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Investigating the Challenges of Note-Taking During Listening Activities Among GFP Students in Oman

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Abstract

This classroom-based action research examines the barriers faced by General Foundation Program (GFP) students in Oman when taking notes during listening tasks in an English-medium academic context. It investigates how cognitive, linguistic, strategic, and affective factors, along with features of native-speaker-like speech—such as rapid delivery, connected speech, and accent variation—impact students' ability to produce accurate and effective notes. A mixed-methods design was used, combining quantitative data with qualitative insights from semi-structured interviews and analysis of student notes using a structured rubric. Findings show that note-taking difficulties are widespread and complex. A majority of students (82%) reported cognitive overload when trying to listen and write simultaneously. Linguistic challenges were also significant, with over 70% struggling with fast speech, unfamiliar accents, and limited vocabulary. Strategic issues were evident, as 79% lacked formal training in note-taking and relied on ineffective methods such as verbatim copying. Affective factors, including anxiety and low confidence, further affected performance. Note analysis revealed moderate completeness (45–62%) and accuracy (63–74%), with weak organization. The study concludes that note-taking requires explicit instruction and recommends structured strategy training, scaffolded listening practice, and metacognitive development.

Keywords:- Listening, Note-Taking skills, Cognitive Load, EFL Learners, Barriers, Evaluations, General Foundation Program (GFP)

I. INTRODUCTION

In the context of English-medium instruction at higher education institutions across the gulf region, General Foundation Programs (GFP) serve as critical preparatory pathways for students transitioning from Arabic-medium secondary education to English-medium undergraduate studies. These intensive programs aim to develop students' English language proficiency across the four core skills – listening, speaking, reading, and writing while simultaneously building academic literacy competencies essential for university success. Among these competencies, note-taking during listening activities emerges as a particularly challenging yet indispensable skill that directly impacts students' ability to comprehend lectures, retain information and perform successfully in academic assessments (Dunkel, 1988; Rost, 2011)

Note-taking is a complex cognitive and linguistic process that requires learners to concurrently engage in multiple demanding tasks: decoding spoken input at natural speed, identifying and prioritizing key information, processing meaning, and encoding selected content in written form - all while maintaining comprehension of ongoing discourse. For the first language speakers (L1), this multitasking is challenging; for second-language learners (L2) particularly those at foundation or intermediate proficiency levels, the cognitive and linguistic demands can become overwhelming (Vandergrift & Goh, 2012). In the Omani GFP context, where students typically enter programs with limited exposure to authentic native-speaker English and minimal training in academic listening strategies, note-taking difficulties are both common and significant.

Recent research indicates that students at the General Foundation Program (GFP) in Oman struggle with note-taking during listening tasks, often missing key information due to the natural quality of a native speaker like speech features. These difficulties stem from cognitive overload, linguistic gaps, strategic limitations, affective filter and challenges in processing

features like rapid delivery, connected speech, and pronunciation variability. As a result, students frequently produce incomplete and poorly organized notes. Understanding these challenges is crucial for GFP instructors and curriculum developers aiming to improve students' note-taking skills. Although research has explored listening difficulties among EFL learners, limited attention has been given to note-taking in the specific context of Oman's foundation programs. This gap is significant, as Omani students often have limited exposure to diverse English accents, extended academic discourse, and structured training in active listening and independent note-taking.

This study addresses this gap by examining the key challenges affecting GFP students' note-taking skills including cognitive, linguistic, strategic, and affective factors, as well as the impact of native-speaker speech features. It also reviews relevant research methods and proposes practical, evidence-based strategies to improve note-taking in the Omani GFP context. This research is significant beyond Oman as the growth of English medium and online learning increases the need for strong independent note-taking skills among L2 learners globally.

II. LITERATURE REVIEW

Note-taking during listening activities is grounded in cognitive psychology, information processing theory, and second language acquisition research. From a cognitive perspective, it serves two main functions: encoding and external storage. Piolat, Olive, and Kellogg (2005) identify three simultaneous processes—comprehending input, selecting relevant information, and producing written output. These processes compete for limited working memory resources and can exceed cognitive capacity, particularly for L2 learners whose linguistic processing is not fully automatized.

Working memory plays a central role in L2 listening and note-taking. Baddeley (2000) proposes that the phonological loop temporarily stores verbal input, while the central executive allocates attention and coordinates processing. L2 learners experience higher processing demands due to slower lexical access, less efficient syntactic parsing, and greater effort in phoneme discrimination. Consequently, learners often experience cognitive overload during note-taking, requiring them to compromise between comprehension and note-completeness.

