

**AI-ASSISTED DESIGN OF ADAPTIVE READING
TASKS FOR GIFTED STUDENTS PREPARING
FOR THE NATIONAL ENGLISH COMPETITION
IN VIETNAM**

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ABSTRACT

This thesis investigates how artificial intelligence (AI) applications can assist teachers in designing adaptive reading tasks for gifted English students in Vietnam, particularly those preparing for the National English Competition. Drawing from theoretical underpinnings such as Vygotsky's Zone of Proximal Development (ZPD), Universal Design for Learning (UDL), and Cognitive Load Theory, the study investigates how AI can facilitate differentiated and adaptive instruction by modifying discourse structure, lexical complexity, syntactic difficulty, and cognitive demand. The study offers a workable model for creating and refining excellent, competition-aligned reading tasks using a seven-step workflow that integrates tools like GPT-4, Coh-Metrix, and Google Apps Script. The results imply that AI improves cognitive engagement and assessment alignment in addition to enabling scalable personalisation.

Keywords: gifted learners, adaptive reading texts, artificial intelligence, National English Competition, seven-step workflow, GPT-4, Bloom's Taxonomy, language complexity.

CHAPTER I. INTRODUCTION

1.1 Rationale for Adaptive Reading Tasks

Gifted students' education in Vietnam is extremely competitive and intellectually demanding, particularly for those competing in national academic competitions. Gifted students frequently need reading materials that are more intricate, open-ended, and cognitively demanding than those found in regular curricula (Pham & Le, 2021). However, there is a noticeable gap between these students' particular academic and cognitive needs and the instructional resources that are currently available. Specifically, the English National Competition (NEC) for Gifted Students requires examinees to engage with advanced reading texts that demand high-order thinking skills, such as inference, evaluation, and synthesis.

However, reading instruction for gifted students in many Vietnamese classrooms still employs a one-size-fits-all traditional teaching methodology, in which all students are given the same texts and assignments regardless of their actual proficiency levels, cognitive abilities, or learning pace. Gifted students need more intellectually demanding and differentiated content to stay engaged and develop, and this uniform approach frequently fails to engage them (Tomlinson, 2014).

Although it has been demonstrated that AI-powered adaptive learning technologies can successfully differentiate content according to learner profiles (Zawacki-Richter et al., 2019), their use in Vietnamese gifted education still remains limited. AI tools are not yet commonly incorporated into the curriculum, particularly when it comes to creating challenging reading assignments that meet national exam standards, and teachers frequently lack training in educational technology. This gap reveals a critical need for AI-assisted systems that can dynamically create reading materials in line with students' cognitive levels, linguistic proficiency, and performance data are desperately needed.

1.2 Research Objectives and Scope

This study aims to explore how AI applications can assist teachers in designing adaptive reading tasks that are especially suited for Vietnamese gifted English language learners. The primary objectives are to:

- Analyze the characteristics and cognitive demands of reading tasks in the National English Competition.
- Examine the capabilities of current AI tools in generating or supporting similar task formats.
- Propose and validate a framework for designing AI-assisted adaptive reading tasks that meet the requirements of talented students.

The study only focuses on gifted students at high schools in Vietnam (grades 10 -12), specifically those who prepare for or participate in the National English Competition.

1.3 Significance of the Study

This research is significant in several ways. First of all, by offering teachers specific tactics and tool recommendations, it meets a real-world need for more advanced task design techniques. Second, this study offers an applied framework for instructional innovation in gifted education by linking cognitive theory, AI capabilities, and actual assessment demands like the National English Competition. The results of this study may also help curriculum designers, education policymakers, and ed-tech developers who want to use AI-enhanced methods in differentiated instruction to make sure that high-ability students are motivated, challenged, and supported throughout their academic careers.

CHAPTER II. THEORETICAL BACKGROUND

2.1. Definition of Adaptive Reading Texts

Adaptive reading texts refer to materials that are dynamically adjusted to match a learner's reading ability, cognitive profile, and instructional needs. These adaptations may involve changes in vocabulary complexity, sentence structure, thematic depth, or questioning format (Hiebert & Mesmer, 2013; Snow & Biancarosa, 2003; Shute & Zapata-Rivera, 2012).

2.2 Three core educational theories support the rationale for AI-assisted adaptive reading tasks: ZPD, UDL, and Cognitive Load Theory

Theory	Key Concept	Relevance to AI-Generated Adaptive Reading Tasks
Zone of Proximal Development (ZPD) (Vygotsky, 1978)	Learners grow best when challenged just beyond current ability with support	AI can analyze performance and adjust difficulty to keep tasks in the learner's ZPD
Universal Design for Learning (UDL) (CAST, 2018)	Multiple means of engagement, representation, expression	AI allows tasks to be multimodal (ex: audio prompts, choice-based response formats)
Cognitive Load Theory (CLT) (Sweller, 1988)	emphasizes the importance of balancing the difficulty of learning materials with the limited capacity of working memory	Adaptive tasks can manage task complexity, reduce irrelevant distractions, and maximize constructive cognitive effort.

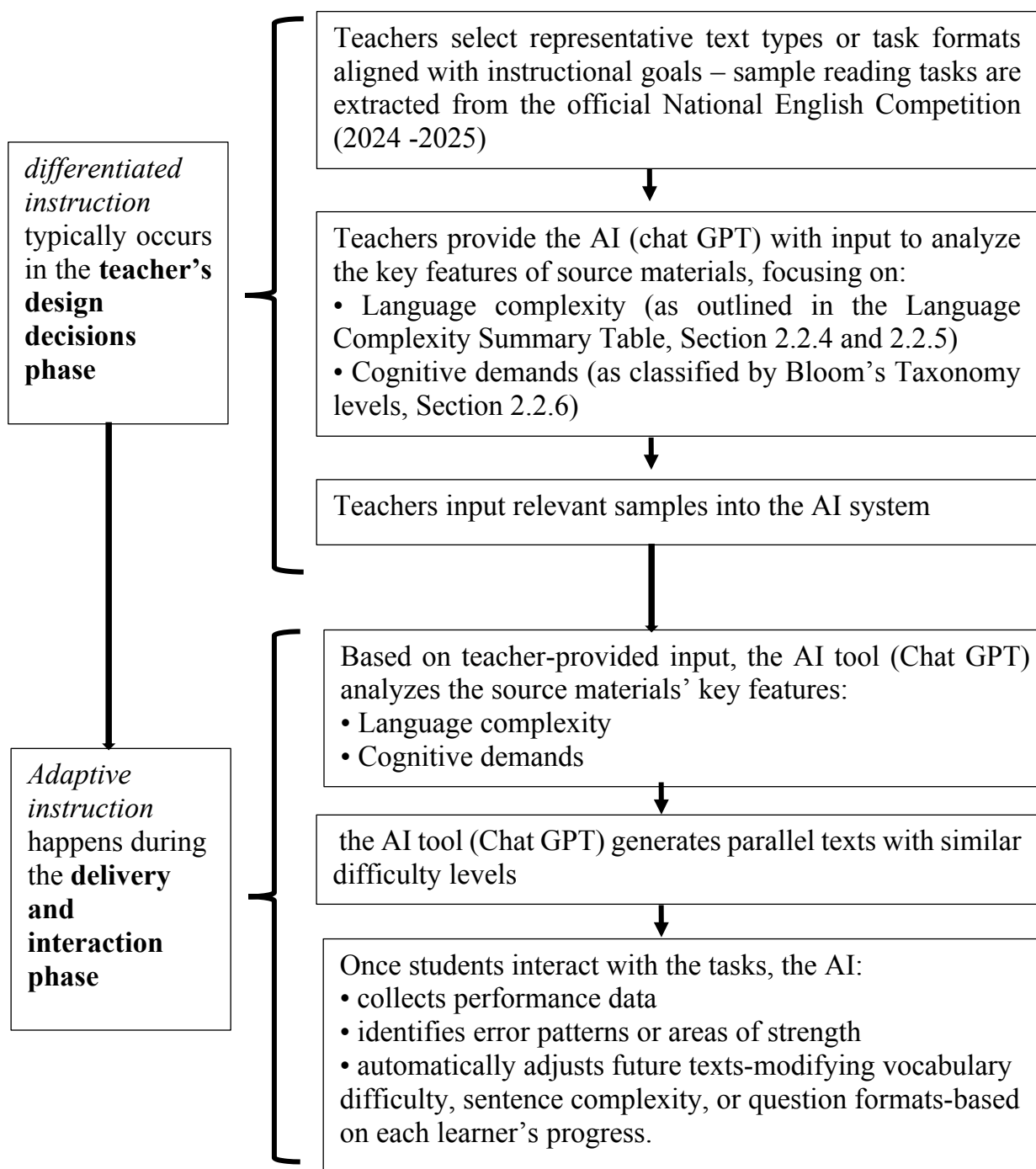
Building on the mentioned theoretical foundations, adaptive reading tasks are most effective when combining teacher-led differentiation with AI-driven adaptation.

2.3. Differentiated Instruction and Adaptive Instruction: Their Roles in Adaptive Reading Texts

“Differentiated instruction” is a teacher-led strategy that customizes content, process, or product based on student differences (Tomlinson, 2014).

“Adaptive instruction” takes advantage of technology to modify content responsively based on performance data (Shute & Zapata-Rivera, 2012).

In the context of adaptive reading texts:



This collaborative workflow guarantees that the generated content is both individualised to fit the changing requirements of talented students and maintain academic rigour.

2.4. Language Complexity Analysis

Below is breakdown of language complexity analysis - critical for designing adaptive reading tasks for national-level gifted English students including Vocabulary Complexity; Grammar & Sentence Structure; Sentence & Text-Level Structure; Difficulty Indices & Readability Formulas.

Language Complexity Summary Table

Dimension	Definition	Metric	Impact on Difficulty
1a. Vocabulary - Frequency & Domain Terms	Defines word difficulty based on how often a word appears in general or academic use; low-frequency and domain-specific terms are harder.	Uses frequency lists (COCA, BNC, AWL); SVM and NN models using word length, syllables, morphology, frequency.	Low-frequency or academic words increase cognitive load, reduce reading speed, and raise error rates
1b. Vocabulary - Lexical Density	Indicates the proportion of content-carrying words, reflecting the semantic richness of a text.	Calculated as: content words ÷ total words; measured using POS-tagging tools (e.g., NLTK, spaCy).	High density increases semantic processing; linked to reduced readability and higher cognitive demand
2a. Grammar - Syntactic Complexity Metrics	Refers to the structural complexity of sentence construction using multiple clauses and grammatical layering.	Metrics: clause density, sentence length, number of subordinate clauses; measured via L2SCA, Coh-Metrix.	Increased syntactic complexity raises intrinsic load; strong predictor of comprehension performance
2b. Grammar - Grammatical Templates	Specific syntactic patterns or constructions that frequently appear in complex academic or formal texts.	Templates include: conditionals, passives, relative clauses, inversions; identified with NLP pattern tools.	Higher density of templates correlates with difficulty; improves prediction accuracy of text models
3a. Structure - Cohesion & Readability	Degree to which linguistic elements connect ideas, plus how easily a text can be processed by readers.	Measured by cohesion indices (referential, lexical) and readability formulas (FKGL, Gunning Fog).	Higher cohesion aids comprehension; moderate cohesion challenges gifted learners' inference skills
3b. Structure - Structural Complexity	Refers to how ideas and arguments are globally structured within a passage.	Analyzed through paragraph segmentation, transition markers, and	Weak structure increases cognitive burden; strong coherence aids

		rhetorical structure (RST parsers).	argument tracking and retention
4. Difficulty Indices & Readability	Formulas estimating reading level by quantifying surface features like sentence length and unfamiliar words.	Formulas include FKGL, Lexile, Dale–Chall; computed based on word/sentence length and familiar word lists.	Predicts grade-level appropriateness; aids adaptive sequencing; needs supplement for deep semantics

2.5 Implications for AI-Generated Reading Tasks based on Language Complexity Analysis

This section describes how AI can integrate vocabulary, grammar, structure, and readability into the design of reading tasks, drawing on the language complexity dimensions previously discussed. These characteristics enable AI systems to customise resources based on national exam requirements and the profiles of gifted learners.

