

THE EFFECT OF SOCRATIC SEMINARS ON THE ASSESSMENT AND DEVELOPMENT OF SPOKEN ARGUMENTATION SKILLS

Assessment

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Introduction

Competence-based education, learner autonomy, and transparency are frequently emphasized as key principles of assessment in recent educational policies. At the same time, increasing access to AI tools that generate written texts has brought academic integrity and validity into question. Teachers report difficulties in verifying authorship and assessing authentic understanding as students regularly use tools such as ChatGPT for writing, summarising, and idea generation ignoring ethical considerations (Baig, 2025; HEPI, 2025). Secondary education research results show increasing AI-assisted writing and problem-solving, as well as teacher uncertainty about detection and regulation (Eke, 2023). According to the international organisations, relying on detection technologies does not guarantee assessment validity and it is recommended to redesign classroom activities and tasks to focus on reasoning, learning processes, and interaction (UNESCO, 2023; OECD, 2024).

To address these issues, more emphasis should be put on renewed importance of spoken argumentation as both a learning goal and assessment format. Argumentation is considered as key to critical thinking, disciplinary understanding, and civic participation (Kuhn, 1991; Osborne, 2010). Research shows that structured oral argumentation improves conceptual development and deeper understanding when students justify claims and respond to counterarguments (Nussbaum, 2023). In comparison to written answer spoken argumentation happens in real time, making the reasoning process transparent and reducing reliance on AI.

According to the assessment theory, formative and dialogic forms of assessment is the key to students learning. Classroom assessment makes thinking explicit and provides real time feedback proving its effectiveness in students learning as they experience face to face interaction (Black and Wiliam, 2009). Nicol and Macfarlane-Dick (2006) emphasise the importance of transparent criteria and peer assessment. From this perspective, assessment is viewed not as a tool for measurement, but as an integral part of instruction that shapes students' understanding of quality and supports ethical academic practices.

The Socratic seminar represents an appropriate format for integrating spoken argumentation into assessment. Grounded in dialogic traditions, Socratic seminars engage students in structured discussions around shared texts or concepts, encouraging interpretation, critique, and collaborative knowledge construction (Adler, 1982). Empirical studies report positive effects on students' critical reading, reasoning, and oral communication, especially when discussions are supported through explicit scaffolding and reflective feedback. More recent research suggests that combining inner-circle participation with outer-circle observation

and peer assessment allows teachers to observe both performance and process and increases students' awareness of argumentative quality (Copeland, 2023).

Argumentation skills can be applied across disciplines when supported by consistent instructional frameworks. In science education, structured argumentation supports scientific reasoning and conceptual understanding (Driver et al., 2000), while in language education oral discourse fosters interpretative and evaluative competence (Swain, 2006). However, relatively little research has examined the systematic development and assessment of spoken argumentation across subjects within a shared pedagogical design, particularly in relation to the emerging challenge of AI-related academic dishonesty.

This study sought to address this gap by investigating an adapted Socratic seminar model implemented as an assessment tool in Grade 10 English and Biology classrooms and was guided by the following research questions:

1. To what extent does the implementation of an adapted Socratic seminar approach improve students' spoken argumentation skills across English and Biology?
2. How does the use of transparent assessment criteria and peer assessment within Socratic seminars influence student engagement and the reliability of spoken argumentation assessment?

Methodology

The study employed an exploratory action research design to investigate the development and assessment of spoken argumentation skills across subjects and to improve classroom practice through systematic inquiry.

Participants were eight Grade 10 learner groups comprising 96 students selected through convenience sampling. At the initial stage, difficulties were identified in both the development and reliable assessment of spoken argumentation. Hence, an instructional strategy was adapted from the classical Socratic seminar model focusing on scaffolding argument construction and engaging students in the co-creation of explicit assessment criteria for peer observation rubrics.

During the action phase, in English lessons, students discussed literary texts, while in Biology lessons they analysed target scientific concepts. In each seminar, students in the inner circle participated in guided discussion, sharing interpretations and responding to peers, while students in the outer circle observed and conducted peer assessment using the agreed rubrics.