The Noticing Hypothesis (Schmidt, 1990) and Input Processing Theory (VanPatten, 2004) provide further explanation. Schmidt argues that conscious attention is necessary for acquisition; however, note-taking may divert attention from form-meaning connections. VanPatten suggests learners prioritize meaning over form and process content words before grammatical features, influencing what is recorded in notes. From an SLA perspective, note-taking can also be viewed as "pushed output" (Swain, 1995), requiring learners to actively process and reformulate input under time pressure without opportunities for clarification.

Siegel (2018) highlights that note-taking is a complex, integrated skill involving listening, writing, and reading. Difficulties may therefore stem from multiple sources, including listening comprehension, written production, and the ability to shift between receptive and productive modes.

Cognitive overload remains a major challenge, particularly when learners must process rapid speech while simultaneously identifying key information and producing written notes. Fahmy and Bilton (1990) reported similar difficulties in managing competing cognitive demands. Learners frequently miss important information at native-speaker pace (Field, 2008; Goh, 2000), while Siegel (2018) attributes these difficulties to fast speech, limited short-term memory, unfamiliar accents, and segmentation issues. Kim (2012) found that lower-proficiency learners produce fewer notes and struggle to keep pace, with additional strain caused by L1–L2 translation.

Linguistic barriers affect note-taking at multiple levels. At the phonological level, learners struggle to recognize words in connected speech, particularly with reduced forms and unfamiliar accents, often resulting in inaccurate notes (Fahmy & Bilton, 1990). Lexical limitations further restrict performance, as learners may not recognize or retrieve vocabulary quickly enough. At the syntactic and discourse levels, students often struggle to distinguish main ideas from supporting details and to capture logical relationships in their notes. These challenges are amplified in academic contexts, where complex structures and specialized vocabulary are common (Malavska, 2017).

Strategic deficiencies are also significant. Many ESL/EFL learners lack explicit training in note-taking strategies and often rely on inefficient methods (Goh, 2000; Vandergrift & Goh, 2012). Fahmy and Bilton (1990) observed limited use of abbreviations, resulting in slower note production, while learners also experience difficulties with organization, identifying key information, and recognizing discourse markers. Limited metacognitive awareness may further constrain learners' ability to plan, monitor, and evaluate their note-taking effectively (Goh, 2000).

Affective factors also play a critical role. Anxiety, low confidence, and negative attitudes toward listening tasks can reduce cognitive efficiency. Anxious learners often focus excessively on decoding individual words rather than constructing meaning, which may negatively affect note organization and task performance (Goh, 2000; Vandergrift & Goh, 2012). In high-stakes academic settings, poor performance may further intensify anxiety.

Finally, native-speaker-like speech presents additional challenges. Rapid delivery and pronunciation variability often exceed L2 learners' processing capacity, reducing the time available for decoding and organizing information and increasing omissions in notes. Accent variability may further reduce word recognition and comprehension (Field, 2008; Siegel, 2018). Together, these factors highlight the complex interaction of cognitive, linguistic, and contextual demands in L2 note-taking.

III. METHODOLOGY

This study employs a mixed-methods research design combining quantitative and qualitative approaches to comprehensively investigate note-taking challenges among GFP students in Oman. The mixed-methods approach is justified by the complexity of the research problem, which requires both breadth (quantifying the prevalence and severity of specific challenges) and depth (understanding the nuanced experiences and perspectives of students and instructors).

3.1. Research Design

The research design consists of three phases:

- Phase 1: Quantitative Survey –Administration of structured questionnaires to GFP students and faculty to gather data on the frequency, types, and perceived severity of note-taking challenges, as well as current instructional practices and student strategy use.
- Phase 2: Qualitative Interviews – Semi-structured interviews with selected students and instructors to explore challenges in greater depth, understand contextual factors, and gather recommendations for intervention.
- Phase 3: Document Analysis – Collection and analysis of student note samples from authentic listening tasks to identify patterns in note quality, completeness, accuracy, and organization.

This sequential explanatory design allows quantitative findings to be elaborated and explained through qualitative data, providing a more complete understanding of the phenomenon than either approach alone could achieve.

3.2. Participants

Student participants: The target population consisted of students enrolled in General Foundation Program (GFP) courses at the National University of Science and Technology, Oman. Students were enrolled in core courses (English, Mathematics, and IT) during the academic year 2025-2026, representing diverse demographics : 70% female, 30% male, with ages ranging from 18 – 21.

