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Chuyên đề:

**USING AI APPS TO ASSIST
TEACHERS IN DESIGNING
READING OR LISTENING
TASKS FOR GIFTED STUDENTS**

Tháng 7, năm 2025

ABSTRACT

Teachers training gifted students for Vietnam's National English Competition (NEC) constantly grapple with one major hurdle: creating truly demanding Reading and Listening tests. The sheer amount of time it takes to develop these exercises from real-world sources means there is often a real lack of quality practice materials available to properly prepare students. This paper puts forward a practical, experience-based workflow to address this issue, showing how teachers can strategically use Artificial Intelligence (AI) as a powerful assistant. Central to our approach is the 'human-in-the-loop' model, where the teacher's pedagogical expertise guides the entire process. Our proposed workflow unfolds in four stages: the teacher first strategically finds authentic materials, then uses specific prompts to generate an initial task from the AI. The crucial third step involves the teacher's own critical evaluation and refinement of that draft, and the process concludes with creating the finished exercise and an answer key supported by evidence from the source. This entire method is built to produce the challenging but engaging NEC-style tests, from TOEFL-like reading passages to complex listening scenarios with multiple speakers. The research shows that this method not only drastically cuts down on preparation time but also enhances the quality and complexity of the resulting materials. The study's main contribution is a complete toolkit for teachers, which includes a curated list of sources, a practical library of effective prompts, a quality assurance checklist, and a showcase of sample tests. By shifting the teacher's role from a content creator to a content architect, this work offers a sustainable solution for better preparing Vietnam's gifted students for high-stakes English competitions.

KEYWORDS *Artificial Intelligence (AI), Task Design, Gifted Students, National English Competition (NEC), Reading Comprehension, Listening Comprehension, Prompt Engineering*

TABLE OF CONTENTS

PART A: INTRODUCTION.....	1
1. Rationale of the study.....	1
2. Aim and objectives of the study.....	2
3. Scope of the study.....	3
4. Significance of the Study.....	3
PART B: LITERATURE REVIEW.....	5
1. Overview of AI in education:.....	5
1.1. AI in language learning.....	6
1.2. AI in designing educational tasks and materials.....	6
2. Teaching receptive skills for gifted students:.....	7
2.1. Gifted students and the NEC test.....	7
2.2. The National English Competition.....	8
2.3. Reading tasks for gifted students.....	9
2.4. Listening tasks for gifted students.....	10
2.5. Challenges in listening and reading task designing.....	11
3. AI-based tools in designing learning materials:.....	11
3.1. AI tools for reading tasks.....	11
3.2. AI tools for listening tasks.....	12
PART C: PRACTICAL IMPLICATIONS.....	13
1. NEC Orientation for Designing Tasks.....	13
1.1. Reading Task Type: TOEFL-Style Reading Comprehension.....	13
1.2. Listening Task Types (from Authentic Sources).....	14
1.2.1. Speaker Matching.....	14
1.2.2. Multiple Matching.....	14
1.2.3. Summary Completion.....	15

2. Implementing AI in designing Reading and Listening tasks.....	16
2.1. AI tools and their applications.....	16
2.1.1. All-in-One AI-Powered EdTech Platforms.....	16
2.1.2. Audio & Video Processing Tools (Automatic Speech Recognition - ASR Services).....	17
2.1.3. General-Purpose Language Assistants (Large Language Models - LLMs)	17
2.1.4. Example Workflow Combining Tools.....	18
2.2. Using AI to Discover and Curate Authentic Materials.....	19
2.2.1. Prompt for finding Reading source: TOEFL-Style.....	19
2.2.2. Prompt for finding Listening source: Speaker Matching.....	19
2.2.3. Prompt for finding Listening source: Multiple Matching.....	20
2.2.4. Prompt for finding Listening source: Summary Completion.....	20
2.3. The Basic AI-Powered Workflow: From Source to Product.....	21
3. The Workflow for Designing NEC-Style Reading Task (TOEFL-style).....	22
3.1. Suggested Sources for Authentic Reading.....	22
3.2. The Workflow for Designing NEC-Style Reading Task (TOEFL-style).....	23
4. The Workflow for Designing NEC-Style Listening Tasks (Parts 1, 2, & 4).....	24
4.1. Suggested Sources for Authentic Listening.....	24
4.2. The Workflow for Designing NEC-Style Listening Tasks.....	26
5. A Teacher's Checklist for Evaluating AI-Generated Tasks.....	27
6. Sample Showcase: From Prompt to Product.....	28
6.1. Reading Task (TOEFL-Style).....	28
6.2. Speaker Matching Listening Task (NEC Part 1).....	30
6.3. Multiple Matching Listening Task (NEC Part 2).....	32
6.4. Summary Completion Listening Task (NEC Part 4).....	33
PART D: CONCLUSION.....	36
1. Summary of the findings.....	36
2. Implications for Teaching Practices in NEC Preparation.....	36
3. Limitations of the Study.....	37

4. Future Research Directions.....	37
REFERENCES.....	i
APPENDIX 1.....	iii

PART A: INTRODUCTION

This section provides a general overview of the study, outlining its rationale, aim, objectives as well as its scope and significance.

1. Rationale of the study

The increasing integration of Artificial Intelligence (AI) into educational settings has opened up new possibilities for improving teaching and learning. Specifically, AI technologies are becoming more valuable for enabling teachers to design instructional assignments that can be adapted to the individual needs of gifted students, who generally require more challenging and differentiated content to engage their higher cognitive abilities (Heffernan & Heffernan, 2014). In the Vietnamese setting, instructors who are to prepare students for high-stakes contests such as the National English Competition (NEC) have a real challenge. The conventional design of tasks is typically constrained by standardized textbook material that does not cater to the specific learning needs of talented students. These students require academic challenges that reflect the complexity and intellectual demands of the real NEC exams, which are something hard to produce consistently with narrow resources and a short preparation period. Artificial Intelligence provides the gateway to create adaptive, dynamic, and customized learning materials that adapt to the level of gifted learners' comprehension, particularly in reading and listening activities that are extremely important for academic competitions like the National English Competition (NEC).

Gifted learners are not only linguistically competent but also need high-order thinking capacity in terms of analysis, evaluation, and problem-solving (VanTassel-Baska, 2017). Developing tasks challenging these students adequately in reading and listening proves to be difficult for instructors because common tasks may not go beyond basic understanding or memorization. This can be changed through the assistance of AI to create difficult reading passages, listening exercises, and question understanding that can be automatically scheduled to address the increasing intellectual demands of gifted students. AI technology is able to develop work with diverse difficulty levels based on the grade where the learners are working at the time and their past performance, thus making the work exciting and appropriate to their level (Dede, 2016).

Furthermore, AI can support formative assessment by continuously evaluating the performance of gifted students on these tasks and offering real-time feedback, which is essential for ensuring continued progress and readiness for exams like the NEC (Shute & Ventura, 2013). AI apps can analyze student responses and adapt future tasks to focus on areas that need improvement, whether that be language fluency, critical analysis, or

listening accuracy. Such a dynamic approach to task design and assessment creates a more effective and personalized learning experience, which is crucial for helping gifted students perform at their best.

Regardless of such probable benefits, there is one shortcoming. Little practical research is available to use AI to work on the activity design for gifted NEC candidates in Vietnam. The lack of research puts teachers in a state of endless challenge, having to rummage around for scarce authentic material themselves and spend hours constructing elaborate tasks from scratch, only with indefinite results. This study argues that strategic AI incorporation is not just a “promising pathway” but an intervention to bridge this gap, equipping educators with the means to efficiently create high-quality, NEC-approved activities. With the help of AI, teachers not only create more effective reading and listening exercises but also ensure that these exercises are aligned with high-stakes competitive exams like the NEC, where students have to demonstrate higher-order understanding and critical thinking skills (Bennett & Kingston, 2018).

This research aims to investigate how AI applications can be used to help teachers create customized reading and listening exercises that are responsive to the individual requirements of gifted students, such that they are challenged enough while preparing for the NEC and other higher-level academic contests. By unleashing the power of AI, educators can optimize the learning process for high-potential learners, getting a more adaptive, dynamic, and effective process in task creation that advances their intellectual growth and academic achievements.

2. Aim and objectives of the study

The primary aim of this study is to develop, implement and evaluate a practical framework of AI-assisted strategies that empower teachers to effectively design reading and listening tasks for gifted students who are preparing for the NEC. Specifically, this study aims to identify the potential of AI in assisting teachers to create more adaptive, engaging, and challenging tasks that cater to the specific cognitive abilities of gifted learners, thereby preparing them effectively for high-stakes exams such as the NEC. This overall aim can be specified into the following objectives:

- Examining the prospective function of AI in creating educational tasks for gifted students in the area of reading and listening comprehension.
- Identifying AI-based tools that would assist educators in creating tasks with appropriate degrees of difficulty for gifted students.
- Explaining the strengths and weaknesses of utilizing AI in creating tasks that support higher-order thinking, such as analysis, interpretation, and critical thinking, which are essential in the NEC.

