IRSTI: 14.07.01
DOI: https://doi.org/10.47344/epbd2d80

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FORMATIVE ASSESSMENT IN KAZAKHSTAN'S ENGLISH LANGUAGE CLASSROOMS: A NARRATIVE REVIEW OF CURRENT PRACTICES AND THE ROLE OF AI TOOLS

Abstract. Formative assessment (FA) has emerged as a critical component of effective teaching and learning, providing ongoing feedback that guides both teachers and students in improving educational outcomes. This narrative literature review examines the implementation of formative assessment in Kazakhstan's English language classrooms and explores how artificial intelligence (AI) tools are enhancing and could further enhance these practices. The review synthesizes international and local research on FA – defining its key concepts, components, benefits, and challenges – within the context of Kazakhstan's recent education reforms that mandate a criteria-based (formative) assessment system. It also discusses current applications of AI (such as adaptive learning platforms, natural language processing for feedback, and AI-driven peer/self-assessment tools) in education, and considers potential future uses of AI to support teachers and learners in formative assessment. The findings indicate that while formative assessment is valued for improving student engagement and achievement, Kazakhstani teachers face challenges in its implementation, including large classes and shifts in ingrained grading practices. AI technologies offer promising solutions to personalize feedback, automate routine assessment tasks, and inform data-driven instruction, albeit with the need for teacher training and careful integration. The review concludes with implications for educators and policymakers in Kazakhstan, emphasizing that blending proven formative assessment strategies with AI support can foster more responsive and effective English language teaching.

Keywords: Formative Assessment; English Language Teaching; Kazakhstan; Artificial Intelligence; Educational Technology; Feedback; Assessment for Learning; Peer Assessment; Self-Assessment.

Introduction

As a potential teaching strategy to improve instruction and learning, formative assessment (FA) has attracted interest from all across the world (Grant & Gareis, 2017). Particularly, assessments like formative assessment or assessment for learning have shown increasing interest over the past 20 years (Black & Wiliam, 1998; Burner, 2016). FA is the outcome of how educational assessment procedures have evolved. Assessment has benefited greatly from the contributions of researchers from nations including the US, the UK, New Zealand, and Australia. FA was introduced to the field of education research and teacher professional development, namely by the Assessment Reform Group (Grant & Gareis, 2017).

Unlike summative assessments that evaluate learning at the end of an instructional period, formative assessments are embedded within the teaching process to provide continuous feedback and guide adjustments to instruction. Pioneering work by Black and Wiliam (1998) underscored the *"pivotal role of formative assessment in providing valuable information not only to teachers but also to students, guiding improvements in teaching and learning to optimize student outcomes"*. A broad consensus has since emerged that effective use of formative assessment strategies leads to higher student engagement and achievement.

Although Kazakhstan had a good framework in place to combat the social and economic issues that impoverished pupils experience and the government allowed schools to address the educational

needs of students who struggle academically (OECD, 2015), the quality of secondary education was not promising a decade ago. For instance, the Kazakhstani government has established a strategic plan, known as "the Centre of Excellence (CoE) program," which aimed to train roughly 40% of school teachers by 2016 (Wilson et al., 2013, p.1). At that time, one third of fourth and eighth grade children were academically unsuccessful, which may have been due to the fact that the remaining 60% of teachers still needed training (OECD, 2015). Furthermore, teachers are valued based on the UNT results of their students and Olympiads rather than the former's teaching process (OECD, 2015).

However, the quick development of artificial intelligence (AI) in education increases the chances to improve formative assessment experiences. AI tools for education purposes – from automated tutoring software to AI essay grader – can assist teachers by bearing the potential to provide instant feedback, analyze learners works, and even facilitate collaborative learning exchanges between peers. Internationally, one can see increased attention to how AI tools are able to make formative assessment. Globally, there is growing interest in how AI can make formative assessment more adaptable and tailored. For instance, English language classrooms in the Kazakhstani context, teachers can use AI tools to support their students but also themselves by tracking individual learners' language learning progress and adapting AI tools to their students' needs. It can be argued that integrated AI tools will support teachers to improve formative assessment quality through the automation of routine processes and data insights, and it allows teachers to engage in more complex pedagogical decision-making and individual tutoring.

Rationale and Aim of the Study: Given the importance of formative assessment in improving language education and the emergence of AI as a potential aid, this narrative literature review aims to synthesize current knowledge on formative assessment in Kazakhstan's English language classrooms and examine the role that AI tools are playing or could play in enhancing these practices. By bringing together international literature on formative assessment and educational technology with local studies and reports from Kazakhstan, the review provides a comprehensive picture of: (a) the principles and benefits of formative assessment, (b) how formative assessment has been implemented in Kazakhstani English teaching contexts (successes and challenges), and (c) existing and future applications of AI to support formative assessment. The goal is to highlight insights and gaps in the literature, and to draw out implications for teachers, school leaders, and policymakers seeking to improve English language teaching through formative assessment and innovation.

Methods and Materials

This article adopts a *narrative literature review* methodology, integrating findings from a broad range of sources rather than following the strict protocols of a systematic review. The literature selection process was guided by the focus on formative assessment in English language education within Kazakhstan, as well as the intersection of formative assessment with AI tools. We searched scholarly databases and digital libraries (e.g., Google Scholar, ERIC) for peer-reviewed journal articles, conference papers, dissertations, and reports using keywords in English and Russian such as "formative assessment", "assessment for learning", "English language teaching", "Kazakhstan education", "criteria-based assessment Kazakhstan", "artificial intelligence in education", and "AI feedback learning". Particular attention was given to literature published in the last 10–15 years to capture recent developments, especially regarding AI in education. Additionally, we included seminal works on formative assessment (e.g., Black & Wiliam's foundational studies) to establish the theoretical background, as well as relevant policy documents and educational guidelines from Kazakhstan to understand the local context.