Prior to data collection, an official email request was sent to the Head of the Department of English Language and Study Skills seeking permission to conduct the study and collect data from GFP students for research purposes. Permission was granted before the commencement of the study. Students were informed about the purpose and scope of the research project, and adequate instructions were provided before participation in surveys and interviews. Participation was voluntary, and students were assured that their responses would remain confidential and used solely for academic research purposes. Oral consent was obtained from participants prior to conducting interviews. Additionally, the note-taking activity was conducted as part of students' regular classroom sessions to ensure familiarity with the learning environment and minimize disruption to normal instructional practices.

A stratified random sample of approximately 150–200 students was selected from different proficiency levels (F1 and F2) within the foundation program to ensure adequate representation across the proficiency spectrum.

Faculty Participants: All instructors teaching English and integrated skills courses in the GFP (approximately 15–20 instructors) were invited to participate in the faculty survey. A purposive sample of 8–10 instructors with varied teaching experience and professional backgrounds was subsequently selected for follow-up interviews to provide a range of perspectives on students' note-taking challenges during L2 listening tasks.

Faculty participants were informed about the purpose of the study, and participation was entirely voluntary. Confidentiality and anonymity were ensured, and oral consent was obtained prior to participation in the survey and follow-up interviews.

IV. DATA COLLECTION

4.1. Quantitative Surveys

4.1.1. Student Questionnaire:

A quantitative survey consisting of 20 Likert-scale items was administered to all participating students via Google Forms. The 5-point scale (Strongly Disagree to Strongly Agree) was used to measure core dimensions of students' experiences with note-taking during listening tasks, including:

- Demographic information and English learning background
- Self-reported listening proficiency and note-taking confidence
- Frequency and types of note-taking challenges experienced (cognitive, linguistic, strategic, affective)
- Impact of specific speech features (rapid delivery, connected speech, accent variation)
- Current note-taking strategies and practices

All items were adapted from established instruments (Kim, 2012) and tailored to the Omani GFP context. Responses ranged from 1 (Strongly Agree) to 5 (Strongly Disagree). The survey was piloted with 15 students to refine wording and ensure reliability. Data collection was completed over 6 weeks to ensure maximum participation.

4.1.2. Faculty Questionnaire:

A parallel questionnaire for assessing instructors:

- Teaching experience and background
- Observations of student note-taking challenges
- Current instructional practices for teaching note-taking
- Perceived effectiveness of various interventions
- Barriers to implementing note-taking instruction
- Recommendations for curriculum and professional development

4.2. Qualitative Interviews

Interview Protocols: Semi-structured interviews were conducted with a purposive sample of 10 students and 5 faculty members using guided interview protocols designed to explore themes emerging from the questionnaire data in greater depth. Student interviews focused on specific challenges in note-taking during listening tasks, strategy use, and experiences with instructional practices. Faculty interviews explored pedagogical decision-making processes, observed student difficulties, and recommendations for improving note-taking instruction.

4.3. Note Sample Collection

Students were asked to provide note samples from two completed listening tasks:

- A controlled classroom listening activity using standardized audio materials, and
- Notes taken during an authentic lecture or presentation.

A total of approximately 180 student note samples were collected and analyzed using a rubric adapted from Fahmy and Bilton (1990), which assessed completeness, accuracy, organization, use of abbreviations, and inclusion of key information.

V. DATA ANALYSIS

5.1. Quantitative Analysis

The reliability of the student questionnaire was assessed using Cronbach's alpha to determine the internal consistency of the survey constructs. The results indicated good to very good reliability across all dimensions, with alpha values of 0.824 for cognitive challenges, 0.830 for linguistic challenges, 0.769 for strategic challenges, and 0.882 for affective challenges. These findings suggest that the questionnaire demonstrated acceptable internal consistency and was reliable for measuring students' perceived note-taking difficulties during L2 listening tasks.

5.2. Qualitative Analysis

Interview data were transcribed and analyzed using thematic analysis following Braun and Clarke's (2006) six-phase framework: familiarization with the data, initial coding, theme generation, theme review, theme definition, and final reporting. A combination of deductive coding (based on themes identified in the literature review) and inductive coding (emerging directly from the data) was applied.

5.3. Document Analysis

Note samples collected from students were analyzed using a structured rubric assessing multiple dimensions of note quality, including completeness, accuracy, organization, use of abbreviations, and inclusion of key information. To ensure reliability of the analysis, inter-rater reliability was established by having two independent raters code a randomly selected subset of the notes, with Cohen's kappa calculated to determine agreement levels.

