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ARTIFICIAL INTELLIGENCE IN ENHANCING LISTENING AND NOTE-TAKING SKILLS: EVIDENCE FROM FIRST-YEAR STUDENTS IN VIETNAM

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Presentation Outline

1. Introduction
2. Literature Review
3. Methodology
4. Results and Discussion
5. Conclusion & Suggestions



1.

INTRODUCTION

Introduction

Research Background

- Rapid transformation of higher education pedagogical practices.
- HUFLIT's focus on foreign languages and IT integration.
- First-year students adapting from secondary to tertiary AI-enhanced learning paradigms.

Introduction

The Problem Statement

- Discrepancy between students' self-reported AI competency and actual effective utilization for academic tasks
- Note-taking Challenges: Simultaneous processing of oral input and writing remains a significant hurdle
- Institutional Goal: Need for systematic investigation of AI tools in the Vietnamese EFL context

Introduction

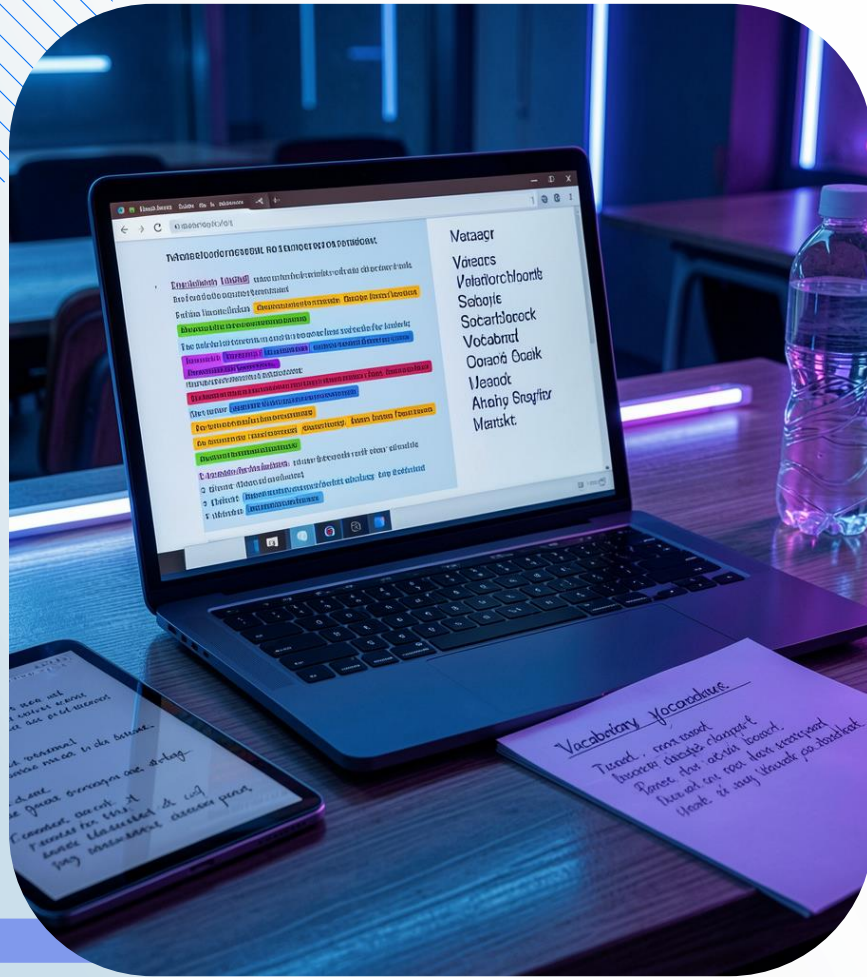
Research Questions

1. What are HUFLIT first-year students' perceptions of using AI in learning English?
2. How do AI tools impact HUFLIT first-year students' English learning skills?
3. How did they apply note-taking skills in listening texts?



2.