Implications for AI-Generated Reading Tasks

Component	AI Implementation Strategies	Educational Impact
1a. Vocabulary: Word Frequency	Use frequency lists (COCA, BNC, AWL) to adapt vocabulary difficulty; scaffold rare terms; insert academic language for competition-level rigor.	Improves vocabulary control, reading fluency, and exposure to academic registers; supports national exam preparedness.
1b. Vocabulary: Lexical Density	Adjust lexical density in real-time (35–65%); simulate academic writing; segment passages for semantic load balancing.	Enhances semantic processing and critical reading; matches ZPD through density zones; aids in summary and synthesis tasks.
2a. Grammar: Syntactic Complexity	Generate clauses and sentence structures by learner tolerance; scaffold clause embedding; analyze with L2SCA/Coh-Metrix.	Aligns with Cognitive Load Theory; helps build syntactic stamina; supports high-order grammar practice.
2b. Grammar: Grammatical Templates	Control frequency of templates (e.g., passives, conditionals); transform sentence structures; explain unfamiliar syntax.	Boosts comprehension accuracy; supports grammar-focused question types; enables diagnostic analysis of structure errors.
3a. Structure: Cohesion & Readability	Simplify or enrich cohesion; auto-adjust readability (e.g., FKGL); generate questions targeting reference and discourse ties.	Balances readability with inferencing demand; supports both weaker and gifted readers by adjusting cohesion levels.
3b. Structure: Structural Complexity	Embed rhetorical patterns (e.g., problem-solution); assess and adapt paragraph logic, discourse markers, and transitions.	Strengthens discourse-level understanding and argument tracing; supports writing-aligned reading comprehension.
4. Difficulty Indices &	Filter texts using FKGL, Lexile, Dale-Chall; combine surface and	Enables personalized scaffolding; supports error feedback, calibration,

Readability	deep metrics for layered prediction; personalize sequencing.	and text quality control across learner profiles.
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2.6. Cognitive Demands and Bloom's Taxonomy in Adaptive Reading Tasks

To ensure that adaptive reading texts are linguistically appropriate and cognitively stimulating, it is essential to examine the levels of thinking required by each task. As a theoretical tool for examining cognitive demands, Bloom's Taxonomy investigates how artificial intelligence (AI) can be used to create and scaffold questions that correspond with these levels, especially in the context of national English competitions.

a. Bloom's Taxonomy: Framework for Cognitive Challenge

Bloom's Taxonomy (revised by Anderson & Krathwohl, 2001) provides a hierarchical classification of cognitive processes, ranging from lower-order to higher-order thinking:



b. Role of AI in Analyzing and Generating Bloom-aligned Tasks

AI can assist educators in ensuring that cognitive challenge is appropriate and diverse through the following mechanisms:

Cognitive Level Classification: AI models with natural language processing skills are able to classify questions into Bloom levels by analysing their linguistic and semantic structure. (Li and others, 2021).

Task Generation Aligned to Bloom Levels: Based on a given reading passage, tools such as GPT-4 can be instructed to generate particular question types (such as inferencing, synthesis, and evaluation). This enables teachers to design reading comprehension exercises that focus on specific Bloom levels. For example, they can ask students to evaluate author bias, distinguish between claims, or formulate solutions based on the content of the passage.

Adaptive Task Adjustment: AI can dynamically modify the level of difficulty of questions by tracking student answers over time. If a student consistently answers Understand-level questions correctly, the system can automatically escalate to Analyze or Evaluate-level tasks. This ensures a personalized but intellectually stimulating experience.

Targeted Feedback and Cognitive Profiling: AI can also identify which Bloom levels a student struggles with and provide feedback based on that information.

CHAPTER III. PRACTICAL IMPLICATIONS FOR AI-ASSISTED READING TASK DESIGN

3.1 Proposed Workflow for Designing AI-Assisted Adaptive Reading Tasks

This section outlines a practical workflow for teachers to integrate AI in the design of adaptive reading tasks aimed at gifted learners, especially those preparing for the National English Competition in Vietnam.

Step	Role	Tools/Action
1. Select Sample Tasks	Teacher	Choose high-quality reading passages from NEC exams
2. Analyze Complexity	Teacher and AI	Use tools like Coh-Metrix, L2SCA, and ChatGPT to analyze vocabulary frequency (COCA, AWL), syntactic depth, and Bloom's cognitive level.
3. Generate Adaptive Texts	AI	Prompt GPT-4 to generate texts with matched lexical density, grammatical structures, and question types.
4. Deploy Tasks	Teacher	Distribute tasks via Google Form to monitor performance or share chatbot link for on-demand practice.
5. Collect Student Data	AI and Script	Use Google Sheets + Apps Script to log responses and trigger feedback scripts.
6. Generate Feedback	AI	Analyze results to generate personalized follow-up tasks (e.g., vocabulary remediation or question type review).
7. Iterate and Scale	Teacher and AI	Repeat the loop with progressively complex materials, aligned with students' Zone of Proximal Development (Vygotsky, 1978).

Below is the detailed information for each step.

3.1.1. Step 1: Select sample reading tasks

Sample reading tasks are extracted from the official National English Competition for Gifted Students (2024–2025). The reading comprehension section includes **five parts** with **six distinct task types**, each targeting different reading skills and cognitive levels. However, due to time limitation, this paper focuses on these following parts:

Part	Task Type	Question Range	Bloom's Taxonomy Level(s)	Key Features & Justification
Part 2	True / False / Not Given (T/F/NG)	56–61	Understanding, Analyzing	Determine whether statements are true, false, or not given in the text. → Requires interpreting both explicit and implicit meaning; analyzing logical alignment between the passage and given statements.
	Summary Completion (≤ 3 words)	62–69	Understanding, Analyzing, Applying	Fill in a summary with up to three words from the passage. → Tests comprehension of main ideas, paraphrasing, and accurate condensation of information using words from the passage.
Part 3	Gapped Text (Paragraph Insertion)	70–75	Analyzing, Evaluating, mild Creating	Insert missing paragraphs into appropriate gaps in a passage; requires text structure and discourse awareness. → Involves structural awareness, cohesion, and logical flow; selecting the most coherent paragraph

				based on discourse-level connections.
Part 4	Multiple Choice Questions (MCQs)	76–85	Understanding, Analyzing, sometimes Evaluating	Choose the best answer based on details, main ideas, inference, or vocabulary. → Tests comprehension, inferencing, vocabulary-in-context, and occasionally tone or author's purpose, requiring evaluative thinking.
Part 5	Given Information Matching to Paragraphs	86–95	Analyzing, Evaluating	Match headings or statements to specific paragraphs in the text (usually 5–6). → Demands thematic analysis, rhetorical function recognition, and coherent matching between statements and corresponding sections.

3.1.2. Step 2: Analyze language and cognitive complexity framework of each part

To ensure that AI-generated reading tasks accurately reflect the difficulty level and design logic of the National English Competition for Gifted Students in Vietnam, each sample passage undergoes a systematic complexity analysis. During this phase, teachers and AI work together to evaluate language and cognitive demands using tools like Coh-Metrix, L2SCA, and GPT-based models. The same analytical framework is applied to Parts 2 through 5. The following dimensions are examined for each reading passage:

1. Topic and Content Focus: Each passage should have a clear thematic focus and should represent real-world issues or disciplines such as technology, education, environment, or linguistics etc. The content should support more in-depth interpretation and align with academic genres that are relevant to both domestic and international settings.

2. Vocabulary Complexity: This includes analysis of lexical density (targeting about 63 -67%), domain-specific and academic vocabulary (sourced from AWL, COCA, BNC), and low-frequency terms (about 16 -18%). The goal is to ensure adequate lexical challenge without sacrificing semantic accessibility.

3. Grammar and Syntax: Key grammatical metrics include average sentence length (28 - 32 words), clause density (2.6 - 3.2 per sentence), and presence of advanced structures such as passives, relative clauses, nominalizations, and conditionals. This syntactic profile helps determine sentence-level processing difficulty.

4. Structure and Organization: Each text is evaluated for paragraph organization (typically 6 - 11 paragraphs), rhetorical structure (e.g., cause-effect, compare-contrast, problem-solution), and cohesive devices (e.g., referential markers, logical connectors). Coherent progression and clarity of argument are essential criteria.

5. Readability and Difficulty Index: Passages are analyzed using indices like Flesch–Kincaid Grade Level and Gunning Fog Index, targeting a reading level equivalent to CEFR C1–C2. These metrics measure overall readability and are appropriate for the target audience

6. Cognitive Demands – Bloom's Taxonomy: Every reading assignment is compared to Bloom's levels of cognition. The tasks incorporate higher-order skills like "Analyse," "Evaluate," and sometimes "Create," going beyond "Remember" and "Understand." For instance, while Gapped Text and MCQ tasks evaluate logical sequencing, argument evaluation,

and metaphor interpretation, T/F/NG and Summary Completion tasks concentrate on inference and synthesis.

The detailed analysis of each part is provided in the **Appendix**, which is used as framework to assess whether the texts and question types meet the standards of adaptive, cognitively reading comprehension. Because of this consistency, the AI system (see Step 3) can create new, parallel tasks for gifted learners using the same design principles.

3.1.3. Step 3: generate adaptive texts – suggested prompt GPT- 4 to generate texts with matched lexical density, grammatical structures, and question types.

3.1.3.1. Part 2: Sample Prompt for AI to generate two types of tasks:

- Identifying whether given statements are True (T), False (F), or Not Given (NG) based on the passage.
- Completing a summary using no more than three words taken directly from the text.

1. Task description

Generate a ~1,000-word academic reading passage centered on the transformation, innovation, or repositioning of a real-world concept, product, system, or company. The topic should be selected dynamically from domains such as technology, education, science, or business.

Instruction to include before passage:

“Read the following passage and do the tasks that follow.”