- Developing effective plans for the integration of AI-based tools into instructional practice for differentiated instruction for gifted learners.
- Assessing the effectiveness of AI-generated reading and listening activities through the tracking of students' performance, engagement, and overall progress.
- Creating a framework for teachers to utilize AI apps in creating, assessing, and giving feedback on reading and listening activities for gifted students for a more individualized process of learning.

3. Scope of the study

The study focuses on the use of AI applications to support teachers in developing reading and listening exercises for gifted students, i.e., students preparing for the National English Competition (NEC). The scope of the study is as follows:

- **Participants:** The study will particularly focus on talent students of grade 11 and 12 who are English majors and teachers who are charged with the task of preparing their students for the NEC within the context of Vietnamese specialized high schools.
- **AI Tools:** The research will look at widely available and very popular Large Language Models (LLMs) such as ChatGPT (3.5 and 4.0) and other AI-Powered EdTech platforms like Twee or Otter. It will not engage with extremely technical, pay-for-access AI platforms which are not readily available to Vietnamese teachers.
- **Task Types and Skills:** The study will be aimed at designing tasks with a purpose of developing higher-order thinking skills (e.g., inference, analysis, evaluation, and synthesis) that can be transferred to the NEC. It will not be aimed at designing drills for vocabulary or grammar learning.
- **Deliverables:** The study will produce an implementable framework, a compendium of sample reading and listening activities, and a teacher's check-list for assessment. The study will not involve the creation of a new AI software package.

4. Significance of the Study

The findings of this study are expected to have significant contributions to educational practice and research in Vietnam since they provide a workable and tested model of technology integration in the education of the gifted. The significance of this study can be achieved through its contributions to powerful groups:

- **For Teachers:** This study offers a simple, in-class, time-saving answer to the perennial issue of creating high-standard teaching resources. By offering a proved model, concrete examples, and an evaluation checklist, it facilitates teachers going beyond traditional practice, enhancing their professional ability, and lowering their workload in preparing candidates for the NEC considerably.

- **For Gifted Students:** The direct beneficiaries are the students, to whom they will be given personalized and mentally stimulating learning tasks that address their advanced mental abilities. This approach acknowledges more intense critical thinking and analytical skills while satisfying their need for ongoing intellectual challenge and finally enhancing their confidence and performance in high-stakes competitions.
- **For Future Research:** This study provides a practical, practitioner-based model for integrating AI into Vietnamese gifted education—an increasingly salient topic with minimal local literature. It provides empirical data on the applicability of AI-facilitated task design, and it opens the door to bigger studies in this field and potentially to shaping the development of next-generation educational technology explicitly optimized to serve the particular needs of the Vietnamese educational system.

PART B: LITERATURE REVIEW

This section provides an overview of the existing literature related to the use of AI applications in education, particularly in the context of designing reading and listening tasks for gifted students. It lays the groundwork for the strategies and insights presented later in the study, with specific attention to how these tasks can be tailored to help students excel in high-stakes exams like the National English Competition (NEC).

1. Overview of AI in education:

Artificial Intelligence (AI) has recently emerged as a revolutionary force in education, ushering in innovative approaches to both teaching and learning. AI in education is all about enhancing the learning process using intelligent systems that have the ability to adapt to the requirements of each individual learner and distinctive learning groups through intelligent tutoring systems or automatic grading systems, as well as personalized learning programs and virtual teaching assistants.

One significant advantage of AI integration is that it has the potential to enable personalized learning, as AI algorithms can analyze large amounts of learner data to identify patterns and deliver personalized educational content, thus supporting various learning styles and paces (Luckin et al., 2016). This kind of individualized learning is particularly valuable in large education systems, where one-to-one attention is typically limited.

More importantly, AI-driven tools can help improve efficiency in material preparation, teaching and assessment. Automatic grading systems, for instance, can provide immediate, formative feedback, freeing up instructors to focus on higher-order instructional tasks (Zawacki-Richter et al., 2019). These tools can also speed up the task designing process, as they effectively assist teachers in searching original materials, modifying contents, writing questions as well as producing answers and further explanations.

In addition, AI also has the potential to enhance accessibility to education. Speech recognition programs, adaptive learning platforms, and language translation programs can close gaps for students in under-resourced settings or with disabilities (Holmes et al., 2022).

In this research paper, the writers would direct the focus to the potential of AI-driven tools in designing tasks for gifted, or advanced English-major students, especially in terms of reading and listening skills.

1.1. AI in language learning

In the field of language teaching and learning, the utilization of AI has also been revolutionary through its provision of adaptive, personalized, and interactive learning opportunities. Numerous prior research papers assert that language learning software that is AI-driven can analyze learners' linguistic inputs and provide immediate advice and recommendation, rendering language ability acquisition more effective. One prominent example is the utilization of Natural Language Processing (NLP) technologies that allow computers to understand and generate human language, facilitating informative conversational practice with the aid of chatbots and virtual tutors (Li et al., 2021).

Moreover, AI-based systems also enable vocabulary acquisition, pronunciation improvement, and grammar correction through large-scale language models customized according to the individual performance and learning path of learners. For example, intelligent tutoring systems like Duolingo and Rosetta Stone employ machine learning to monitor the progress of users and dynamically adjust content difficulty and speed (Zhai et al., 2021). Not only do these websites personalize the learning process, but they also increase learner motivation by gamification and instant feedback cycles.

Despite these advantages, researchers also indicate certain challenges to AI in language learning, such as lacking contextual information on the side of AI systems and decreased human interaction, which is critical in language learning. Therefore, ongoing research is now conducted into AI with the aim to further enhance its availability and efficiency in assisting the process of language teaching and learning.

1.2. AI in designing educational tasks and materials

Task design is a critical component of instructional planning where activities are created to enhance students' learning experience. Effective task design encourages active engagement, critical thinking, and the development of problem-solving skills. Ellis (2003) contends that task-based language teaching (TBLT) focuses on developing tasks that reflect actual communication situations in which meaning is prioritized over form. In this approach, tasks are designed to challenge students while providing the necessary support to help them accomplish the learning objectives. Task design in education has the principle of scaffolding as an integral part of its methodology, where task complexity is structured from easy to difficult and in patterns such that students can apply prior knowledge and skill. Under this strategy, learners can work more with tougher content as they receive continuous feedback (Wood, Bruner, & Ross, 1976). Therefore, the designers of tasks must take into consideration a number of factors, including students' prior knowledge, language, and intellectual abilities in selecting or developing tasks so that they promote productive and meaningful learning. Task and material designing, as a result, proves to be not only complicated but also time-consuming.

Artificial Intelligence (AI) is playing an increasingly influential role in the design and development of educational tasks and instructional materials. By leveraging data-driven insights and adaptive algorithms, AI can support educators in creating customized and pedagogically sound content that aligns with learners' needs and curricular goals. One of the most notable applications is AI's ability to generate learning materials dynamically based on students' performance data and cognitive profiles (Kukulska-Hulme et al., 2021). These systems can recommend or automatically produce tasks that vary in complexity, format, or learning modality, thereby supporting differentiated instruction.

Moreover, AI tools like content recommendation engines and intelligent authoring systems are transforming how teachers design both formative and summative assessments. These systems can analyze large datasets to identify skill gaps and then suggest or generate suitable questions or exercises to target those areas (Roll & Wylie, 2016). For example, AI-based platforms can generate multiple versions of tasks that align with Bloom's taxonomy, helping teachers to scaffold learning from lower-order to higher-order thinking skills.

In addition, Natural Language Processing (NLP) and Generative AI models are being used to co-create content such as reading passages, language exercises, or simulation scenarios, saving time for teachers and allowing for richer, more diverse learning experiences (Popenici & Kerr, 2017). While these innovations offer significant promise, concerns remain regarding the pedagogical validity of machine-generated content and the need for human oversight in ensuring cultural and contextual appropriateness.

2. Teaching receptive skills for gifted students:

2.1. Gifted students and the NEC test

In schools for the gifted in Vietnam these days, English-major students, especially those who are in the preparation for the National English Competition (NEC) have their language level at an advanced level and portray an outstanding command of the major skills, especially the receptive ones such as reading and listening. It means that they have already been familiar with a wide range of vocabulary and structures of the English language, and have acquired a relatively good level of fluency and accuracy. Therefore, the tasks designed by the teachers should serve to encourage them to practice in longer and more demanding reading and listening material, mainly authentic ones from varied sources and topics. However, such materials and tasks are not readily available, demanding teachers to put a huge amount of effort and time into choosing the authentic materials, make necessary modifications, write questions, produce answers, even edit supplementary or consolidation exercises and so on. Teachers, hence, seek assistance in

modern technological marvels, the most impressive of which is definitely the AI-driven tools.