Following reliability confirmation, the full dataset was analyzed to identify patterns in note quality. These patterns were examined in relation to students' proficiency levels and their self-reported challenges, allowing for comparisons across different learner groups and triangulation with questionnaire and interview findings.

5.4. Rationale for Methodological Choices

A mixed-methods design was adopted within a classroom-based action research framework to ensure a comprehensive investigation of note-taking challenges in L2 listening. Quantitative surveys provided measurable data on the prevalence and patterns of difficulties, while qualitative interviews offered deeper insight into the underlying cognitive, linguistic, and pedagogical factors. In addition, student note samples were analyzed as authentic classroom artefacts, allowing direct evidence of actual performance to complement self-reported data. The integration of these three methods strengthened triangulation, enhanced validity, and enabled a more accurate identification of note-taking challenges within a real instructional context, supporting both analysis and classroom-focused improvement.

VI. RESULTS

Findings from the completed survey and follow-up interviews indicated that note-taking during listening tasks was widely perceived as difficult across the GFP cohort. The results are summarized below.

6.1. Quantitative and Qualitative Findings

6.1.1. Cognitive Challenges

A large majority of students reported experiencing cognitive overload during note-taking tasks, particularly when processing rapid native-speaker input. Specifically, 82% agreed that they struggled to listen and write simultaneously, while 76% reported difficulty maintaining comprehension while taking notes. Lower-proficiency learners reported significantly higher levels of cognitive difficulty compared to intermediate and advanced students.

6.1.2 Linguistic Challenges

Linguistic barriers were also prominent. 71% of students reported difficulty recognizing words in rapid speech, while 68% indicated problems with unfamiliar accents. In addition, 74% reported that unknown vocabulary disrupted their ability to continue note-taking effectively. Many students also reported difficulty identifying main ideas due to fast speech and complex sentence structures.

6.1.3. Strategic Challenges

A substantial proportion of students (79%) reported that they had not received formal training in note-taking strategies. Relatedly:

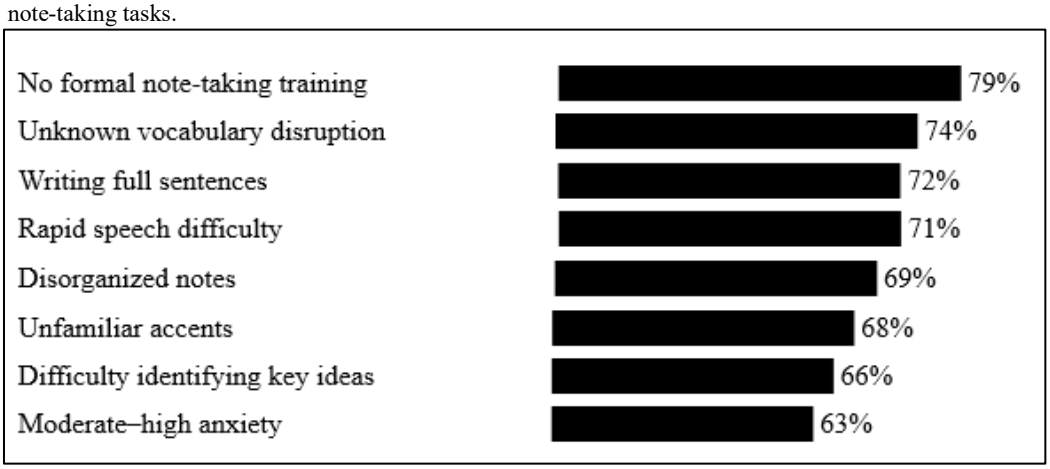
- 72% relied on writing full sentences rather than using abbreviations
- 69% reported disorganized notes
- 66% struggled to distinguish key ideas from supporting details

These findings indicate limited strategic competence in managing information during listening tasks.

6.1.4. Affective Challenges

Moderate to high levels of anxiety were reported by 63% of students. Anxiety was particularly associated with fast speech, unfamiliar accents, and missing information during listening tasks. Lower-proficiency students reported noticeably higher anxiety levels than their peers.

Table 1. Percentage of students reporting linguistic, strategic, and affective challenges during L2 listening note-taking tasks.



