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Developing EAP reading materials with GenAI: a boon or a bane?

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With the affordances offered by GenAI (Generative AI) in nearly every aspect of language learning and teaching – including material development and assessment – both novice and experienced educators can now create tailored materials for their learners with remarkable ease. This shift has raised questions about the necessity of relying on established ELT (English Language Teaching) textbooks, which traditionally provide a well-structured curriculum and high-quality content. Drawing on his experience in developing in-house EAP (English for Academic Purposes) materials at an EMI (English as a Medium of Instruction) university, the writer will examine the challenges of using GenAI to create reading texts and the relevant learning tasks that accompany them. These challenges encompass text readability, the content overlap encountered in the question or task types, and the necessary review and revision for enhancing the quality and suitability of the generated materials. While potential solutions such as prompt engineering and the use of a readability tool will be shared, the ultimate aim of this article is to encourage reflection on the impact of GenAI on EAP material development.

Keywords: GenAI, EAP, material development, reading

Introduction

The proliferation of GenAI has enabled language teachers to create customized learning materials with unprecedented speed and ease. It may not be an overstatement to say that most language teachers today have experimented in some way with the use of GenAI to support their teaching, from generating lesson ideas and activities to developing materials (Bonner et al., 2023; Pack & Maloney, 2023; Li et al., 2024; Povey, 2024). In particular, Wadden et al. (2024) utilized AI tools to develop tailored reading and listening materials for their semi-intensive English program. Bonner et al. (2023) demonstrated how ChatGPT can be used for generating reading passages and related questions for assessment. Aryadoust et al. (2023) used it to develop listening scripts and test items across different proficiency levels. In the EAP context, Glahn (2024) applied ChatGPT to the design of the syllabus and in-class activities

before studying their learners' perceptions. In the same vein, even ESP (English for Specific Purposes) practitioners have leveraged GenAI in creating learning content texts and word lists such as in agriculture (Chirobocea-Tudor, 2024) and in health sciences (Triana & Anita, 2025).

While the ability of GenAI to generate materials for language teaching is undisputed, most scholars mentioned above have suggested further scrutiny of the accuracy and appropriateness of the outputs (e.g., see Li et al., 2024). Many current users of GenAI have also advocated for the necessary inclusion of proficiency levels in prompt writing. In this article, the author aims to further support and confirm these best practices through a reflection on his experience in producing EAP reading materials and the associated learning tasks. It is hoped that this reflective piece will promote more criticality towards the use of GenAI, which in turn may benefit both teachers and material developers when performing the task.

Challenges of using GenAI to develop reading materials

Text readability

One most common challenge is related to readability, which is defined by Wray and Janan (2013, p. 70) as “the degree to which a text is matched to its intended and actual reader”. A suitable readability level helps prevent learners from becoming demotivated by texts that are either too easy or too difficult to comprehend. The ease and speed at which GenAI can generate texts may result in novice or less experienced teachers overlooking readability when developing reading materials for their learners. To illustrate, the prompt below seems to have perfectly provided the desired text for teaching reading comprehension on the topic ‘western education systems’.

Create a 1200-word essay on the topic ‘Western education systems’ focusing on these countries: the UK, the US and Australia.

Western Education Systems: A Comparative Analysis of the UK, US, and Australia

Education is a fundamental pillar of society, shaping individuals and influencing the trajectory of nations. The Western education systems, particularly in the United Kingdom, the United States, and Australia, have garnered global attention for their distinct approaches, structures, and outcomes. This essay explores the similarities and differences among these three countries' education systems, examining their historical contexts, curricular frameworks, assessment methods, and the challenges they face in the contemporary landscape.

Historical Context

The education systems in the UK, US, and Australia have evolved from unique historical backgrounds. The UK boasts a long-standing tradition of formal education, with its roots tracing back to the medieval period. The establishment of universities such as Oxford and Cambridge in the 12th and 13th centuries laid the groundwork for higher education. The UK system is characterized by a strong emphasis on academic rigor and a diverse range of educational institutions, including grammar schools, comprehensive schools, and independent schools.