2.2. The National English Competition

The National English Competition in Vietnam is an annual test conducted throughout the country as a part of the National Excellent Student Competition. It is aimed at discovering students with excellent English language skills. The examination is divided into a written test (which comprises listening, lexico-grammar, reading and writing exercises) and a speaking test. In this study, the writer focuses on the listening and reading sections only.

The structure of the NEC test has witnessed a number of changes every year to accommodate the constant evolution in language use and contemporary cultural and social developments. Among the diverse versions of the test, in this specific study, our research team would focus on the most updated structure of the previous school year (2024 – 2025), as it experienced noticeable alterations, especially in the listening exercises. These changes not only force students to get used to the new format, but also require teachers to spend significantly more time to develop new teaching materials. Therefore, by targeting at this latest format, this research paper hopes to become a meaningful reference for both teachers and students in the process of training for the NEC.

To be more specific, the reading part remains roughly the same, consisting of five different exercises developed based on different levels of the Cambridge English Qualifications Exam by Cambridge Assessment English. The detailed analysis and comparison are as follow:

Table 1. Structure of the National English Competition's reading section

Part in NEC	Type of text	Requirement(s)	Level
1	Descriptive or factual texts	A modified cloze test consisting of a text with eight gaps. Candidates think of the word which best fits each gap.	C1 - C2
2	Narrative texts	A text from which paragraphs have been removed and placed in jumbled order after the text. Candidates must decide from where in the text the sentences have been removed.	C1 - C2

3	Discursive and analytical texts	A long discursive or analytical text with several types of questions asking for both gist and details.	C1 - C2
4	Factual, discursive and analytical texts	A text followed by ten 4-option multiple-choice questions.	C1 - C2
5	Discursive and analytical texts	A text, or several short texts, preceded by multiple-matching questions. Candidates must match a prompt to elements in the text.	C1 - C2

In contrast, the listening part saw drastic changes in both audio types and requirements of its four tasks, which are adapted from different types of listening materials, most of which are authentic. The detailed description is as follows.

Table 2. Structure of the National English Competition's listening section

Part in NEC	Type of audio	Requirement(s)	Level
1	Conversation	A matching exercise where candidates have to categorize opinions and ideas according to speakers (name/ gender/ ...)	C1 - C2
2	News report	A matching exercise where candidates match different figures with their characteristics or related information	C1 - C2
3	Monologue	A long speech followed by ten 4-option multiple-choice questions, in which candidates have to choose one correct answer (A, B, C or D)	C1 - C2
4	Discussion (Academic)	A summary of a discussion about a social issue with 10 blanks. Candidates have to listen and fill in the blanks to complete the summary	C1 - C2

2.3. Reading tasks for gifted students

Explained by the prerequisite linguistic knowledge and skills of gifted students and the aforementioned onerous requirements of the tasks in the National English Competition, reading assignments for those advanced English language learners should go beyond the mere comprehension and require learners to engage with challenging texts on a deeper level. At this point, assignments must be designed to foster critical thought, analysis, and the ability to synthesize information from multiple sources. According to Urquhart and Weir (1998), advanced reading tasks need to challenge learners to judge texts critically,

identify underlying assumptions, and consider the socio-cultural contexts in which the information is situated. These kinds of tasks are often connected to reading academic papers, literary works, or news items that involve not just understanding surface meaning but also noticing implicit arguments and opinions.

Furthermore, advanced reading tasks can also be designed to include intensive and extensive reading exercises. Close reading of some texts to understand in-depth or vocabulary learning allows the students to focus on structure and linguistic style (Nuttall, 2005). Extensive reading at times forces learners to read humongous chunks of text in order to understand overall meaning and for pleasure, resulting in fluency and reading pace. By reading a wide variety of genres and text types, post-advanced learners can improve their reading techniques and expand their sensitivities to language use in context (Day & Bamford, 2002).

To engage more proficient learners, reading activities can be developed with tasks like summarizing, paraphrasing, or critiquing, which require students to think critically about information and express it understandably in their own words (Nuttall, 2005).

In short, the tasks developed for these student group should be able to improve not only reading comprehension, but writing and speaking skills as well through active engagement with the material.

2.4. Listening tasks for gifted students

Similarly, for English gifted students, listening tasks need to strive beyond basic comprehension to develop critical listening, an understanding of different accents and registers, and an awareness of implicit meaning and nuance in spoken language. As Vandergrift and Goh (2012) have implied, advanced listening tasks need to challenge students to work with authentic real-world content, such as podcasts, interviews, academic lectures, and news reports. These materials expose students to varied speech patterns, unfamiliar vocabulary, and different cultural contexts, all of which play a crucial role in deciphering the intricacies of spoken English.

A key type of listening activity for these advanced learners is inferencing, where they must deduce meaning beyond the spoken words by taking into account intonation, stress, and contextual cues (Rost, 2011). Tasks such as identifying the speaker's intent, identifying rhetorical devices, or understanding humor and sarcasm invite students to go beyond literal comprehension and to engage with more nuanced levels of meaning. The listening tasks in the National English competition are the prime example of this, as the audios that selected present a number of different viewpoints or present arguments with implied or subtle conclusions, which encourage students to critically analyze the content. These tasks not only require listening precision but also demand extensive lexical resources and the students' ability to differentiate between main ideas and supporting

details in longer and more complex listening materials (Gilakjani, 2012). As a result, instructors and teachers should prioritize higher-order listening abilities in task design to help these learners refine their ability to understand spoken English in sophisticated social and academic contexts.

2.5. Challenges in listening and reading task designing

It is understandable why designing reading and listening tasks for gifted students presents such a unique set of challenges. While these learners have typically mastered basic comprehension skills, the tasks must go beyond surface-level understanding to address higher-order skills such as critical thinking, inference, and synthesis. One major challenge is ensuring that the tasks provide authentic, real-world materials that engage students at their level while pushing them to expand their language abilities (Vandergrift & Goh, 2012). For instance, when designing listening tasks, the complexity of natural speech, with its varied accents, colloquialisms, and non-standard grammatical structures, may pose a real challenge for most ESL students.

In addition to linguistic complexity, designers must consider the cognitive load involved in processing advanced reading and listening materials. Advanced students are often required to decode complex texts or spoken discourse that demand background knowledge in specific subject areas or familiarity with specific academic or professional registers (Urquhart & Weir, 1998). This makes it difficult to create tasks that strike a balance between challenging students without overwhelming them. Tasks that require inferencing, for example, may demand a significant amount of background knowledge or cultural awareness, which can limit their effectiveness if students lack exposure to certain topics or contexts (Rost, 2011). Consequently, task designers must ensure that tasks incorporate both contextual knowledge and language proficiency, making it a delicate balancing act to cater to the varying levels of background knowledge students may possess.

Furthermore, the need to integrate skills such as summarizing, analyzing, or critiquing in both reading and listening tasks adds another level of complexity to the development of listening and reading materials for advanced students. As a result, teachers often have to spend hours developing exercises, especially for the NEC test which consists of four listening and five reading exercises.

3. AI-based tools in designing learning materials:

3.1. AI tools for reading tasks

With the aim of assisting teachers in developing teaching materials, the integration of Artificial Intelligence (AI) into the crafting of reading activities for advanced learners has drawn significant interest. AI technologies have been particularly beneficial in

transforming reading materials into learner-specific suitability, which means dynamically adapting reading tasks so that more competent students are constantly challenged but never overwhelmed by too-difficult or too-simple materials. This practice is already promoted on some AI-powered sites like Quizlet and Grammarly, which use machine learning algorithms to offer learners guided reading exercises so that they can work with texts that address their learning goals (Bawa, 2019).

This proves to be extremely handy, especially in the preparation of materials for advanced students, because it allows teachers to focus on specific areas of reading such as vocabulary enhancement, syntactic structures, or critical analysis of themes. With such in-depth exercises, students at a higher level can obtain a better grasp of the text (Bawa, 2019). These resources can also be used to analyze more challenging literary or academic texts, offering features like sentiment analysis, summarization, and the identification of key concepts, all useful to teachers when explaining the meaning and the underlying messages to their students.

Despite all these innovations, AI application in the planning of reading activities also holds the danger of restricting AI understanding of contextual and cultural dimensions that are highly essential for advanced learners with complicated texts. AI apps must be constantly reviewed by teachers to ensure they serve the learning goals of advanced pupils while still upholding pedagogical purity (Wang et al., 2021).

3.2. AI tools for listening tasks

In listening task design, one notable feature of AI is its ability to analyze speech patterns and provide real-time feedback on students' listening skills. AI-driven platforms have the potential to utilize speech recognition and natural language processing (NLP) technologies to help learners practice listening comprehension with authentic materials, such as podcasts, interviews, and academic discussions.