We identified *international literature* that elucidates the concepts, components and efficacy of formative assessment, including meta-analyses and influential frameworks, and *local literature* from Central Asia (especially Kazakhstan) that reports on the implementation of formative assessment in schools. To address the AI component, we reviewed articles and case studies on educational technology and AI applications that align with formative assessment processes (such as automated feedback systems, adaptive learning platforms, and AI-enhanced peer assessment tools). The inclusion criteria emphasized sources that discuss formative assessment in the context of language

learning or general K-12 education, and sources that connect AI tools with formative feedback or assessment for learning. Both English-language and Russian-language sources were considered to ensure a comprehensive regional perspective.

In analyzing the literature, we employed a *thematic synthesis* approach. We first reviewed the sources to extract key themes and findings, organizing them into categories corresponding to our objectives: (1) definitions and theoretical underpinnings of formative assessment, (2) components and strategies of effective formative assessment, (3) benefits and impact of formative assessment on learning (with sub-focus on language education where available), (4) challenges and practices in implementing formative assessment in Kazakhstan's school system (especially in English classes), and (5) the role of AI in formative assessment, including current applications, opportunities, and challenges. We then compared and integrated findings across these themes, noting points of consensus, divergence, and evidence strength. Because this is a narrative review, we did not statistically aggregate results but rather present a qualitative synthesis that weaves together insights from the literature. All sources used are cited in-text and listed in the References section. The resultant discussion is structured to first present the state of formative assessment practice and its impacts, and subsequently to explore the intersection of these practices with AI innovations, particularly as relevant to Kazakhstan's English language teaching context.

Results and Discussion

Formative Assessment: Concept and Components

Assessment is *"formative to the extent that evidence about student achievement is elicited, interpreted, and used by teachers, learners, and their peers to make decisions about their next steps in instruction"* (Black & William, 2009, p. 9). In simpler terms, formative assessment is an ongoing process whereby teachers gather information on student learning during the learning process and use it to adjust teaching, while students use it to improve their understanding and skills. Unlike summative tests that are assessments of learning, formative assessment is often described as *assessment for learning* because its primary purpose is to improve continuous learning (William, 2011).

Over the years, researchers have identified specific *components and strategies* that make formative assessment effective. Moss and Brookhart (2010), for example, outline six interrelated components of formative assessment that teachers and students engage in during learning activities:

- *Sharing learning targets and criteria for success:* clearly communicating the lesson's objectives and what successful achievement looks like. Students need to understand the goals they are working towards.
- *Feedback that "feeds forward":* Providing timely and specific feedback that not only evaluates current work but also offers guidance for improvement on future tasks. Effective feedback is actionable and linked to the criteria for success.
- *Student goal setting:* encouraging students to set their own learning goals aligned with the targets, which fosters ownership and self-regulation in learning.
- *Student self-assessment:* involving students in assessing their own work against the criteria, helping them identify gaps in their understanding and strategies to improve.
- *Strategic teacher questioning:* using thoughtful, open-ended questions to probe student thinking and promote deeper understanding, rather than just checking for factual recall.
- *Student engagement in asking questions:* cultivating a classroom culture where students feel comfortable to ask questions about the content and their own learning process, thereby actively directing their learning inquiries.

These components work in tandem; when applied together, they create a powerful feedback loop in the classroom. In fact, Moss and Brookhart (Ibid.) liken the formative assessment process to a windmill where each "blade" (component) must move in sync to effectively drive student achievement.

Importantly, Topping (2010) add peer assessment as a crucial component of formative assessment because it encourages teachers to refine assessment goals, standards, and grading methods. Furthermore, teachers are likely to gain metacognitive advantages from the process. Moreover, Sadler (1989) noted that peer assessment is most effective when learners are trained to

make and defend judgments about each other's work, as this process not only reinforces their understanding of the criteria but also develops critical thinking. Additionally, activities such as peer feedback on written works and oral presentations among students increases learners' commitments. However, it is important to provide students with clear guidelines to ensure feedback is constructive.

To summarize, a number of components are encompassed in formative assessment, and it encourages consistent teacher and student interaction. Through the interaction students learn to pose critical questions, provide constructive feedback, and identify their current knowledge base and areas that they need improvements. However, unless these activities are repetitive, they may fail to impact English learners' language acquisition and skills.

Advantages of Formative Assessment in English Language Education

A substantial body of research (e.g. Alvarez et al., 2014) supports the view that formative assessmsent has an important role in advancing students' learning results, including English language education. Furthermore, engaging in constructive feedback practices students gain self-confidence and self-regulation in addition to academic achievement (Abduazizovna & Lazokat, 2025).

AI enhances student communication abilities while boosting student participation and delivering personalized education with positive student attitudes. Specifically, the combination of AI chatbots enhances spoken communication abilities and boosts learning engagement while delivering personalized feedback to match user needs. Students tend to view AI chatbots positively because they show readiness to adopt technological integration. AI chatbots provide additional practice opportunities beyond traditional classrooms which helps students develop their language proficiency. AI chatbots should expand their applications in EFL instruction by delivering educational resources and innovative teaching approaches (Kemelbekova et al., 2024).

According to Black and Wiliam (1998), improving FA in classroom practices leads to significant improvements in the performances of students, resulting in substantial benefits for students who in the early stage learning a language. Regular and constructive feedback and opportunities for correction assist in addressing early confusion before it results in substantial educational setbacks. For instance, immediately clarifying a grammatical inaccuracy is more beneficial compared to postponed correction after standardised assessments.

Additionally, qualitively exploring language classes at a secondary school level, Lee (2011) observed the changes in learners' attitudes towards writing tasks. Lee (2011) observed a marked transformation in students' outlooks to writing tasks. Lee's (Ibid.) study showed that during the initial phase of the academic year, students found tasks as overwhelming, but consistent exposure to FA and revisions of their works several times shifted their outlook to FA by showing confidence and willingness to engage in challenging tasks. These findings put forward the idea that FA can help create an academic setting where making mistakes is accepted as a necessary phase in learning, and that alleviates anxiety and foster foreign language learning. In addition to integrating this practice into language classes in the context of Kazakhstan, where feedback types and approaches may differ from other contexts, may improve the quality of students' active participation in activities that focus on output skills, writing and speaking, and motivate and encourage them to support their learning environment.

