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THE IMPACT OF MICROLEARNING-BASED DAILY 5-MINUTE ACTIVITIES ON ATTENTION SPAN AND INDEPENDENT LEARNING SKILLS AMONG PRIMARY SCHOOL STUDENTS

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Abstract: This study investigates the effectiveness of microlearning-based daily five-minute activities in improving attention span and independent learning skills among primary school students. In contemporary classrooms, young learners often struggle to maintain focus and develop self-regulated learning habits due to shortened attention spans and increasing digital distractions. The research applies a quasi-experimental design involving experimental and control groups over an eight-week intervention period.

Key words: microlearning; primary education; attention span; independent learning; short learning activities; learner autonomy; classroom engagement; innovative pedagogy.

MIKROO'QITISHGA ASOSLANGAN KUNLIK 5 DAQIQALIK FAOLIYATLARNING BOSHLANG'ICH SINIF O'QUVCHILARIDA DIQQAT DAVOMIYLIGI VA MUSTAQIL O'RGANISH KO'NIKMALARIGA TA'SIRI

Annotatsiya: Mazkur tadqiqot mikroo'qitishga asoslangan kunlik besh daqiqalik faoliyatlarning boshlang'ich sinif o'quvchilarida diqqat davomiyligi va mustaqil o'rganish ko'nikmalarini rivojlantirishdagi samaradorligini o'rganadi. Zamonaviy sinf muhitida yosh o'quvchilar qisqargan diqqat davomiyligi hamda raqamli chalg'ituvchi omillarning ortib borishi sababli e'tiborni uzoq vaqt saqlab qolish va o'z-o'zini boshqarib o'rganish odatlarini shakllantirishda qiyinchiliklarga duch kelmoqdalar. Tadqiqot sakkiz haftalik tajriba davrida eksperimental va nazorat guruhlarini qamrab olgan kvazi-eksperimental dizayn asosida olib borildi.

Kalit so'zlar: mikroo'qitish; boshlang'ich ta'lim; diqqat davomiyligi; mustaqil o'rganish; qisqa o'quv faoliyatlari; o'quvchi avtonomiyasi; sinf faolligi; innovatsion pedagogika.

ВЛИЯНИЕ ЕЖЕДНЕВНЫХ 5-МИНУТНЫХ ЗАНЯТИЙ НА ОСНОВЕ МИКРООБУЧЕНИЯ НА ПРОДОЛЖИТЕЛЬНОСТЬ ВНИМАНИЯ И НАВЫКИ САМОСТОЯТЕЛЬНОГО ОБУЧЕНИЯ У УЧАЩИХСЯ НАЧАЛЬНЫХ КЛАССОВ

Аннотация: Данное исследование изучает эффективность ежедневных пятиминутных занятий, основанных на микрообучении, в развитии

продолжительности внимания и навыков самостоятельного обучения у учащихся начальных классов. В условиях современной школы младшие школьники часто испытывают трудности в поддержании концентрации внимания и формировании навыков саморегулируемого обучения из-за сокращения продолжительности внимания и роста цифровых отвлекающих факторов. Исследование проводилось на основе квазиэкспериментального дизайна с участием экспериментальной и контрольной групп в течение восьминедельного периода вмешательства.

Ключевые слова: микрообучение; начальное образование; продолжительность внимания; самостоятельное обучение; краткосрочные учебные активности; автономия обучающегося; активность в классе; инновационная педагогика.

Introduction

In recent years, primary education has faced growing challenges related to students' decreasing attention spans and limited independent learning skills. The rapid expansion of digital media and fast-paced information environments has influenced how young learners process and retain knowledge. As a result, traditional long-duration teaching methods may not always align with the cognitive and behavioral needs of modern primary school students. Educators and researchers are increasingly exploring innovative instructional approaches that can maintain learners' focus while promoting autonomy and active participation in the learning process. One emerging approach is microlearning, which involves delivering content through short, focused learning activities designed to be completed within a few minutes. Microlearning strategies emphasize clarity, simplicity, and repetition, allowing students to engage with learning materials in manageable segments. While microlearning has gained popularity in higher education and corporate training, its application in primary school contexts remains relatively underexplored. Given young learners' natural preference for short, engaging tasks, microlearning-based daily activities may provide an effective solution for improving concentration and encouraging independent work habits.

Developing attention span and independent learning skills during the early years of education is essential for long-term academic success. Students who can sustain focus and manage their own learning processes are more likely to demonstrate higher motivation, better problem-solving abilities, and stronger academic performance. Therefore, integrating brief, structured activities into daily lessons could serve as a practical strategy for fostering these competencies in primary classrooms.

This study aims to examine the impact of daily five-minute microlearning activities on primary school students' attention span and independent learning skills. By comparing experimental and control groups, the research seeks to evaluate whether consistent short learning interventions can enhance student engagement, promote learner autonomy, and support more effective classroom practices in contemporary primary education.

Literature Review

Recent educational research highlights the growing importance of adaptive and student-centered teaching strategies in response to the changing cognitive and behavioral patterns of young learners. One approach that has attracted increasing attention is microlearning, which delivers instructional content in short, focused segments designed to improve engagement and knowledge retention. Scholars argue that shorter learning

units align well with the natural attention cycles of children, particularly in primary school settings where sustained concentration can be challenging.