Some platforms, Otter.ai, for instance, offer a sophisticated transcription and summarization service that helps teachers and students deal with more complex spoken texts by transcribing audio in real-time. Teachers can then use the transcriptions to analyze sentence structures, vocabulary, and context to develop a wide range of exercises to further enhance their students' comprehension of spoken English. This tool can be especially useful when working with academic lectures and discussions, the type of audio in which advanced students are expected to comprehend specialized vocabulary and complex concepts (Baker & Evans, 2018). AI-powered tools not only facilitate listening practice but also allow for detailed feedback, enabling teachers and advanced learners to engage more deeply with spoken content.

However, challenges remain as these technologies can sometimes inaccurately capture the nuances of spoken language, such as tone, emotion, and regional accents. Therefore,

when preparing these types of exercises, even with the support of AI, teachers must have a good command of English, and careful review and consideration must be done to ensure the credibility of not only the listening materials but also their follow-up exercises.

To conclude, from the challenging reality of designing listening and reading materials for the English advanced students, as well as our sincere hope to express our sharing and support to fellow teachers, the next chapter of this paper would be dedicated to present a number of feasible methods to utilize AI in designing exercises for these two skills, aiming at the group of English gifted students during the training for the National English Competition.

PART C: PRACTICAL IMPLICATIONS

This chapter demonstrates concrete, step-by-step workflows for educators to leverage AI in creating advanced reading and listening tasks. It provides practical examples and strategies tailored specifically for gifted students competing in the National English Competition (NEC).

1. NEC Orientation for Designing Tasks

A deep understanding of the NEC's structure and cognitive demands is the foundation for effective preparation. While the NEC employs a variety of complex task types, this material focuses specifically on the anticipated format for the 2024-2025 NEC academic year. Our task design is based on a careful analysis of past exams, with a particular emphasis on task types for which reference materials are either scarce or no longer updated. Based on this approach, the key formats are:

1.1. Reading Task Type: TOEFL-Style Reading Comprehension

This task is designed to mirror the academic reading experience at a university level.

- **Length:** The passage is typically a long-form academic text of approximately **1000-1200 words**.
- **Difficulty:** High (CEFR C1/C2). The difficulty arises from:
 - Dense, information-rich prose on academic topics (e.g., anthropology, astrophysics, art history).
 - Complex sentence structures and sophisticated academic vocabulary.
 - Sophisticated distractors in the multiple-choice options that are designed to mislead test-takers who rely only on keywords.
- **Number of Questions:** A full set consists of **10 multiple-choice questions** per passage.

- **Specific Items (Question Types):** The 10 questions are not random; they are systematically designed to assess a wide spectrum of cognitive skills, including:
- **Factual Information & Negative Factual Information:** Locating explicitly stated details.
- **Inference:** Deducing information that is implied but not directly stated.
- **Rhetorical Purpose:** Understanding *why* the author included a particular piece of information.
- **Vocabulary in Context:** Determining the meaning of a word or phrase from its surrounding context.
- **Sentence Simplification:** Identifying the correct paraphrase of a complex sentence.
- **Insert Text:** Determining the most logical place to insert a new sentence into the passage.
- **Prose Summary:** Identifying the main ideas of the passage by selecting three correct summary statements from a list of six.

1.2. Listening Task Types (from Authentic Sources)

These tasks use unscripted, real-world audio to test listening skills in a more natural, challenging context.

1.2.1. Speaker Matching

- **Length:** A dialogue or discussion involving two or more speakers, typically **2-3 minutes** long.
- **Difficulty:** High (C1/C2). The challenge comes from the cognitive load of tracking multiple viewpoints simultaneously, often amidst natural, overlapping speech. Opinions are usually paraphrased, not stated in the exact words of the prompt.
- **Number of Questions:** A set of **5 statements** to be matched to the correct speaker(s).
- **Specific Items:** The task presents a list of opinions, arguments, or specific points. Students must listen to the entire conversation and identify which speaker holds each specific view. This tests the ability to distinguish between different perspectives and attitudes.

1.2.2. Multiple Matching

- **Length:** A monologue or discussion, typically **3-4 minutes** long.
- **Difficulty:** High (C1/C2). The primary difficulty is that the information required to answer the questions is presented **non-chronologically** and scattered

throughout the recording. This places a heavy demand on working memory and the ability to synthesize information.

- **Number of Questions:** A set of **5 items** to be matched.
- **Specific Items:** This is a flexible format where students match items from one list to another. Examples include:
 - Matching a list of people to their roles or achievements.
 - Matching a list of projects to their primary goal or outcome.
 - Matching a list of problems to their respective causes or solutions.

1.2.3. Summary Completion

- **Length:** A structured monologue, such as a short lecture segment, typically **4-5 minutes** long.
- **Difficulty:** High (C1/C2). This task tests both comprehension and linguistic precision. The main challenge is the **strict word limit** (e.g., "NO MORE THAN THREE WORDS"), which forces students to identify the exact, essential words from the audio, not just synonyms or paraphrases.
- **Number of Questions:** A summary paragraph with **10 gaps** to be filled.
- **Specific Items:** The items are the gaps themselves, which are strategically placed to target key information—names, concepts, statistics, or key descriptive terms—that is fundamental to the overall meaning of the passage.

Each of these formats is intentionally selected to test more than just surface-level understanding. For instance, the reading tasks demand not only comprehension but also the ability to infer meaning and analyze arguments. Similarly, the listening exercises require students to meticulously track and differentiate between speakers' nuanced opinions in a complex dialogue, match specific ideas to the correct source, and precisely identify key information under strict word limits. Collectively, these tasks are designed to cultivate the sophisticated cognitive skills essential for success, moving beyond mere linguistic accuracy. Preparation must therefore focus on developing:

- **Higher-Order Thinking:** The ability to move beyond literal comprehension to analyze arguments, evaluate evidence and authorial bias, and synthesize information from different parts of a text or conversation.
- **Inferential Reasoning:** The skill of "reading between the lines" to understand implicit meanings, speaker attitudes, and the author's underlying purpose.
- **Textual Coherence:** Understanding how ideas are structured and connected through rhetorical devices, logical linkers, and paragraphing.
- **Academic & Tier 3 Vocabulary:** A broad and deep knowledge of sophisticated vocabulary used in academic and formal contexts.

- **Linguistic Nuance:** An appreciation for shades of meaning, collocations, idiomatic language, and register.

To generate a diverse and targeted range of exercises for these demanding formats, Artificial Intelligence (AI) was utilized to support the design process, ensuring the materials are both relevant and challenging.

2. Implementing AI in designing Reading and Listening tasks

The core principle is that the teacher is the architect and AI is the tool. Before detailing the workflow, it is crucial to establish the guiding principle of this initiative: the teacher is always in control. AI is not a replacement for pedagogical expertise but a powerful assistant that executes specific instructions. The teacher's role is to provide the vision, the context, the source material, and the critical judgment. The AI's role is to handle the heavy lifting of content generation and processing. This "human-in-the-loop" model ensures that every task is not only created efficiently but also meets the rigorous academic standards required for NEC preparation.

2.1. AI tools and their applications

2.1.1. All-in-One AI-Powered EdTech Platforms

These are the most powerful tools for educators because they integrate multiple steps into a single, user-friendly interface. They are complete software applications (Software as a Service - SaaS) designed for a specific purpose (education), using Large Language Models (LLMs) as their core technology but packaged with automated workflows. You interact with buttons like "Create questions" rather than directly with the LLM.

- **Twee.com (Teach With Twee):**
 - Key Features: Simply paste a YouTube link, and Twee will automatically fetch the transcript and provide a range of options to create exercises, such as:
 - Create Multiple-Choice Questions.
 - Create True/False/Not Given questions.
 - Create gap-fill exercises.
 - Identify and create exercises for key vocabulary.
 - Create discussion questions.
 - Ideal for: Teachers who want a fast, effective solution without needing many technical steps.
- **Teachermate.ai:**
 - Key Features: Similar to Twee, this tool allows you to use a YouTube link or upload your own transcript to create various types of exercises. It also has templates specifically designed for language teaching.

- Ideal for: Quickly creating complete worksheets from a single source material.

2.1.2. Audio & Video Processing Tools (Automatic Speech Recognition - ASR Services)

The core technology of this group is converting audio (speech) into text. These tools are indispensable for getting a written transcript and are optimized for high accuracy, speaker identification, and timestamps.

- **Gemini (by Google):**

- Key Features: Gemini can directly analyze the content of YouTube videos without you needing to manually get the transcript. When you ask Gemini to analyze a YouTube video, you are essentially using the language processing capabilities of the Gemini LLM to work on the video's transcript.
- Ideal for: Users familiar with AI assistants who want maximum flexibility, especially with YouTube videos.