In contrast, the US education system emerged from a different historical context, influenced by the ideals of democracy and equal opportunity. The first public schools were established in the early 19th century, driven by the belief that education should be accessible to all citizens. The

Essay 1. Generated text without applying readability level to the prompt

However, when the text is run against CEFR (Common European Framework) Text Analyzer – an online tool to measure readability, it is pitched at C2, written in language intended for learners at an advanced level. This text will prove too challenging for lower proficiency learners, for example, at B2. One quick solution to the issue of readability is to specify the required level in the prompt:

Create a 1200-word essay on the topic ‘Western education systems’ at CEFR B2 level. The essay should focus on these countries: the UK, the US and Australia.

Essay 2 below is more suitable for learners at a lower proficiency level since it features shorter, less complex sentences and high-frequency vocabulary.

Western Education Systems: A Comparison of the UK, Australia, and the US

Education is an important part of society. It helps shape the minds of young people and prepares them for life. The education systems in the United Kingdom, Australia, and the United States have many similarities, but they also have their own unique features. This essay will look at how teaching is done, how students are assessed, and how education is organized in these countries, showing both their similarities and differences.

Teaching Methods

In the UK, Australia, and the US, teaching methods aim to encourage students to think critically, be creative, and learn independently. Teachers often use a mix of traditional and modern ways of teaching. In the UK, the curriculum focuses on both theory and practical skills. For example, subjects like science and math are taught through lectures, hands-on experiments, and group projects. This helps students engage with the material and develop problem-solving skills.

In Australia, education also focuses on student-centered learning. Teachers encourage students to take charge of their own learning through projects and teamwork. This method helps students understand better and prepares them for real-life challenges. In Australian classrooms, students often work in groups, discuss ideas, and present their findings to their classmates.

Essay 2. Generated text at CEFR B2

Not only is the creation of text affected by the readability issue, but producing lead-in questions also faces the same challenge. As shown in Text 1, the first set is generated without specifying the required level in the prompt, which results in questions that are far more abstract than those in the next two sets.

Prompt 1:

Create 3 lead-in questions from this text: Western Education Systems: A Comparison of the UK, Australia, and

Set 1

Lead-in Questions

How do the teaching methods in the UK, Australia, and the US differ in their approach to fostering critical thinking and creativity among students?

What are the key assessment practices used in the education systems of the UK, Australia, and the US, and how do they impact students' learning experiences?

In what ways does the organization of education in the UK, Australia, and the US reflect their unique cultural values and educational philosophies?

Prompt 2:

Create 3 lead-in discussion questions at CEFR B1 or B2 from the same text.

Set 2

Lead-in Discussion Questions

What are some similarities and differences you notice in the teaching methods used in the UK, Australia, and the US? How do these methods help students learn better?

Why do you think assessment practices are important in education? How do the different assessment methods in the UK, Australia, and the US affect students' motivation and learning?

How does the structure of education in your country compare to the education systems in the UK, Australia, and the US? What aspects do you think work well, and what could be improved?

Prompt 3:

Create 3 simple lead in discussion questions from the text for learners at a lower level.

Set 3

Simple Lead-in Discussion Questions

What do you think is the most important part of education: teaching methods, assessments, or organization? Why?

How do teachers help students learn in your school? Do you think it is similar to the UK, Australia, or the US?

What subjects do you enjoy the most in school, and how do you learn them? Do you learn in groups or alone?

Text 1. A comparison of prompts used for creating lead-in questions

Continuous revision of outputs

The creation of reading tasks is another daunting challenge to tackle. This is a process that involves continuous revision before they can eventually be used for teaching or assessment purposes. Take the following most common reading task: matching headings to sections. At a quick glance, the generated task in Text 2 looks promising; however, a careful reading of the provided headings immediately shows that the words 'assessment' and 'teaching methods' in sections C and D exactly match the same words as the first two headings. This means either the headings or the sections will need to be paraphrased or reworded to increase the difficulty level of the task.

