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INNOVATION IN ACTION: TURNING IDEAS INTO REALITY

Chapter 9
A Virtual Scavenger Hunt to Explore Predictive Reading Skills

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ABSTRACT

Predictive reading skills improve comprehension and analytical thinking; however, many students struggle due to passive learning techniques and limited participation. The lack of creative ideas that incorporate real-world applications further hinders their progress. This initiative tackles the need to modify traditional teaching techniques by implementing AI-powered and technology-driven strategies that encourage active involvement and adhere to sustainable educational principles. This project aims to enhance students' ability to predict textual outcomes using contextual clues, utilizing AI-enhanced features of Google Maps and tools like Microsoft Forms to create an engaging and interactive learning environment. The project's centrepiece is a virtual treasure hunt set in Kota Tinggi, in which students use Google Maps' AI-powered features to navigate between physical locations. At each stop, they answer Microsoft Forms-based predictive reading questions. This paperless strategy not only reduces environmental effect, but it also improves digital literacy and familiarises students with AI-powered tools. The scavenger hunt is carefully structured, with contextual textual clues embedded at each level to direct students to the next site while testing their predicting abilities. This innovation guarantees a seamless, environmentally friendly, and immersive learning experience by leveraging AI in navigation and evaluation technology. Gamifying predictive reading skill development, this project encourages active participation, critical thinking, and collaboration. Students bridge the gap between academic knowledge and real-world applications, gaining practical insights while developing essential 21st-century skills such as digital literacy, teamwork, and problem-solving. This project supports sustainability through a paperless approach, leveraging AI and emerging technologies to improve predictive reading and active learning.

Key Words: Predictive Reading Skills, Sustainable Education, AI-Powered Tools

1. INTRODUCTION

Technology has transformed education by increasing engagement and learning. AI and tools such as Microsoft Forms enable interactive classrooms. According to Pareek (1923), "AI technologies offer engaging interactive learning opportunities that draw in students and encourage participation." This project improves predicted reading progress by combining Google Maps AI with Microsoft Forms interactivity, hence gamifying learning. It promotes critical thinking, teamwork, and sustainability, resulting in a digitally proficient and environmentally conscientious student generation.

2. LITERATURE REVIEW

Developing predictive reading strengthens comprehension and analytical skills. Traditional techniques fall short, whereas AI-driven education increases engagement through dynamic, interactive experiences that actively cultivate higher-order cognitive talents in students. Recent systematic reviews have highlighted the revolutionary power of AI in education. Mustafa et al. (2024) presented a complete systematic review of AI-enhanced educational techniques, claiming that combining AI technologies can result in adaptable and personalised learning environments. Their findings show that technology-driven techniques not only address specific student requirements, but also actively promote critical thinking and predictive skills. The abstract describes an innovation project that uses Google Maps' AI-powered capabilities to create a location-based scavenger hunt, which is consistent with our findings. This immersive method not only promotes active learning, but it also combines physical navigation with cognitive involvement, improving the predictive reading process. Fanning (2024) emphasises that the incorporation of developing technologies in educational situations alters traditional instructional techniques. According to Fanning, AI can revitalize teaching processes by transitioning from static to interactive modes, resulting in increased digital literacy and collaborative learning. In the context of predictive reading, converting a conventional classroom into a virtual exploratory space increases the authenticity of the learning experience. By incorporating textual hints into a practical navigation scenario, the project successfully gamifies the learning process, encouraging students to actively predict and infer outcomes while navigating a variety of physical environments. Research demonstrates that AI-driven evaluation improves educational outcomes. Almalawi, Soh, Li, and Samra (2024) discovered that machine learning outperforms traditional methods for accuracy. Digital technologies such as Microsoft Forms simplify formative assessment by combining evaluation and exploration, increasing pedagogy through data-driven feedback, precision, and active engagement.

3. METHODOLOGY

This innovation project was carried out with the application of a 4-stage theoretical model actions that have been developed by Coughlan and Brannick (2005). Stage 1 (analysis) - we identified that conventional teaching methods, characterized by passive engagement and a lack of real-world context, hamper the development of predictive reading abilities. This deficiency necessitated the incorporation of interactive, technology-driven learning experiences. Stage 2 (planning) - Microsoft Forms are used to ask predictive questions

associated with Google Maps locations, as seen in Figure 1. The scavenger hunt was structured so that each location offered specific textual clues, prompting students to anticipate narrative outcomes and convert context into actionable insights. Figure 1 illustrates the planning phase of an immersive digital scavenger hunt activity.