- **Otter.ai / Descript:**

- Key Features: These are professional transcription services. You can upload an audio file (podcast, recording) or video, and they will generate a highly accurate transcript, often including speaker identification. YouTube's auto-captioning system is also part of this technology group.
- Ideal for: Materials that are not available on YouTube or when you need the highest possible transcript accuracy. After getting the transcript, you would use it with the tools in category 3.

2.1.3. General-Purpose Language Assistants (Large Language Models - LLMs)

These are foundational AI models trained on vast amounts of text data. They are the "brains" capable of understanding, processing, summarizing, translating, and generating human-like text based on prompts. They are extremely powerful if you know how to prompt them.

The most prominent tools in this category include:

- **ChatGPT (by OpenAI):** Renowned for its versatility and creativity. It excels at following complex, multi-step instructions, making it ideal for generating structured tests with various question types.
- **Claude (by Anthropic):** Its primary advantage is an exceptionally large context window, allowing it to analyze very long documents (like 750-word reading passages or full transcripts) without losing track of details from beginning to end.
- **Gemini (by Google):** Stands out for its deep integration with the Google ecosystem. It can often analyze YouTube videos directly from a link and leverage

Google Search for real-time information, which is highly efficient for sourcing and processing materials.

- Key Features: You can paste a transcript or a full article into any of these models and provide detailed prompts to generate any type of exercise, from multiple-choice questions to gap-fills and discussion prompts.
- Ideal for: Educators who require maximum flexibility and control to create highly customized and nuanced tasks that are not available in pre-made templates.

2.1.4. Example Workflow Combining Tools

You can envision the process as follows. You use a service from the ASR group (like Otter.ai) to get a text transcript from an audio file. Then, you input this text into a tool from the LLM group (like ChatGPT) or an EdTech Platform (like Twee.com) to generate the exercises. For example:

- **Objective:** Create a listening exercise from a TED Talk for B1-level students.
- **Select Video:** Find a suitable TED Talk on YouTube.
- **Obtain Transcript:**
 - Method 1 (Fastest): Paste the video link into Twee.com.
 - Method 2 (Flexible): Ask Gemini to watch the video and provide the transcript.
- **Generate Exercises:**
 - If using Twee: Select the available function buttons like "Create Multiple Choice Questions," "Find Vocabulary," etc.
 - If using Gemini/ChatGPT: Paste the transcript and give commands such as:
 - "Summarize the main content of this talk in 3 sentences." (To create a main idea task).
 - "Based on the transcript, create 5 True/False questions about specific details."
 - "Create a gap-fill exercise with 7 blanks, removing important prepositions or verbs."
- **Finalize:** Copy the generated questions into a Google Docs or Microsoft Word file, reformat for clarity, add instructions, and create a complete worksheet.

An important note is that AI is a powerful assistant, but the teacher is always the final reviewer. Always read and edit the questions generated by AI to ensure they are appropriate for the students' level, linguistically clear, and truly test the necessary listening skills.

2.2. Using AI to Discover and Curate Authentic Materials

Before a task can be designed, a high-quality source must be found. Teachers can use AI language models with web-Browse capabilities (such as Perplexity AI, or ChatGPT-4 with Browse) as a powerful research assistant to quickly discover relevant articles and videos. The key is to give the AI a clear role and specific search criteria.

2.2.1. Prompt for finding Reading source: TOEFL-Style

Objective: To find a long-form academic article with complex content.

Act as a research assistant for an English teacher preparing gifted C1/C2 students for a national competition.

I need to find a source text to create a TOEFL-style Reading Comprehension task. The text must meet these specific criteria:

- **Topic:** An academic subject like evolutionary biology, cognitive archaeology, or macroeconomics.
- **Length:** Approximately 1000-1200 words.
- **Source:** A reputable publication known for dense, high-quality prose, such as Aeon, Quanta Magazine, Scientific American, or The Atlantic.
- **Accessibility:** The article must be fully accessible without a hard paywall.

Please find ONE ideal article that fits these requirements. For the article, provide:

1. The title, author, and source.
2. A direct link to the article.
3. A brief justification (2-3 sentences) explaining why its topic density and linguistic complexity make it a perfect source for a TOEFL-style reading passage.

2.2.2. Prompt for finding Listening source: Speaker Matching

Objective: To find a short video featuring at least two speakers with contrasting or clearly distinct viewpoints.

Act as a research assistant for an English teacher preparing gifted C1/C2 students for a national competition.

I need to find a video source to create a Speaker Matching listening task. The video must meet these specific criteria:

- **Content:** It must be a discussion or debate featuring at least two speakers with clearly distinct or contrasting viewpoints on a specific topic. Simple interviews are not suitable.

- ****Source Type:**** Look for panel discussions, formal debates, or expert roundtables. Channels like Intelligence Squared, Oxford Union, or The Munk Debates are ideal.

- ****Length:**** A short, self-contained clip of 2-3 minutes.

- ****Topic:**** A contentious social, ethical, or scientific issue.

Please find ONE ideal video clip. For the clip, provide:

1. The title and the source channel.
2. A direct link to the video.
3. A brief justification explaining what the topic of debate is and what the opposing viewpoints are, confirming its suitability for a Speaker Matching task.

2.2.3. Prompt for finding Listening source: Multiple Matching

Objective: To find a video containing multiple distinct "items" or "examples" that can be matched to descriptions.

Act as a research assistant for an English teacher preparing gifted C1/C2 students for a national competition.

I need to find a video source to create a Multiple Matching listening task. The source material must meet these criteria:

- ****Content:**** The speaker(s) must discuss a topic that contains FIVE distinct, named items or categories. For example: a historian discussing five different battle strategies, an art critic analyzing five distinct painting styles, or a scientist explaining five proposed solutions to a problem.

- ****Length:**** Approximately 3-4 minutes.

- ****Clarity:**** The information about each distinct item should be clear enough to create matching statements.

Please find ONE ideal video. For the video, provide:

1. The title and source channel.
2. A direct link to the video.
3. A justification that explicitly identifies the list of distinct items discussed in the video (e.g., "The speaker discusses three main theories: A, B, and C"), proving its suitability for a Multiple Matching task.

2.2.4. Prompt for finding Listening source: Summary Completion

Objective: To find a well-structured monologue lecture that is rich in core information.

Act as a research assistant for an English teacher preparing gifted C1/C2 students for a national competition.

I need to find a video source to create a Summary Completion listening task. The video must fit these very specific criteria:

- ****Content:**** It must be a structured, information-dense monologue. Avoid informal vlogs, interviews, or unstructured discussions.
- ****Source Type:**** An academic lecture, a formal presentation, or a well-structured educational talk. Channels like Gresham College, TED (on scientific/academic topics), or university lectures (MIT OpenCourseWare, Stanford) are ideal sources.
- ****Length:**** Approximately 4-5 minutes.
- ****Topic:**** A specific academic or scientific subject that is rich in key terms, concepts, and data.

Please find ONE ideal video. For the video, provide:

1. The title, speaker, and source channel.
2. A direct link to the video.
3. A brief justification explaining why the video's clear structure and information

This AI-assisted discovery process allows teachers to survey a wide range of potential materials in minutes, saving hours of manual searching.

2.3. The Basic AI-Powered Workflow: From Source to Product

Once a suitable authentic text or audio source has been selected using the strategies in section 2.2, the teacher transitions from researcher to task designer. The process of transforming that raw material into a polished, competition-ready exercise follows a highly effective and iterative four-step workflow.

- **Material Preparation & Analysis:** The teacher provides the selected article or audio transcript to the AI. The first instruction is not to create questions, but to process the material: summarizing main arguments, identifying key vocabulary, or outlining the structure. This gives the AI the necessary context.
- **Initial Task Generation:** With the material analyzed, the teacher provides a specific, role-based prompt to generate the first draft of the task. For example, *"Acting as a test designer for a national English competition, create five TOEFL-style inference questions based on the provided article."*
- **Teacher Evaluation & Iteration (The "Human-in-the-Loop"):** This is the most critical stage. The teacher critically evaluates the AI's output for accuracy, relevance, subtlety, and alignment with NEC standards. They then refine the questions, rewrite awkward options, or instruct the AI to regenerate specific items with more precise prompts.

- **Finalization & Formatting:** Once the teacher is satisfied with the quality of the questions, they use the AI for the final administrative steps: generating a detailed answer key with explanations and formatting the entire task into a clean, ready-to-use document.
- The efficiency of this workflow is transformative. It automates the most time-consuming aspects of task creation, allowing a single teacher to produce a high volume of varied, high-quality practice materials in a fraction of the time it would take manually. This frees up the educator to focus on the highest-value work: refining pedagogical quality and analyzing student performance, truly embodying the role of "architect."

