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AI-ASSISTED ASSESSMENT OF SPEAKING COMPETENCE: A METHODOLOGICAL FRAMEWORK

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ANNOTATION: This article examines the use of artificial intelligence (AI) in assessing students’ speaking competence in English for Specific Purposes (ESP), particularly in Business English courses. The research problem concerns the need to combine automated speech analysis with the assessment of contextual, interactional, and professional-pragmatic aspects of oral communication. The aim of the study is to develop a methodological framework that integrates AI-supported analysis with professional teacher judgment. The study adopts a conceptual and methodological approach based on literature analysis, comparison of assessment principles, and theoretical synthesis. Its principal outcome is the proposed six-stage AAAS (AI-Assisted Assessment of Speaking) Framework, which comprises speaking task design, AI-supported speech analysis, rubric-based assessment, teacher verification, individualized feedback, and targeted practice followed by reassessment. The framework identifies six assessment criteria: fluency and coherence, pronunciation and intelligibility, grammatical accuracy, vocabulary and Business English terminology, interactional competence, and professional-pragmatic competence. These criteria are intended to represent complementary dimensions of speaking performance in professional communication. The article concludes that AI should serve as an analytical support tool rather than replace teachers’ professional judgment. Teacher verification remains essential for interpreting context, checking automated outputs, and evaluating communicative appropriateness. The proposed framework is conceptual; its reliability, validity, fairness, and practical effectiveness have not yet been empirically established and require further investigation.

Keywords: artificial intelligence, speaking competence, Business English, English for Specific Purposes, automated speech analysis, assessment criteria, formative assessment, teacher verification, individualized feedback, AAAS Framework.

ANNOTATSIYA

Mazkur maqolada ingliz tilini kasbiy maqsadlarda o‘qitish (ESP), xususan, Business English kurslarida talabalarning gapirish kompetensiyasini sun’iy intellekt (SI) yordamida baholash masalasi ko‘rib chiqiladi. Tadqiqot muammosi avtomatlashtirilgan nutq tahlili imkoniyatlaridan foydalanish bilan birga, og‘zaki muloqotning kontekstual, interaktiv va kasbiy-pragmatik jihatlarini xolis baholash zarurati bilan belgilanadi. Maqolaning maqsadi SI vositalari tahlilini o‘qituvchining professional bahosi bilan uyg‘unlashtiruvchi metodologik yondashuvni ishlab chiqishdan iborat. Tadqiqot konseptual-metodologik xususiyatga ega bo‘lib, ilmiy adabiyotlarni tahlil qilish, baholash tamoyillarini qiyoslash va nazariy umumlashtirish usullariga asoslanadi. Natijada gapirish kompetensiyasini SI yordamida baholashning olti bosqichli AAAS (AI-Assisted Assessment of Speaking) modeli taklif etiladi. U nutqiy topshiriqni loyihalash, SI yordamida nutqni tahlil qilish, mezonlar asosida baholash, o‘qituvchi tomonidan tekshirish, individual fikr-mulohaza berish hamda maqsadli mashq va qayta baholash bosqichlarini qamrab oladi. Model doirasida ravonlik va izchillik, talaffuz va tushunarlilik, grammatik aniqlik, kasbiy lug‘at, interaktiv hamda kasbiy-pragmatik kompetensiya kabi olti mezon belgilanadi. Xulosa sifatida, SI baholash jarayonida yordamchi vosita bo‘lishi, yakuniy pedagogik qaror esa o‘qituvchi tomonidan

qabul qilinishi lozimligi asoslanadi. Modelning ishonchliligi, validligi, adolatliligi va amaliy samaradorligi kelgusida empirik tadqiqotlar orqali tekshirilishi zarur.

Kalit so‘zlar: sun’iy intellekt, gapirish kompetensiyasi, Business English, ESP, nutqni avtomatik tahlil qilish, baholash mezonlari, formativ baholash, o‘qituvchi nazorati, individual fikr-mulohaza, AAAS modeli.