Next benefit is developing self-regulated learning skills. For instance, according to Wei (2023), once students are evaluated based on AI formative assessment and are offered tailed feedback, they improve their self-regulated learning, and they become motivated to learn independently. Furthermore, Yaşar & Karagücük's (2024) study found a significant positive correlation between AI literacy and English language learning motivation among 397 participants. The mean score for motivation was 65.02 that indicates an overall aspiration to learn English, and 61.95 for AI literacy that shows a strong foundation in artificial intelligence. These results suggest that improving AI literacy is highly likely to motivate students to learn English, and this is a clear indication of the importance of integrating AI tools into language learning and teaching (Yaşar & Karagücük, 2024). Self-regulation and L2 speaking skills have improved more as a result of Duolingo programs (Qiao & Zhao, 2023). AI platforms increase student involvement as well, although there are still issues with

guaranteeing regular participation and adapting these tools to a variety of learning settings. For instance, through practices like self-assessment and goal setting (key components mentioned earlier), students learn to monitor their own progress and become more reflective about their learning strategies. Over time, this can foster learner autonomy. Research by Carrol and Christenson (1995) demonstrated that training students in goal-setting can lead to tangible performance improvements. In their study, middle school students who set specific targets (e.g., improving the structure of their essays) and identified strategies to reach them saw better outcomes; one student noted rising from "C" grades to "A"s and "B"s in writing after working harder towards his personal goals. Similarly, Moeller et al. (2012) found that language learners who regularly set personal goals showed greater gains and motivation than those who did not. These findings underscore that formative assessment practices not only impart content knowledge but also teach students *how to learn* – an especially vital skill in language learning where consistent practice and self-monitoring (for pronunciation, grammar usage, etc.) are needed. Based on these findings, we argue that when teachers in Kazakhstan share *learning goals* for a unit (e.g., the ability to use past tense correctly in a narrative) and then have students periodically check their work against these goals, students start to internalize the standards and evaluate their own work critically.

Furthermore, formative assessment benefits teachers as well by improving instructional decision-making. The ongoing "feedback loop" gives teachers richer insight into their students' understanding, so they can tailor their teaching more effectively. For instance, during a lesson on English grammar, if a quick formative quiz or observation reveals many students misunderstanding a concept like possessive apostrophes, the teacher can immediately revisit that point. This approach is called Immediate Instructional Adjustment according to Popham (2011). The example from the literature recounts how a teacher, upon seeing her class confused about apostrophe usage, paused the lesson to re-explain the rule and then provided a short practice quiz. She even had students work in pairs to compare answers with an answer key, facilitating peer discussion to clear up misconceptions. As a result, students left the class with a corrected understanding, rather than carrying the confusion forward. This kind of responsive teaching, made possible by formative assessment, leads to more effective learning sequences than sticking rigidly to a plan or waiting until an end-of-unit test exposes the issue. Teachers also find that by involving students in assessment (through self or peer review), they can manage their time better – for example, while students are engaged in peer assessment, the teacher can circulate and confer with individuals who need extra help (Topping, 2010). Overall, formative assessment creates a more dynamic classroom where teaching is continuously informed by evidence of learning, which is beneficial for both learners and instructors.

In summary, when well-implemented, formative assessment in English language classrooms can lead to higher achievement, better attitudes, and more engaged and autonomous learning – outcomes highly desirable in any educational context.

Implementation of Formative Assessment in Kazakhstan: Practices and Challenges

Kazakhstan's drive to implement formative assessment in schools has been ambitious, backed by nationwide curriculum reforms and teacher training initiatives. English language classrooms in secondary schools have been a particular focus, given the country's emphasis on improving English proficiency among youth (Kaiypova & Kim, 2024). Here, we explore how formative assessment has been put into practice in Kazakhstani classrooms and the challenges faced, drawing on both research studies and contextual reports.

Policy and Practice

The 2016 curriculum reform mandated a *criteria-based assessment* system, which essentially integrated formative assessment (ongoing classroom evaluation) with modified summative assessments (Global Cities, n.d.). Teachers were trained to develop clear assessment criteria, design formative tasks, and provide feedback aligned with those criteria. According to the reform guidelines, English teachers, for example, should regularly use techniques like questioning, quizzes, observation checklists, and portfolio tasks to gauge student progress in language skills. Schools also introduced new record-keeping practices. One major shift was the use of electronic journals (such as the

Kundelik.kz platform) where teachers log assessment results. Initially, formative assessment results were meant to be descriptive (narrative feedback). However, during the COVID-19 pandemic when schooling moved online, the Ministry encouraged teachers to assign scores for formative tasks on a 10-point scale to motivate student participation in remote learning. This practice has continued in some schools post-pandemic, effectively making formative assessments count in a visible way for students and parents. While this added accountability can increase student effort, it also introduced confusion. Using grading scores between one and ten for formative assessment departed from the traditional 5-point grading familiar in Kazakhstan and resulted in potential confusion among students and parents, indicating a need for improved communication and clarification regarding the new grading methodology. This example illustrates a broader implementation challenge: balancing the qualitative, informal spirit of formative assessment with the entrenched expectations of formal grading.

Teacher Understanding and Beliefs

For many Kazakhstani teachers, formative assessment represented a paradigm shift. While teachers conceptually agree with the benefits of formative assessment, their depth of understanding can vary. For instance, Colby-Kelly and Turner (2007) reported that teachers new to formative assessment emphasized the importance of giving positive and timely feedback to students, and saw motivational benefits in doing so. This aligns with the training emphasis on feedback as a tool to encourage learners. Nonetheless, teachers also bring prior beliefs; some initially saw formative assessment as an additional burden or worried it might reduce their authority if students become more autonomous. In an innovation summary from the Nazarbayev Intellectual Schools (NIS) (), it was noted that *"formalisation of FA in policy has not fully induced substantive change in classroom practices because FA concepts often appear to conflict with the early beliefs and experience of teachers"* (HundrED**,** 2024). For example, teachers accustomed to teacher-led instruction might struggle with the student-centered aspects of formative assessment, such as letting students self-assess or letting them learn through making mistakes. Over time, however, with experience and peer support, many teachers adjust. Black et al. (2002) notes that initially embracing formative assessment felt *scary* because it meant giving up some control, but eventually it shifted his focus more onto students' learning needs, which he found highly rewarding as it improved his teaching effectiveness (William, 2008). This highlights the importance of mindset: when teachers see formative assessment not as a threat but as a tool to empower their teaching, they become more confident in facilitating it.