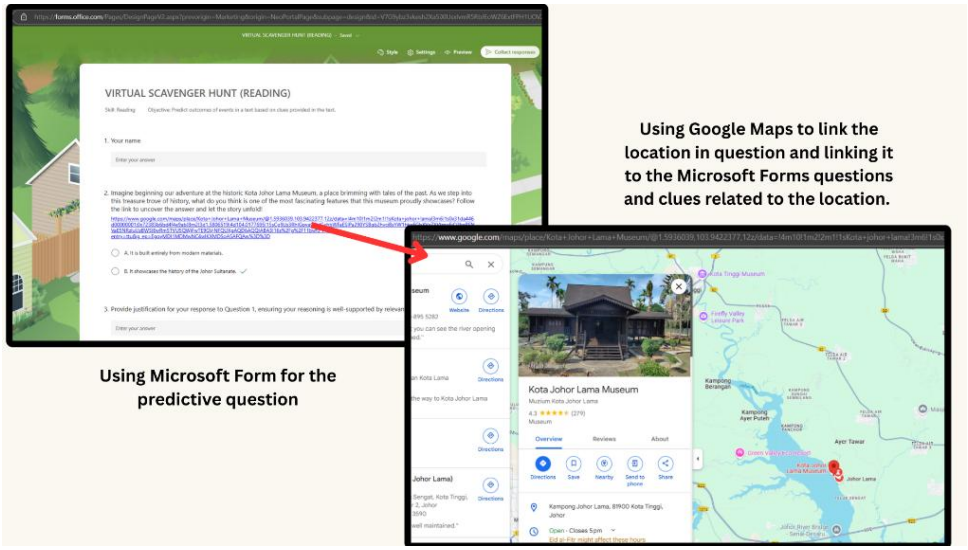

Figure 1: The Immersion Learning Activity's Digital Tool Process Flow

Stage 3 (taking action) - in collaborative groups, students received an initial clue with a digital map link directing them to a starting point in the Kota Tinggi area. Sequential cues guided each group from one checkpoint to another, demanding active problem-solving and predictive analysis. Stage 4 (evaluation action) - this stage involved collecting data from students' responses and reflective feedback. This dual assessment method gauged improvements in digital literacy, analytical thinking, and overall engagement, affirming the effectiveness of our innovative educational approach. This approach exemplifies innovation in active learning.

4. RESULTS & DISCUSSION

The findings of this research are divided into two parts - the virtual scavenger hunt and student reflections regarding the integration of AI and emerging technologies in the activity.

4.1 Analysis on the Students Answers

For question 1 of the first part on demographic profile, 50% of the respondents is male and the other 50% is female. For question 2 *(Imagine beginning our adventure at the historic Kota Johor Lama Museum, a place brimming with tales of the past. As we step into this treasure trove of history,* ***what do you think is one of the most fascinating features that this museum proudly showcases?),*** all the respondents predicted the textual outcome correctly using the contextual clues of the word 'museum' where respondents highlighted the word historical, history and artifacts. They also relied on the reviews left by visitors in Google Maps.

Question 3 - *As you explore its exhibits and artifacts,* ***what fascinating stories and lessons do you think visitors can uncover about this historic site?*** *Clue: Read Din Saint review at the reviews section in the Google Maps)*, the clues left by Din Saint's provides the surface of the answers and all the respondents added few additional information that they can get from the internet/background knowledge to justify the answers. All the respondents analysed the map and found the correct answer by referring to the distance and clues (perfect haven) which they associated with peace and natural environment in question 4 - *As you explore the rich history of the Kota Johor Lama Museum, now seeking a cozy retreat to unwind nearby.* ***What charming resort do you think would be the perfect haven, just a stone's throw away from this historic gem****?* For question 5 *(After a day of exploring the Kota Johor Lama Museum you are seeking for a serene escape. You stumble upon* ***a review by Jessie Wong****, sharing her experience at a nearby resort.* ***What do you think makes this resort so enchanting and appealing to visitors, as described in her story****?)*, most of the respondents (66.6%) highlighted the Balinese vibes and surrounded by nature (river, wood furniture) to relate with enchanting and appealing to the visitors. Question 6 - *Leaving the serene haven of Green Valley Eco Resort, you wander along a peaceful riverbank.* ***What enchanting destination lies at the end of this dreamy journey, calling you toward its wonder?*** **-** the words like dazzling bugs, magical firefly, firefly-spotting and preserve the nature serenity stated by respondents connected with the soft glow of twilights in the question. 66.6% of the respondents highlighted about the crucial of planning (getting ticket in advance) to ensure smooth experience due to long queue and limited entry slots in question 7 *(As you delve into the* ***'About' section*** *of the park, what* ***crucial detail do you think travellers should keep in mind to ensure their visit is seamless and unforgettable?****).* Finally, more than half of the respondents (66.6%) failed to locate the right answers in question 8 *(After marvelling at the magical glow of fireflies at the Firefly Valley Leisure Park, imagine you are yearning to dive deeper into the heart of local culture.* ***Where do you think your journey would lead them to experience the vibrant traditions and lifestyle of the nearby community****?)* as they chose Kampung Panchor- a historical place with historical element (based on google) and not Kampung Berangan since less information is offered on the internet.

4.2 Students' Reflection on the Activity

Question 1 – How did using Google Maps enhance your ability to predict outcomes based on contextual clues in the questions? Provide example of how this tool support your thought process*.* Based on the responses, majority of the students believed that the integration of Google Maps and Microsoft Forms into the activity improved students' predictive reading skills by using contextual hints, while also generating a lively and interactive learning environment. ***Question 2 – In what way did integrating Microsoft Form and Google Maps make the scavenger hunts a more dynamic and engaging learning experience? Reflect on how these technologies influenced your interest and participation*****.** The virtual scavenger hunt increased student interest and learning by using Google Maps and Microsoft Forms to improve engagement, critical thinking, and technological devices skills. ***Question 3 – What specific strategies did you use to make predictions when answering questions during the scavenger hunt? How did the interactive elements help refine these strategies?*** The students used logical reasoning, pattern identification, and geographical

evaluation to solve problems. Google Maps significantly improved their approach by delivering immersive, interactive images, encouraging deeper involvement, and effectively refining prediction techniques. ***Question 4 – Reflecting on this activity, how do you think the combination of AI (Google Maps) and emerging technologies (Microsoft Forms) supports sustainable and innovative education practices? Share your perspective on how this approach could be applied in other learning contexts.*** Student respond emphasises AI's and Microsoft Forms' roles in promoting engaging, long-term learning. This adaptive method improves cooperation, accessibility, and creativity while fostering interactive, future-focused education.

5. CONCLUSION

This innovative project addresses the challenges of teaching predictive reading skills by merging AI and other technologies to promote creativity and sustainability. The virtual scavenger hunt is an exciting, interactive, and environmentally friendly way to teach. This approach not only helps students improve their reading skills, but it also aligns with the wider goal of strengthening sustainable education with modern technology.

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