (2011) defines formative assessment as any activity that provides information to be used as feedback to modify ongoing teaching and learning activities. He argues that formative assessment should be embedded in the instructional process and used to improve student learning continuously. He stresses that providing timely and specific feedback to students and involving them in the assessment process through self and peer assessment are critical. He also highlights the importance of using a variety of assessment methods to gather evidence of student learning, including both formal and informal assessments. This study argues that embedded formative assessment can help to close the achievement gap and improve outcomes for all students, particularly those who are traditionally underserved by the educational system. Overall, this study highlights the importance of using embedded formative assessment to promote student learning and improve outcomes for all students.

The effectiveness of technology in formative assessment is crucial for improving educational outcomes. As technology becomes increasingly prevalent in educational settings, understanding its impact on formative assessment practices is essential for maximizing its benefits (Awajan, N. W, 2023; Vassiliou, S., et.al, 2023). This study focuses on English language classrooms in Indonesian high schools to evaluate how technology can enhance formative assessments, support learning improvement, and address potential challenges. By analyzing these aspects, the research aims to provide insights into how digital tools can be effectively utilized in formative assessment, contributing to more informed and effective teaching practices.

The benefits of applying formative assessment are helping students learn to monitor their own progress; 2. encouraging further study; and 3. increasing a student's perceived level of learning and understanding (McCallum, S., & Milner, M. M. (2020). The benefits are enhancing students' engagement, comprehension, memorization, self-evaluation, skill development, and preparation for exams (Atwa, H. S., Potu, B. K., Fadel, R. A., Deifalla, A. S., Fatima, A., Othman, M. A., ... & Nasr El-Din, W. A. (2024). Formative assessment has the additional benefit of helping teachers to understand students' strengths and weakness, as well as to review the effectiveness of the pedagogies that they are using (Irons & Elkington, 2021). Basically, these benefits demonstrate the potential of formative assessment to improve teaching and learning outcomes in a variety of contexts. By providing regular feedback, identifying student misconceptions, and supporting student engagement and motivation, formative assessment can help to promote student learning and close the achievement gap.

In an English language classroom, formative assessment is the process of using continuous, informal evaluations to track students' progress and offer suggestions for improving learning outcomes. Studies on formative evaluation in ESL classrooms have demonstrated that it can result in better language learning outcomes, like more motivation, engagement, and accomplishment. The effect of formative assessment on instruction and learning in an English language writing course was examined by Graham, Hebert, and Harris (2015). The researcher supported student learning and enhanced their writing abilities by utilizing a variety of formative assessment strategies, such as peer feedback and self-evaluation. In a flipped classroom, Santos and Serpa (2020) looked into how formative assessment affected learning outcomes, motivation, and student involvement. In a flipped classroom, students watch films or use internet resources to learn the material outside of class. In class, they then engage in interactive activities. This process was assisted by the use of formative assessment as a tool. According to the study, formative evaluation improved learning outcomes, motivation, and student engagement. In particular, formative assessment gave students prompt feedback so they could evaluate what they had learned and pinpoint areas where they needed to improve. Students' learning results improved as a result of their increased motivation and engagement in the classroom. The study emphasizes the possible advantages of formative.

A study by Sonmez and Cetinkaya (2022) sought to determine how formative assessment affected English language learners' abilities in reading comprehension. A treatment group that got formative evaluation and a control group that did not were included in the quasi-experimental design of the study. The study's conclusions demonstrated that the treatment group did better on reading comprehension tests than the control group, suggesting that formative assessment improves the reading comprehension abilities of EFL students. According to the study, formative assessment should be a part of EFL training if students want to get better at reading comprehension.

However, challenges persist in the effective implementation of technology in formative assessment. Limited access to technology and insufficient teacher training is common barriers that can impact the successful integration of digital tools (Eynon & Malmberg, 2011; Ertmer & Ottenbreit-Leftwich, 2010). The literature suggests that while technology has the potential to enhance formative assessments, its success largely depends on the availability of resources and the training provided to educators (Harrison & Rainer, 2010).

From the theories above that the technology used by the teachers to support formative assessment give many benefits in the teaching evaluation and this situation must be undergone with teachers digital literacy, they must be able to use the tools appropriately to help students in learning.