LITERATURE REVIEW



Academic Listening as a Dual-Task

- Simultaneous processing of oral input, content comprehension, and written record generation
- Learners must split limited attention between speech and writing
- First-year students often lack prior systematic note-taking training

Defining Effective Note-Taking

- Quality vs. Quantity: Organization and inclusion of main ideas correlate more strongly with comprehension than word count
- Metrics: Well-organized notes (hierarchical structures, symbols) are better predictors of performance
- Reference: Shizuka & Ryan (2026) study with 195 EFL students

The Theoretical Framework: SOI Model

- Selection: Identifying relevant information from oral input.
- Organization: Structuring selected information coherently.
- Integration: Connecting new information with prior knowledge.
- AI Role: Scaffolding these processes through real-time aids.

AI Tools in Language Education

- STT (Speech-to-Text): Immediate transcripts to facilitate noticing pronunciation and vocabulary.
- Generative AI (e.g., NoteBookLM): Transforming written text into podcast-style dialogues to reduce cognitive load.
- Personalization: 24/7 learning support and adjustable playback speeds.

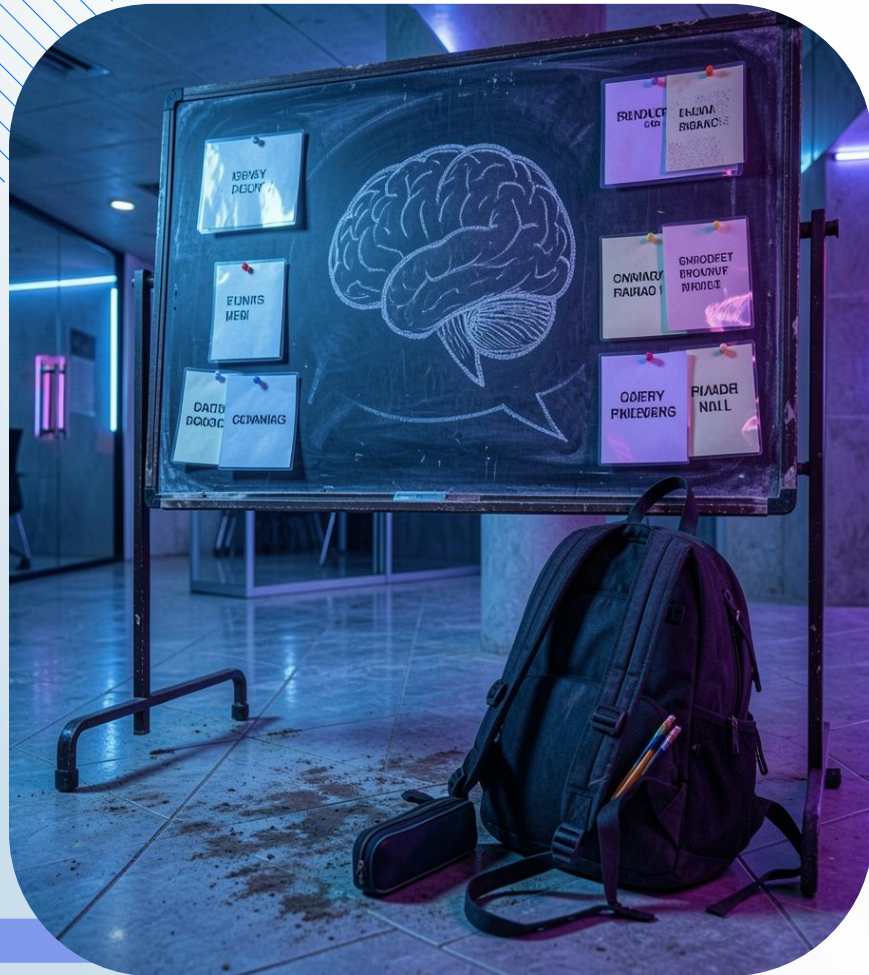
Potential Benefits vs. Concerns

Benefits:

- Personalized feedback
- Vocabulary expansion
- Reduced listening anxiety

Concerns:

- Unnatural prosody (robotic voices)
- Over-reliance
- Loss of critical thinking



3.