АННОТАЦИЯ

В статье рассматривается проблема оценивания компетенции говорения студентов с помощью искусственного интеллекта (ИИ) в рамках обучения английскому языку для специальных целей (ESP), в частности курса Business English. Актуальность исследования обусловлена необходимостью сочетать возможности автоматизированного анализа речи с объективной оценкой контекстуальных, интерактивных и профессионально-прагматических аспектов устного общения. Цель статьи заключается в разработке методологического подхода, объединяющего анализ речи с помощью ИИ и профессиональное оценивание преподавателя. Исследование носит концептуально-методологический характер и основано на анализе научной литературы, сопоставлении принципов оценивания и теоретическом обобщении. Основным результатом является разработка предлагаемой шестиступенчатой модели AAAS (AI-Assisted Assessment of Speaking), включающей проектирование речевого задания, анализ речи с помощью ИИ, оценивание по критериям, проверку результатов преподавателем, предоставление индивидуальной обратной связи, целенаправленную практику и повторное оценивание. В модели выделены шесть критериев: беглость и связность речи, произношение и разборчивость, грамматическая точность, владение профессиональной лексикой, интерактивная и профессионально-прагматическая компетенции. Сделан вывод о том, что ИИ должен выполнять вспомогательную аналитическую функцию, тогда как окончательная интерпретация результатов и педагогическое решение остаются за преподавателем. Надёжность, валидность, справедливость и практическая эффективность предложенной модели требуют дальнейшей эмпирической проверки.

Ключевые слова: искусственный интеллект, компетенция говорения, Business English, английский язык для специальных целей, автоматизированный анализ речи, критерии оценивания, формирующее оценивание, контроль преподавателя, индивидуальная обратная связь, модель AAAS.

INTRODUCTION

Speech recognition technology has opened up new opportunities for assessing students' abilities with foreign languages. Speech recognition technology allows teachers to assess how well their students are able to use language as they speak. This is done using automated language analysis and AI-generated feedback. In language education, these technologies can support the analysis of oral performance by identifying certain features of speech, including pronunciation, pauses, fluency, and lexical or grammatical patterns. Assessing students' oral communication skills is a complicated educational endeavor due to many factors. Students who communicate successfully utilize language accurately; however, they also demonstrate cohesion, respond appropriately to conversational cues, coordinate turn taking and use language effectively within a specific social context. Crompton et al. emphasize that although artificial intelligence offers opportunities for language teaching and assessment, its integration requires careful consideration of pedagogical objectives and technological limitations (Crompt et al., 2024, 2503-2529).

In Uzbekistan, the relevance of developing effective approaches to foreign-language assessment is supported by national educational priorities. Presidential Resolution on May 19, 2021, On Measures to Raise Foreign Language Learning to a Qualitatively New Level, identifies

foreign-language education as a priority and emphasizes the improvement of teaching quality, the development of modern teaching methods, and the preparation of specialists with foreign-language proficiency (Presidential Resolution., 2021, PQ-5117).

The development of such approaches also requires attention to the specific conditions of English-language education in Uzbekistan. University students studying Business English and other ESP courses need to demonstrate not only general language knowledge but also the ability to perform communicative tasks relevant to their academic and future professional responsibilities. In this context, assessment needs to reflect the relationship between language performance and the practical purposes for which English is used. A transparent assessment framework may help teachers organize evidence of students' speaking performance, identify areas requiring improvement, and provide feedback linked to explicit learning objectives

Several Uzbek scholars have addressed issues relevant to this discussion. M. Khamzayeva, in her study of speaking assessment in English as a foreign language, examines the relationship between teaching approaches and assessment practices, drawing attention to the importance of aligning evaluation with communicative learning objectives (Khamzayeva M., 2023, 115-124). This perspective suggests that speaking assessment should be viewed not merely as a procedure for measuring linguistic accuracy, but as a means of determining how effectively learners use language to achieve communicative purposes. N.N.Khoshimova examines the alignment of teacher-created assessments with CEFR-based language testing in Uzbekistan, highlighting the role of speaking tasks, analytical and holistic rubrics, and communicative competence in organizing language assessment (Khoshimova N.N., 2026, 805-810). Taking this approach, the integration of AI into speaking assessment should preserve the multidimensional nature of oral competence by combining measurable linguistic indicators with the evaluation of interactional and contextual appropriateness. Z.Kuchkarova investigates formative assessment in Uzbek EFL classrooms; her study highlights the relevance of ongoing feedback and learner reflection, supporting the inclusion of individualized feedback and subsequent practice within the proposed assessment framework (Kuchkarova Z., 2025, 453-455). Taken together, these contributions indicate the relevance of connecting communicative assessment principles with responsible technological support.