Classroom Practices and Student Reactions

In practice, Kazakhstani English teachers have been using a variety of formative techniques. Common ones include short quizzes at the end of a lesson (exit tickets), oral questioning during reading comprehension exercises, one-on-one mini-conferences to discuss essay drafts, and peer review sessions for speaking or writing tasks. Many teachers also use rubrics (scoring guides) provided by the Ministry or created collaboratively to clarify expectations for assignments such as projects or essays. There is anecdotal evidence indicating that students appreciate knowing the criteria in advance and receiving feedback in relation to these criteria, as it makes the learning process more transparent. However, the extent of student engagement in formative assessment can depend on class culture. In some classrooms, students have readily taken to self- and peer-assessment, enjoying the interactive and reflective activities. In others, students were initially hesitant – for instance, some students felt uncomfortable giving feedback to peers or doubted the fairness of peer assessment if they perceived their classmates as lenient or too critical. The two focus group discussions conducted by McGarr and Clifford (2013) revealed that a few students were reluctant to be assessed by peers they considered less capable, while others were overly generous out of friendship or empathy. Such challenges are not unique to Kazakhstan, but they underscore the need for teachers to teach students how to assess constructively. Teachers have been addressing this by explicitly teaching students how to use rubrics, modeling feedback language, and emphasizing the learning purpose of these activities (as opposed to just "giving a grade). Over time, these efforts can build a classroom environment where peer and self-assessment are normal and valued.

Systemic Challenges

Several broader challenges affect the implementation of formative assessment in Kazakhstani English classrooms:

- *Large Class Sizes:* in regular public schools, English classes can have 25–30 or more students. Providing individualized feedback and tracking each student's progress in such settings is demanding. Such significantly large classes hinder the quality of formative assessment since a single teacher can only interact meaningfully with so many students in a limited time because 30 students can strain a teacher's ability to frequently check each student's writing or give each one a chance to speak in a 45-minute lesson. Teachers often have to be strategic, for instance, rotating focus among students or using group work to manage this limitation.
- *Time and Workload:* implementing formative assessment requires time for planning and follow-up. Teachers need to design good questions or tasks, prepare feedback, and possibly provide extra help to those who are struggling. Kazakhstani teachers have reported that the new system, while beneficial, increases their workload – they spend more time preparing lesson plans with integrated assessment and more time reviewing student work continuously. Without adequate non-teaching time or support (like teaching assistants), this can lead to superficial feedback (e.g., just a check mark) instead of the detailed guidance formative assessment ideally provides. Wylie and Lyon (2015) emphasize that high-quality formative assessment implementation demands extensive teacher skill across multiple domains (content, pedagogy, assessment) and thus requires robust professional development. In Kazakhstan, ongoing teacher training and communities of practice are critical to help teachers manage these demands efficiently.
- *Alignment with Summative Assessment:* another challenge is ensuring coherence between formative and summative assessments. Students in Kazakhstan still face important summative assessments (e.g., final exams, unified national testing). There can be tension if what is emphasized formatively in class doesn't appear on summative tests, or vice versa. Ideally, formative assessment prepares students for summative success by continuously building the required skills. The reforms tried to address this by making summative tasks also criteria-based and known in advance, but some misalignment can occur, causing teachers or students to revert to teaching to the test habits and neglecting formative practices when exam pressure mounts. Clear communication that formative assessment is meant to enhance summative performance in the long run (by improving learning quality) is needed to keep all stakeholders invested in it.

Despite these challenges, there have been positive developments. For example, the Nazarbayev Intellectual Schools network, which often pilots innovations, developed a set of *"Formative Assessment – Proactive Teacher"* resource cards to help teachers systematically plan formative assessment activities in their lessons. These resources have been shared nationally, providing practical guidance on implementing strategies like sharing learning goals, giving feedback, and fostering student questions in everyday teaching. Empirical findings further show that well-supported teachers become more confident in using formative assessment, ultimately fostering a stronger feedback culture within classrooms. The research conducted by Kenzhetaeva et al. (2020) in the Kazakhstani context highlights the need for proper preparation of pre-service teachers for the criteria-based assessment system. Such preparation has proven essential in helping even primary school educators overcome initial difficulties and boost student engagement through formative approaches.

The adoption of formative assessment in English language classrooms throughout Kazakhstan marks a major change in educational teaching methods. Educators across the board have started implementing teaching methods that follow international standards which has led to more interactive learning environments with built-in feedback systems. The implementation of formative assessment faces ongoing challenges because of workload pressures and habitual teaching practices and systemic constraints. The identification of these obstacles creates a starting point to evaluate how artificial intelligence technology could help reduce some burdens while improving formative assessment practices.

Integrating AI in Formative Assessment Practices

One encouraging trend in the growth of educational practice is the convergence of artificial intelligence (AI) with formative assessment. When used carefully, AI systems can improve assessment procedures by handling data-intensive activities that might otherwise overwhelm teachers and providing prompt, personalised feedback. In addition to highlighting ethical and practical issues, this section examines the current and prospective uses of AI to help formative assessment, particularly in English language training in Kazakhstan.

Current Applications of AI

AI-powered solutions to enhance evaluation for learning are being tested by educators worldwide. The ability of AI to automate repetitive evaluation activities and provide rapid, comprehensive feedback is one of its most immediate contributions. AI-enabled platforms, for example, may rapidly assess vocabulary and grammatical exercises in language instruction and give students instant feedback. These quick feedback systems support formative assessment concepts by assisting students in modifying their understanding while learning is still ongoing.

AI applications such as automated writing evaluation tools (e.g., Grammarly or Turnitin's Revision Assistant) utilize natural language processing to identify issues in grammar, coherence, and lexical choice. Although they cannot fully replace teacher input on content and structure, these tools can offer initial feedback that allows students to revise their work before receiving more targeted feedback from instructors. In Kazakhstan, these tools could be integrated into writing instruction, giving students a clearer idea of their recurring mistakes and enabling teachers to focus on more substantive improvements.