METHODOLOGY

Instructional Strategies

- Design: Mixed-methods sequential explanatory design.
- Quantitative Strand: Quasi-experimental pretest-posttest control group design.
- Qualitative Strand: Semi-structured reflective journals and open-ended questionnaires.
- Rationale: Captures both statistical generalizability and contextual depth.

Research Participants

- 80 first-year EFL students at HUFLIT
 - Experimental Group (n=40): AI-assisted instruction.
 - Control Group (n=40): Conventional instruction.
- Proficiency Level: A2 to B1 CEFR levels

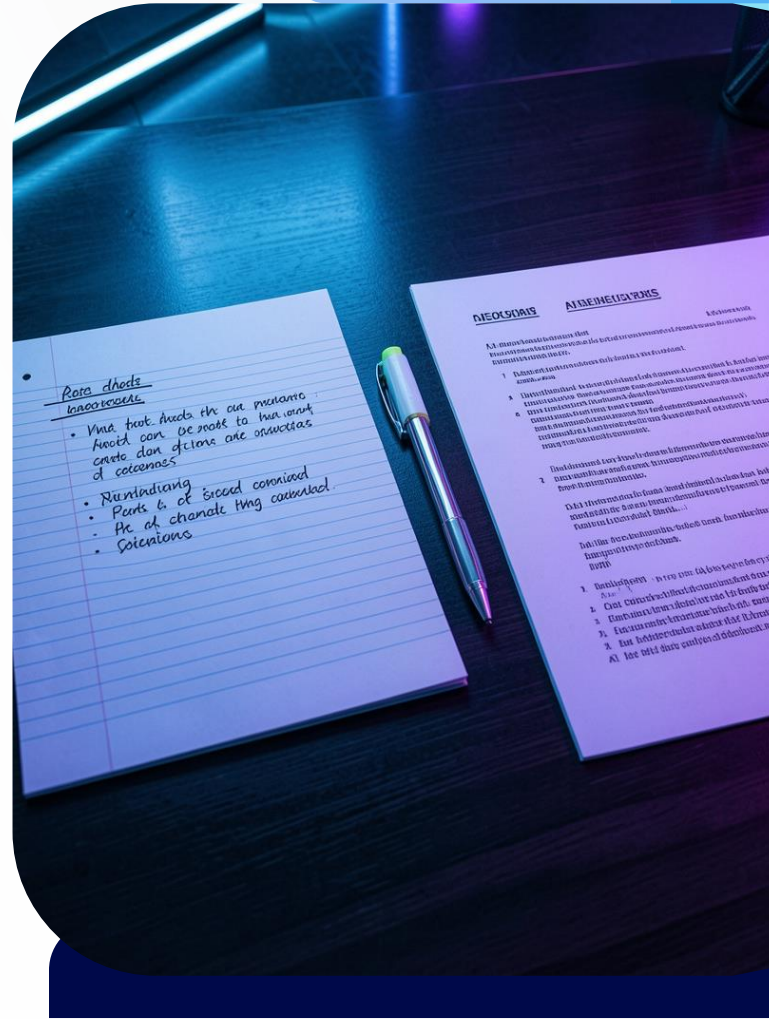
Instruments

- Listening/Note-taking Tests: TOEFL ITP format (pre- and post-tests)
- Perception questionnaire: 20-item Likert-scale (Perceived usefulness, engagement, etc.)
- Reflective Journals: Documenting weekly strategies and challenges

Data collection

Data collection occurred over eight weeks during the first semester of the 2025 – 2026 academic year, following a structured timeline:

- Week 1: Pretest (Standardized conditions)
- Weeks 2-7: Intervention period (AI training for Experimental Group)
- Week 8: Posttest and questionnaire.





4.

