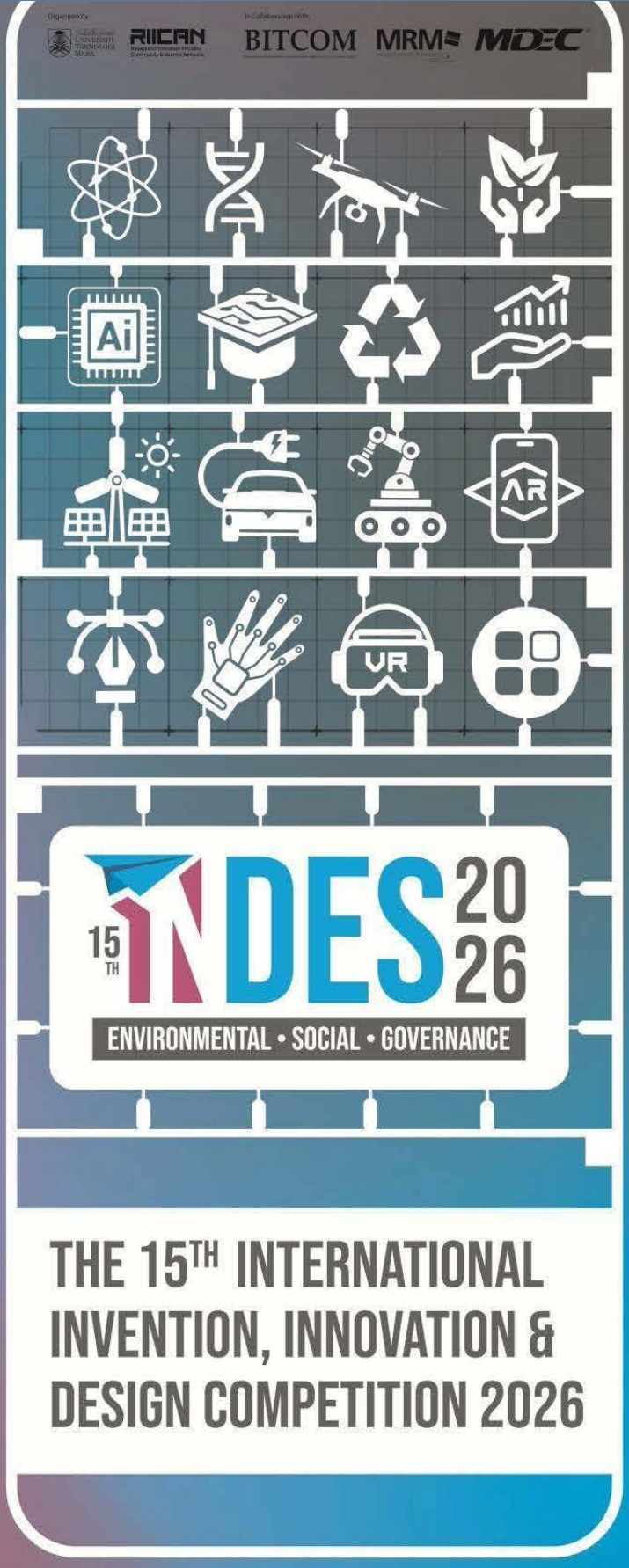


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THE 15th INTERNATIONAL
INVENTION, INNOVATION &
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FROM TICKS TO INSIGHTS (FTI) – TRANSFORMING LANGUAGE ASSESSMENT THROUGH AI-GENERATED FEEDBACK

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ABSTRACT

From Ticks to Insights (FTI) represents an innovative approach to language assessment that integrates Artificial Intelligence (AI) to transform traditional tick-based marking into meaningful, student-centred feedback. In conventional assessment practices, lecturers typically indicate correctness through ticks and crosses without providing explanatory feedback, which limits students' understanding of their mistakes and restricts their ability to improve. Research has shown that effective feedback plays a crucial role in enhancing learning outcomes, particularly when it provides clear guidance for improvement (Hattie & Timperley, 2007; Shute, 2008). This study introduces the use of Blackbox AI to generate rubric-based evaluations and personalised feedback for comprehension tasks in a TVET English classroom. The study was conducted at Politeknik Seberang Perai and involved sixty students enrolled in the DUE10112 course. A mixed-methods research design was employed, incorporating pre-test and post-test assessments, classroom observations, student interviews, logbooks, and feedback forms. The intervention was implemented over four weeks through structured enrichment activities integrating AI-assisted feedback. The findings indicate that students demonstrated improved comprehension performance, with post-test scores showing an overall increase compared to pre-test results. In addition, students displayed increased engagement and an enhanced ability to self-correct. Lecturers also experienced a reduced workload and improved efficiency in delivering feedback. The study suggests that AI-assisted assessment can serve as a practical and scalable solution for enhancing formative learning in language classrooms.

Keyword: Language Assessment, Artificial Intelligence in Education, Formative Feedback, Student-Centered Learning, TVET

1.0 INTRODUCTION

Assessment and feedback are essential components of effective language learning. However, in many classrooms, particularly within Technical and Vocational Education and Training (TVET) contexts, assessment practices remain predominantly product-oriented. Traditional marking methods, such as ticks, crosses, and numerical scores, indicate correctness but do not provide sufficient explanation to help students understand their mistakes. As highlighted by Shute (2008) and Hattie and Timperley (2007), feedback that lacks explanation limits students' ability to improve and reduces its impact on learning. As a result, students often lack awareness of why their answers are incorrect, which restricts their ability to develop comprehension skills and independent learning strategies.