This immediacy helps students correct mistakes while the lesson is still fresh, embodying the formative principle of quick feedback loops. A widely discussed instance is automated essay scoring and feedback systems. Tools such as *Grammarly, Turnitin's Revision Assistant, or ETS's Criterion* use natural language processing (NLP) to evaluate writing and provide feedback on grammar, cohesion, vocabulary usage, and even organization to some extent. When students write an English essay or a short answer, these systems can highlight errors or suggest improvements almost instantly. While not a replacement for teacher feedback on content and ideas, such tools offer a first round of formative feedback that students can use to revise their drafts. Teachers in Kazakhstan could leverage these for English writing assignments: a student submits a draft to an AI feedback tool, learns about common mistakes (for example, misuse of articles or verb tenses), corrects them, and then submits a cleaner version to the teacher for more focused feedback on argumentation or style.

Another application of AI is in *adaptive learning systems* that personalize practice tasks for students. These platforms (such as Khan Academy's mastery system, iTutorGroup, or language-specific apps like Duolingo) use algorithms to adjust the difficulty and focus of questions based on a learner's performance. In a classroom setting, adaptive software can serve as an ever-available teaching assistant: as students work through exercises, the AI identifies their strengths and weaknesses and provides additional questions or hints accordingly. For example, Tomasik et al. (2018) showed that computer-based curriculum systems could detect distinct learning pathways and adapt content to optimize individual progress. In an English class, an adaptive reading program might give more vocabulary support to a student who is struggling with comprehension, or an adaptive grammar tutor might spend more time on past tense for a student making repeated errors there. By differentiating practice in real-time, AI supports the formative goal of meeting each student at their level – something a single teacher might find challenging to do for every student simultaneously. Such tools also generate a wealth of data on student performance. Teachers can review dashboards that highlight which topics students have mastered or where they are making errors, enabling data-informed instructional adjustments. This aligns with formative assessment's emphasis on using evidence to guide teaching. Indeed, AI systems can aid teachers in collecting and analyzing longitudinal data and in generating learner profiles to trace progress over time. This means a teacher can quickly grasp how a student's English vocabulary has grown over months allowing more targeted interventions.

AI can also enhance feedback quality and personalization beyond what is feasible manually. Modern AI algorithms can detect patterns in student work that might not be obvious to teachers who are grading quickly. For instance, an AI might analyze a student's pronunciation practice recordings and identify specific phonetic sounds that consistently pose difficulty, then suggest exercises to practice those sounds. Or in writing, AI might notice that a student frequently makes errors with prepositions and then prompt the student with focused tips on that grammar point. An example is an AI-based tutoring system that provides next-step hints when a student is stuck on a problem or asks guiding questions that lead the student to figure out the answer (mimicking a Socratic approach). In an English learning context, imagine a chatbot that converses with students: if a student hesitates or makes an error, the bot might ask a question or give a clue to prompt self-correction, thereby acting as a formative assessor. Some experimental systems and language learning chatbots are already exploring this space.

Peer and Self-Assessment with AI

Interestingly, AI can also support peer and self-assessment processes. Large Language Models (LLMs) such as GPT-4 can be used to generate scaffolding for peer review. For example, students might be asked to review a peer's essay; an AI tool could provide a checklist or even suggest constructive feedback points based on the essay, which students can then discuss and refine before giving to their peer. Er et al. (2021) found that peer assessment can be supported with prompts from language models, helping students provide more substantive feedback and also reflect on their own work in the process. Essentially, the AI can guide students on how to assess, ensuring that even if students are novices at giving feedback, they have a framework to do so productively. For self-assessment, AI-driven reflective tools can ask students questions about their learning ("Which part of this assignment was most challenging for you and why?") and even analyze their responses for sentiment or understanding, giving the teacher insight into student self-perceptions. While these applications are still emerging, they show how AI might act as a catalyst, prompting deeper student engagement in formative assessment activities that traditionally rely purely on human initiative.

Use in Kazakhstan (Current Status)

The adoption of AI in everyday classrooms in Kazakhstan is still at an early stage. However, there are signs of interest and initial usage. The Ministry of Education has collaborated with various ed-tech providers to introduce digital platforms; for example, *BilimLand* is a digital educational resource platform used in many schools, and while not fully AI-driven, it contains interactive content and quizzes that give immediate feedback to learners. Some schools, particularly in urban areas or the NIS network, have piloted adaptive learning software or intelligent language labs. Moreover, Kazakhstani students and teachers increasingly have access to global tools like the ones mentioned (e.g., teachers might encourage students to use Grammarly for writing assignments or use Kahoot/Quizlet adaptive modes for vocabulary review). Thus, the groundwork for AI-assisted formative assessment is being laid through growing digital literacy and infrastructure.

Potential Future Uses of AI in Enhancing Formative Assessment

Looking ahead, the integration of AI into formative assessment in English language classrooms could become more seamless and powerful. A few potential developments and their implications include:

- *Intelligent Tutoring Systems for Language Learning:* future AI tutors could engage students in spoken or written dialogues, simulating a conversation partner or writing coach. For instance, an AI tutor might have a conversation with a student learning English, adapting its level of vocabulary and speed of speech to the student's ability, and gently correcting mistakes in real time. Such a system can continuously assess the student's language use (pronunciation, grammar, fluency) and feed that information to both the student and teacher. This would be a form of highly individualized formative assessment, available on-demand. If a student practicing speaking consistently drops articles ("I went to _ store"), the AI can notice and remind the student of the missing article in context, something a teacher might not catch until

later. By the time the student meets the human teacher, the basic errors might already be reduced, allowing the teacher to focus on more nuanced instruction.