Prompt:

Create a matching heading exercise based on this text. Add 2 headings that will not be used. Provide answers. Western Education Systems: A Comparison of the UK, Australia, and the US

Matching Headings Exercise	Sections:
Match the headings on the left with the appropriate sections of the text on the right. There are two extra headings that will not be used. Headings: - Teaching Methods - Assessment Practices - Challenges in Education - Organization of Education - Importance of Education - Cultural Differences	A. The structure of education in the UK, Australia, and the US is designed to provide a complete learning experience for students. B. Education is an important part of society. It helps shape the minds of young people and prepares them for life. C. Assessment is an important part of education because it measures how well students understand the material. D. In the UK, Australia, and the US, teaching methods aim to encourage students to think critically, be creative, and learn independently. E. Each education system has unique characteristics that reflect their cultural values and educational philosophies. F. The education systems face various challenges that need to be addressed. *The sentence in each section above is taken from the generated-text.

Text 2. Task: matching headings to sections

A revision may also be needed in the summary completion task. Text 3 shows the generated task on the topic ‘The Internet of Things’. This has had mixed success. On one hand, it provides a good summary of the 1200-word text; on the other, a quick revision is needed because six questions were generated instead of five. While this may seem like a minor issue, as the first two blanks can be combined as ‘collect and share’ (see Text 3), it further highlights the need for continuous revision. At this point, the suitability and difficulty level of the task have not even been considered.

Prompt:

Create a summary completion task with 5 blanks for the text above. Each blank should not have more than 3 words. Provide answers.

Summary Completion Task

Fill in the blanks with the appropriate words or phrases from the text.

The Internet of Things (IoT) refers to a network of connected devices that can _____ and _____ data over the internet. This technology has applications in various sectors, including _____, healthcare, and _____. One of the main benefits of IoT is improved _____, which leads to cost savings and enhanced decision-making. However, challenges such as _____ and data privacy must be addressed to fully realize its potential.

Answers

- collect
- share
- smart homes
- industrial
- efficiency
- security

Part of the text:

The Internet of Things: Transforming Our World

Introduction

The Internet of Things (IoT) is a term that refers to the growing network of connected devices that communicate with each other over the internet. This technology has transformed the way we interact with our environment, making our lives more convenient and efficient. From smart home devices to industrial applications, the IoT is revolutionizing various sectors. In this text, we will explore the concept of IoT, its applications, benefits, challenges, and future prospects.

What is the Internet of Things?

The Internet of Things encompasses a wide range of devices that are embedded with sensors, software, and other technologies to connect and exchange data with other devices and systems. These devices can include everyday items such as refrigerators, thermostats, and wearable fitness trackers, as well as more complex systems like smart cities and industrial machinery. The main goal of IoT is to create a seamless network of interconnected devices that can collect and share data, leading to improved decision-making and automation.

Applications of IoT

Smart Homes

One of the most popular applications of IoT is in smart homes. Smart home devices, such as smart speakers, smart lights, and smart thermostats, allow homeowners to control their environment remotely. For example, a smart thermostat can learn a homeowner's schedule and adjust the temperature accordingly, saving energy and enhancing comfort. Additionally, smart security systems can monitor homes in real-time, sending alerts to homeowners if any unusual activity is detected.

Text 3. Task: summary completion

Overlapping content in the task-types

One final challenge is found in the area of overlapping content being tested. For efficiency purposes, material writers might be tempted to use the prompt in Text 4. However, using it may inadvertently lead to an overlap.

Text 4 compares two generated task-types: Multiple Choice Questions (MCQs) and fill-in the blanks. There is one obvious overlap: both the second MCQ question and the first fill-in-the-blank question essentially test the same content: ‘GCSEs’ – the type of exams students take at the end of secondary school in the UK. To prevent this overlap, it may be necessary to break the text into several parts and apply two separate prompts for each task-type such as: ‘create 5 MCQs with four options for the text’ and ‘create 5 fill-in the blanks questions for the text’.