METHOD

This research employs a qualitative approach using a descriptive design to explore the use of technology in formative assessment. The study involves English language teachers from five main selected high schools in Indonesia that have integrated technology into their formative assessment practices and agreed to be interviewed in this study. The sampling method selected for this study used purposive sampling employed as it involved selecting participants who are likely to provide rich and relevant data based on certain criteria, such as their experience, school type, and teaching style. In this case, the sampling criteria for English language teachers from high schools in Indonesia who use formative assessment practices through technology in their classrooms would be the key criteria for selection. Data collection focused on interviews with teachers with give any answers based on their experiences applied technology when they conducted formative assessment. Interviews help capture how teachers perceive and use technology in formative assessment, including their comfort level with digital tools and any challenges they face. Thematic analysis was used to identify key patterns and themes related to the use of technology in formative assessment. This method allowed for an in-depth understanding teachers' experience. The responses from the interviews will be analyzed to identify common themes related to the use of technology in formative assessments, such as types of tools, frequency, impact, and challenges of tools.

RESULT

The Use of technology in formative assessment in English classes by 10 High School teachers in Lebak Regency. The table below is a summarize of the interview to the English teachers and the complete answer is displayed as well.

Generally, data from interview results show that the teachers use various formative assessment used in English language classrooms which indicated by what types of tools, when, and why use the tools, impact of tools, and challenges faced by teachers. According to the interview sessions, all the teachers use technology tools in conducting formative assessment. However, the variety of tools depends on teachers' literacy, they used one and more than one tools to assess the English. The data indicates that teachers used the technology tools depend on the situation, they used it for once a week or once a month. Teachers tend to use technology tools selectively, customizing their use based on the subject matter, the lesson's objectives, or the availability of resources. Most of the challenges encountered were about limited internet access. Even when access to the internet is available, the bandwidth might be too low to support activities that require higher data usage. Limited internet access is often compounded by insufficient access to suitable devices, such as smartphones, tablets, or laptops. Sharing devices within households or using outdated technology can exacerbate the challenge, as not everyone can go online simultaneously or efficiently. The description can be seen through the table below

Table 1. Technology Use in Formative Assessment

No	Participant	Technology Used	Frequency of Use	Challenges Faced	Impact
1	Teacher A	Google classroom, Quizizz	Depends on the needs	Limited internet access lack of proper training	increased student engagement. Make the tasks simple.
2	Teacher B	Quizizz	Depends on the needs	Lack of student devices	Increased Student Understanding
3	Teacher C	Quizizz. Edpuzzlu. Quizlet. Wordwall	Depends on the needs	Time is a big issue/time consuming	increased assessment variety and creativity
4	Teacher D	Google Classroom, Wordwall, Quizizz Kahoot Lumio	Depends on the needs	Technical difficulties during use.	improved efficiency and student engagement
5	Teacher E	Quizizz, Canva, google form, google classroom, Instagram, Gmail, youtube	Depends on the needs	Limited Internet Access	increased student engagement and creativity
6	Teacher F	Google forms, quizizz	Depends on the needs	Lack of devices, limited Internet Access	increased efficiency and clarity in assessments
7	Teacher G	Google forms Quizizz	Depends on the needs	Limited Internet Access, bandwidth too low	improved assessment accuracy

8	Teacher H	Quizizz, Google form	Depends on the needs	Limited Internet Access	increased engagement and speed of feedback
9	Teacher I	Quizizz, google forms	Depends on the needs	Limited Internet Access	increased assessment efficiency and student motivation
10	Teacher J	Quizizz	Depends on the needs	Limited Internet Access	increased student engagement

What types of (tools) technology used in formative assessment in English language classrooms? When do you use the tools and why do you choose that tool?

Participant 1: I use Google Classroom and Quizizz because Google Classroom helps me organize assignments, provide feedback, and track student progress efficiently and Quizizz helps me to create engaging, interactive quizzes that offer instant feedback, making assessments more dynamic and motivating for students, depends on the needs when I conduct the test I use the tools. Participant 2; I use Quizizz for formative assessment because it enables me to create engaging quizzes with instant feedback, which helps in assessing student understanding in a fun and interactive way, depends on the needs, it can be once a week or a month. Participant 3: I use Quizizz, Edpuzzle, Quizlet, and Wordwall for formative assessment. Quizizz offers gamified quizzes that enhance student engagement, Edpuzzle allows for interactive video lessons with embedded questions, Quizlet provides customizable flashcards and study games, and Wordwall enables the creation of interactive activities and games that reinforce learning and assess student understanding effectively, I used them based on the needs. Participant 4; I utilize Google Classroom, Wordwall, and Quizizz for formative assessment. Google Classroom helps streamline assignment management and feedback, Wordwall allows me to create interactive, customizable activities that reinforce learning, and Quizizz offers engaging quizzes with instant feedback, making it easier to measure student progress and adapt instruction, depends on the needs. Participant 5; I use Quizizz, Canva, Google Forms, Google Classroom, Instagram, Gmail, and YouTube for formative assessment. Quizizz provides interactive quizzes, Canva helps design engaging assessment materials, Google Forms streamlines the creation and analysis of surveys and quizzes, Google Classroom organizes assignments and feedback, Instagram allows for creative student engagement and sharing, Gmail facilitates communication and submission, and YouTube offers multimedia resources for diverse assessment methods. I used them based on the needs.