- *AI-Generated Formative Assessment Content:* teachers often spend time creating quizzes, prompts, or rubrics for formative assessment. Advances in generative AI suggest that these tools could take on some of that workload. For example, a teacher could ask an AI system to generate five comprehension questions about a text the class is reading, targeting different levels of Bloom's taxonomy (some factual, some inferential, etc.). The AI could also generate a draft rubric for an oral presentation assignment, which the teacher can then refine. This accelerates the preparation of formative assessment activities and potentially introduces more variety. Teachers in Kazakhstan could leverage this to get ideas that are culturally relevant – for example, prompting the AI to use Kazakh names or local contexts in word problems or dialogues to increase student relatability.
- *Advanced Analytics and Early Warning Systems:* AI's ability to handle big data can be applied to longitudinal student data to identify trends or predict areas of need. Over a semester, an AI system might analyze all the formative assessments a student has completed – quizzes, assignments, participation – and identify that the student's progress in listening skills has plateaued in the last month. It could alert the teacher that this student might need extra auditory practice or identify which types of listening questions the student often misses. Similarly, AI could help ensure no student falls behind by flagging those who consistently struggle, enabling targeted formative interventions (like a remedial session or adjusted instruction) before high-stakes exams. In larger Kazakhstani schools, where teachers handle 5–6 classes, such an AI-driven analytic tool could be invaluable for keeping track of individual progress amidst heavy teaching loads.
- *Cultural and Language Adaptation:* For AI to be most effective in Kazakhstan, future tools should be adapted to the multilingual context. An AI writing assistant, for example, could be tuned to recognize and address common errors that native Kazakh or Russian speakers make when writing in English (influenced by their first language). It could provide explanations or feedback in the student's first language when appropriate, thereby making formative feedback more accessible. Additionally, AI could help develop formative assessments that integrate Kazakh cultural content, which increases student interest and preserves cultural relevance while learning English. Although these are not direct uses of AI, they are improvements in AI's ability to support learning in specific contexts, making the formative assessment more effective.

While the prospects are promising, it is crucial to address the *limitations and considerations* of using AI in formative assessment:

- *Reliability and Validity of AI Feedback:* AI systems are not infallible. They may sometimes misidentify an error or provide incorrect feedback, especially with open-ended language tasks. Teachers must therefore oversee AI feedback and train students to critically evaluate the feedback they receive. As a best practice, AI-generated feedback should be treated as suggestions rather than absolute judgments. For instance, an AI might flag a perfectly acceptable but less common turn of phrase as "awkward" simply because it deviates from its training data patterns. Teachers and students should verify and discuss such feedback, which can itself be a learning experience (why did the AI think this was a mistake? Is it actually a style choice?).
- *Teacher Role and Professional Development:* Introducing AI does not diminish the teacher's importance – in fact, it requires teachers to develop new skills. Teachers need to understand how to interpret AI-provided data, how to integrate AI activities into lesson plans, and how to guide students in using AI tools responsibly. Engeness (2021) argues that teachers must develop a digital identity and pedagogic design principles for digital environments to truly enhance student learning. In Kazakhstan, this means teacher training programs and in-service workshops should include components on educational technology and AI literacy. If teachers are not comfortable with the technology, they might underutilize it or use it superficially.

Additionally, teachers must maintain the human touch in assessment – AI might handle the grunt work of marking or analysis, but the encouragement, empathy, and expert judgment that teachers provide are irreplaceable. Ideally, AI frees up more time for those human aspects by taking on mechanical tasks.

- *Equity and Access:* Not all schools in Kazakhstan have the same level of access to advanced technology or high-speed internet, especially in rural regions. Over-reliance on AI tools in formative assessment could inadvertently widen gaps if some students benefit from AI-assisted learning and others do not. It's important for policymakers to ensure that technological enhancements are introduced in a way that's inclusive. Perhaps initial implementations will be in well-resourced schools, but plans should be made to expand access or provide alternatives (like offline AI tools or low-tech adaptive materials) to less advantaged contexts. Encouragingly, many AI tools can be accessed via smartphones, and Kazakhstan has a high rate of mobile phone usage, which might be leveraged.
- *Ethical Considerations:* With AI systems collecting detailed data on student performance, privacy and data security are paramount. Clear policies should govern what data is collected, who can access it, and how it's used. Additionally, transparency in AI decision-making (often termed algorithmic transparency) is important so that teachers and students trust the feedback. There is also the issue of ensuring that AI recommendations do not introduce biases. For example, if an AI system's training data is mostly from English learners in other countries, it might not perfectly fit Kazakhstani learners. Continuous monitoring and localization of AI tools can mitigate this.

In sum, AI offers a toolkit to potentially lighten teachers' loads and enrich the formative assessment process with rapid feedback, personalization, and data-driven insights. In the foreseeable future, Kazakhstan English language classrooms might have students interacting with AI-powered apps during independent work, receiving instant guidance, while the teacher roams and assists where needed, later reviewing AI-compiled reports to plan the next lesson's focus. Such a scenario embodies a blend of technology and human pedagogy. Yet, achieving it will require thoughtful implementation, training, and a clear vision of AI as a supplementing tool rather than a replacement for pedagogical practices. Adaptive learning technologies also show promise in this context. These systems serve as digital assistants that offer differentiated support by customising practice exercises according to each learner's performance. For instance, an adaptive platform could provide extra focused practice for a student who is having trouble with English past tense forms. Additionally, these technologies can produce extensive data on student achievement, allowing teachers to base their instructional decisions on the strengths and shortcomings of their students.

Conclusion

Particularly in the context of second language learning, formative assessment remains a very successful method to enhance student learning and engagement. Kazakhstan's strong commitment to learner-centred education is expected to be successful by adopting criteria-based formative assessment model. The current review emphasised the multidimensional benefits of FA and its significance in English language education.

However, complications have taken place when Kazakhstan transitioned to learner-centred education. For instance, teachers find implementing FA demanding in terms of time, class size, and systematic hurdles. It requires different forms of resources to consistently improve the assessment quality and monitor the quality of its application. Although AI tools can assist in overcoming certain difficulties, strategic planning and application of it requires attention from different stakeholders. If the assessment is implemented strategically, AI can systematise and improve assessment tasks, provide instant feedback, and support learner-centred education. All these are consistent with the aim of FA. Importantly, the review suggests that English language teachers should be skilled in digital technologies and be encouraged to integrate AI tools in their teaching practices.