While international research also supports that AI provides opportunities for the advancement of language education, there are very important methodological concerns about how these can be done. The methodological issues are most critical where oral performance will be assessed by means of automated systems. This is due to several reasons including but limited to: transcription inaccuracies; differences in accents; limitations on the ability of the system to interpret context and provide consistent feedback on student performance. Therefore, professional-pragmatic competence and/or the quality of the interaction cannot always be determined through use of only AI-automated linguistic assessments. Hence, AI-generated analytical data must be considered as supplementary/secondary support for judgments regarding students' speaking competencies rather than as an unconditional absolute determination.

This paper proposes a methodological structure for the use of AI for assessing speaking competence, specifically in relation to business English and ESP at the post-secondary level. In order to achieve this objective, the paper evaluates both the uses and limitations of AI technology with respect to assessment, identifies methodological structures for combining automated assessment data with teacher assessment, and develops the proposed AAAS (AI-Assisted Assessment of Speaking) Structure. The paper presents a structurally organized model for implementing AI-based spoken language assessment and defines the supportive/complementary relationship between automated analysis and teacher interpretation.

The framework and its scoring categories are proposed for further examination; their reliability, validity, fairness, and practical effectiveness have not yet been empirically established.

By situating the proposed approach within international research and Uzbekistan's educational and digital-development priorities, the article seeks to contribute to the discussion of transparent, context-sensitive, and pedagogically responsible AI-assisted speaking assessment.

METHODS AND METHODOLOGY

The present study adopts a conceptual and methodological approach aimed at developing a framework for AI-assisted assessment of speaking competence in Business English and English for Specific Purposes (ESP). Rather than conducting an empirical classroom experiment, the study focuses on analyzing relevant theoretical perspectives and using them to construct a structured assessment framework. The methodological basis combines literature analysis, comparison of assessment principles, and conceptual synthesis. This approach makes it possible to identify the main requirements for integrating artificial intelligence into speaking assessment while distinguishing potential technological functions from decisions that require professional teacher judgment.

The study draws on established principles of language assessment and communicative competence. G. Fulcher emphasizes the importance of test purpose, task design, scoring procedures, validity, and fairness in language assessment (Fulcher G., 2025, 364). These principles are relevant to AI-assisted assessment because automated analysis can only be meaningful when it corresponds to clearly defined learning objectives. In Business English, speaking competence involves not only grammatical accuracy and pronunciation but also fluency, coherence, professional vocabulary, interaction, and the appropriate use of language in workplace situations. Therefore, the assessment process should examine several dimensions of oral performance instead of relying on a single automated score.

The methodological approach also considers the role of educational technology in supporting teaching and assessment. E.S. Polat discusses the use of pedagogical and information technologies in educational processes, providing a general theoretical basis for integrating technological tools into learning environments (Polat E. S., 2009, 269). In the present study, this perspective is applied to AI-supported assessment: technology may assist with collecting and analyzing evidence of oral performance, but its outputs should be interpreted in relation to the assessment objectives and the learner's communicative context. This distinction is particularly important because automated speech recognition may produce transcription errors or fail to interpret the pragmatic meaning of an utterance accurately.

Uzbekistan-based research also informs the proposed framework. N.K. Kadirova and K.A. Alikberova discuss the opportunities and challenges of integrating artificial intelligence into English-language teaching, drawing attention to pedagogical responsibility and the limitations associated with technology use (Kadirova N.K., Alikberova K.A., 2026, 794-797). These perspectives support the need to combine communicative assessment criteria with careful human supervision.

Based on the analysis, the AAAS (AI-Assisted Assessment of Speaking) Framework was developed through the identification of assessment objectives, the selection of relevant speaking criteria, and the organization of assessment procedures into a coherent sequence. The proposed framework comprises six stages: speaking task design, AI-supported speech analysis, rubric-based assessment, teacher verification, individualized feedback, and targeted practice followed by reassessment. The sequence connects the collection of evidence with its interpretation and subsequent learning decisions. For example, AI tools may support the analysis of speech rate, pauses, pronunciation features, and lexical or grammatical patterns, whereas teachers evaluate whether the learner's response is coherent, appropriate to the professional situation, and effective in achieving its communicative purpose.

The framework incorporates six proposed assessment criteria: fluency and coherence, pronunciation and intelligibility, grammatical accuracy, vocabulary and Business English

terminology, interactional competence, and professional-pragmatic competence. These criteria are intended to represent complementary dimensions of speaking performance. They also provide a basis for transparent feedback by allowing teachers to identify specific strengths and areas for improvement. Nevertheless, the criteria and proposed scoring system remain provisional. Their reliability, validity, fairness, and practical effectiveness have not yet been established through empirical testing.