After the passage, create two high-cognitive reading task types:

- 5 True/False/Not Given (T/F/NG) questions
- 1 Summary Completion task with 7 blanks

2. Topic domain & thematic focus

Element	Requirement
Domain	Technology, business, education, scientific reform, economic systems, or other innovation-related topics
Thematic focus	Reconfiguration, transformation, or innovation in strategy, delivery model, access, or purpose
Relevance	Grounded in a globally recognized issue, policy, or case study
Perspective	Analytical and objective; encourages interpretation, judgment, and inference

3. Passage construction guidelines

Feature	Specification
Length	980–1,100 words
Paragraph count	9–11 paragraphs
Discourse Structure	Topic-appropriate structure: chronological, cause-effect, problem-solution, or comparative
Register	Academic tone; formal and precise language
Cohesion devices	Include logical connectives: <i>however, moreover, in contrast, consequently, while, this claim, despite this</i>
Rhetorical design	At least one paragraph must show conflict, tension, or nuance in policy or outcome

4. Linguistic & cognitive complexity

Feature	Specification
CEFR Level	C1–C2
Lexical Density	~65% content words
Domain-specific vocabulary	≥17% from AWL, COCA, or technical registers relevant to topic
Average sentence length	~30 words
Clause density	~2.8–3.2 clauses per sentence
Required grammar features	≥10 passive constructions, ≥10 relative clauses, ≥2 conditionals, ≥5 nominalizations
Inference depth	Must require readers to connect ideas across sentences and paragraphs

5. Comprehension questions

A. 5 True/False/Not Given (T/F/NG) Questions

Design Requirements

- Require inference across paragraphs (≥2 items)
- Include scope distortion, paraphrasing traps, or causal reversal
- At least 1 NOT GIVEN item must include a plausible-sounding but unmentioned detail
- Questions must reflect at least one of the following cognitive targets: Author's stance, Subtle implication, Conditional reasoning and Comparison or evaluation.

Answer Key Format (per item):

- T/F/NG label
- Bloom's level (e.g., Analyze, Evaluate)
- Textual evidence (quote)
- Explanation of why the answer is correct
- Distractor logic (why other interpretations are wrong)

B. 1 Summary Completion Task – 7 Blanks

Design Requirements

- Covers a key sub-theme or logical phase (e.g., turning point, innovation strategy)
- Rephrase original content (no copied sentences)
- Blanks must require semantic processing and be grammatically restricted
- Answers must be NO MORE THAN THREE WORDS and appear verbatim in the passage
- Target a range of nouns, noun phrases, and modifiers

Instruction before task:

“Complete the summary below using NO MORE THAN THREE WORDS from the passage.”

Answer Key Format (per blank): Correct phrase, Exact sentence in passage and Explanation of contextual logic

6. Bloom's taxonomy alignment

Bloom Level	Application in Task Design
Understand	Paraphrasing, summarizing ideas in T/F/NG or summary

Apply	Linking concepts to context or completing structured summaries
Analyze	Identifying logical inferences, contradictions, or comparison traps
Evaluate	Judging outcomes or author intention in T/F/NG items

At least:

- 2 T/F/NG items must test *Analyze or Evaluate*
- Summary must engage at least *Apply + Understand*

7. Distractor design strategies (T/F/NG)

Trap Type	Description & Example
Lexical overlap trap	Shares key vocabulary with incorrect part of text
Scope shift trap	Narrows or broadens focus (e.g., “some” → “all”, “local” → “global”)
Causal misdirection	Assumes cause-effect where none is stated
Author intent distortion	Misreads tone or stance (e.g., neutral → supportive)
Plausible NG trap	Sounds true based on real-world logic, but is unmentioned

8. Deliverables

- Reading Passage**
 - ~1,000 words
 - Follows linguistic and discourse criteria above
- Questions (Q1–12)**
 - 5 True/False/Not Given
 - 1 Summary Completion (7 blanks)
- Answer Key & Analysis**
 - For each T/F/NG: T/F/NG label; Bloom level; Justification + quote and Distractor logic
 - For Summary Completion: Correct answers; Source sentence and Grammatical note if relevant

*** Sample AI-generative reading tasks for part 2 using this prompt**

Read the following passage and do the tasks that follow.

THE RISE OF GREEN ARCHITECTURE IN URBAN DEVELOPMENT

*For much of the 20th century, urban architecture prioritized functionality and cost-efficiency, often at the expense of environmental sustainability. Buildings were designed to maximize floor area and minimize construction costs, with little attention given to their long-term ecological footprint. However, the 21st century has witnessed a fundamental transformation in architectural priorities, driven largely by the intersecting crises of climate change, urban overpopulation, and resource scarcity. At the center of this shift lies the rise of **green architecture**—a movement that seeks to harmonize human-made structures with the natural environment through energy-efficient design, sustainable materials, and ecological integration.*

The conceptual foundation of green architecture can be traced back to the environmental movements of the 1970s, yet it did not gain mainstream traction until recent decades. Rising global temperatures, surging energy demands, and increasing public awareness of ecological degradation catalyzed a reevaluation of building practices. If cities continued to grow without adapting their infrastructure, urban centers would become not only ecological liabilities but also economic and social burdens. Consequently, architects and policymakers began collaborating to redefine what constituted “good design,” shifting the focus from mere aesthetics to long-term performance and adaptability.

*One of the key innovations in green architecture has been the adoption of **passive design strategies**, which utilize natural elements such as sunlight, wind flow, and thermal mass to reduce energy consumption. These strategies include the*

careful orientation of buildings, natural ventilation systems, and heat-reflective materials. Unlike conventional HVAC-reliant models, passive buildings can significantly lower operational costs over time. For example, the Bullitt Center in Seattle—dubbed the “greenest commercial building in the world”—was constructed to operate without a central air-conditioning system, instead relying on a sophisticated array of passive and renewable systems.

However, the transition toward sustainable architecture has not been uniformly embraced. Developers in some regions remain hesitant to adopt green technologies due to high upfront costs and uncertain returns on investment. Moreover, building codes in many countries have yet to fully accommodate or incentivize sustainable construction. If these regulatory gaps are not addressed, the widespread adoption of green architecture may remain limited to affluent cities and private sector experiments, rather than becoming a global standard. Despite this, governments have begun introducing policies such as tax incentives, certification schemes, and mandatory energy-efficiency benchmarks to accelerate the transition.

Beyond environmental performance, green architecture also addresses broader urban challenges such as mental health, biodiversity loss, and public space scarcity. Biophilic design—a subfield that integrates natural elements like vegetation, water, and daylight into built environments—has been linked to improved psychological well-being and increased productivity. In densely populated areas, green roofs and vertical gardens serve as ecological buffers, mitigating heat island effects while offering urban dwellers a semblance of nature. These innovations signify a paradigm shift in how buildings are valued—not merely as enclosures for activity but as active participants in environmental stewardship.

A notable example of large-scale integration is Singapore’s “Gardens by the Bay” project, where landscape architecture and environmental engineering converge to create self-regulating ecosystems within a dense urban matrix. Similar efforts have emerged in Europe, including Bosco Verticale in Milan, a pair of residential towers that incorporate more than 900 trees and 20,000 plants. These projects are not only aesthetically striking but also function as carbon sinks, air purifiers, and biodiversity reservoirs within the urban context.

Nevertheless, critics argue that some high-profile green buildings serve more as **marketing tools** than as genuine sustainability solutions. The term “greenwashing” is increasingly used to describe developments that claim environmental friendliness based on superficial features—like solar panels or rainwater collectors—while ignoring broader impacts such as embodied carbon or lifecycle performance. This tension has sparked calls for more rigorous auditing mechanisms and performance-based certification systems that go beyond architectural symbolism.

Looking forward, the future of urban development may depend on the degree to which green architecture can be democratized. If sustainable building practices remain the preserve of high-income projects, global cities will continue to face dual crises of environmental degradation and social inequality. To avoid this, architects, planners, and governments must co-create adaptive frameworks that prioritize both **technological innovation** and **accessibility**. The ultimate challenge lies not only in designing greener buildings but also in rethinking how urban systems as a whole interact with ecological and human health.

Questions

1–5. True/False/Not Given

Decide whether the following statements are True (T), False (F), or Not Given (NG) according to the passage.

1. Green architecture emerged primarily in response to rising construction costs in urban areas.
2. Passive design methods eliminate the need for all mechanical ventilation systems.
3. Government policies have played a crucial role in encouraging sustainable building adoption.
4. All green buildings automatically contribute to meaningful long-term ecological improvement.
5. The passage suggests that without equity in green design, urban inequality may worsen.

6–12. Summary Completion – NO MORE THAN THREE WORDS

Complete the summary below using words from the passage.

Green architecture has evolved from niche environmental concepts into a widely accepted strategy for (6) _____ design. While early attention centered on energy efficiency, more recent approaches integrate (7) _____ elements like light and water to enhance well-being. Signature projects such as Singapore’s Gardens by the Bay showcase the power of ecological engineering to produce (8) _____ ecosystems in dense cities. Meanwhile, vertical forests like Bosco Verticale double as (9) _____ and climate regulators. However, critics warn against (10) _____, which exaggerates environmental claims. To ensure real progress, building practices must be both (11) _____ and (12) _____, not just technologically advanced.

Answer Key & Explanations

T/F/NG

<i>Q</i>	<i>Ans</i>	<i>Bloom</i>	<i>Evidence</i>	<i>Justification</i>
1	F	Analyze	Para 1–2: Green architecture emerged due to climate/urban crisis, not cost	Misleads by shifting cause to economics
2	F	Understand	Para 3: "operates without a central A/C system" implies some systems remain	Misrepresents scale of replacement
3	T	Understand	Para 4: "governments have begun introducing policies..."	Directly supports the claim
4	NG	Evaluate	Para 7: Criticism of greenwashing, but no claim that all green buildings fail	Statement is an overgeneralization
5	T	Analyze	Final para: "...green practices must not stay elite... inequality may worsen..."	Implication-based confirmation

Summary Completion

#	Answer	Source Quote	Justification
6	sustainable	"...redefine what constituted 'good design'... long-term performance..."	Key theme
7	natural	"...elements like vegetation, water, and daylight..."	Semantic match
8	self-regulating	"...self-regulating ecosystems within a dense urban matrix."	Precise phrase
9	carbon sinks	"...function as carbon sinks, air purifiers, and biodiversity reservoirs"	Must use noun phrase
10	greenwashing	"...green buildings serve more as marketing tools... the term greenwashing..."	Explicit reference
11	inclusive	"...not only technologically innovative but also inclusive..."	Equity angle
12	affordable	"...co-create frameworks that prioritize innovation and accessibility..."	Access dimension

3.1.3.2. Part 3: Sample Prompt for AI to generate Gapped- text reading tasks

1. Task description:

Generate a high-level academic reading passage of 950–1,100 words, designed for C1–C2 learners preparing for national English competitions for gifted students.

At the beginning of the task, include the instruction:

“In the passage below, six paragraphs have been removed. For questions 1- 6, read the passage and choose from paragraphs A – G the one which fits each gap. There is ONE extra paragraph which you do not need to use. Write letters A-G in the corresponding numbered boxes provided.”

The passage must contain six clearly marked gaps (e.g., {Gap 1} to {Gap 6}), where full paragraphs have been removed. You must provide seven paragraph insert options (A–G), each being a full paragraph of 90–130 words in length. One of the options must be a distractor.

2. Topic Domain:

Select from real-world domains involving transformation or innovation in technology, education, science, society, or governance. Suggested themes: Ethical AI in decision-making; Satellite regulation and global data control; Education reform in the digital age; Healthcare systems adapting to emerging technologies; Global governance of climate data.