Create 5 MCQs with four options and 5 fill-in the blanks questions. Provide answers. Western Education Systems: A Comparison of the UK, Australia, and the US Education is an important

Multiple Choice Questions (MCQs)

What is a common goal of teaching methods in the UK, Australia, and the US? a) To focus solely on theoretical knowledge
b) To encourage students to think critically and creatively
c) To limit student interaction
d) To prepare students for standardized tests
Answer: b) To encourage students to think critically and creatively

In the UK, what type of exams do students take at the end of secondary school? a) SATs
b) GCSEs
c) A-levels
d) ACTs
Answer: b) GCSEs

Which assessment method is emphasized in the Australian education system? a) Only formal exams
b) Continuous assessment and feedback
c) Standardized tests only
d) Group projects without feedback
Answer: b) Continuous assessment and feedback

Fill-in-the-Blanks Questions

In the UK, students take national exams called _____ at the end of secondary school.
Answer: GCSEs

The Australian education system is known for its _____, allowing students to customize their educational paths.
Answer: flexibility

In the US, education is organized into three main levels: elementary, middle, and _____ school.
Answer: high

Assessment practices in Australia include a mix of formal exams and _____ assessments, such as assignments and group projects.
Answer: ongoing

The education systems in the UK, Australia, and the US aim to equip students with the knowledge and skills needed for _____ in a complex world.
Answer: success

Text 4. Two generated tasks: MCQs and fill-in-the-blanks

Implications

As demonstrated above, the challenges of using GenAI to develop reading materials appear to make it less readily accepted as a suitable approach for teachers who need to produce specific content that existing EAP textbooks cannot fulfill. Despite this, the author would argue that EAP material writers and teachers should still adopt GenAI depending upon their teaching experience and familiarity with the different approaches to materials development.

Altinmakas (2024) suggests that since new or less experienced teachers might not have the necessary experience in developing EAP materials, they may want to use academic skills textbooks published globally given the strengths which include more structured syllabi and pedagogically sound texts. At this stage, they can follow the entire content of the books or adapt some of the tasks to better suit the needs of their learners (see Hyland, 2006 for the various ways of adapting EAP materials). Once they have acquired sufficient experience, they can begin to leverage GenAI, for example, to generate suitable texts and tasks. Similarly, more experienced teachers can choose to continue developing EAP materials using the methods they are accustomed to, such as utilizing authentic journal and web articles, adapting them, or writing from scratch if necessary. However, given the strengths of GenAI, they may also want to incorporate it into their repertoire of approaches and techniques for producing materials.



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Conclusion

The development of reading material and its associated tasks by using GenAI is not a straightforward process. The endeavour may be fraught with challenges: the readability of the generated text, the continuous revision needed and the potential overlap. While it has been shown that prompt engineering and the use of a readability tool can help tackle the issues to a certain extent, it is important for EAP material writers to be aware of the strengths and limitations of GenAI and to maintain a critical stance towards its generated outputs. Since it has been adopted by an increasing number of practitioners, it can be considered one of the various approaches in a reading material developer's arsenal.

This reflection has only focused on several texts and tasks, which is a limitation that has to be acknowledged. A larger number of texts and tasks for analysis may yield different results than those presented here. However, this should not diminish its significance, particularly in raising awareness of the potential drawbacks it presents while addressing the diverse needs of EAP practitioners.

Finally, it is important to emphasize that the generation of non-fiction reading passages by GenAI for educational materials, as illustrated in Essays 1 and 2 above, should adhere to ethical guidelines, which include the verification of facts and data.

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Ediyanto Liu has two decades of teaching experience in higher education. He has taught EAP courses to undergraduates from STEM, business, film, humanities, and social sciences backgrounds, using a variety of curricula and approaches. His most recent interest lies in the integration of educational technology into the teaching of EAP.