Particular attention is given to the relationship between automated analysis and teacher judgment. AI-generated results are treated as supporting evidence rather than as definitive decisions about a learner's competence. Teachers should check the accuracy of transcriptions, consider the influence of accents and recording conditions, and determine whether the feedback corresponds to the task objectives. This approach also requires responsible handling of learners' voice recordings and attention to privacy. The framework is therefore proposed as a methodological model for further investigation in Business English and ESP classrooms, including higher education institutions in Uzbekistan. Future research should examine its application to different speaking tasks and compare AI-generated assessments with evaluations made by trained teachers.

RESULTS AND DISCUSSION

The main outcome of the present study is the development of the proposed AI-Assisted Assessment of Speaking (AAAS) Framework, designed to organize the use of artificial intelligence in evaluating speaking competence in Business English and other English for Specific Purposes (ESP) courses. The framework establishes a structured relationship between assessment task design, AI-supported analysis, rubric-based evaluation, teacher verification, feedback, and reassessment. Unlike approaches that rely primarily on automated scores, the proposed framework treats AI as an analytical aid and retains the teacher's responsibility for interpreting learners' communicative performance.

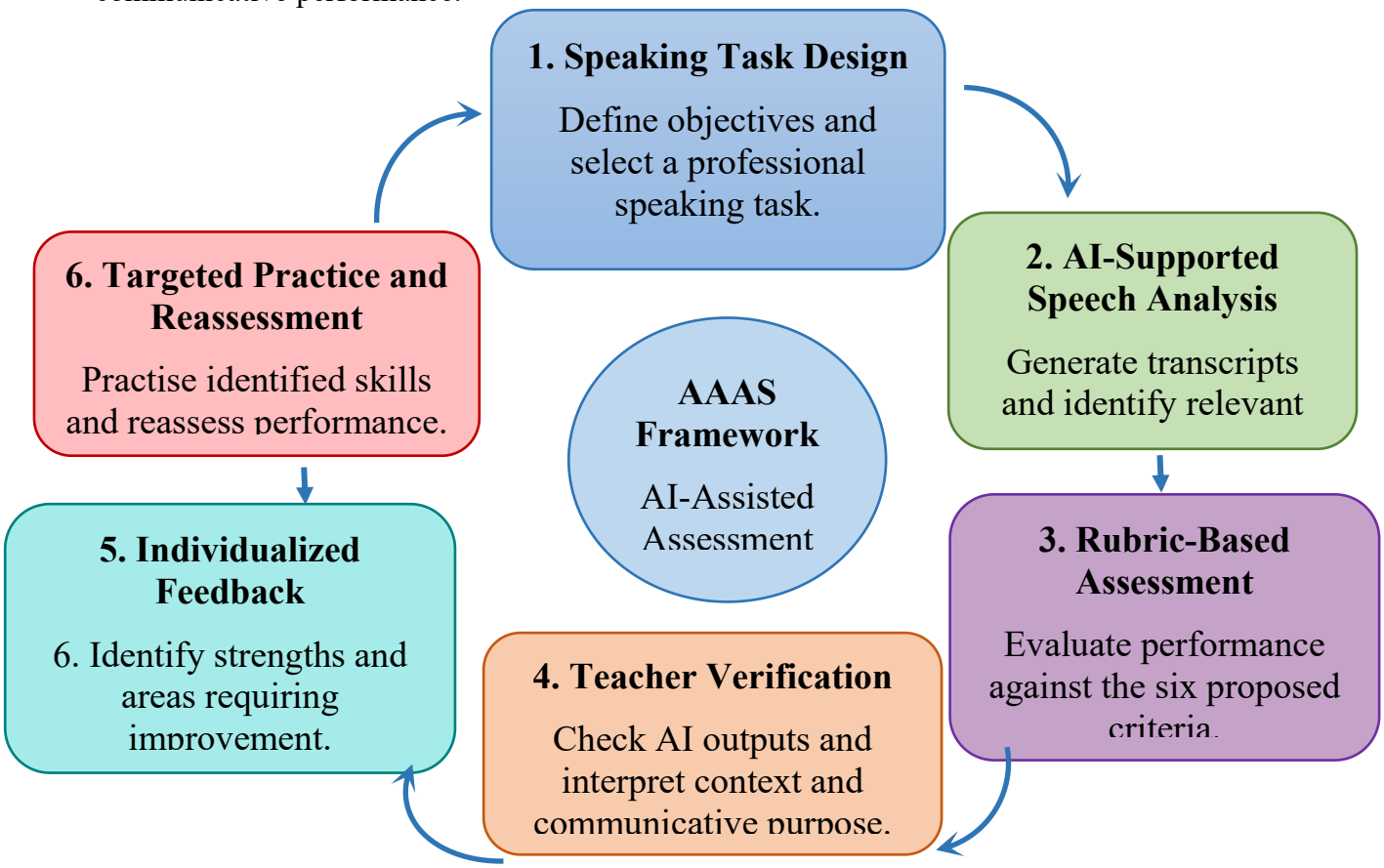


Figure 1. The proposed stages of the AAAS Framework

The framework consists of six interconnected stages:

1. Speaking Task Design involves selecting a task that reflects the learning objectives and communicative requirements of the course. In Business English, suitable tasks may include job interviews, business presentations, meetings, negotiations, and client consultations.

2. AI-Supported Speech Analysis involves using appropriate technological tools to examine recorded or digitally captured oral performance. Depending on the selected system, AI may generate a transcript, identify pauses, estimate speech rate, or provide preliminary feedback on pronunciation, vocabulary, and grammatical patterns.

These functions can help teachers identify features that may require closer examination. However, automated analysis may be affected by accent variation, background noise, transcription errors, and limitations in interpreting context. Therefore, AI-generated outputs should not be treated as complete or unquestionable representations of speaking competence.

3. Rubric-Based Assessment organizes the collected evidence according to clearly defined criteria. A rubric makes the assessment process more transparent by specifying the dimensions of performance and the expectations associated with each one.

For the proposed framework, six criteria are identified: fluency and coherence, pronunciation and intelligibility, grammatical accuracy, vocabulary and Business English terminology, interactional competence, and professional-pragmatic competence. These dimensions reflect the varied demands of professional spoken communication and help prevent assessment from being reduced to grammatical correctness or pronunciation alone.

