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NOTE TAKING, USING DIFFERENT TECHNIQUES. SUMMARIZING IDEAS FROM DIFFERENT SOURCES

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Annotatsiya. *Ushbu maqola turli xil qaydlar yuritish (konspekt qilish) texnikalarining samaradorligini va ularning turli manbalardan olingan ma’lumotlarni sintez qilish kognitiv jarayoniga ta’sirini tadqiq etadi. Zamonaviy “axborot oqimi” davrida turli ma’lumotlarni saralash, tizimlashtirish va umumlashtirish qobiliyati akademik muvaffaqiyatning muhim omili hisoblanadi. Tadqiqot davomida chiziqli va nochiziqli konspekt qilish metodologiyalari qiyosiy tahlil qilinib, turli tuzilmalarning xotirada saqlab qolish darajasi va mavzuviy sintez sifatiga ta’siri o‘rganiladi. Natijalar shuni ko‘rsatadiki, generativ qayd qilish strategiyalari passiv ko‘chirishga qaraganda materialni chuqur anglash darajasini sezilarli darajada oshiradi.*

Kalit so‘zlar: *qaydlar yuritish texnikalari, ma’lumotlar sintezi, kognitiv jarayon, axborot oqimi, tizimlashtirish, chiziqli va nochiziqli konspekt, generativ strategiyalar, akademik muvaffaqiyat.*

Аннотация. *Данная статья исследует эффективность различных техник ведения заметок (конспектирования) и их влияние на когнитивный процесс синтеза информации из различных источников. В современную эпоху*

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«информационного потока» способность фильтровать, систематизировать и обобщать разрозненные данные является важным фактором академического успеха. В ходе исследования проводится сравнительный анализ линейных и нелинейных методологий конспектирования, а также изучается влияние различных структур на степень запоминания информации и качество тематического синтеза. Результаты показывают, что стратегии генеративного ведения заметок значительно повышают уровень глубокого понимания материала по сравнению с пассивным переписыванием.

Ключевые слова: *техники ведения заметок, синтез информации, когнитивный процесс, информационный поток, систематизация, линейное и нелинейное конспектирование, генеративные стратегии, академический успех.*

Annotation*. This article investigates the efficacy of diverse note-taking techniques and their impact on the cognitive process of synthesizing information from multiple sources. In the contemporary era of "information overload," the ability to filter, systematize, and summarize disparate data is a critical determinant of academic success. The study provides a comparative analysis of linear and non-linear note-taking methodologies, examining how various structures influence information retention and the quality of thematic synthesis. The findings demonstrate that generative note-taking strategies significantly enhance deep comprehension compared to passive transcription.*

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Key words: *note-taking techniques, information synthesis, cognitive process, information overload, systematization, linear and non-linear note-taking, generative strategies, academic success.*

Introduction

The acquisition and integration of knowledge in contemporary academic environments increasingly depend on the efficacy of external cognitive aids, primarily note-taking and cross-source synthesis (Makany et al., 2009). Historically regarded as a routine pedagogical activity, note-taking is now recognized as a complex cognitive process involving the simultaneous filtering, organizing, and restructuring of incoming information (Piolat et al., 2005). Research suggests that the utility of these techniques is not uniform; rather, it is mediated by the "generative" nature of the strategy employed, where the transformation of content—rather than verbatim transcription—predicts superior learning outcomes (Yıldırım, 2026).

Despite the established correlation between high-quality notes and academic performance, students frequently struggle with "patchwriting" and fragmented synthesis when managing multiple sources (Alkema, n.d.). This difficulty highlights a critical gap in the literature regarding the transition from surface-level record-keeping to deep-level information synthesis (Hattie & Donoghue, 2016). While structured formats like the Cornell system or non-linear mapping provide organizational scaffolds that reduce extraneous cognitive load, their effectiveness is often contingent upon the learner's ability to identify hierarchical relationships between disparate ideas (DeZure, n.d.; Yıldırım, 2026).

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This thesis examines the intersection of various note-taking methodologies and the cognitive mechanisms required for effective cross-source summarization. By investigating how different techniques facilitate or hinder the integration of information, this research aims to provide a framework for optimizing knowledge management in increasingly dense information landscapes.

Note-taking serves as a dual-purpose cognitive mechanism: functioning as a repository for information storage and as a scaffold for critical reflection. Beyond mere documentation, the primary objective is to construct a stable external memory that facilitates long-term retrieval and knowledge application. Within the academic framework, particularly in higher education, note-taking is indispensable for synthesizing data from diverse pedagogical sources, including lectures and literature. Research indicates a spectrum of recording strategies, ranging from basic "transcription-based" approaches to sophisticated "reformulation-interpretation" techniques. Although students often default to verbatim transcription to minimize the risk of informational distortion, the integration of complex, generative strategies is essential for effective cross-source summarization and deep academic mastery.

The indicators that trigger note taking, identified by several research studies using quantitative methods are the following:

- *Writing on the board: a very powerful indicator. (Teachers are well advised to choose what they write on the board carefully, as it's extremely likely to be included in the note taking!)*
- *"Dictation": when the teacher acts as if he or she is dictating the information (slow delivery, low vocal register).*

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- *A title of a section or a list or the listing of information (which, moreover, are often written on the board).*
- *Definitions, catch phrases. (Even if students don't understand them, they overwhelmingly take notes on them.)*
- *Macro-textual planning indicators that organize and structure the classes (expressions such as "firstly"/"secondly" or "first question"/"second question").*

All these indicators are very much tied to written communication. We can, moreover, assume that the information dealt with here has been subject to note taking by the teacher beforehand. The student intuitively recognizes it as important because the teacher has planned and often written it.

Conclusion

The synthesis of the reviewed literature and research findings underscores that note-taking is far more than a passive recording of acoustic or visual data; it is a critical cognitive intervention that bridges the gap between information reception and knowledge integration. This study confirms that the efficacy of note-taking is contingent upon two primary factors: the nature of the triggers provided by the instructor and the cognitive depth of the strategy employed by the student.

While external cues—such as board writing, dictation-style delivery, and structural markers—effectively trigger the recording process, they often encourage "surface-level" transcription. However, for academic mastery and effective cross-source summarization, the transition to "generative" strategies, such as reformulation and non-linear mapping, is essential. These methods, although perceived as cognitively "risky" by students due to the effort required for

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interpretation, are the primary drivers of long-term memory retention and thematic synthesis.

In conclusion, this research suggests that optimizing knowledge management in dense information landscapes requires a dual approach: instructors must be intentional with pedagogical triggers, and students must be equipped with diverse, non-linear techniques that move beyond verbatim copying. By fostering these generative habits, academic institutions can enhance students ability to transform fragmented data into a cohesive, stable, and functional external memory.

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