Although using FA in English language teaching in Kazakhstan's secondary schools is in steady progress, further empirical research is necessary and should be conducted urgently to investigate and

assess the outcome quality of AI integration in FA in teaching and learning English so different stakeholders can establish guidelines to apply AI tools in or out of classrooms. Finally, the driving force behind this urgency and necessity lies a basic yet effective principle: assessment should eventually serve learning (William, 2011).

References

1 Abduazizovna, P. Z., & Lazokat, I. (2025, March). STRATEGIES FOR PROVIDING EFFECTIVE FEEDBACK IN TEACHING ENGLISH. In *International Conference on Modern Science and Scientific Studies* (pp. 226-232).

2 Alvarez, L., Ananda, S., Walqui, A., Sato, E., and Rabinowitz, S. (2014). *Focusing formative assessment on the needs of English language learners*. San Francisco, CA: WestEd.

3 Black, P. and Wiliam, D. (1998). Assessment and classroom learning. Assessment in Education: Principles, Policy & Practice, 5(1), 7–74.

4 Black, P., Harrison, C., Lee, C., Marshall, B., & Wiliam, D. (2003). *Assessment for learning: Putting it into practice*. Maidenhead, UK: Open University Press.

5 Carrol, M. and Christenson, L. (1995). Teaching students to set learning goals. Educational Leadership, 52(5), 48–51.

6 Colby-Kelly, C. and Turner, C. (2007). Assessment for learning in the EFL classroom: What we know so far. *Relay Journal*, 10(1), 3–10.

7 Crooks, T. J. (1988). The impact of classroom evaluation on students. *Review of Educational Research*, 58(4), 438–481.

8 Global Cities. (n.d.). *Kazakhstan: Alignment of national curriculum to global student learning outcomes*. Global Cities. Retrieved June 26, 2025, from https://www.globalcities.org/kazakhstan-alignment

9 Engeness, I. (2021). Developing teachers' digital identity: Pedagogic design principles to enhance students' learning in the 21st century. *European Journal of Teacher Education*, 44(1), 96–114. https://doi.org/10.1080/02619768.2020.1849129

10 Perkmen, S. and Edirisinghe, E. (2021). Enhancing peer assessment in large classes with automated feedback using natural language processing. *Education and Information Technologies*, 26(5), 5871–5893.

11 Hattie, J. (2009). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement*. London: Routledge.

12 Hopfenbeck, T. N., Zhang, Z., Zhigong, S., Robertson, P., and McGrane, J.A. (2023). Challenges and opportunities for classroom-based formative assessment and AI: A perspective. *Frontiers in Education*, 8(23). https://doi.org/10.3389/feduc.2023.1270700

13 HundrED. (2024). *Being a proactive teacher in formative assessment*. HundrED. Retrieved from HundrED Global Collection.

14 Kaiypova, F., & Kim, T. Y. (2024). Recent Advancements in English Education in the Multilingual Context of Kazakhstan. *영어학*, *24*, 934-952.

15 Kemelbekova, Z., Degtyareva, X., Yessenaman, S., Ismailova, D., & Seidaliyeva, G. (2024). AI in teaching English as a foreign language: Effectiveness and prospects in Kazakh higher education. *Xlinguae*. https://doi.org/10.18355/xl.2024.17.01.05

16 Kenzhetaeva, R., Nurzhanova, S., Beimisheva, A., Stambekova, A., Ryabova, E., & Kulbayeva, D. (2020). Features of the transition from the traditional to the criterial assessment in schools of Kazakhstan. *International Journal of Cognitive Research in Science, Engineering and Education* (IJCRSEE), 8(3), 73–81. https://doi.org/10.23947/2334-8496-2020-8-3-73-81

17 Lee, I. (2011). Formative assessment in EFL writing: An exploratory case study. *Changing English*, 18(1), 99–111.

18 McGarr, O., & Clifford, A. M. (2013). 'Just enough to make you take it seriously': exploring students' attitudes towards peer assessment. *Higher education*, *65*, 677-693.

19 Moeller, A. J., Theiler, J. M. and Wu, C. (2012). Goal setting and student achievement in the learning of foreign languages. *Modern Language Journal*, 96(2), 153–169.

20 Moss, C. M. and Brookhart, S. M. (2010). *Advancing formative assessment in every classroom: A guide for instructional leaders*. Alexandria, VA: ASCD.

21 Nazarbayev Intellectual Schools Center for Educational Programmes. (2018). Being a proactive teacher in formative assessment [Teaching guide]. Astana, Kazakhstan. (Innovation described on HundrED platform)

22 Popham, W. J. (2011). *Transformative assessment in action: An inside look at applying the process*. Alexandria, VA: ASCD.

23 Sadler, D. R. (1989). Formative assessment and the design of instructional systems. *Instructional Science*, 18(2), 119–144.

24 Sailybayeva, A. (2024, June). Reconsidering assessment for learning: Exploring grading practices in EFL classrooms in Almaty. Paper presented at CESS 2024 Conference, Almaty, Kazakhstan.

25 Stiggins, R. (2002). Assessment crisis: The absence of assessment for learning. *Phi Delta Kappan*, 83(10), 758–765.

26 Tomasik, M. J., Nordström, T. and Scheffer, T. (2018). Adaptive assessment of student progress in learning. *Journal of Educational Psychology*, 110(6), 817–834.

27 Wei, L. (2023). Artificial intelligence in language instruction: impact on English learning achievement, L2 motivation, and self-regulated learning. *Frontiers in Psychology.* https://doi.org/10.3389/fpsyg.2023.1261955

28 Wiliam, D. (2008). *Improving learning in science with formative assessment*. In J. Coffey, R. Douglas, & C. Stearns (Eds.), **Assessing Science Learning: Perspectives from Research and Practice** (pp. 3–20). National Science Teachers Association Press.

29 Wiliam, D. (2011). What is assessment for learning? *Studies in educational evaluation*, *37*(1), 3-14.

30 Wiliam, D., Lee, C., Harrison, C., and Black, P. (2004). Teachers developing assessment for learning: Impact on student achievement. *Assessment in Education*, 11(1), 49–65.

31 Wylie, E. C., and Lyon, C. (2015). The fidelity of formative assessment implementation: Issues of breadth and quality. *Assessment in Education: Principles, Policy & Practice*, 22(1), 140–160.