A mixed-methods approach to data collection was adopted. Quantitative data were obtained from rubric-based scores on pre- and post-intervention speaking tasks. Descriptive statistics were used to examine changes in mean scores across groups and subjects. The overall mean score increased from 11.4 to 15.8, showing an average improvement of 4.4 points. The biggest increase was observed in the use of evidence (from 2.6 to 4.3) and reasoning (from 2.4 to 4.0).

Qualitative data were collected with the help of teacher observation and focus-group interviews. According to these data, 18 out of 24 students reported that they felt more confident in speaking, and 15 students indicated that the rubric made assessment criteria clearer. The qualitative data were coded thematically into three main themes: development of argument structure, learner awareness of assessment criteria, and implementation challenges.

Results

The results of the study indicate that the use of the adapted Socratic seminar model has led to considerable improvements in students' spoken argumentation skills in both English and Biology classes. The quantitative analysis of the assessment rubrics showed a clear increase in students' speaking performance after the intervention. The overall mean score increased from 11.4 to 15.8, which represents an average improvement of 4.4 points across all the groups.

The most significant growth was observed in the use of evidence and reasoning, which were key components of the argumentation skills rubric. The average score for the use of evidence increased from 2.6 to 4.3, which indicates that students had learned to better support their claims referring to textual information. Similarly, the reasoning skills improved from 2.4 to 4.0, which suggests that students were better able to explain the connection between their claims and the supporting evidence.

Moderate improvements were also observed in the clarity of claims and interaction with peers. Students demonstrated more confidence in expressing their views and responding to alternative ones. According to the observation data, students became more familiar with the discussion format and the assessment rubric and began to formulate more precise statements and respond more actively to the ideas of their peers.

During focus-group interviews, 18 out of 24 students reported that the Socratic seminar format helped them feel more confident when speaking in front of their classmates. Students explained that the structure of the discussion and the guiding questions made it easier to participate and organise their ideas. Moreover, 15 students indicated that the use of the rubric helped them better understand what a strong argument is and what teachers expect during discussions.

The observation data also highlighted the importance of peer assessment in the the outer circle because observers had to evaluate the performance of their peers using the rubric and provide feedback. This process promoted reflective thinking. Teachers noted that students began to use the language of the rubric, such as "claim," "evidence," and "reasoning," when commenting on their peers' arguments.

Conclusion

The findings of this study suggest that the adapted Socratic seminar model may be used as an effective teaching and assessment strategy for developing spoken argumentation skills. The observed improvements in students' ability to formulate claims, support arguments with evidence, and provide reasoning align with previous research that highlights the role of dialogic learning in promoting deeper understanding and critical thinking (Nussbaum, 2023; Osborne, 2010). With the help of structured discussion of subject content, the Socratic seminar format encouraged learners to actively construct and justify knowledge rather than simply reproduce information.

An important feature of the intervention was the use of co-created assessment criteria and peer observation. Involving students in the creation and use of rubrics enhanced their understanding of argument quality and made the expectations more explicit. This supports the principles of formative assessment described by Black and Wiliam (2009), which emphasise the importance of shared criteria and feedback in promoting learning. The use of outer-circle

peer assessment also contributed to higher learner engagement and encouraged students to reflect on the structure and effectiveness of arguments.

The results also indicate that argumentation skills can be developed in different subjects if appropriate frameworks are used. Similar patterns of improvement were observed in both English and Biology classrooms, which means that the key elements of an argument are transferable across disciplines.

The study contributes to the current discussions of assessment in the context of rapidly developing artificial intelligence. With AI tools, students can generate any content. Consequently, traditional forms of assessment face challenges related to authorship and authenticity. Spoken argumentation, especially in interactive formats such as Socratic seminars, provides an alternative approach to assessment. Instead of focusing on detection of AI-generated works, this approach is in line with international recommendations to redesign assessment tools focusing on understanding and communication.

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