3. Linguistic and Cognitive Complexity Requirements:

- CEFR level: C1–C2
- Domain-specific vocabulary: ~17%
- Lexical density: ~65%
- Average sentence length: 30–34 words

- Grammar requirements:
 - ≥ 12 passive constructions
 - ≥ 12 relative clauses
 - ≥ 3 conditional sentences
 - Frequent use of nominalization and embedded clauses
- Tone: Academic-informative; no idiomatic expressions

4. Structure & Cohesion Constraints:

- Main passage must have 10–12 paragraphs excluding the 6 removed ones
- Each paragraph in the main passage should be ~80–130 words
- Each insert option (A–G) must be ~90–130 words
- Inserts must:
 - Use cohesive markers and academic reference (e.g., “such assumptions,” “this concern”)
 - Require at least one of:
 - Multi-paragraph inference
 - Referent disambiguation
 - Reversed logic or paraphrased connection
 - Implicit logical contrast (without explicit “however” or “on the other hand”)

5. Deliverables:

1. A ~1,000-word main passage with {Gap 1}-{Gap 6} inserted
2. Begins with the instruction: **“In the passage below, six paragraphs have been removed. For questions 1- 6, read the passage and choose from paragraphs A – G the one which fits each gap. There is ONE extra paragraph which you do not need to use. Write letters A-G in the corresponding numbered boxes provided.”**
3. Seven insert options A-G (each 90-130 words)
4. Answer key with justifications for each correct answer

****Sample AI-generative reading text for part 3 using this prompt***

Main Passage

Over the past two decades, the landscape of global education has undergone a profound transformation, catalyzed by the convergence of digital technology, economic restructuring, and demographic shifts. From virtual learning platforms to AI-driven tutoring systems, schools and universities are experimenting with tools that promise greater personalization and scalability. However, this transformation raises complex questions about quality, equity, and pedagogical coherence.

{Gap 1}

Some countries have attempted to bridge digital divides through national broadband initiatives or public-private partnerships that subsidize device access. Others have invested in building digital repositories of curriculum content, aiming to reduce dependency on commercial providers. Yet despite these efforts, access gaps persist—often mirroring deeper patterns of social inequality.

{Gap 2}

Beyond physical access, digital transformation also requires a rethinking of instructional roles. Teachers are no longer simply content deliverers; they must now act as facilitators, data interpreters, and learning designers. This evolution demands not only technological fluency but also a robust pedagogical foundation that is often lacking in implementation plans.

{Gap 3}

Professional development is critical in this regard. Short-term training sessions on software navigation are insufficient for preparing educators to meaningfully integrate technology into their teaching philosophy. True digital pedagogy requires time, mentorship, and iterative practice.

{Gap 4}

Policymakers also face the challenge of ensuring that technology supports—not supplants—core values such as inclusiveness, critical thinking, and civic responsibility. In some systems, standardization pressures have led to overly mechanized forms of instruction, where student engagement is reduced to a set of quantifiable metrics.

{Gap 5}

To counterbalance these trends, several countries have begun to promote “human-centered digital education,” an approach that emphasizes flexibility, emotional well-being, and dialogic learning. Such models often incorporate project-based assessments and cross-disciplinary themes to foster deeper engagement.

{Gap 6}

Ultimately, the future of education lies not in choosing between tradition and innovation, but in crafting hybrid models that draw on the strengths of both. Success will depend not only on infrastructure and policy, but also on a collective reimagining of what education can and should achieve in the 21st century.

Paragraph Options (A–G)

A. Education experts argue that without a guiding pedagogical vision, technological tools often amplify existing dysfunctions. If a school system is already fragmented or test-driven, introducing digital platforms may accelerate those tendencies rather than correct them. Moreover, platform algorithms are frequently designed around user engagement rather than deep learning, incentivizing quick responses over thoughtful reflection. This risks turning classrooms into data-generating environments where surface-level activity is mistaken for genuine understanding. For these reasons, educators stress that digital reform must be accompanied by curricular deliberation and cultural change.

B. In nations where inequality is entrenched, well-intentioned digital initiatives can unintentionally exacerbate social stratification. Students in affluent districts often benefit from interactive content, real-time analytics, and guided feedback, while those in underfunded schools face outdated hardware and minimal support. Even when access is technically available, home environments may lack the quiet space, adult supervision, or consistent connectivity necessary for effective online learning. As a result, digital inclusion must go beyond infrastructure to address the broader ecosystem of educational opportunity.

C. One promising model comes from Finland, where teachers co-design online modules aligned with national goals while retaining autonomy in implementation. These modules are enriched by formative assessments that prioritize student voice and reflective learning. Similarly, in Uruguay, the Plan Ceibal initiative combines device distribution with teacher mentorship and community outreach, ensuring that the technology serves human-centered educational aims. Such models demonstrate how national policy can support localized innovation without imposing one-size-fits-all solutions.

D. Countries such as Singapore and Estonia have launched comprehensive programs to upskill their teaching workforce. These include multi-year professional development plans, school-based learning communities, and incentives for digital experimentation. Importantly, these programs are embedded in broader education reforms that redefine teacher professionalism to include innovation and inquiry. Rather than merely reacting to technological change, these systems position educators as active participants in shaping its trajectory.

E. Research has shown that emotional support, classroom dialogue, and individualized feedback remain crucial to learning, even in digital contexts. When technology is used to complement rather than replace these elements, students report higher motivation and retention. In contrast, over-reliance on standardized dashboards or automated feedback can lead to disengagement. As one UNESCO report notes, effective digital education integrates relational dimensions that machines cannot replicate, highlighting the enduring role of human connection.

F. Observers note that terms like 'blended learning' or 'edtech-enhanced instruction' are often used without clear definitions, leading to confusion in policy documents and practice. Some schools implement digital tools simply to appear modern, with little alignment to learning outcomes. Others rely on imported software whose pedagogical assumptions do not fit local contexts. This semantic ambiguity impedes coherent reform and makes it difficult to evaluate what works and why.

G. Tech companies have played an outsized role in shaping the discourse around educational innovation. By marketing AI tutors and adaptive platforms as revolutionary solutions, they influence not only procurement decisions but also how learning is conceptualized. However, their commercial motives often prioritize scale over substance. This creates

tensions when public institutions, tasked with equitable access and holistic development, must reconcile these technologies with broader societal goals.

Answer Key with Justifications

Gap 1: A. Justification: Follows opening statement with a caution that without pedagogy, digital tools may reinforce problems.

Gap 2: B. Justification: Expands on equity challenges, introducing real-world disparities even when infrastructure exists.

Gap 3: F. Justification: Continues theme of implementation misalignment, especially at school/practice level.

Gap 4: D. Justification: Provides real examples of national programs tackling professional development.

Gap 5: E. Justification: Explores how digital tools must maintain relational and emotional aspects of teaching.

Gap 6: C. Justification: Gives concrete policy models that support the human-centered education philosophy.

Unused: G. Justification: Though related, this paragraph shifts focus to tech corporate power, not aligned with tone of concluding reform model.

3.1.3.3. Part 4: Sample Prompt for AI to generate multiple choice comprehension reading tasks.

1. Task description

Generate a high-level academic reading passage of 1,050–1,150 words, designed for C1–C2 learners, particularly those preparing for the Vietnamese National English Exam for Gifted Students.

At the beginning of the task, include the instruction:

“Read the following passage and write A, B, C, or D in the corresponding numbered boxes provided to indicate the correct answer which fits best according to what is stated or implied in the text.”

Then, construct 10 multiple-choice comprehension questions (A–D format), which reflect: Cognitive complexity (Bloom’s taxonomy: Understand → Analyze → Evaluate); Cohesion awareness; Lexical & syntactic sophistication; Pragmatic interpretation; Authorial stance and tone detection

Answer Key and detailed explanations must be placed AFTER all 10 questions.

2. Topic domain

Select a real-world issue situated in an academic or interdisciplinary context involving transformation, conflict, or philosophical tension. Suggested themes include: The “Grammar vs. Communication” debate in language education; Global English: linguistic dominance vs. pragmatic tool; Ethical concerns in AI-assisted learning; Intercultural communication breakdowns; Digital disruption in educational models; Language and power in post-colonial contexts.

3. Linguistic & cognitive complexity requirements

Feature	Specification
CEFR Level	C1–C2
Lexical Density	65–68% content words
Low-Frequency Vocabulary	≥17% from AWL, COCA, or technical registers
Average Sentence Length	30–34 words

Clause Density	2.8–3.2 clauses per sentence
Grammatical Features	≥10 passive structures, ≥10 relative clauses, ≥3 conditionals, nominalizations
Tone & Register	Formal-academic, objective-analytical; no idioms or casual phrasing
Meta discourse	Use of referents (“this assumption,” “such shifts”), hedging, discourse markers

3. Structure & organization of passage

- Total word count: 980–1,100 words (mandatory)
- Paragraphs: 6–8, each between 130–180 words
- Must contain at least: 1 paragraph showing conflicting viewpoints; 1 paragraph with author’s subtle stance or bias; 1 paragraph with referential ambiguity or thematic shift and 1 metaphor or theory that requires non-literal inference

4. Question design requirements

A. Total Items: 10 Multiple Choice Questions

Each question must: Begin with a clear interrogative sentence; Have 4 clearly labeled options (A–D); Be independent (i.e., each targets a different concept or paragraph)

B. Question Type Coverage (Mandatory Distribution)

Type of Question	No. Required	Purpose
Literal comprehension (main idea/detail)	1–2	Assess stated facts or structure
Vocabulary-in-context	1	Interpret nuanced/academic terms
Inference (unstated logic, implication)	2–3	Read between the lines
Author’s tone / purpose / bias	1–2	Detect subtle stance or rhetorical intent
Pragmatic function / speech act	1	Interpret indirect or social meaning
Sentence function / cohesion role	1	Explain use of a sentence in logic or argumentation
Sentence insertion (<i>required</i>)	1	Find best position for a given sentence in the passage
Sociolinguistic or philosophical implication	1	Link language with identity, equity, or ideology

C. Length & Complexity of Question Items

- Each question block (Q stem + A–D options): 65–85 words
- Use of advanced paraphrasing, not simple matching
- Distractors must: Be plausible and Include at least 3 deceptive techniques from the list below

D. Distractor Trap Techniques (use ≥3 per set)

Trap Type	Explanation
Lexical similarity	Mirrors vocabulary from text but alters logic
Partial truth	Only some parts are correct or relevant

Logical reversal	Inverts cause–effect or condition
Extreme language	Uses “never,” “always,” “only” without support
Out-of-scope	Related but not mentioned or supported
Tone confusion	Misreads sarcasm, irony, or emphasis
Paraphrase contradiction	Mimics structure but shifts author’s meaning subtly

5. Deliverables

1. Reading Passage (~1,000 words)

- Formal, structured, embedded argumentation
- At least 4 cohesive paragraphs with inference potential

2. 10 Multiple Choice Questions (labeled A–D)

- Cover diverse comprehension skills as described
- No answer or explanation in this section

3. Answer Key & Explanation Section

For each Q1–Q10: Correct Option; Bloom’s Level (e.g., Understand / Apply / Analyze / Evaluate); Explanation: logic of correct answer; Textual Evidence: paragraph and sentence(s)

Distractor Analysis: explain why A, B, or C is incorrect You must produce the following:

1. Reading passage (~1,050–1,150 words)

- Academic tone
- Includes argument/conflict/tension
- At least one metaphor, theory, or analogy
- Begins with the instruction: “Read the following passage and write A, B, C, or D in the corresponding numbered boxes provided to indicate the correct answer which fits best according to what is stated or implied in the text.”