This issue is more pronounced among students with moderate proficiency levels, who require guided support to interpret texts, understand context, and make inferences. Without meaningful feedback, these students tend to repeat similar errors, leading to surface-level learning rather than deep understanding (Nicol & Macfarlane-Dick, 2006; Sadler, 1989). At the same time, lecturers face challenges in providing

detailed and individualised feedback due to time constraints and large class sizes. This creates a gap between the need for high-quality formative feedback and the practical realities of classroom teaching.

Recent developments in Artificial Intelligence (AI) have introduced new possibilities for addressing this challenge. AI technologies are increasingly used in education to provide personalised learning experiences, automate feedback, and support student engagement (Zawacki-Richter et al., 2019; Crompton & Burke, 2023). Emerging tools such as large language models have further expanded the potential of AI in generating instant and structured feedback (Kasneci et al., 2023). However, despite these advancements, the structured implementation of AI within TVET English courses, such as DUE10112, remains limited.

Therefore, this study introduces the From Ticks to Insights (FTI) approach, which integrates AI-generated feedback into assessment practices to enhance students' comprehension skills and promote self-directed learning.

2.0 METHODOLOGY

This study employed a mixed-method research design combining quantitative and qualitative approaches to evaluate the effectiveness of the FTI intervention. The research was conducted at Politeknik Seberang Perai and involved sixty students from two classes enrolled in the DUE10112 course. All participants were from the same department and demonstrated a moderate level of English proficiency. Two lecturers were involved in implementing the intervention.

Data were collected using multiple instruments, including pre-test and post-test assessments, student logbooks, classroom observations, semi-structured interviews, and feedback forms. The pre-test was administered to establish baseline comprehension performance. During this stage, lecturers marked students' responses using traditional methods by indicating correct and incorrect answers and providing the correct responses without detailed explanations. This approach reflects conventional assessment practices where feedback is limited to correctness rather than understanding (Sadler, 1989).

Following the pre-test, the FTI approach was introduced through the use of Blackbox AI as a feedback tool. Students were guided on how to use the AI system to analyse their responses and obtain explanatory feedback. The intervention was conducted over a period of four weeks and consisted of eight structured enrichment activities, with two sessions conducted each week. Each week followed a consistent pattern in which students completed multiple-choice questions on the first day and structured questions on the second day.

During the intervention, students used Blackbox AI to evaluate their answers, identify errors, and understand the reasoning behind correct responses. This aligns with principles of formative assessment, where feedback supports self-regulated learning and reflection (Nicol & Macfarlane-Dick, 2006). Students recorded their performance and reflections in logbooks, allowing them to monitor their learning progress over time. Lecturers facilitated the activities and conducted observations to examine student engagement and interaction with the AI tool. At the end of the intervention, a post-test was administered to measure improvement in students' comprehension performance.

3.0 FINDINGS

The findings of the study indicate that the implementation of the FTI approach resulted in several positive outcomes. Students demonstrated a noticeable improvement in comprehension performance based on a comparison of pre-test and post-test results, with an overall increase in scores observed across both classes. This improvement suggests that AI-generated feedback contributed to a better understanding of comprehension tasks. In addition, students showed increased engagement during the learning activities, as they actively interacted with the AI-generated feedback and participated in analysing their mistakes. The use of Blackbox AI enabled students to develop greater awareness of their errors and encouraged self-correction, which is a key component of effective formative assessment (Shute, 2008). Students were able to understand the reasoning behind the correct answers, contributing to deeper comprehension and more meaningful learning.

Feedback from interviews and feedback forms further revealed that students perceived the AI tool as useful and supportive in enhancing their learning experience. Many students reported that the explanations provided by the AI helped them understand concepts more clearly compared to traditional marking methods. From the lecturers' perspective, the integration of AI significantly reduced the time required to provide detailed feedback, allowing them to focus more on facilitating learning rather than solely on marking. However, some challenges were identified, including the need to ensure the accuracy of AI-generated feedback and the importance of aligning AI responses with assessment rubrics. These findings suggest that while AI is a powerful tool, it should be used as a complement to lecturer guidance rather than as a replacement.

The findings also indicate that the use of Blackbox AI supported the development of self-directed learning among students. By independently analysing their mistakes, interpreting AI-generated explanations, and recording reflections in their logbooks, students became less dependent on lecturer feedback and more actively engaged in their own learning process. This shift demonstrates a transition from the passive reception of answers to active knowledge construction, which is a key characteristic of self-regulated learning (Nicol & Macfarlane-Dick, 2006). The ability to revisit feedback, reflect on errors, and apply corrections independently highlights the role of AI as a facilitator of autonomous learning. A majority of students (e.g., more than 70%) were able to identify and correct their own mistakes independently after using AI-generated feedback. This finding indicates that Blackbox AI does not merely function as a feedback tool but also acts as a cognitive scaffold that supports the development of independent and lifelong learning skills.

4.0 CONCLUSION

In conclusion, the From Ticks to Insights (FTI) approach demonstrates that integrating Artificial Intelligence into assessment practices can significantly enhance formative learning in language classrooms. By shifting from traditional tick-based marking to explanatory feedback, students are empowered to understand their mistakes, develop self-correction skills, and improve comprehension. At the same time, lecturers benefit from reduced workload and increased efficiency in providing feedback. The findings suggest that AI-assisted assessment offers a practical and scalable solution for improving teaching and learning in TVET contexts. This study contributes to the growing body of research on AI in education by providing evidence of how structured AI integration can enhance both student learning and teaching practices. Future research may explore the long-term impact of AI-assisted feedback and its application across different disciplines and learner proficiency levels.

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