

A Microethnographic Examination of Cognitive Load Management in Flipped Classrooms among High School Educators

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Abstract. This study investigates the strategies employed by high school educators to manage cognitive load in flipped classroom environments. Using a microethnographic approach, data were collected through observational studies and semi-structured interviews with twenty educators across diverse socio-economic settings. Results highlight the critical role of adaptive teaching techniques in mitigating cognitive overload, thereby enhancing student engagement and learning outcomes. Recommendations for integrating cognitive load theory into pedagogical practices are provided.

Keywords: microethnographic study, cognitive load management, flipped classrooms, secondary education, adaptive teaching techniques, educational outcomes, cognitive overload, pedagogical strategies

Introduction

In the rapidly evolving landscape of education, the flipped classroom model has emerged as a transformative pedagogical approach, particularly in secondary education. This instructional strategy, which inverts traditional teaching methods by delivering instructional content outside of classroom settings and engaging students in interactive activities during class, offers significant promise in addressing diverse learning needs. However, one significant challenge associated with this paradigm shift is the management of cognitive

load for both educators and students. The effective management of cognitive load is crucial to optimizing educational outcomes and ensuring that the cognitive demands placed on students do not impede learning processes.

Current literature on cognitive load theory elucidates the need for educators to strategically design instructional materials that align with learners' cognitive capacities. Despite this understanding, there is a paucity of empirical research examining how educators adapt their teaching methodologies within flipped classrooms to effectively manage cognitive overload. This gap underscores the necessity of our research, which aims to explore cognitive load management strategies employed by high school educators in real-world settings.

This article is structured as follows: First, we detail the theoretical framework underpinning our study, followed by a description of the microethnographic methodology employed. We then present and analyze our findings, highlighting key strategies and their implications for educational practice. Finally, we provide recommendations for policy and practice based on our results.

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References

1. Zeynalova, N. (2018). The training methods for the development of the creativity of High School students. *Azerbaijan Journal of Educational Studies*, (2), 41-50.