This general four-step framework—**Preparation, Generation, Iteration, and Finalization**—forms the backbone of our approach. The following sections will now demonstrate how this core workflow is specifically adapted to meet the unique challenges of designing the NEC-style **Reading tasks (TOEFL-style)** and **Listening tasks (Part 1, 2, 4)**.

3. The Workflow for Designing NEC-Style Reading Task (TOEFL-style)

This workflow addresses the need for updated, high-quality TOEFL-style reading passages and question sets.

3.1. Suggested Sources for Authentic Reading

- **Long-form Journalism & Essays:** For complex arguments and sophisticated prose.
 - **Aeon:** Publishes deep, philosophical, and scientific essays.
Link: <https://aeon.co/essays>
 - **The Atlantic:** Features high-quality journalism on culture, politics, and technology.
Link: <https://www.theatlantic.com/magazine/>
 - **The Guardian's "The Long Read":** In-depth articles that cover a single issue from multiple angles.
Link: <https://www.theguardian.com/news/series/the-long-read>
- **Science & Technology:** For dense, evidence-based texts.
 - **Quanta Magazine:** Reports on complex topics in mathematics, physics, and life sciences with exceptional clarity.
Link: <https://www.quantamagazine.org/>
 - **Scientific American:** Accessible yet detailed articles on a wide range of scientific topics.
Link: <https://www.scientificamerican.com/>

- **MIT Technology Review:** Focuses on the societal and business implications of new technologies.
Link: <https://www.technologyreview.com/>
- **Global Affairs & Economics:** For texts requiring analysis of perspective and bias.
 - **Foreign Affairs:** The leading journal for analysis of U.S. foreign policy and global affairs.
Link: <https://www.foreignaffairs.com/>
 - **Project Syndicate:** Publishes opinion pieces from a wide range of global experts and leaders.
Link: <https://www.project-syndicate.org/>
 - **The Economist's "Briefing" Section:** Provides a detailed, data-rich dive into a single important topic each week.
Link: <https://www.economist.com/briefing>

3.2. The Workflow for Designing NEC-Style Reading Task (TOEFL-style)

- **Step 1: Strategic Sourcing and Adaptation**
 - **Action:** The teacher selects a high-quality text (1000-1200 words) from the suggested sources.
 - **AI-Assisted Adaptation (Optional):** If the text is slightly too complex or long, the teacher can use AI to adapt it.
 - **Prompt:**

Rewrite the following article to be approximately 1200 words, suitable for advanced C1-level English learners. Maintain the formal, academic tone and preserve all key arguments.

- **Step 2: Initial Task Generation (Creating a Pool of Questions)**
 - **Action:** The teacher provides the final text to the AI with a master prompt designed to mirror the TOEFL question matrix.
 - **Master Prompt Example:**

Act as an expert TOEFL iBT test designer. Based on the provided article, create a set of ****TWELVE (12)**** questions. The set must strictly follow this distribution: * 2 Vocabulary-in-Context questions * 3 Factual Information questions * 2 Inference questions * 1 Rhetorical Purpose question * 1 Sentence Simplification question * 1 Text Insertion question * 2 questions for a Prose Summary (choose 3 of 6 options)

- **Step 3: Teacher Evaluation and Iteration**

- **Action:** The teacher reviews the 12 generated questions, selecting the best 10 to form the final test.

- **Interactive prompt:**

The inference questions are good. Please generate two more alternative inference questions based on the same text.

- **Step 4: Finalization and Answer Key Generation**

- **Action:** After finalizing the 10 questions, the teacher prompts the AI to create the answer key with justifications.

- **Final Prompt:**

Here are the final 10 questions and the full reading passage. For each question, provide: 1. The correct answer. 2. A detailed justification for why the answer is correct, quoting the specific sentence(s) in the passage that contain the evidence.

4. The Workflow for Designing NEC-Style Listening Tasks (Parts 1, 2, & 4)

This workflow focuses on creating tasks for the authentic listening sections, which are notoriously difficult to source and prepare manually.

4.1. Suggested Sources for Authentic Listening

- **Academic Lectures:** These provide dense, structured monologues.
 - **Gresham College:** Offers university-level public lectures on a wide range of academic subjects.
Link: <https://www.gresham.ac.uk/watch>
 - **MIT OpenCourseWare:** Provides access to actual lectures from MIT courses.
Link: <https://www.youtube.com/c/mitocw>
 - **Stanford University's YouTube Channel:** Features talks and seminars from leading academics.
Link: <https://www.youtube.com/user/Stanford>
- **Formal Debates & Expert Discussions:** These are invaluable for tasks involving multiple speakers and contrasting viewpoints.
 - **Intelligence Squared Debates:** Features formal debates on contentious issues, perfect for speaker-matching tasks.
Link: <https://www.intelligencesquared.com/watch-and-listen/>
 - **BBC Radio 4 - In Our Time:** Academic discussions between three experts and a host, featuring natural, unscripted, and overlapping speech.
Link: <https://www.bbc.co.uk/programmes/b006qykl>

- **The Oxford Union:** Classic, formal debates with renowned speakers.
Link: <https://www.youtube.com/c/OxfordUnion>
- **In-depth Monologues & Interviews:**
 - **TED (on complex topics):** Select talks from scientists, philosophers, and historians rather than purely motivational speakers.
Link: <https://www.ted.com/talks>
 - **Lex Fridman Podcast:** Long-form interviews with scientists, intellectuals, and entrepreneurs, providing deep and often technical conversations.
Link: <https://www.youtube.com/c/lexfridman>
- **News Reports & In-depth Journalism:** These sources provide exposure to clear, formal language delivered at a natural pace.
 - BBC News: Offers high-quality global news reports with standard British English (RP).
Link: <https://www.youtube.com/c/BBCNews>
 - PBS NewsHour: Provides in-depth, well-researched news coverage from the United States. Known for its formal language and detailed analysis.
Link: <https://www.youtube.com/c/pbsnewshour>
 - Reuters: A leading global news agency providing direct, factual video reports from around the world. Excellent for unbiased content.
Link: <https://www.youtube.com/c/Reuters>
- **Local & Regional News Sources:** These are excellent for exposing learners to different regional accents, natural speech patterns, and colloquialisms. While often less formal and academic than international sources, they provide valuable, authentic listening practice.
 - WGN-TV (Chicago, USA): A great example of a local American news broadcast, featuring Midwest American accents and fast-paced reporting.
Link: <https://www.youtube.com/@wgntv>
 - KTLA 5 News (Los Angeles, USA): A major local news station for the Los Angeles area. Ideal for exposure to natural, West Coast American English.
Link: <https://www.youtube.com/@KTLA5>
 - ITV News (UK): A major commercial news network in the UK. Its channel features reports from various regional services, providing excellent exposure to different British accents beyond the standard RP of the BBC.
Link: <https://www.youtube.com/@itvnews>

- 7NEWS Australia (Australia): A leading television news service in Australia. This channel is ideal for familiarizing learners with Australian English accents, vocabulary, and culture in a news reporting context.

Link: <https://www.youtube.com/@7NEWS>

4.2. The Workflow for Designing NEC-Style Listening Tasks

• Step 1: Strategic Sourcing and Adaptation

- **Action:** The teacher selects a high-quality audio source from the suggested list (e.g., a 4-5 minute segment from a university lecture).
- **AI-Assisted Adaptation:** Use an AI tool to generate a full transcript of the chosen audio. The teacher reads the transcript to assess its content. If the audio is too long, the teacher identifies a coherent 4-5 minute segment or instructs the AI to suggest cuts:

- **Prompt:**

Here is the full transcript of an 8-minute talk. The core argument is about cognitive biases. Please recommend which sections can be removed to shorten the listening to approximately 5 minutes without losing the main argument.

- The teacher finalizes the edited transcript.

• Step 2: Initial Task Generation (Creating a Pool of Questions)

- **Action:** The teacher uses a master prompt to instruct the AI to generate a complete Multiple Matching task with more items than needed. This provides a pool of options to choose from.
- **Master Prompt Example:**

Act as an examiner for the Vietnam National English Competition. Based on the provided transcript, which consists of five short monologues by five different speakers (Speaker 1 to Speaker 5), create a Multiple Matching task. The task must have two lists:

List A (The Options): A list of **EIGHT** options (labeled A-H). These options should be short summaries or categories (e.g., "A passion for historical research," "A desire for social change," "An interest in financial markets").

List B (The Questions): A list of **FIVE** questions (labeled 6-10) corresponding to the five speakers.

Instructions for the AI:

For the eight options in List A, ensure that five options are correct matches for the five speakers, and three options are plausible distractors.

The language used in the options must be a paraphrase of the ideas in the transcript, not using the exact same keywords.