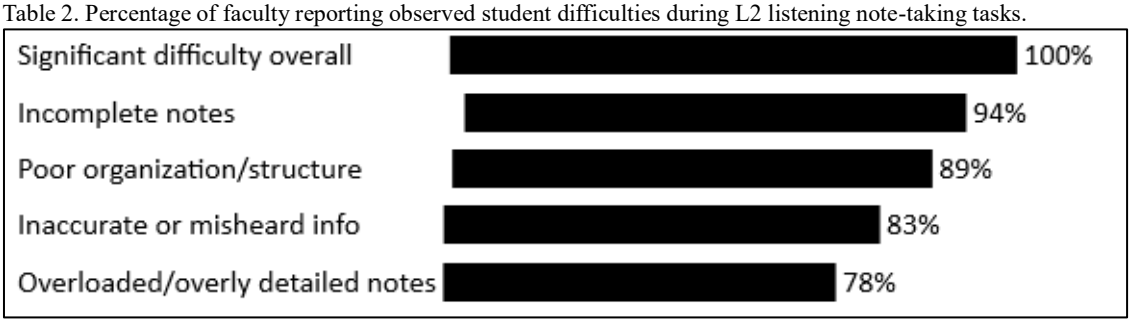
6.1.5. Faculty Perspectives on Note-Taking Difficulties

Data from faculty surveys and interviews confirmed and expanded upon student-reported findings.

6.1.6. Observed Challenges

All faculty participants (100%) reported that students experience significant difficulty with note-taking during listening tasks. The most frequently observed issues included:

Table 2. Percentage of faculty reporting observed student difficulties during L2 listening note-taking tasks.



- Incomplete notes (94%)
- Poor organization and lack of structure (89%)
- Inaccurate or misheard information (83%)
- Overloaded or overly detailed notes in some cases (78%)

Faculty consistently noted that difficulties were more because of fast speech, authentic audio materials, and exposure to unfamiliar accents.

6.1.7. Instructional Practices

Findings indicated variation in instructional approaches. While 56% of instructors reported occasionally providing explicit note-taking guidance, systematic instruction was limited. Common practices included:

- Occasional strategy tips (61%)
- Provision of partial notes or handouts (44%)
- Review of sample/model notes (39%)
- Use of recorded materials for repetition (33%)

However, only 28% reported structured or continuous instruction in note-taking strategies.

6.1.8. Perceived Barrier

Faculty identified several constraints to effective instruction:

- Limited classroom time (83%)
- Large class sizes (72%)
- Lack of formal training in note-taking pedagogy (67%)
- Curriculum pressure and coverage demands (61%)

6.1.9. Recommendations

Faculty strongly supported the integration of structured interventions. Key recommendations included:

- Embedding explicit note-taking strategy instruction (92%)
- Increasing exposure to authentic listening materials (88%)
- Providing pre-listening scaffolding activities (85%)
- Developing metacognitive awareness training (79%)
- Offering systematic practice with feedback (74%)

VII. ANALYSIS OF STUDENT NOTE SAMPLES

A total of approximately 180 student note samples collected from controlled and authentic listening tasks were analyzed using a structured rubric adapted from Fahmy and Bilton (1990). The findings are presented below.

7.1. Note Completeness

Analysis revealed that students captured, on average, 45–62% of key information units across listening passages. Completeness varied systematically across conditions. Higher proficiency students produced more complete notes, while lower proficiency learners frequently omitted key ideas. Task-related variables also had a clear impact: faster speech rates, unfamiliar topics, and non-native or unfamiliar accents were all associated with reduced note-completeness.

7.2. Note Accuracy

Overall accuracy of recorded information was moderate, with approximately 63–74% of captured content being accurate. Common errors included mishearing of key terms, incorrect spelling of technical vocabulary, and inaccurate recording of numerical data such as dates and figures. In several cases, students also misrepresented relationships between ideas, suggesting partial misunderstanding of the input rather than isolated transcription errors.

7.3. Note Organization

The majority of student notes demonstrated weak organizational structure. Most samples relied on linear lists or paragraph-style writing with minimal visual or structural differentiation. Limited use was observed in:

- Hierarchical structuring (headings, subheadings, indentation)
- Visual mapping tools (arrows, diagrams, concept mapping)
- Emphasis techniques (highlighting, underlining, numbering systems)
- Abbreviations and symbolic representations

This suggests that students generally lack systematic frameworks for organizing information during real-time listening.

7.4. Strategy Use

Evidence of advanced note-taking strategies was limited. Most students relied on basic, non-strategic approaches such as attempting to write as much as possible, using full sentences, and minimal abbreviation. Structured approaches such as the Cornell method, systematic shorthand, or mind mapping were rarely observed and appeared to be absent without prior explicit instruction.