2. 10 multiple choice questions (A–D): Each based on a different paragraph or concept; Match the question types above and Include distractors that meet the above criteria

3. Answer Key with Full Explanation

For each question: Correct option; Bloom’s Taxonomy level; Short justification; Evidence (quote or paraphrase + paragraph number) and Distractor analysis (why the other 3 choices are incorrect)

****Sample AI-generative reading text for part 4 using this prompt***

LANGUAGE EDUCATION IN THE AGE OF ARTIFICIAL INTELLIGENCE: TENSIONS AND TRADE-OFFS

[1] As artificial intelligence (AI) technologies rapidly integrate into global education systems, language instruction finds itself at a crossroads. On one hand, AI-powered applications offer learners unprecedented access to personalized vocabulary training, pronunciation feedback, and adaptive reading materials. On the other, educators and linguists raise concerns about what may be lost in this shift toward automation. While AI systems excel at optimizing efficiency, questions remain about their impact on cultural fluency, linguistic nuance, and the social dimension of communication. This tension between technological enhancement and humanistic integrity reflects a deeper philosophical conflict over the aims of language education.

[2] The promise of AI lies in its capacity to individualize learning at scale. Intelligent tutoring systems can identify a learner's weakest areas, deliver customized practice tasks, and adjust difficulty in real-time. For students in remote or under-resourced areas, AI offers opportunities previously out of reach. Language apps like Duolingo and AI-based writing assistants like Grammarly and Chat GPT are now part of mainstream learning ecosystems. Proponents argue that these tools reduce dependence on traditional classroom structures, democratize access, and empower self-directed learning. In this sense, AI functions not as a threat, but as a liberating force.

[3] However, critics argue that linguistic competence is not merely a matter of grammatical accuracy or vocabulary range. Effective communication involves pragmatics, tone, gesture, context, and sociocultural appropriateness—elements difficult for AI to model or assess. An overreliance on automated feedback may narrow learners' exposure to the diversity and messiness of real-world language use. Furthermore, AI systems are shaped by the data they are trained on. If those data reflect Anglocentric, formal registers, learners may unknowingly internalize skewed linguistic norms, reinforcing hegemonic language ideologies.

[4] This risk becomes especially pronounced in multilingual contexts. In Vietnam, for instance, the rise of AI-based English instruction in urban schools has widened the gap between students with access to digital infrastructure and those in rural areas. Moreover, standardized AI-generated content often fails to reflect regional accents, local idioms, or cultural references. While these tools aim to "neutralize" language learning, they may in fact decontextualize it, erasing the learner's linguistic identity in the process. Critics warn that if AI systems are not critically examined and localized, they risk replacing pluralistic models of language education with monolithic, efficiency-driven ones.

[5] Supporters of AI integration counter that such risks are not inherent to the technology itself, but to how it is implemented. Human oversight, ethical design, and culturally responsive datasets can help mitigate biases. Some developers now embed dialectal diversity into voice recognition models, and incorporate reflective tasks that ask students to compare machine-generated responses with their own. In blended models—where AI complements rather than replaces teacher-led instruction—AI serves as a scaffolding tool rather than a substitute. Such integration demands teacher training, policy frameworks, and cross-disciplinary collaboration.

[6] At its core, the debate revolves around differing visions of what language education should achieve. Should it prioritize measurable competence and economic utility, or nurture intercultural empathy and expressive freedom? Is fluency the ability to construct grammatically accurate sentences, or the capacity to participate meaningfully in a community? AI's entrance into education accelerates the urgency of these questions, demanding both pedagogical innovation and critical reflection. The challenge is not simply technological, but ideological—shaping how we define language, learning, and human connection in a digitally mediated world.

[7] The future of language education in the age of AI depends not just on technological sophistication, but on human judgment. If educators and policymakers frame AI as a tool to amplify human connection and linguistic diversity, it can expand what is possible. But if used uncritically, AI risks flattening complex communicative practices into standardized outputs. Navigating this terrain will require more than technical fixes—it demands a commitment to pluralism, pedagogy, and people.

1. What is the primary concern raised about the integration of AI into language education?

- A. AI lacks the ability to assess grammatical accuracy.
- B. AI reduces access to education in under-resourced areas.
- C. AI may diminish cultural fluency and human communication aspects.
- D. AI increases the cost of language instruction.

2. Which of the following best reflects the author's overall stance?

- A. Fully supportive of replacing teachers with AI systems.
- B. Neutral toward the debate, providing only factual information.
- C. Cautiously optimistic about AI with emphasis on human oversight.
- D. Critical of any form of AI involvement in education.

3. According to paragraph 2, why do proponents view AI as empowering?

- A. It eliminates the need for textbooks.
- B. It centralizes education in large urban areas.
- C. It enables personalized learning and wider access.
- D. It enforces stricter language standards.

4. What danger is associated with AI systems trained on limited datasets?

- A. They can crash under too much input.
- B. They promote narrow and potentially biased language norms.

- C. They lose ability to process grammar rules.
 D. They overcorrect student pronunciation.
5. What does the phrase ‘pluralistic models of language education’ most likely refer to?
 A. Instruction methods that use only native English teachers.
 B. AI systems that teach grammar through gaming.
 C. Approaches that embrace linguistic and cultural diversity.
 D. Programs that prioritize exam success above all.
6. Which best describes the function of paragraph 5?
 A. To provide historical background on AI systems.
 B. To critique governments that adopt AI too quickly.
 C. To outline how AI risks can be minimized through mindful design.
 D. To dismiss AI as ineffective for blended models.
7. In paragraph 6, the author presents which type of contrast?
 A. Between teachers and students.
 B. Between fluency as accuracy and fluency as meaningful participation.
 C. Between technology companies and regulators.
 D. Between writing and speaking instruction.
8. What is implied by the term ‘flattening complex communicative practices’?
 A. Simplifying language teaching for younger students.
 B. Removing richness and variation from language use.
 C. Standardizing global exams.
 D. Making language learning more dynamic.
9. Where would the following sentence best fit?
 “This paradox lies at the heart of the current discourse on language education in the digital age.”
 A. Beginning of paragraph 1.
 B. End of paragraph 3.
 C. After the first sentence of paragraph 6.
 D. Before the final sentence of paragraph 7.
10. What broader question does the passage ultimately raise?
 A. How can schools eliminate traditional exams?
 B. Should grammar rules be revised for digital use?
 C. How can AI be designed to maximize equity and expression in learning?
 D. Is it possible to replace all teachers with technology?

Answer Key & Explanations

Question 1: C - Bloom’s Level: Analyze. **Justification:** The passage (Para 1) states concern that AI may undermine cultural fluency, linguistic nuance, and social dimensions of language. **Evidence:** “...questions remain about their impact on cultural fluency, linguistic nuance, and the social dimension of communication.” **Distractor Analysis:** A. AI is not said to lack grammatical assessment ability; B. AI improves access, especially for underserved groups (Para 2); D. Cost is not mentioned at all.

Question 2: C - Bloom’s Level: Evaluate. **Justification:** The author offers both pros and cons, but ultimately supports responsible, ethically grounded AI implementation. **Evidence:** “...AI serves as a scaffolding tool rather than a substitute...” (Para 5) and “...AI as a tool to amplify human connection...” (Para 7). **Distractor Analysis:** A. Author warns against replacing teachers entirely; B. Tone is evaluative, not neutral; D. The author is not wholly critical—there is constructive optimism.

Question 3: C - Bloom’s Level: Understand. **Justification:** Proponents highlight AI’s benefits in individualizing learning and expanding access. **Evidence:** “...reduce dependence on traditional classroom structures, democratize access...” (Para 2) **Distractor Analysis:** A. No mention of eliminating textbooks; B. AI is associated with decentralization, not centralization; D. No reference to enforcing stricter standards.

Question 4: B - Bloom’s Level: Analyze. **Justification:** Para 3 discusses that AI trained on narrow datasets can reinforce biased, Anglocentric norms. **Evidence:** “...internalize skewed linguistic norms, reinforcing hegemonic language ideologies.” **Distractor Analysis:** A. System crashing isn’t mentioned; C. No claim that AI loses grammatical processing ability; D. Pronunciation is not the focus of this critique.

Question 5: C - Bloom’s Level: Apply. **Justification:** “Pluralistic models” imply diversity in language and culture, which is contrasted with “monolithic” ones. **Evidence:** “...replacing pluralistic models of language education with monolithic, efficiency-driven ones.” (Para 4). **Distractor Analysis:** A. Native-speaker instruction isn’t addressed; B. Gaming isn’t relevant here; D. Focusing solely on exams contradicts pluralism.

Question 6: C - Bloom's Level: Understand. **Justification:** Paragraph 5 explains practical ways to implement AI responsibly, including blended models and localized datasets. **Evidence:** "Human oversight, ethical design, and culturally responsive datasets..." **Distractor Analysis:** A. Historical background is not the focus; B. Government critique isn't emphasized; D. The paragraph promotes AI in blended learning—not dismisses it.

Question 7: B - Bloom's Level: Analyze. **Justification:** The paragraph contrasts two conceptions of fluency: grammatical accuracy vs. meaningful social participation. **Evidence:** "Is fluency the ability to construct grammatically accurate sentences, or the capacity to participate meaningfully in a community?" (Para 6). **Distractor Analysis:** A, C, D : These pairs are not contrasted in the paragraph.

Question 8: B - Bloom's Level: Infer. **Justification:** "Flattening communicative practices" implies removing diversity and richness from how language is used. **Evidence:** "...flattening complex communicative practices into standardized outputs." (Para 7). **Distractor Analysis:** A. Age-based simplification isn't the meaning; C. Standardized exams aren't discussed here; D. Opposite of the implied meaning (it's about loss, not gain in dynamism).

Question 9: C - Bloom's Level: Apply. **Justification:** The sentence reflects the ideological tension discussed in paragraph 6; it logically follows the first sentence which introduces a core conflict. **Evidence:** Para 6: "At its core, the debate revolves around differing visions of what language education should achieve..." **Distractor Analysis:** A. Too early; the sentence is reflective and belongs mid-argument; B. Paragraph 3 is too focused on criticism; D. Too close to conclusion, would break coherence.

Question 10: C - Bloom's Level: Evaluate. **Justification:** The central issue raised is how to design AI to balance equity, identity, and expression in language learning. **Evidence:** Para 7: "...requires a commitment to pluralism, pedagogy, and people." **Distractor Analysis:** A. Exams are not questioned; B. Grammar revision isn't discussed; D. The passage rejects the idea of total replacement by AI.

3.1.3.4. Part 5: Sample Prompt for AI to generate Matching given information to paragraphs reading task type.

1. Task description

Generate a high-level academic reading passage of 1,030–1,150 words, structured into five clearly labeled sections (A–E). The passage must simulate the Part 5 reading task format in the Vietnamese National English Exam for Gifted Students.

Instruction to include before passage:

"Part 5. For questions 1–10, read the following passage and choose from the sections (A–E). The sections may be selected more than once. Write the letter A, B, C, D, or E in the corresponding numbered boxes provided."

After the passage, create 10 matching items (Q1–10), each reflecting a heading-like summary that corresponds to one section (A–E).

2. Topic domain & themes

Select interdisciplinary, globally relevant themes involving systemic conflict, philosophical tension, or practical dilemma. Suggested domains: Climate change and environmental governance; Education reform and post-digital pedagogy; AI and ethics in public decision-making; Economic growth vs sustainability; Indigenous knowledge vs scientific frameworks; Geopolitical tension from resource scarcity; Media, truth, and digital literacy; Cultural preservation in the age of globalization.

Each section should tackle the topic from a different perspective or layer (e.g., economic, political, technological, sociocultural, behavioral).