4. Teacher Verification ensures that AI-generated observations are checked against the learner's actual performance and the objectives of the task. Teachers may compare automated transcripts with the original recording, disregard inaccurate feedback, and evaluate features that require contextual interpretation. This stage is central to the framework because it connects technological analysis with informed pedagogical judgment.

5. Individualized Feedback translates assessment findings into specific recommendations for improvement. Instead of receiving only a general score, learners should be informed about their strengths and the aspects of performance requiring further development. Feedback may address the organization of ideas, intelligibility, grammatical patterns, professional vocabulary, responsiveness to questions, or appropriateness of register.

6. Targeted Practice and Reassessment connects assessment with subsequent learning. Learners use the feedback to practice particular speaking skills and complete a comparable task at a later stage.

Nevertheless, improvement cannot automatically be attributed to AI assistance; it may also reflect classroom instruction, independent practice, and other learning experiences.

Table 1. The proposed assessment rubric

The proposed rubric is another component of the framework. It is intended to support consistent assessment while recognizing that not all dimensions of speaking competence can be evaluated reliably through automated analysis.

	Assessment criterion	**Observable indicators**	**Potential AI contribution**	**Teacher's evaluative role**
	Fluency and coherence	Speech continuity, logical organization, linking expressions	Identify pauses, speech rate, and possible patterns of disfluency	Evaluate idea development, coherence, and communicative flow
	Pronunciation and intelligibility	Articulation, stress, intonation, comprehensibility	Provide preliminary pronunciation analysis where supported	Determine whether speech is understandable in context
	Grammatical accuracy	Sentence structure, tense use, grammatical patterns	Flag possible grammatical errors	Verify errors and consider their effect on meaning
	Vocabulary and Business English terminology	Lexical range, precision, professional terminology, register	Identify vocabulary patterns and possible lexical errors	Judge whether vocabulary is accurate, appropriate, and effective
	Interactional competence	Turn-taking, responsiveness, clarification, engagement	Support transcript analysis and identification of response patterns	Evaluate how effectively the learner responds and maintains interaction
	Professional-pragmatic competence	Register, professional appropriateness, audience awareness, achievement of communicative purpose	Offer limited language-based observations where supported	Interpret professional context, pragmatic appropriateness, and communicative effectiveness