Participant 6; I use Google Forms and Quizizz for formative assessment. Google Forms is easy to create and analyze surveys and quizzes, give valuable data on student performance, while Quizizz makes assessments more engaging through its gamified visual, offering instant feedback that keeps students motivated and helps me quickly identify areas for improvement. Based on the needs. Participant 7; I use Google Forms and Quizizz for formative assessment. Google Forms simplifies the process of gathering and evaluating student responses through customizable surveys and quizzes, while Quizizz adds an element of fun with its interactive, game-like quizzes that enhance student participation and provide immediate feedback. Based on the needs. Participant 8; I utilize Quizizz and Google Forms

for formative assessment. Quizizz provides an engaging, competitive format for quizzes that motivates students and offers instant feedback, while Google Forms facilitates the creation of detailed assessments and the collection of responses, allowing for efficient analysis and tracking of student progress. Based on the needs. Participant 9; I use Quizizz and Google Forms for formative assessment. Quizizz makes learning interactive with its gamified quizzes that keep students engaged, while Google Forms offers a straightforward way to create surveys and quizzes, collect data, and analyze student responses efficiently. Participant 10; I rely on Quizizz for formative assessment because it offers a dynamic and engaging way to test student knowledge through interactive quizzes, providing instant feedback that helps both students and teachers track progress and address learning gaps effectively. Based on the needs.

What challenges do teachers face in integrating technology for formative assessment?

Participant 1; the challenges are the lack of proper training and limited internet access. Many teachers, including myself, struggle with how to use tools like Google Forms or Edpuzzle effectively. Participant 2; In my school, not all students have access to the necessary devices or stable internet connections. This creates a digital divide that makes it hard to use technology for assessments. Participant 3; Time is a big issue. Preparing quizzes or assessments using technology requires extra time, especially when you're new to the platform. It takes time away from other teaching tasks. Participant 4; The biggest challenge for me is technical problems. Sometimes the platform crashes, or the internet is slow, which disrupts the class and frustrates both the students and me. Participant 5; Some students find it hard when they must use their phone to connect on the internet since they are lack of credit.

Participant 6; the lack of proper infrastructure in our school is a huge barrier. We don't have enough computers, and the internet connection is often unreliable, which makes using technology difficult. Participant 7; The internet is limited because bandwidth is too low. Participant 8; the access is limited. Participant 9; the data is limited. Participant 10; the internet is limited.

What is the impact of using technology on student engagement and learning outcomes?

Participant 1; Using Quizizz in formative assessment boosts student engagement through interactive quizzes and gamification features. using Google Classroom streamlines assignment management and feedback, allowing for more efficient tracking of student progress in formative assessments. Participant 2; increased student understanding when using Quizizz, because immediate feedback helps students immediately identify and correct errors in English learning. Participant 3; when using Quizizz, Edpuzzle, Quizlet, and Wordwall, as each platform offers different interactive methods for measuring student understanding, thereby making language learning England is more interesting and dynamic. Participant 4; Using Google Classroom, Wordwall, Quizizz, Kahoot, and Lumio, as these platforms allow for more structured assignment management and formative assessments which is

interactive and fun, increases student motivation in learning English. Participant 5; Using Quizizz, Canva, Google Forms, Google Classroom, Instagram, Gmail, and YouTube, as the combination of these platforms allows for interactive assessment, attractive visual teaching, as well as easier and more effective communication in learning English.

Participant 6; using Google Forms and Quizizz, as both platforms provide tools to create quizzes that are easy to set up and grade, and provide instant feedback to students in learning English. Participant 7; Improved assessment accuracy by using Google Forms and Quizizz, as both platforms allow for systematic quiz creation and grading and provide clear analytical data to assess student progress in learning English. Participant 8; Increased engagement and speed of feedback by using Quizizz and Google Forms, as both platforms make it easy to create interactive quizzes and provide rapid assessment and feedback, increasing the effectiveness of assessments formative in English class. Participant 9; Increased assessment efficiency and student motivation by using Quizizz and Google Forms, as both tools allow for rapid quiz creation and grading and provide immediate feedback, which supports learning active in English. Participant 10; Increased student engagement by using Quizizz, as the gamification features in the platform make formative assessments more engaging and motivate students to participate actively.