3. Passage construction guidelines

Feature	Requirement
Length	1,030–1,150 words
Sections	5 labeled sections: A–E
Section length	180–240 words each
Register	Formal academic, no idioms, uses nominalizations
Tone	Objective–analytical with moments of rhetorical subtlety
Cohesion Devices	Include: however, moreover, in contrast, this claim, such a view, consequently, despite this

Required Discourse Elements:

- 1 paragraph must feature a metaphor or analogy
- 1 paragraph must shift topic midway (theme redirection)
- 1 paragraph must show conflicting perspectives or tension
- 1 paragraph must imply the author's bias subtly (not stated overtly)
- 1 paragraph must contrast ideal solution vs real-world constraint

4. Linguistic & cognitive complexity

Feature	Specification
CEFR Level	C1–C2
Lexical Density	65–68% content words
Low-Frequency Vocabulary	≥18% from AWL, COCA, or technical disciplines
Sentence Length	Avg. 30–34 words
Clause Density	2.8–3.2 clauses/sentence
Grammar Features	≥10 passives, ≥10 relative clauses, ≥3 conditionals, ≥6 nominalizations
Figurative Language	At least 1 metaphor, analogy, or indirect comparison (must affect comprehension)

5. Question design requirements (q1–q10)

Create 10 matching statement items (like headings), with the following specifications:

A. Content & Question Types

Question Type	# Required	Purpose
Main idea / paragraph focus	2–3	Identify overarching topic of section
Subtle contrast / thematic shift	1–2	Spot implicit comparison or redirection
Author's stance / evaluative bias	1–2	Infer attitude through tone or implication
Implication / unstated consequence	2–3	Infer effects or logic unstated in text
Metaphor or theory recognition	1	Interpret abstract analogy or symbolic term
Conflict / dilemma / contradiction	1	Identify debate or irreconcilable view

Each question must:

- Be 12–22 words long
- Use academic paraphrasing – no direct quotes or superficial synonyms
- Be logically distinct from the others

B. Distractor Design (Critical)

Each item must present at least 2 plausible distractor traps:

Trap Type	Description
Lexical overlap trap	Shares keywords with wrong paragraph, but logic doesn't match
Global/general trap	Sounds reasonable but doesn't match specific argument
Logical reversal trap	Inverts cause–effect or stance
Oversimplification trap	Strips nuance from complex claim
Misread metaphor trap	Treats metaphor literally or misattributes section
Misplaced focus trap	Focuses on detail instead of main function of paragraph

6. Deliverables

1. Reading Passage

- ~1,100 words
- 5 sections labeled A–E
- Thematically cohesive but internally diverse
- Must require inference, synthesis, and evaluative judgment

2. Questions 86–95

- 10 matching statement items
- No answer key in this section

3. Answer Key with Full Explanation

For each question:

- Correct section (A–E)
- Bloom's Taxonomy Level (Understand / Analyze / Evaluate)
- 1–2 sentence justification for correct answer
- Textual evidence (phrase or sentence + section)
- Distractor analysis: why other 3 sections are incorrect

*Sample AI-generative reading text for part 5 using this prompt

Part 5. For questions 1–10, read the following passage and choose from the sections (A–E). The sections may be selected more than once. Write the letter A, B, C, D, or E in the corresponding numbered boxes provided.

THE PARADOX OF PROGRESS: RECONCILING DEVELOPMENT AND PLANETARY BOUNDARIES

A. In recent decades, the rhetoric surrounding environmental sustainability has evolved from mere awareness to urgent action. International agreements, scientific reports, and climate pledges all reinforce the need to stay within the “planetary boundaries” that define Earth’s ecological limits. However, this consensus is undermined by competing national interests and economic aspirations. Developing nations, in particular, contend that calls for environmental restraint often originate from industrialized countries that historically contributed most to ecological degradation. The contradiction is stark: countries still striving to eradicate poverty and build basic infrastructure are now being asked to constrain their emissions and consumption. This ethical dilemma—between environmental responsibility and economic equity—sits at the heart of climate diplomacy and continues to fragment global cooperation.

B. To address this impasse, some environmental economists advocate for the concept of “climate justice,” which demands differentiated responsibilities based on historical emissions and economic capacity. This approach underpins mechanisms like carbon financing and technology transfers from the Global North to the Global South. Yet these initiatives often fall short in practice. Critics argue that carbon offset schemes disproportionately benefit wealthier corporations, allowing them to pollute while paying for symbolic environmental projects elsewhere. Similarly, technology transfers, while promising on paper, often fail to account for local infrastructure limitations or political

barriers. As a result, “green assistance” may reinforce existing power hierarchies rather than correct them. Bridging the gap between rhetoric and action remains a central challenge.

C. Beyond national disputes lies a deeper issue: the dominant cultural narrative that equates progress with expansion. In many societies, especially in consumer-driven economies, economic growth is viewed as both a national goal and personal success. The very notion of “sacrifice” for ecological preservation runs counter to aspirational lifestyles promoted through media and advertising. This psychological and cultural dimension is perhaps the most intractable obstacle to sustainability. Metaphorically, humanity is caught in a tug-of-war between the desire to soar and the need to stay grounded. Changing behavior, then, is not simply a matter of policy but of identity, values, and collective imagination. Without a shift in what we consider “normal,” even the most ambitious policies risk failure.

D. Not all hope, however, lies in top-down reforms or international treaties. In many regions, grassroots movements have become potent forces for environmental change. From indigenous communities defending their lands against deforestation to urban collectives promoting zero-waste living, localized efforts are challenging the inertia of large systems. These initiatives, while diverse in form and scale, share a common ethos: that sustainability must be lived, not just legislated. Ironically, such efforts often emerge in places least responsible for global emissions. Yet their moral clarity and practical resilience contrast sharply with the ambiguity of diplomatic negotiations. They serve as both models and moral critiques—demonstrating that another way is possible, even if it remains marginalized.

E. Meanwhile, the role of technological innovation continues to divide environmental thinkers. Optimists argue that breakthroughs in clean energy, carbon capture, and synthetic biology could decouple economic growth from environmental harm. Pessimists, however, warn that an overreliance on technological salvation risks postponing behavioral and systemic change. There is also the issue of accessibility: many green technologies remain prohibitively expensive or geographically limited. Furthermore, unintended consequences—such as increased resource extraction for “green” batteries—raise new ethical questions. The broader concern is that focusing too heavily on future solutions can obscure the need for present restraint. As one analyst notes, “The problem with pinning hopes on tomorrow is that it lets today off the hook.”

Questions 1–10: In which section are the following ideas mentioned?

1. The internal contradiction between ambitious climate goals and the need for basic development.
2. A metaphor describing humanity’s conflicting desires as a psychological dilemma.
3. The limited effectiveness of assistance programs due to infrastructure and power gaps.
4. A concern that future-oriented solutions might delay necessary present-day changes.
5. The grassroots actions that emerge from people most vulnerable to climate change.
6. Cultural definitions of success that undermine sustainability efforts.
7. An effort to distribute environmental obligations based on historical contribution.
8. A warning that green technologies may reproduce global inequality.
9. Examples where international cooperation fails to align with implementation realities.
10. A contrasting view of where real environmental momentum may come from.

Answer Key & Explanations

1. A - Bloom’s Level: Analyze. **Evidence:** “...countries still striving to eradicate poverty... are now being asked to constrain emissions.”. **Explanation:** This presents a direct contradiction between development needs and ecological restraint. **Distractor Analysis:** B: Focuses on solutions; C: Focuses on mindset, not development; E: Focuses on technology

2. C - Bloom’s Level: Evaluate. **Evidence:** “Metaphorically, humanity is caught in a tug-of-war...”. **Explanation:** Symbolizes internal tension between aspiration and limits. **Distractor Analysis:** A: Structural dilemma, not metaphor; D: Activism, not psychology; E: Technological debate, not mindset

3. B - Bloom’s Level: Analyze. **Evidence:** “...fail to account for local infrastructure limitations or political barriers.” **Explanation:** Green aid sounds good but fails in execution. **Distractor Analysis:** A: No discussion of aid; D: Discusses grassroots action; E: Discusses innovation, not aid

4. E - Bloom’s Level: Evaluate. **Evidence:** “...focusing too heavily on future solutions can obscure the need for present restraint.” **Explanation:** Critique of technology optimism. **Distractor Analysis:** A: Long-term goals vs development; B: Carbon trading critiques; C: Cultural values, not timing

5. D - Bloom’s Level: Understand. **Evidence:** “...emerge in places least responsible for global emissions.”. **Explanation:** Locally driven movements from vulnerable communities. **Distractor Analysis:** A: Global politics; B: Governmental mechanisms; C: Societal psychology

- 6. C - Bloom's Level:** Analyze. **Evidence:** "Economic growth is viewed as both a national goal and personal success.". **Explanation:** Challenges to identity and values derail sustainability. **Distractor Analysis:** A: Political contradiction; B: Inequity in carbon finance; D: Action-based, not value-based
- 7. B - Bloom's Level:** Understand. **Evidence:** "...differentiated responsibilities based on historical emissions...". **Explanation:** Core principle of climate justice. **Distractor Analysis:** A: Talks about contradiction, not justice; D: Doesn't address historical responsibility; E: Technical, not ethical frame
- 8. E - Bloom's Level:** Analyze. **Evidence:** "...green technologies remain prohibitively expensive...". **Explanation:** Shows how innovation can deepen inequality. **Distractor Analysis:** B: Aid inequality, not tech; D: Grassroots empowerment; C: Cultural norms, not access
- 9. B - Bloom's Level:** Evaluate. **Evidence:** "...fall short in practice..." + failures of offset schemes. **Explanation:** Rhetoric vs reality. **Distractor Analysis:** C: Individual behavior; E: Debate on overreliance; D: Local successes, not failure
- 10. D - Bloom's Level:** Analyze. **Evidence:** "...grassroots movements have become potent forces...". **Explanation:** Momentum comes from the bottom-up, not global deals. **Distractor Analysis:** A: Focuses on tension; B: Global programs; E: Technology solutions

3.1.4. Step 4: deploying the tasks

The next crucial stage after creating adaptive texts and task items is distributing them to students in a way that guarantees accessibility and performance tracking. In this stage, teachers take the lead by distributing the reading tasks through Google Forms, which allows for both classwork and self-paced practice. In addition to standardising how questions are presented, Google Forms makes it possible to collect data automatically without requiring extra infrastructure.

Teachers may also share access to a GPT-4-powered chatbot interface for more independent participation. This chatbot can deliver adaptive tasks and provide real-time support to learners who prefer on-demand practice. Because of this flexibility, teachers can accommodate different learning styles and classroom environments by combining traditional instruction with AI-driven platforms.

- Tools: Google Forms, GPT-based chatbot - Role: Teacher
- Output: Tasks delivered in a format suitable for tracking or real-time practice

3.1.5. Step 5: Collecting student data

Once students complete the reading tasks, their responses must be systematically collected and organized for analysis. All responses to Google Forms are automatically saved in Google Sheets, generating a data set for performance evaluation immediately. To enhance this process, Google Apps Script can be integrated to automate backend processes, such as logging timestamps, identifying incorrect responses, and triggering personalized feedback scripts. This automated pipeline minimizes manual effort while ensuring that structured data is available for the AI to process. Importantly, it also makes it possible to track trends in student performance in real time, which is crucial for overseeing differentiated instruction for talented students.