7.5. Interpretation of Findings

A clear positive relationship was observed between note quality and listening performance. Students with more complete, accurate, and organized notes tended to perform better on comprehension-related tasks and reported higher levels of confidence. Conversely, weaker note quality was associated with lower comprehension scores and reduced self-efficacy in listening tasks. These findings reinforce the functional role of effective note-taking in supporting L2 listening comprehension and academic performance.

VIII. DISCUSSION

The findings provide a clear and coherent account of the multifaceted challenges GFP students in Oman face when taking notes during L2 listening tasks. These challenges are interconnected and cumulative, creating substantial barriers to effective comprehension and academic performance.

A central issue is cognitive overload. A large proportion of students reported difficulty managing simultaneous listening and writing due to competing demands on working memory, including decoding, processing, and written production. As lower-level processes are not fully automatized, students struggle to allocate attention to higher-order skills such as selecting and organizing information. Their tendency to prioritise comprehension over note-taking aligns with cognitive load theory.

Linguistic factors further intensify these difficulties. Students reported challenges with rapid speech, connected speech, and unfamiliar accents, all of which disrupt speech segmentation and limit access to meaning. Limited exposure to authentic input and accent variation reduces learners' adaptability, indicating a need for systematic phonological training and exposure.

Strategic deficiencies were also evident. Many students lacked formal training and relied on inefficient strategies such as verbatim transcription and weak organization, reflecting a clear instructional gap. Affective factors, particularly anxiety and low confidence, further impaired performance.

Faculty perspectives confirmed these findings, while also highlighting inconsistent instructional practices and constraints such as limited time and insufficient training.

The study has notable strengths, including its mixed-methods design, triangulation of data sources, and use of authentic student note samples, which enhance validity and practical relevance. However, limitations include its single-institution context, restricted sample, reliance on self-reported data, and some subjectivity in qualitative analysis. Despite these, the study offers robust, contextually grounded insights for targeted pedagogical intervention.

8.1. Implications for GFP Instruction in Oman

The findings suggest clear, practical implications for both teachers and students to improve note-taking performance in L2 listening contexts. For teachers, note-taking should be explicitly taught as an academic skill rather than assumed. This involves systematic instruction in structured strategies such as abbreviations, the Cornell method, and effective organization techniques, along with consistent modelling of good practice. Teachers should provide scaffolded listening tasks with gradually increasing difficulty, integrate pre-listening support to reduce cognitive load, and give regular feedback focused on both the quality and effectiveness of students' notes. Exposure to authentic listening materials with varied accents and speech rates should also be carefully sequenced to build learner competence. At the same time, students need to adopt a more strategic approach by moving away from verbatim transcription towards selective recording of key ideas, using abbreviations and symbols, and developing clear personal note structures. They should actively engage in pre-listening preparation, monitor their understanding during listening, and review and refine their notes afterwards. Developing metacognitive awareness—understanding which strategies are effective and why—is essential. Overall, improvement requires a coordinated effort where teachers provide structured guidance and students take responsibility for applying and refining effective note-taking strategies

IX. CONCLUSION

This classroom-based action research examined barriers to effective note-taking during listening tasks among GFP students in Oman, confirming that the issue is both systemic and multifactorial. The findings show that L2 note-taking is a cognitively demanding process requiring simultaneous listening, processing, selection, and writing under real-time constraints. For many learners, these demands exceed available processing capacity, especially when exposed to authentic input with rapid delivery, connected speech, and accent variability.

Four interrelated domains of difficulty were identified: cognitive overload, linguistic barriers, lack of strategic competence, and affective constraints. Students struggled to balance comprehension and note production, resulting in incomplete and poorly organized notes. Linguistic difficulties in decoding natural speech limited access to meaning, while the absence of explicit strategy instruction led to inefficient practices. Anxiety and low confidence further reduced performance and reinforced negative learning cycles.

The convergence of student data, faculty perspectives, and note sample analysis strengthens the validity of these findings and highlights a clear gap: note-taking is not systematically developed within the GFP context despite its importance for academic success.

The study also identifies practical solutions. Improvement requires explicit instruction in note-taking strategies, supported by modelling, guided practice, scaffolded exposure to authentic listening, and metacognitive training. Addressing affective factors is equally important.

At the institutional level, impact depends on curriculum alignment, faculty development, and resource support. Note-taking should be treated as a core academic skill. Despite the challenges, the findings show they are pedagogically addressable and provide a strong foundation for targeted instructional improvement.

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