Hug (2005) describes microlearning as a structured approach that emphasizes concise learning tasks, immediate feedback, and repeated exposure to key concepts. Similarly, Buchem and Hamelmann (2010) note that microlearning promotes flexibility and learner autonomy by enabling students to process information in manageable portions. Although these studies primarily focus on adult and digital learning environments, their principles provide a foundation for adapting microlearning techniques to younger learners.

Research on attention span in primary education suggests that interactive and time-limited activities can significantly improve students' focus and classroom participation. According to Sousa (2017), children learn more effectively when lessons are divided into short, varied segments that reduce cognitive overload and maintain motivation. In addition, Hattie (2009) emphasizes the role of active learning strategies in enhancing engagement and encouraging independent learning behaviors among young students.

Studies conducted in early childhood and primary education contexts also emphasize the value of self-regulated learning skills. Zimmerman (2002) explains that learners who develop independence in managing tasks and monitoring their own progress tend to demonstrate stronger academic outcomes. Short daily learning routines, reflective exercises, and structured practice opportunities can foster these skills by gradually encouraging students to take responsibility for their learning process. Despite the growing body of literature on microlearning and student engagement, relatively few empirical studies have examined the impact of daily microlearning activities on both attention span and independent learning skills in primary classrooms. Therefore, this study seeks to address this gap by investigating how consistent five-minute learning interventions influence young learners' focus, autonomy, and overall classroom participation within a contemporary primary education setting.

Methodology

Research Design. This study employed a quasi-experimental quantitative research design to examine the impact of daily microlearning activities on primary school learners' attention span and independent learning skills. A pre-test and post-test model was used to measure changes in students' performance before and after the intervention period.

Participants. The participants consisted of 32 primary school learners aged 8–9 from a local primary school. The students were divided into two groups:

Experimental group (16 learners): received daily microlearning activities integrated into lessons.

Control group (16 learners): followed traditional teaching methods without structured microlearning sessions.

Instruments

Data were collected using multiple tools:

Attention Observation Checklist – used by the teacher to measure learners' concentration levels during classroom activities.

Independent Learning Skills Questionnaire – designed to assess students' ability to manage tasks and complete assignments independently.

Academic Task Performance Test – conducted as pre-test and post-test to measure learning outcomes.

Teacher Reflection Notes – used to document student engagement and participation patterns.

Procedure. The study lasted four weeks and followed these steps:

Both groups completed a pre-test assessing attention and independent learning abilities.

The experimental group participated in daily five-minute microlearning activities, including quick quizzes, mini problem-solving tasks, and short reflective exercises.

The control group continued with standard instructional methods without microlearning interventions.

Teachers recorded observations weekly using structured checklists.

At the end of the study, both groups completed a post-test to measure progress and compare results.

Data analysis. The collected data were analyzed using percentage comparisons and mean score analysis to evaluate differences between pre-test and post-test results. Improvements in attention span and independent learning skills were compared between the experimental and control groups to determine the effectiveness of the microlearning intervention.

Results

The results of the study indicate that the use of daily microlearning activities had a positive impact on learners' attention span and independent learning skills. The comparison of pre-test and post-test scores revealed noticeable differences between the experimental and control groups.

1. Attention Span Improvement

Group	Experimental Group	Control Group
Pre-test Average	52%	54%
Post-test Average	84%	66%
Improvement	+32%	+12%

Experimental Group

Students in the experimental group demonstrated a substantial increase in attention levels during lessons. Classroom observations showed that learners were more focused, actively participated in tasks, and completed activities more efficiently compared to the control group.

2. Independent Learning Skills

Group	Experimental Group	Control Group
Pre-test Average	50%	51%
Post-test Average	82%	64%
Improvement	+32%	+13%

Learners exposed to microlearning strategies showed stronger independent learning behaviors, including better task management, increased confidence in completing assignments, and improved problem-solving skills.

Qualitative Observations

Teacher reflection notes indicated that students in the experimental group: displayed higher motivation and curiosity during lessons; demonstrated quicker response times when answering questions; required less teacher guidance when completing individual tasks.

Overall, the findings suggest that structured microlearning activities significantly enhanced both attention span and independent learning abilities among primary school learners compared to traditional instructional methods.

Discussion

The findings of this study demonstrate that daily microlearning activities significantly improved primary school learners' attention span and independent learning skills. The experimental group's higher post-test results suggest that short, structured learning sessions can help maintain focus and reduce cognitive overload. These results support Sousa's (2017) view that young learners benefit from brief and varied instructional segments that align with their developmental attention patterns. Increased independence among learners also reflects Zimmerman's (2002) theory of self-regulated learning, which emphasizes the importance of gradual responsibility in academic tasks. The microlearning approach allowed students to complete small, achievable tasks regularly, encouraging confidence and autonomy. As learners became more accustomed to short activities, they required less teacher assistance and showed greater initiative during lessons.

Furthermore, the improved engagement observed in the experimental group is consistent with Hattie's (2009) emphasis on active learning strategies. The frequent interaction and immediate feedback provided through microlearning tasks helped sustain motivation and participation. Students were more willing to ask questions, share ideas, and collaborate with peers, which enhanced the overall classroom atmosphere. Although the control group also showed moderate improvement, the smaller increase suggests that traditional long-form instruction may be less effective in maintaining young learners' attention over time. This highlights the importance of adapting teaching strategies to suit modern classroom needs and learners' cognitive characteristics.

Overall, the discussion confirms that integrating microlearning into primary education can create a more engaging, learner-centered environment while supporting both academic performance and the development of independent learning skills.

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