- **Step 3: Teacher Evaluation and Iteration**

- **Action:** The teacher critically reviews the generated list of 8 options and selects the best 5 correct options and the 2 most effective distractors to create the final 7-option list for the 5-speaker task.
- **Iterative Prompt (if needed):** If the generated options are not satisfactory, the teacher can ask for revisions.
- **If the paraphrasing is too simple, use prompt:**

The paraphrasing in options B and E is too close to the original transcript. Please rewrite these two options using more advanced synonyms and different sentence structures, while preserving the original meaning.

- **If the distractors are too obvious, use prompt:**

Distractor options F and G are not plausible enough. Based on the context of the transcript, create two new, more challenging distractor options that are thematically related but clearly incorrect.

- **Step 4: Finalization and Answer Key Generation**

- **Action:** Once the teacher has selected the final set of 5 questions (the Speakers) and 7 options (5 correct, 2 distractors), they prompt the AI to generate the final answer key with clear evidence.
- **Final Prompt:**

Here is the final set of 5 questions (Speaker 1 to Speaker 5), the final list of 7 options (A-G), and the full transcript. Your task is to:
Provide a clear answer key (e.g., 1-C, 2-A, etc.).
For each correct match, quote the exact sentence(s) from the transcript that serve as evidence for the answer.

5. A Teacher's Checklist for Evaluating AI-Generated Tasks

While artificial intelligence is a powerful tool, its output often lacks the pedagogical rigor and authenticity required for gifted students. AI-generated tasks may fail to promote higher-order thinking and can contain errors, making them unsuitable for preparing for demanding events like the National English Competition (NEC) without careful scrutiny.

To ensure quality, this framework provides a structured evaluation process. After generating a task with AI, teachers should use the detailed checklist in **Appendix 1** to review it. Covering source material, question quality, and answer key accuracy, the

checklist uses a simple rating scale to help educators decide if a task is ready for immediate use or requires revision. This process ensures all materials meet the necessary high standards for competitive preparation.

6. Sample Showcase: From Prompt to Product

This section presents a curated collection of complete, ready-to-use tasks generated using the AI-assisted workflow detailed in this research. Each sample is accessible via a QR code, which links to a Google Drive folder containing:

- The original source material (e.g., the article, link to the audio).
- The final product (e.g., a Word file of the complete test with questions and answer key).
- The showcase is divided into the specific task types of the NEC exam to provide a clear and practical resource for teachers.

6.1. Reading Task (TOEFL-Style)

This subsection showcases 10 complete reading tasks designed from authentic sources. To illustrate the process clearly, the first sample is presented in full detail below. The subsequent nine samples are presented in a summary table with corresponding QR codes for full access.

- **Reading Sample 1 (Detailed Example)**
 - **Topic:** The Societal Impact of Quantum Computing
 - **Source:** *Quanta Magazine*, "The Era of Quantum Computing Is Here. Outlook: Cloudy." (<https://www.quantamagazine.org/the-era-of-quantum-computing-is-here-outlook-cloudy-20180124/>)
 - **Rationale:** This text was chosen for its high density of academic and technical vocabulary (Tier 3) and its complex sentence structures involving cause-and-effect reasoning. It is ideal for creating challenging inference and vocabulary-in-context questions that mirror the cognitive demands of the NEC.
 - **AI Prompt Used:**

Act as an expert TOEFL iBT test designer. Adapt the text to meet the characteristics of a TOEFL reading (1000-1200 words). Based on the provided article about Quantum Computing, create a set of **TWELVE (12)** questions. The set must strictly follow this distribution: 2 Vocabulary-in-Context questions, 3 Factual Information questions, 2 Inference questions, 1 Rhetorical Purpose question, 1 Sentence Simplification question, 1 Text Insertion question, and 2 questions for a Prose Summary (choose 3 of 6 options).

Access Full Materials:

Scan QR Code to Access	
Or use this link:	http://bit.ly/4kpXUpe

- **Reading Samples 2-10 (Summary Table)**

The following table summarizes the remaining nine reading task samples. Please scan the QR code in each row to access the complete materials for that task.

Sample No.	Topic	Source	Access Full Materials (QR Code & Link)
2	The Ethics of Gene Editing	<i>The Atlantic</i>	 http://bit.ly/44lbJ3L
3	Rethinking Urban Development for Climate Resilience	<i>Project Syndicate</i>	 https://bit.ly/4ko5u3X
4	The Psychology of Misinformation	<i>Scientific American</i>	 https://bit.ly/3TZl76V
5	The Evolution of Artificial Intelligence	<i>Quanta Magazine</i>	 https://bit.ly/4eINDDG
6	Historical Linguistics and Proto-Indo-European	<i>Aeon</i>	 https://bit.ly/44QeTfY

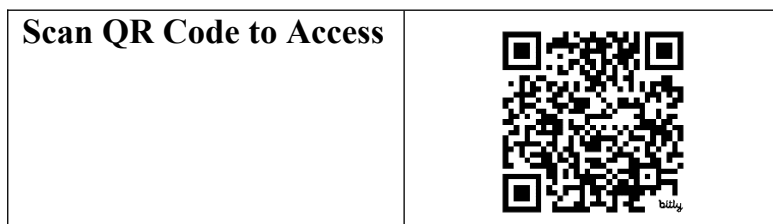
7	Deep-Sea Exploration and Biodiversity	<i>National Geographic</i>	 https://bit.ly/45Zcgts
8	Behavioral Economics: The Hidden Forces Shaping Our Decisions	<i>The Economist</i>	 https://bit.ly/3lhB31M
9	The Fragility of Global Supply Chains	<i>Foreign Affairs</i>	 https://bit.ly/44EKtfn
10	The Role of Dark Matter in the Universe	<i>Nature</i>	 https://bit.ly/3Trkva0

6.2. Speaker Matching Listening Task (NEC Part 1)

This subsection showcases 10 complete listening tasks. Similar to the reading section, the first sample is presented in full detail to demonstrate the workflow, followed by a summary table for the remaining samples.

- **Listening Sample 1 (Detailed Example)**

- **Topic:** Political Correctness
- **Source:** The Munk Debate – Munk Debate on Political Correctness: Michelle Goldberg and Jordan Peterson – Exchange (<https://www.youtube.com/watch?v=SpqulnPVFqw>)
- **Rationale:** This video clip is part of the Munk Debate on “Political Correctness”, featuring Michelle Goldberg and Jordan Peterson. This video is particularly suitable for your listening exercise because it clearly shows the contrasting viewpoints of the two speakers on a complex social topic.
- **AI Prompt Used:** <https://bit.ly/3TnPNP8>
- **Access Full Materials:**



Or use this link:	https://bit.ly/44tvCp
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• **Listening Samples 2-10 (Summary Table)**

Sample No.	Topic	Source	Access Full Materials (QR Code & Link)
2	Artificial Intelligence: The Risks and Rewards	<i>Intelligence Squared</i>	 https://bit.ly/4eAEflc
3	The Ethics of Gene Editing	<i>World Science Festival</i>	 https://bit.ly/4eC30O1
4	Free Speech is Under Threat	<i>Oxford Union</i>	 https://bit.ly/3Trmues
5	Has Social Media Been a Net Negative for Society?	<i>The Munk Debates</i>	 https://bit.ly/4eFdBYr
6	The Four-Day Work Week Debate	<i>Bloomberg Originals</i>	 https://bit.ly/44mq6s
7	The Nature of Consciousness	<i>Big Think</i>	 https://bit.ly/4kxdzTT
8	Is Capitalism Moral?	<i>The Aspen Institute</i>	 https://bit.ly/4lkgiBp
9	The Future of Work and Automation	<i>The Royal Society</i>	 https://bit.ly/44Yq0T9
10	The Debate on Nuclear Power	<i>BBC Newsnight</i>	 https://bit.ly/44Yq0T9

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6.3. Multiple Matching Listening Task (NEC Part 2)

- **Listening Sample 1 (Detailed Example)**

- **Topic:** The psychological response to loss and each stage of grief
- **Source:** Sprouts School - The 5 Stages of Grief
(<https://www.youtube.com/watch?v=Zk7pOnUPL74>)
- **Rationale:** The video is explicitly structured around explaining five distinct, named concepts that form a single, coherent model. This provides the perfect framework for a matching task where students must connect each concept to its corresponding description.
- **AI Prompt Used:** <https://bit.ly/404rl9k>
- **Access Full Materials:**

Scan QR Code to Access	
Or use this link:	https://bit.ly/4nHTltA

- **Listening Samples 2-10 (Summary Table)**

Sample No.	Topic	Source	Access Full Materials (QR Code & Link)
2	The 'Big Five' Personality Traits	The School of Life	 https://bit.ly/4lEDGJk
3	The Five Great Mass Extinction Events	PBS Eons / SciShow	 https://bit.ly/3GAdYa9
4	Porter's Five Forces of Competitive Strategy	Harvard Business Review	 https://bit.ly/45TbePu