Results and Discussion

4.1. Analysis of Survey Results from 80 First-Year Students

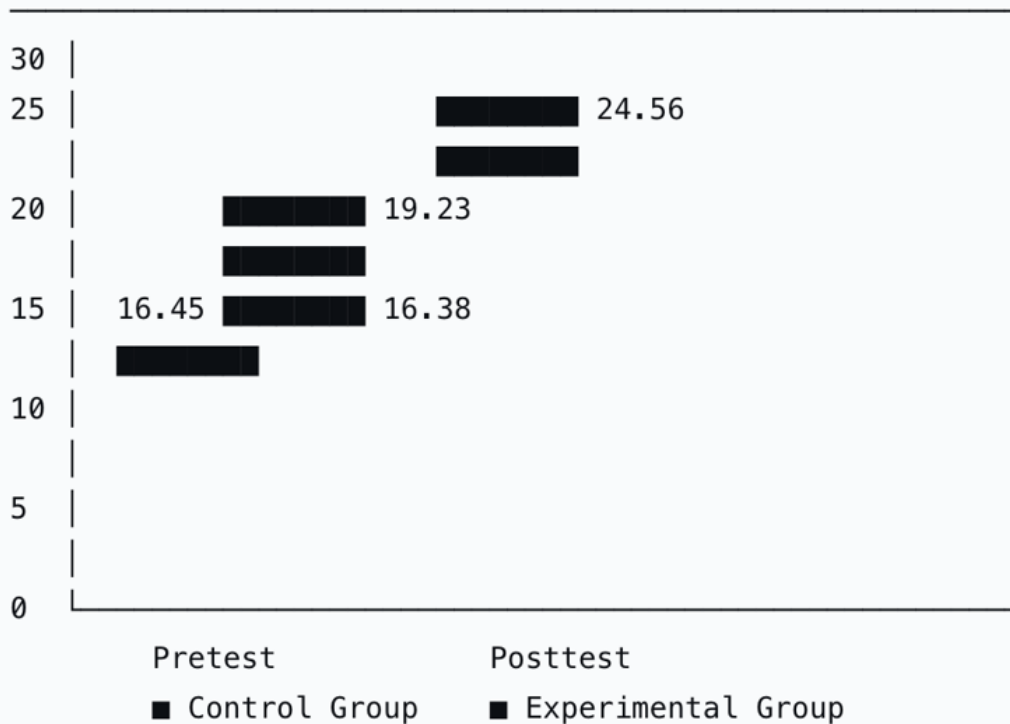
Descriptive Statistics of Student Perceptions (Post-Intervention)

Perception Dimension	Experimental Group (n = 40) Mean (SD)	Control Group (n = 40) Mean (SD)	t-value	p-value
Perceived Usefulness	4.28 (0.52)	3.15 (0.68)	8.34	<.001
Ease of Use	4.05 (0.61)	3.30 (0.72)	5.12	<.001
Engagement	4.18 (0.55)	3.28 (0.69)	6.45	<.001
Reduced Listening Anxiety	3.98 (0.70)	3.22 (0.80)	4.56	<.001
Overall Perception	4.12 (0.58)	3.24 (0.71)	6.14	<.001

4.1. Analysis of Survey Results from 80 First-Year Students

Pre- and Post-Intervention Listening Comprehension Scores

Listening Comprehension Scores (0–30 points)



4.1. Analysis of Survey Results from 80 First-Year Students

Note-Taking Quality Scores by Assessment and Group

Assessment Point	Control Group (n=40) Mean (SD)	Experimental Group (n=40) Mean (SD)	Mean Difference	% Improvement
Pretest (Week 1)	5.28 (1.38)	5.34 (1.42)	+0.06	—
Posttest (Week 8)	6.45 (1.67)	8.67 (1.15)	+2.22	—
Gain Score	+1.17	+3.33	+2.16	—
% Improvement	22.2%	62.4%	—	40.2% higher

4.2. Three Quantitative and Qualitative Models

Model 1: Perceived Usefulness-
Actual Usage Correlation Model

- **Perception:** 92.5% found AI useful.
- **Usage:** Only 67.5% used it regularly beyond training.
- **Gap reason:** Cognitive load involved in comparing personal notes with AI transcripts



4.2. Three Quantitative and Qualitative Models

Model 2: Note-Taking Quality Improvement Model

- ❖ AI-Assisted Linear Notes

Adoption Rate: 42.5% of students.

Description: Using AI transcripts as the primary base text and annotating them manually.