The framework may be applied to a Business English job-interview task. In this illustrative scenario, a learner responds to questions about professional experience, strengths, and suitability for a position. An AI tool may transcribe the response and identify recurring pauses or language patterns. The teacher then evaluates the response against the rubric, considering not only linguistic accuracy but also the clarity of the candidate's answers, the relevance of supporting examples, the use of professional terminology, and the appropriateness of the register. Feedback may recommend more coherent answer organization, more precise vocabulary, or more direct responses to interview questions. The learner subsequently practises these areas and completes a comparable interview task. This scenario illustrates how the framework could operate; it is not a report of an experiment or evidence of measured improvement.

The proposed approach has several methodological implications for higher education in Uzbekistan. Business English and other ESP courses require assessment practices that connect language learning with academic and professional communication. The AAAS Framework offers a possible structure for incorporating AI-supported analysis into existing assessment procedures without replacing the teacher or reducing speaking competence to a numerical output.

Several limitations must be acknowledged. AI systems differ in their ability to recognize speech, analyze language, and generate feedback, and their outputs may not be equally reliable for all speakers or tasks. Automated assessment may also disadvantage learners whose accents, speech

patterns, or recording conditions are poorly represented by a particular system. Future studies should therefore examine agreement between AI-generated assessments and trained human ratings, investigate the consistency of scores across different speaking tasks, and evaluate the fairness and educational usefulness of the feedback.

DISCUSSION

The proposed AAAS Framework highlights the importance of integrating artificial intelligence into speaking assessment through a structured and pedagogically grounded approach. Its main contribution is the combination of AI-supported speech analysis, criterion-based evaluation, teacher verification, and individualized feedback within a continuous assessment process. This approach reflects the understanding that speaking competence is multidimensional and cannot be adequately evaluated through isolated linguistic indicators or automated scores alone. The Council of Europe's Common European Framework of Reference for Languages: Companion Volume provides descriptors for several relevant dimensions of communicative competence, including spoken production, interaction, linguistic competence, and pragmatic competence (Council of Europe., 2020).

In Business English and other ESP courses, the relevance of the framework lies in its focus on professional communication. Learners are expected not only to produce grammatically accurate and intelligible speech but also to organize ideas, respond appropriately to interlocutors, use professional terminology, and adapt their language to specific communicative situations. Consequently, the proposed framework connects linguistic assessment with the practical requirements of workplace communication. Its application may help teachers identify specific areas for improvement and provide feedback that is more closely aligned with professional speaking tasks.

Another important consideration is the complementary relationship between AI technologies and teacher judgment. P.V. Sysoyev and E.M. Filatov emphasize that although artificial intelligence can support foreign-language practice and assessment, AI-generated feedback should be combined with teacher evaluation rather than replace the teacher's supervisory and evaluative role (Sysoyev P.V., Filatov E. M., 2024, 300-317). This human-centred approach is particularly important when evaluating interactional and professional-pragmatic competence.

For higher education institutions in Uzbekistan, the framework offers a potential methodological basis for incorporating AI-supported assessment into Business English and ESP instruction. Nevertheless, its practical implementation would require appropriate technological resources, teacher preparation, transparent assessment procedures, and safeguards for learners' data. Since the framework has not yet been empirically tested, further research is needed to investigate the consistency of AI-generated assessments, their agreement with trained teacher ratings, and the fairness and usefulness of the resulting feedback. Such investigation would help determine the conditions under which the proposed framework can be applied effectively in different educational contexts.

CONCLUSION

The present study proposed the AAAS (AI-Assisted Assessment of Speaking) Framework as a methodological approach to assessing speaking competence in Business English and other ESP courses. The framework integrates AI-supported speech analysis, rubric-based assessment, teacher verification, individualized feedback, and reassessment within a structured process. Its six assessment criteria address both linguistic performance and the communicative demands of professional interaction.The proposed framework emphasizes that artificial intelligence should support rather than replace teachers' professional judgment. By combining technological analysis with contextual interpretation, it offers a potential basis for more transparent, criterion-oriented, and professionally relevant speaking assessment in higher education, including in Uzbekistan. However, the framework remains conceptual, and its reliability, validity, fairness, and practical

effectiveness require empirical investigation. Future research should examine its application to different speaking tasks and compare AI-generated assessment outputs with evaluations conducted by trained teachers.

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