5	The Five Levels of Autonomous Driving	The Verge / Vox	 https://bit.ly/4kuJHY5
6	The Five 'Blue Zones' of Longevity	National Geographic / TED	 https://bit.ly/3Gvoyzf
7	The Five Elements of a Compelling Story	TED-Ed	 https://bit.ly/4lFy4yB
8	The Five Classical Orders of Architecture	Art History Channels	 https://bit.ly/45YMjds
9	The Five Permanent Members of the UN Security Council (P5)	Council on Foreign Relations (CFR)	 https://bit.ly/4nHV16m
10	How the food you eat affects your brain	TED-Ed	 https://bit.ly/4nDflpi

6.4. Summary Completion Listening Task (NEC Part 4)

- **Listening Sample 1 (Detailed Example)**
 - **Topic:** the future of humanity in space
 - **Source:** Gresham College - 100 Years to Master the Solar System - Professor Christopher Impey (<https://www.youtube.com/watch?v=JAp4QofUBwY>)
 - **Rationale:** This video is an excellent resource for a Part 4 Summary Completion task. The video is delivered as a formal, academic monologue. The subject matter—combining elements of cosmology, engineering, psychology, and ethics regarding the future of humanity—is intellectually stimulating and appropriately complex for gifted students at the C1/C2 level. It requires students to engage with abstract ideas and specialized vocabulary, which is a hallmark of an advanced listening task.
 - **AI Prompt Used:** <https://bit.ly/45ZPBx6>
 - **Access Full Materials:**

Scan QR Code to Access	
Or use this link:	https://bit.ly/44tvtCp

• **Listening Samples 2-10 (Summary Table)**

Sample No.	Topic	Source	Access Full Materials (QR Code & Link)
2	The History and Principles of the Gold Standard	Gresham College	 https://bit.ly/4INEV9v
3	The Physics of Black Hole Collisions	TED-Ed	 https://bit.ly/40CtM2U
4	The Principle of Separation of Powers	Gresham College	 https://bit.ly/44iFLFf
5	How Neural Networks Work: An Introduction	MIT OpenCourseWare	 https://bit.ly/44myapi
6	The Mechanism of CRISPR Gene Editing	TED	 https://bit.ly/44QpcRc
7	The Development of Perspective in Renaissance Art	Gresham College	 https://bit.ly/3Gvmmrw
8	The Neuroscience of Memory Formation	Stanford University	 https://bit.ly/3GmUE05
9	The Chemistry of Ocean Acidification	The Royal Institution	 https://bit.ly/4nTJLUz

10	The Function and Importance of Sleep	TED-Ed	 https://bit.ly/4lg1ljx
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From a process that took hours for a single exercise, the new AI workflow has unlocked the ability to produce a robust portfolio of 40 distinct Reading and Listening tasks as above, transforming our preparation strategy.

PART D: CONCLUSION

In this part, the primary findings of the study are summarized alongside the overall research outcomes. Furthermore, the researchers offer recommendations for future studies, considering the limitations and challenges encountered during the research process.

1. Summary of the findings

This research was motivated by the pressing need to bring relief to the enormous burden teachers experience in having to repeatedly develop high-quality, intricate, and differentiated Reading and Listening exercises for gifted learners, especially in the challenging environment of preparing students for the National English Competition (NEC). This research validated that although gifted learners need material to match their upper-level thinking capacities, AI has tremendous potential to personalize learning and automate content generation. Therefore, this research's main contribution is the successful design and validation of an AI-aided workflow that allows teachers to generate top-tier tasks with unprecedented ease. The real-world implementation demonstrated that using strategic prompt engineering, teachers can effectively acquire real-world materials, generate a high quantity of complex tasks targeting analysis and inference, and create elaborate supporting exercises. Finally, this study offers a replicable, experience-based model—fully equipped with a tested source list, a library of successful prompts, and an efficient assessment checklist—that directly aids teachers by conserving their valuable time and dramatically enhancing the quality of their instructional materials.

2. Implications for Teaching Practices in NEC Preparation

The findings of this study have profound and direct implications for the traditional instructional strategies that are used to prepare for NEC. First, the research suggests a radical shift in the role of the teacher, from a content creator who spends countless hours to manually crafting material to one who is a content architect and curator. In this new work style, the teacher's ability is utilized more purposefully in establishing pedagogical goals, drafting explicit instructions for the AI, and critically editing the output, freeing valuable time for more meaningful work like providing personalized feedback and facilitating detailed classroom discussions. Furthermore, this research makes "prompt engineering" a novel and essential pedagogical skill; good communication with AI is inevitably bound up with the quality of the produced educational material. Hence, teachers must play a key "human-in-the-loop" role, never simply accepting AI output

blindly but instead leveraging professional know-how to decide on accuracy, relevance, and NEC standard conformity. This implies a need for continuous professional development and calls for the establishment of Professional Learning Communities (PLCs) in which teachers exchange effective prompts and strategies to ultimately design a more dynamic, efficient, and effective approach towards gifted education.

3. Limitations of the Study

Although the study made significant contributions, some limitations have to be noted to give a fair view and place the findings in context. In the first instance, the research was limited in its technological scope, where it concentrated on some well-known Large Language Models while the AI environment continues to develop at a breakneck pace. Second, the validation of the workflow was conducted on a small sample size, i.e., it is a proof-of-concept rather than a large-scale, statistically significant validation. Further, the primary focus of the study was the teacher's design process and the output task quality, and not the direct measurement of the long-term impact on pupil test scores.

Last but not least, conclusions were mainly made according to the researchers' observation and practical use, without employing large-scale surveys or in-depth interviews to take in the opinions of more teachers and students.

4. Future Research Directions

Recommendations and Suggestions Predicated on the findings and the limitations that have been uncovered, this research makes some suggestions for pedagogical practice in the near term and future academic research. For classroom use, it is highly advisable for teachers to embrace a "human-in-the-loop" mindset in applying the given checklist to review critically and edit all AI-generated content instead of utilizing it in its entirety. This personal endeavor needs to be supplemented with the formation of Professional Learning Communities (PLCs) wherein teachers can discuss and exchange useful AI prompts and strategies. Beyond these action recommendations, the research identifies some important directions for future research. One is that a longitudinal study can be carried out to quantitatively measure the effect of utilizing these AI-developed tasks on students' real NEC performance. Future studies can also include a comparative study of various AI tools, qualitative in-depth research to examine user attitudes, or the application of this model to Writing and Speaking skills, and examine the use of AI for automated feedback.

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APPENDIX 1

A Teacher's Checklist for Evaluating AI-Generated Tasks

• **Rating Scale:**

1 = Needs Major Revision: The task has significant flaws in this area.

2 = Good but Needs Minor Tweaks: The task is solid but could be improved with small edits.

3 = Excellent / Ready to Use: The task meets the standard in this area.

Criterion	Guiding Questions for Evaluation	Rating (1-3)	Notes / Required Revisions
1. NEC Alignment & Authenticity	• Does the task format (e.g., MCQs, summary completion, matching) exactly mirror the format used in recent NEC exams? • Is the difficulty level (vocabulary, sentence structure, speed of listening) appropriate for a top-tier gifted student? • Does the language in the AI-generated questions sound natural and academic, or is it stilted/robotic?		
2. Cognitive Demand	• Does this task primarily test basic recall, or does it demand higher-order thinking skills (analysis, evaluation, synthesis)? • Are the open-ended questions truly "open" and thought-provoking? • Do the multiple-choice distractors represent common misconceptions and require careful reasoning to eliminate?		
3. Clarity & Accuracy	• Are the instructions for students completely unambiguous? • Have I personally fact-checked the AI's content and verified the answer key? • For listening tasks, does the AI-generated transcript accurately reflect the audio with no critical errors? • For reading tasks, is the evidence provided for each answer correct and logical?		
4. Content & Language Quality	• Is the source material itself (text/audio) intellectually stimulating and appropriate for the target students? • Are the vocabulary words selected for testing truly relevant and advanced (Tier 3)? • Is the overall task engaging and likely to hold the interest of a gifted student?		
5. Freedom from Bias & Errors	• Is the content culturally appropriate and free from stereotypes? • Have I checked for any subtle biases or factual inaccuracies that the AI may have generated from its training data? • Are there any grammatical errors or awkward phrasing in the questions or instructions created by the AI?		

6. Overall Efficiency & Value	• Did using AI for this task save significant time compared to creating it manually? • Did the AI help produce a more complex, creative, or varied task than I could have designed in the same timeframe? • Is this task a valuable addition to my NEC preparation toolkit?		
Final Decision	Is this task ready for classroom use? ☐ Yes ☐ Yes, after minor revisions noted above. ☐ No, requires major revisions or a new generation.		