- Tools: Google Sheets, Google Apps Script - Role: AI and Script

- Output: Organized response data categorized by question type, response accuracy, and time-on-task

3.1.6. Step 6: Generating personalized feedback

The sixth step makes use of AI's ability to evaluate student performance and provide customised feedback. Teachers can instruct GPT-4 to analyse students' responses, categorise different kinds of errors (such as lexical misunderstanding, syntactic misinterpretation, or inference failure), and recommend particular follow-up assignments. These follow-up exercises could involve: Reintroducing difficult grammar patterns; Focused vocabulary practice for academic or low-frequency words; modified enquiries that provide scaffolded support while addressing the same skills; simplified versions of the original texts for students who have difficulty understanding them.

This AI-driven feedback process reflects the core principles of adaptive instruction, as it dynamically adjusts content based on individual learner profiles. For gifted students, who need support and challenge at the right level of cognitive demand, this kind of personalisation is especially important.

- Tools: GPT-4 with prompt engineering based on task results - Role: AI
- Output: Customized feedback and new tasks aligned with learner needs

3.1.7. Step 7: Iterating and scaling the learning loop

The final step in the workflow emphasizes the importance of iterative development and scalability. With feedback implemented and new data available, teachers and AI collaboratively evaluate whether learners have progressed toward higher proficiency levels. The following cycle of task generation can be started based on this evaluation; however, this time, the parameters will be changed to progressively increase the complexity of lexical density, syntactic structures, and cognitive demands.

With AI-assisted guidance, this step guarantees that task design stays in line with the Zone of Proximal Development (Vygotsky, 1978), enabling students to work at the edge of their abilities. Additionally, the system can start to differentiate at scale as it collects more data from learners and tasks.

- Tools: Teacher judgment, GPT-4, learner performance history - Role: Teacher and AI
- Output: A new cycle of adaptive tasks informed by student growth and evolving needs

CHAPTER IV CONCLUSION

4.1. Summary of Key Findings

With an emphasis on National English Competition preparation, this study investigated how teachers in Vietnam can use artificial intelligence (AI) to help them create adaptive reading assignments for talented students. Research has shown that the quality, cognitive challenge, and personalisation of reading materials can be improved by combining AI tools with careful instructional design. This has been accomplished through theoretical discussion, language complexity analysis, and a practical implementation model.

Chapter I established the educational rationale, highlighting the cognitive and linguistic demands placed on gifted learners in high-stakes exams and the existing gap between their needs and available instructional resources. Chapter II built a theoretical foundation by integrating Vygotsky's ZPD, Universal Design for Learning, Cognitive Load Theory, and Bloom's Taxonomy into the design of adaptive texts. The role of AI in managing vocabulary difficulty, syntactic complexity, and cognitive level alignment was also discussed. Chapter III proposed a concrete 7-step workflow integrating teacher decisions with AI-powered tools like GPT-4, Coh-Metrix, and Google Apps Script. This cycle of task generation, student data collection, feedback, and iterative improvement represents a scalable model for personalized reading instruction. Ultimately, the study affirms that AI can support both differentiated and adaptive instruction, helping teachers provide reading tasks that are challenging and tailored to each gifted student's development zone.

4.2. Limitations

While the study offers practical insights, several limitations must be acknowledged:

Scope Restriction: The research focuses solely on reading tasks within the context of the English National Competition in Vietnam. It does not address other skills (e.g., writing, listening) or broader applications of AI in language teaching.

Tool Dependency: The quality of AI-generated content heavily depends on prompt engineering and teacher expertise. Improper use may result in texts that are linguistically appropriate but pedagogically misaligned.

4.3. Recommendations for Future Research

Building on this foundational work, future research may explore the following directions: Perform experiments to evaluate how well AI-generated reading assignments affect students' performance on national examinations; Extend adaptive systems to include writing, speaking, and listening exercises in addition to reading. Examine best practices for preparing educators to use AI tools efficiently, such as data interpretation, task validation, and prompt engineering.

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APPENDIX

ANALYZE COMPLEXITY OF EACH PART

Based on the Language Complexity Summary Table presented in Chapter 2, a detailed analysis of the linguistic features and cognitive demands of the reading passages extracted from the official National English Competition (2024-2025) is provided below.

Part 2 involves reading the passage titled “The Reinvention of a Brand (Lego)” and completing two types of tasks:

- Identifying whether given statements are True (T), False (F), or Not Given (NG) based on the passage.
- Completing a summary using no more than three words taken directly from the text.

1. Topic & Content Focus

Element	Requirement
Topic domain	Business, education, technology, science, arts, or other real-world fields with authentic relevance
Real-world context	Based on a recognized or influential product, company, policy, initiative, system, or concept from any global or national context
Thematic focus	Must center around transformation, innovation, or repositioning, including digitalization, strategic shifts, systemic reform, or crisis adaptation
Cognitive lens	Text should invite interpretation, critical thinking, and judgment about the rationale, process, or consequences of the transformation
Tone	Academic-informative, objective, and analytical; avoid overt opinions unless clearly attributed to sources or actors
Relevance	Topic should be timely, socially relevant, or historically significant, encouraging connections with current global knowledge or debates

2. Vocabulary Complexity

Feature	Specification
Lexical Density	~63–67% content words (nouns, verbs, adjectives, adverbs)
Low-frequency terms	~17% of total vocabulary should come from academic or domain-specific registers
Wordlists used	Draw vocabulary from AWL (Academic Word List), COCA, BNC; use precise technical terms (e.g., <i>streamlined</i> , <i>commissioned</i> , <i>scalable</i>)
Word families & collocations	Include conceptually linked word groups (e.g., <i>innovation</i> , <i>innovate</i> , <i>innovative</i>)
Topical consistency	Vocabulary clusters should reinforce key themes (e.g., “automation + efficiency + digital pipeline” in tech contexts)

3. Grammar & Syntax

Feature	Specification
Average sentence length	28–32 words per sentence
Clause density	~2.5–3.2 clauses per sentence
Sentence structure	~70% complex, 25% compound, 5% simple
Required grammatical features	At least: 10+ passive constructions, 10+ relative clauses, 2–3 conditionals, and consistent use of nominalizations
Register	Formal-academic; no conversational, idiomatic, or casual language

4. Structure & Organization

Feature	Specification
Length	~950–1,100 words
Paragraph count	9–11 paragraphs, each ~80–130 words
Discourse structure	Use topic-appropriate rhetorical pattern: chronological, cause-effect, problem-solution, or compare-contrast
Cohesion devices	Use of reference (e.g., <i>this</i> , <i>it</i> , <i>they</i>), logical conjunctions (e.g., <i>however</i> , <i>therefore</i> , <i>as a result</i>)
Flow & coherence	Logical progression of ideas; ensure each paragraph advances the central argument/concept thematically

5. Readability & Difficulty Index

Metric	Value / Range
Flesch–Kincaid Grade Level (FKGL)	12.5–13.5
Gunning Fog Index	14–15.5
Target reader	Gifted Grade 12 students in Vietnam or EFL learners at CEFR C1–C2 level

Purpose	High-stakes reading practice for National English Competitions, Olympic teams, and elite language programs
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6. Cognitive Demands – Bloom’s Taxonomy Mapping

Bloom Level	Required Question Types and Expectations
Remember	Recall names, dates, or concrete facts (optional – only if embedded in analytical context)
Understand	Paraphrase or explain key concepts and processes in own words (must appear in T/F/NG or Summary)
Apply	Use information to complete summaries or logically infer outcomes
Analyze	Compare viewpoints, infer causes and effects, interpret implications (≥ 2 questions per task set)
Evaluate	Judge outcomes, assess decision quality, or critique strategic choices based on passage evidence (≥ 1 item)
Synthesize (optional)	May require integrating information across the text, especially in Summary Completion tasks

7. Target Output (for AI)

The AI should generate:

- A reading passage of approximately 1,000 words matching specifications from sections 1–6
- Two advanced reading comprehension task types:
 - 5 True/False/Not Given (T/F/NG) items
 - 1 Summary Completion with 7 blanks, with answers using no more than three words from the passage
- A clearly labeled Answer Key, including T/F/NG labels and justification
- *(Optional)*: A short task description or difficulty note before or after the passage.

8. Question Design Specifications

Question Type	Construction Guidelines
True/False/Not Given	- Include at least 2 inference-based items - Include 1 distractor using plausible real-world logic - Include 1 multi-paragraph inference - Paraphrase fully using synonyms, structure changes, and lexical shifts
Summary Completion	- Summary should be a reworded and logically restructured version of part of the passage - Maintain semantic flow - Blanks must be grammatically constrained and semantically inferable from context
Paraphrasing depth	Use synonyms, reversed logic, clause restructuring, nominalization, or cause-effect flips to increase complexity
Bloom’s Alignment	- ≥ 2 questions at Analyze/Evaluate level - Remaining items must reflect Understand and Apply levels
Language level	CEFR C1–C2 grammar, formal vocabulary, no idioms or simplifications; precise, academic, and structurally varied.

Part 3 involves reading the passage titled “Living with Artificial Intelligent” and completing Task Type: Gapped text (matching paragraph inserts to context)

1. Topic & Content Focus

Element	Analysis
Topic domain	Technology / Ethics in AI
Real-world context	Based on current discourse surrounding Artificial General Intelligence (AGI), with references to real systems such as the UK's National Health Service (NHS)
Thematic focus	Ethical alignment and societal impact of powerful AI systems
Cognitive lens	Explores consequences, moral dilemmas, and strategic challenges
Tone	Analytical, speculative, and academic-formal
Relevance	Highly relevant to ongoing global debates about AI safety and human values

2. Vocabulary Complexity

Feature	Observation
Lexical Density	High (~66%) – abundant use of content words like “superintelligent,” “moral reasoning,” and “autonomy”
Low-frequency terms	~18% – includes domain-specific expressions such as “moral high ground,” “gatekeepers,” and “cognitive superhuman”

Wordlists used	Draws on academic and technical vocabulary from COCA and the Academic Word List (AWL)
Word families	Frequent repetition of related terms: intelligence, reasoning, superhuman, moral, freedom, control
Topical clusters	Consistent clustering of terms around AI ethics: alignment, control, safety, autonomy

3. Grammar & Syntax

Feature	Observation
Avg. sentence length	~30–34 words
Clause density	~3.0 clauses per sentence
Sentence structures	Highly complex (>70%) with use of embedded clauses, passives, and conditionals
Grammatical features	12+ passive constructions, 12+ relative clauses, 3+ conditional sentences
Register	Formal-academic; no idioms or casual phrasing

4. Structure & Organization

Feature	Analysis
Length	~970–1,050 words
Paragraph count	11 paragraphs total (main text + inserted gaps + 1 distractor)
Discourse structure	Combination of problem–solution and cause–effect patterns
Cohesion devices	Frequent use of reference terms (e.g., “this,” “these systems,” “such concerns”) and logical connectors (e.g., “however,” “if,” “therefore”)
Flow & coherence	Thematic progression: problem → complication → consequences → ethical tension

5. Readability & Difficulty Index

Metric	Estimated Value
Flesch–Kincaid Grade Level	~13.2
Gunning Fog Index	~15.0
Target Reader	Gifted Grade 12 students / CEFR C1–C2 level
Purpose	To assess high-level inference, ethical judgment, and conceptual synthesis