DISCUSSION

From the presented data, it is evident that teachers use various technologies in formative assessment in English language classrooms. Some of the dominant technologies used are Google Classroom, Quizizz, Google Forms, and Wordwall. The frequency of technology use is highly dependent on the needs of the teachers in each teaching situation. This indicates that the use of technology is flexible, adapted to the teaching materials and classroom conditions.

Teachers reported positive impacts from the use of technology, including:

1. Increased student engagement; many teachers (Teacher A, D, E, H, J) mentioned that student engagement increased when using technologies such as Quizizz and Google Classroom. This aligns with Le, M. T. T., & Van Tran, K. (2024) and Al Yakin, A., & Seraj, P. M. I. (2023) which states that active student participation in the learning process can enhance learning outcomes and technology allows students to participate more interactively in assessment activities.
2. Increased creativity and variety in assessment; teachers C and E reported that using technologies like Edpuzzle, Wordwall, Canva, and Quizlet enabled them to create more creative and diverse types of assessments. Technology encourages teachers to think more creatively and produce innovative assessment methods that can develop students' cognitive and critical thinking skills (Aşıkcan, A. P. D. M., 2023; Merta, L. W. S., Ratminingsih, N. M., & Budasi, I. G, 2023; Zou, D., Xie, H., & Wang, F. L, 2023)

3. Improved efficiency and clarity; teachers F, G, and I reported that using Google Forms and Quizizz helped improve efficiency and clarity in assessments. This is consistent with the Technology Acceptance Model (TAM), which states that teachers' acceptance of technology largely depends on its ease of use and their perception of its benefits (Koutromanos, G., Mikropoulos, A. T., Mavridis, D., & Christogiannis, C., 2024; Choi, S., Jang, Y., & Kim, H, 2023).

However, the use of technology in formative assessment also faces several challenges, such as:

1. Limited internet access; teachers such as Teacher A, E, F, G, H, and I reported that limited internet access is a major obstacle in using technology. This is a significant challenge, especially in areas with inadequate internet infrastructure, Norris said that the gap in access to technology between developed and underdeveloped areas can affect the quality of education (Afzal, A., Khan, S., Daud, S., Ahmad, Z., & Butt, A, 2023; Aderibigbe, A. O., Ohenhen, P. E., Nwaobia, N. K., Gidiagba, J. O., & Ani, E. C, 2023).
2. Lack of student devices; teachers B and F mentioned that the lack of student devices is also a challenge. Without sufficient devices, students cannot fully participate in technology-based assessments. According to Adam, equal access to educational resources, including technology, is essential to achieving fairness in learning (Tariq, M. U, 2024; Wulandari, C. E., Firdaus, F. A., & Saifulloh, F, 2024).
3. Technical difficulties; teacher D reported experiencing technical difficulties during the use of technology. This highlights the importance of adequate training for teachers so they can overcome technical issues that may arise, as emphasized by the TPACK Framework. This framework suggests that teachers need sufficient technical knowledge to optimize the use of technology in the learning process (Abedi, E. A, 2023; Meisuri, M., Nuswantoro, P., Mardikawati, B., & Judijanto, L, 2023).

CONCLUSION

The analysis of technology use in formative assessment in English language classrooms reveals that various tools, including Google Classroom, Quizizz, Google Forms, Edpuzzle, Canva, Wordwall, Kahoot, Lumio, and Instagram, are employed to enhance the assessment process. Tools like *Quizizz* and *Google Forms* are frequently utilized due to their ease of creating and grading quizzes, as well as their ability to provide instant feedback. *Google Classroom* and *Wordwall* are also popular for managing assignments and incorporating visual elements into assessments. These tools are chosen primarily for their ability to engage students, increase motivation through interactive features, and streamline the assessment process. However, challenges such as limited access to devices and internet, varying levels of technological proficiency among students and teachers, and technical issues can impact the effectiveness of these tools. Despite these challenges, the use of technology in formative assessment significantly enhances student engagement, allows for efficient and timely feedback, and offers diverse assessment methods that cater to different learning styles. Overall, while the integration of technology

in formative assessment provides numerous benefits, addressing access and technical challenges is crucial for maximizing its impact in the classroom.

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