- ❖ Comparative Dual-Column Notes

Adoption Rate: 35% of students.

Description: Verifying personal notes alongside AI-generated summaries.

Outcome: Yielded the highest learning outcomes.

- ❖ AI-Independent Strategic Notes

Adoption Rate: 22.5% of students.

Description: Deliberately avoiding AI for certain tasks to practice unaided listening.

Insight: Reflects high metacognitive awareness and resistance to over-reliance.

4.2. Three Quantitative and Qualitative Models

Correlation Matrix of Key Variables (Experimental Group)

Variable	1	2	3	4	5
1.Perceived Usefulness	1.00				
2. Frequency of AI Tool Use	0.62**	1.00			
3. Note-Taking Quality (Posttest)	0.58**	0.71**	1.00		
4.Listening Comprehension (Posttest)	0.53**	0.67**	0.79**	1.00	
5.Self-Reported Anxiety Reduction	0.48*	0.44*	0.39*	0.52**	1.00

Note: *p < .05; **p < .01; n=40*

4.2. Three Quantitative and Qualitative Models

Comparison of Pre- and Post-Intervention Note-Taking Rubric Sub-Scores

Note: Rubric adapted from Jin & Webb (2024).

Rubric Component (Max Points)	Control Group (n=40)	Experimental Group (n=40)				
	Pretest	Posttest	Gain	Pretest	Posttest	Gain
Organization (3 pts)	1.15	1.48	+0.33	1.18	2.35	+1.17
Main Ideas (3 pts)	1.42	1.75	+0.33	1.45	2.28	+0.83
Supporting Details (3 pts)	1.38	1.62	+0.24	1.40	2.10	+0.70
Abbreviations/ Symbols (3 pts)	1.33	1.60	+0.27	1.31	1.94	+0.63
Total (12 pts)	5.28	6.45	+1.17	5.34	8.67	+3.33

4.2. Three Quantitative and Qualitative Models

Thematic Analysis of Reflective Journals (Experimental Group)

Theme	Frequency	Example Quote	Representative Participant
AI as verification tool	32 (80%)	"I listen first without AI, then check my notes against the transcript. This shows me what I missed."	E08
Reduced listening anxiety	28 (70%)	"Knowing I can see the transcript later makes me less nervous during first listening."	E22
Concern about over-reliance	26 (65%)	"Sometimes I just wait for AI instead of trying to listen. That's a bad habit I'm fighting."	E17
Improved vocabulary acquisition	24 (60%)	"AI explains unknown words immediately. I learn more words per lecture now."	E35
Need for instructor guidance	22 (55%)	"AI is powerful, but I don't always know how to use it best. Teacher shows us strategies."	E12
Technical frustration	18 (45%)	"Slow internet makes AI transcription lag. Very annoying during live listening."	E03

Note: Multiple themes could be reported per participant; percentages reflect proportion of 40 participants mentioning each theme at least once.

Discussion

- AI should be used to support, not replace, active listening.
- Impact depends on strategic integration rather than mere access.
- AI provides a safety net that lowers comprehension pressure.



5. CONCLUSION

- AI-enhanced instruction leads to significantly higher improvements in listening comprehension (50% gain) and note-taking quality (62.4% gain) compared to conventional methods.
- The effectiveness of AI depends on pedagogical scaffolding; using AI as a verification tool (comparative dual-column approach) is superior to passive dependence.
- Strategic deployment of AI tools fosters learner independence while reducing cognitive load and listening anxiety.
- While perceptions are overwhelmingly positive, students remain aware of technical limitations like unnatural prosody and transcription inaccuracies

Suggestions for Future Research

1. Longitudinal designs are needed to examine whether AI-induced gains persist over time and whether over-reliance concerns materialize into long-term skill deficits.
2. Comparative studies across different AI tool types (e.g., generative AI vs. speech recognition alone) would clarify which features drive improvement.
3. Investigations with larger, more diverse samples across multiple Vietnamese universities would enhance generalizability.
4. Move from isolated interventions toward systematic, sustainable pedagogical models that officially integrate AI into the EFL curriculum



**Thanks
for
listening.**