6. Cognitive Demands – Bloom’s Taxonomy Mapping

Bloom Level	Evidence in Task and Passage
Understand	Recognize central concepts such as “AI must align with human values” and “freedom vs. safety”
Apply	Use logic to correctly place paragraph ideas in appropriate contextual gaps (e.g., Q71 → B)
Analyze	Distinguish between different ethical viewpoints, compare trade-offs of AI decision-making
Evaluate	Assess moral implications of AI governance models (e.g., Q74 → A)
Comment	At least 3 items require evaluation-level reasoning, especially when perspectives are in conflict

7. Target Output (for AI)

Requirement	Analysis Based on the Sample Passage
Passage Length	Approx. 1,000 words
Reading Task Type	Gapped Text (Matching Paragraph Insertion)
Linguistic Match	Lexical density ~66%, average sentence length ~30–32 words
Grammar Features	Includes 10+ passive constructions, 10+ relative clauses, 2–3 conditionals
Discourse Style	Cause-effect and problem–solution organization
Formality Level	Academic, precise, and non-conversational
Cognitive Challenge	High-level reasoning; multiple insertions require deep inference or evaluation
Theme Suitability	Addresses real-world ethical and transformational dilemmas
Bloom’s Alignment	Analyze and Evaluate dominate the question set (particularly Q71–Q75)

8. Question Design Specifications

Category	Satisfaction in the Sample
Gapped Text Structure	6 numbered gaps, 7 paragraph options (A–G), one not used
Distractors	One paragraph (G) is topically related but misaligned logically
Inference Depth	At least 2 insertions require multi-paragraph inference (e.g., Q71–73)
Paraphrasing Strategy	Inserted paragraphs restate ideas through synonyms, structure shifts, and nominalizations
Logical Traps	Includes distractors with lexical similarity but different scope (e.g., A vs. B)
Coherence Requirement	Requires both local (sentence-level) and global (discourse-level) cohesion
Lexical/Grammatical Match	Matches tone, pronouns, verb tenses, and cohesive devices
Examples	Q71 connects with paragraph B (“ethically as well as cognitively superhuman”)

	Q74 relates to NHS data governance, matched with paragraph A discussing freedom vs. safety
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Part 4 involves reading the passage about The Role of Grammar in Language Proficiency and completing Task Type: Multiple choice comprehension

1. Topic & Content Focus

Element	Analysis
Topic domain	Education / Applied Linguistics
Real-world context	Anchored in real academic debates in language pedagogy, referencing Noam Chomsky and communicative teaching approaches used in international settings
Thematic focus	Tension between grammatical competence and communicative/sociolinguistic competence
Cognitive lens	Explores what it truly means to "know a language"—beyond syntax, including social and pragmatic dimensions
Tone	Analytical, critical, and subtly persuasive
Relevance	High – engages directly with dilemmas faced by modern language teachers and test designers globally

2. Vocabulary Complexity

Feature	Observation
Lexical Density	~64% – high proportion of content words such as <i>proficiency, directive, utterance</i>
Low-frequency terms	~17% – includes terms from AWL and linguistic discourse: <i>sociolinguistic, illocutionary, discrepancy, communicative competence</i>
Wordlists used	COCA, AWL, plus domain-specific terms from linguistics
Word families	Consistent recurrence: <i>competence, communicate, utter, instruct, evaluate</i>
Topical clusters	Focused around: (1) Chomskyan grammar theory, (2) speech acts/pragmatics, (3) classroom pedagogy & assessment

3. Grammar & Syntax

Feature	Observation
Average sentence length	28–32 words
Clause density	~2.8–3.2 clauses per sentence
Sentence structures	~70% complex, 25% compound, ~5% simple
Grammatical features	Frequent passive constructions, relative clauses, embedded conditionals and noun clauses
Register	Academic-informative; avoids idioms, uses metalinguistic terms like <i>illocutionary intent, pragmatic shift</i>

4. Structure & Organization

Feature	Analysis
Length	~1,200 words (approx.)
Paragraph count	6 full academic paragraphs
Discourse structure	Expository and analytical, with compare–contrast and problem–solution sequences
Cohesion devices	Connectors like <i>furthermore, however, on the other hand</i> , as well as thematic referents such as <i>this view, such assumptions, these skills</i>
Flow & coherence	Logical progression: grammar tradition → limitations → pragmatic models → evaluation of outcomes

5. Readability & Difficulty Index

Metric	Estimated Value
Flesch–Kincaid Grade	~12.8
Gunning Fog Index	~14.5
Target Reader	Gifted Grade 12 students / CEFR C1–C2
Purpose	Assess students' ability to extract nuanced meaning, interpret educational metaphors, and evaluate competing philosophies

6. Cognitive Demands – Bloom's Taxonomy Mapping

Bloom Level	Evidence in Task and Passage
Understand	Q77 (Chomsky's perspective), Q78 (recognizing surface structure rules)
Apply	Q81 (understanding indirect speech acts in real contexts)
Analyze	Q76 (distinguishing competing teaching philosophies), Q83 (dissecting metaphor: "unvarnished truth")
Evaluate	Q84 (judging value of explicit grammar drills), Q85 (questioning assessment criteria)
Create	Not applicable (no creative synthesis is required)

Comment	Q80–85 require students to weigh opposing perspectives, form judgments, and infer author's stance
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7. Target Output (for AI/Manual Task Design)

Requirement	Satisfaction
Passage Length	~1,200 words
Reading Task Type	10 multiple-choice questions
Linguistic Match	Lexical density ~64%, sentence length ~30–32 words
Grammar Features	10+ passive constructions, 10+ relative clauses, multiple conditionals
Discourse Style	Analytical, problem-solution & compare–contrast
Formality Level	Academic register, no idiomatic language
Cognitive Challenge	High – requires synthesis, critique, and multi-level inference
Theme Suitability	Highly relevant to current education reform debates and linguistic practice
Bloom's Alignment	Heavily emphasizes Analyze and Evaluate (esp. Q76, Q81, Q84, Q85)

8. Question Design Specifications

Category	Match in Sample
Item Count	10 MCQs (Q76–85)
Inference Depth	Most items demand inferencing, metaphor interpretation, or purpose judgment
Contextual Anchors	Distractors reference specific wording or quotes but misapply logic
Lexical Paraphrasing	Advanced paraphrase using abstract nouns and formal synonyms
Logical Distractors	Opposing theories, reversed logic, extreme/oversimplified claims
Functional Language Tested	Words like <i>directive</i> , <i>utterance</i> , <i>implicit</i> , <i>proficiency</i> are tested in both literal and pragmatic frames
Examples	Q81 – Tests how learners understand <i>questions as indirect requests</i>
	Q84 – Evaluates students' stance toward <i>grammar-based pedagogy</i> vs. <i>communicative priorities</i>
	Q85 – Assesses awareness of <i>assessment bias toward rule-based knowledge</i>

Part 5 involves reading a passage titled “Addressing the Problem of Water Scarcity” and completing Task Type: Matching given information to paragraphs (A–E)

1. Topic & Content Focus

Element	Analysis
Topic domain	Environmental Science / Sustainable Development / Water Policy
Real-world context	Grounded in contemporary global and local challenges of water scarcity, referencing inequity, technological interventions, and climate-related pressures
Thematic focus	Examines practical, technological, cultural, political, and ecological dimensions of water scarcity and explores context-sensitive solutions
Cognitive lens	Balances behavioral insights, environmental ethics, and interdisciplinary policy approaches to propose multi-level solutions
Tone	Informative, moderately critical, and cautiously optimistic
Relevance	High – aligns closely with climate discourse, SDG 6 (Clean Water & Sanitation), and education for sustainability in both developing and developed contexts

2. Vocabulary Complexity

Feature	Observation
Lexical Density	~63% – moderate to high use of abstract nouns and policy discourse (e.g., collaboration, intervention, incentive, regulation)
Low-frequency terms	~16–17% – Includes academic/environmental terms: interdisciplinary, stakeholders, mitigate, offset, conservation
Wordlists used	AWL, COCA, and environmental management corpus
Word families	Frequent recurrence: conserve, educate, manage, engage, legislate
Topical clusters	(1) Infrastructure and technology, (2) Behavior and public engagement, (3) Ecosystem conservation, (4) Political reluctance, (5) Climate adaptation

3. Grammar & Syntax

Feature	Observation
Average sentence length	27–31 words
Clause density	~2.6–3.1 clauses per sentence
Sentence structures	~68% complex, 27% compound, ~5% simple
Grammatical features	Extensive use of passive constructions, relative clauses, conditionals (“if they are to work”), hedging (“may,” “can be”)

Register	Academic-informative with emphasis on policy, evidence, and caution; no idiomatic or emotional phrasing
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4. Structure & Organization

Feature	Analysis
Length	~1,050 words
Paragraph count	5 clearly labeled sections (A–E), each ~200–220 words
Discourse structure	Problem–solution and contrastive structure, moving from global overview → barriers → educational and behavioral strategies → localized solutions → ecological infrastructure
Cohesion devices	High use of contrast markers (however, yet, still), logical sequencing (therefore, for example), and referential cohesion (“this issue,” “such collaborations”)
Flow & coherence	Structured thematically: macro/global → micro/local, and systemic causes → behavioral and ecological interventions

5. Readability & Difficulty Index

Metric	Estimated Value
Flesch–Kincaid Grade	~12.5
Gunning Fog Index	~14.0
Target Reader	Gifted Grade 12 students / CEFR C1–C2
Purpose	Test ability to interpret multi-level argumentation, track discourse shifts, and match paraphrased ideas with thematically distinct paragraphs

6. Cognitive Demands – Bloom’s Taxonomy Mapping

Bloom Level	Evidence in Task and Passage
Understand	Q86 (political influences on water policy), Q90 (recognizing indirect links, e.g., behavior and conservation)
Apply	Q91 (relating economic/political obstacles to implementation), Q93 (applying incentives to real-world solutions)
Analyze	Q88 (detecting interdisciplinary needs), Q95 (evaluating reluctance in behavior change)
Evaluate	Q87 (noticing absence of literature focus), Q89 (assessing value of public digital literacy), Q94 (questioning role of governance)
Create	Not required in this task format

7. Target Output (for AI/Manual Task Design)

Requirement	Satisfaction
Passage Length	~1,050 words
Reading Task Type	Matching summary/headings to 5 sections (Q86–95)
Linguistic Match	Lexical density ~63%, advanced grammatical structures
Grammar Features	Passive voice, relative clauses, nominalizations, conditional phrasing
Discourse Style	Academic-informative, objective with problem-solution emphasis
Formality Level	Consistent academic policy register
Cognitive Challenge	Medium–high, due to subtle logic links and layered structure
Theme Suitability	Strong alignment with sustainability education and climate justice
Bloom’s Alignment	Strong presence of Understand, Analyze, and Evaluate tiers

8. Question Design Specifications

Category	Match in Sample
Item Count	10 (Q86–95)
Inference Depth	Moderate to high – many require bridging ideas across sentences
Contextual Anchors	Each option connects to a distinct section with multiple cues
Lexical Paraphrasing	Examples: “political factor” → “governments hesitate”, “educating consumers” → “awareness of water-intensive industries”
Logical Distractors	Present – especially with reversed cause/effect or misleading generalizations
Functional Language Tested	Behavior, policy, infrastructure, collaboration, education, environmental systems
Examples:	– Q88 – Requires identifying multidisciplinary approaches (Section B) – Q91 – Tests understanding of economic disincentives (Section B) – Q90 – Evaluates metaphor of tide for behavioral change (Section D) – Q94 – Involves criticism of government roles (Section E)