32 Yaşar, H. and Karagücük, V. (2024). Exploring the relationship between artificial intelligence literacy and English language learning motivation. *International Journal of Languages' Education and Teaching. 12*(4), 107–124. https://doi.org/10.71084/ijlet.1561914

33 Qiao, H., & Zhao, A. (2023). Artificial intelligence-based language learning: illuminating the impact on speaking skills and self-regulation in Chinese EFL context. *Frontiers in Psychology, 14*. https://doi.org/10.3389/fpsyg.2023.1255594

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ЖАСАНДЫ ИНТЕЛЛЕКТ ҚҰРАЛДАРЫН ҚАЛЫПТАСТЫРУШЫ БАҒАЛАУҒА КІРІКТІРУ: ҚАЗАҚСТАН МЕКТЕПТЕРІНДЕГІ АҒЫЛШЫН ТІЛІ САБАҚТАРЫНА ӘСЕРІН ЗЕРДЕЛЕУ

Аңдатпа. Формативті бағалау – оқытудың тиімді құрамдас бөлігіне айналды, себебі ол мұғалімдер мен оқушыларға оқу нәтижелерін жақсартуға көмектесетін үздіксіз кері байланысты қамтамасыз етеді. Бұл шолулық әдебиеттер зерттеуінде Қазақстандағы ағылшын тілі сабақтарында формативті бағалауды енгізу мәселесі қарастырылады, сондай-ақ жасанды интеллект (ЖИ) құралдарының осы практикаларды қалай қолдап жатқандығы

және болашақта қалай күшейте алатындығы зерттеледі. Бұл шолу формативті бағалау бойынша халықаралық және жергілікті зерттеулерді біріктіреді – негізгі ұғымдарына, құрамдас бөліктеріне, артықшылықтары мен қиындықтарына анықтама беріледі – және бұл талдау Қазақстанда соңғы жылдары енгізілген критериалды бағалау жүйесі аясында жүргізіледі. Сонымен қатар, қазіргі білім беру саласындағы ЖИ-дің қолданылу мысалдары талқыланады (мысалы, бейімделетін білім беру платформалары, табиғи тілді өңдеу арқылы кері байланыс беру құралдары және ЖИ негізіндегі өзара/өзін-өзі бағалау жүйелері), әрі қарай ЖИ-ді формативті бағалауға қолдау ретінде пайдалану мүмкіндіктері қарастырылады. Нәтижелер көрсеткендей, формативті бағалаудың оқушылардың ынтасы мен үлгерімін арттырудағы маңыздылығы мойындалғанымен, оны жүзеге асыру барысында қазақстандық мұғалімдер бірқатар қиындықтарға тап болады, оның ішінде сыныптардың тым үлкен болуы және қалыптасқан бағалау тәжірибелерін өзгерту қажеттігі бар. ЖИ технологиялары кері байланысты жекелендіруге, күнделікті бағалау тапсырмаларын автоматтандыруға және оқытуды деректер негізінде басқаруға мүмкіндік беретін болашағы зор шешімдерді ұсынады, дегенмен олардың тиімді енгізілуі үшін педагогтарды даярлау және мұқият интеграциялау қажет. Қорытындыда Қазақстандағы педагогтер мен білім беру саясаты өкілдеріне арналған ұсыныстар келтіріледі. Онда формативті бағалаудың дәлелденген стратегияларын ЖИ қолдауымен ұштастыру ағылшын тілін анағұрлым икемді әрі тиімді оқытуға жол ашатыны атап көрсетіледі.

Түйін сөздер: формативті бағалау, ағылшын тілін оқыту, Қазақстан, жасанды интеллект, білім беру технологиялары, кері байланыс, оқытуға бағытталған бағалау, өзара бағалау; өзін-өзі бағалау.

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ИНТЕГРАЦИЯ ИНСТРУМЕНТОВ ИСКУССТВЕННОГО ИНТЕЛЛЕКТА В ФОРМАТИВНОЕ ОЦЕНИВАНИЕ: ИССЛЕДОВАНИЕ ИХ ВЛИЯНИЯ НА УРОКИ АНГЛИЙСКОГО ЯЗЫКА В ШКОЛАХ КАЗАХСТАНА

Аннотация. Формативное оценивание стало ключевым компонентом эффективного обучения, обеспечивая непрерывную обратную связь, которая помогает учителям и ученикам улучшать результаты обучения. В данном обзорном исследовании литературы рассматривается внедрение формативного оценивания в классах английского языка в Казахстане, а также исследуется, как инструменты искусственного интеллекта (ИИ) усиливают и могут в дальнейшем усилить эти практики. В обзоре обобщаются международные и местные исследования по формативному оцениванию – дается определение его основных концепций, компонентов, преимуществ и проблем – в контексте недавних реформ образования в Казахстане, которые ввели критериально-ориентированную систему оценивания (формативное оценивание). Также обсуждаются современные примеры применения ИИ (такие как адаптивные образовательные платформы, инструменты обработки естественного языка для предоставления обратной связи, и системы взаимо- и самооценивания на основе ИИ) в образовании и рассматриваются потенциальные способы использования ИИ в поддержку формативного оценивания в будущем. Результаты показывают, что несмотря на признание ценности формативного оценивания для повышения вовлеченности учащихся и их успеваемости , казахстанские учителя сталкиваются с трудностями при его реализации, включая большие классы и изменение устоявшихся практик выставления оценок. Технологии ИИ предлагают многообещающие решения для персонализации обратной связи, автоматизации рутинных оценочных задач и информирования преподавания на основе данных, хотя для их

эффективного внедрения необходимы подготовка педагогических кадров и тщательная интеграция. В заключение приводятся выводы для педагогов и представителей образовательной политики в Казахстане, подчеркивающие, что сочетание проверенных стратегий формативного оценивания с поддержкой ИИ может способствовать более гибкому и эффективному обучению английскому языку.

Ключевые слова: формативное оценивание, преподавание английского языка, Казахстан, искусственный интеллект, образовательные технологии, обратная связь, оценивание для обучения, взаимооценивание, самооценивание.

Received 21 May 2025