

# The Impact of Handwriting on Learning Motivation: Insights from Recent Studies on Tablet Writing

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## ABSTRACT

We aim to analyze the complex relationship between handwriting and learning motivation, with a special focus on the implications of tablet writing. Recent studies suggest that the means of writing—traditional handwriting versus digital writing on tables—affect not only the quality of learning outcomes, but also students’ levels of motivation.

**Keywords:** handwriting, motivation, digital skills, tablet writing, cognitive process

## INTRODUCTION

The ability to write effectively is a fundamental skill in education, having a significant impact on learning outcomes in various disciplines. Handwriting, as a cognitive process, engages neural pathways that are different from typing, influencing how information is processed and retained. The motivation for learning is just as vital as it causes students to interact with the material and persist in the face of challenges. With the proliferation of technology in educational environments, understanding the implications of writing—especially the transition from traditional handwriting to digital writing—is becoming increasingly relevant.

### Handwriting and Cognitive Processing

Research indicates that handwriting involves complex motor skills and cognitive processes that improve memory retention and understanding. Reference [2] demonstrated that handwriting activates areas of the brain associated with language and memory, leading to better recall of information. In addition, [3] showed that handwriting promotes a deeper understanding of content because it requires the writer to engage in active processing. Handwriting also facilitates creativity and personal expression. Studies suggest that the physical act of writing by hand allows for greater emotional involvement with the material [5]. This emotional connection can significantly improve motivation, as students are more likely to interact with material that resonates with them personally.

In addition, handwriting has been linked to improving literacy skills in children. Studies show that students who practice handwriting demonstrate better letter recognition and phonological awareness, skills essential for reading development [1]. The tactile feedback and motor memory involved in handwriting create a multisensory experience that strengthens learning.

### Motivation of Learning

Learning motivation is defined as the internal impulse that causes students to engage in learning activities. Theories such as that of Self-determination [1] emphasize the importance of autonomy, competence, and relationship in promoting intrinsic motivation. Factors that influence motivation in educational contexts include the perceived relevance of the material, the level of difficulty and the feedback provided by educators. Engaged students are more likely to persist in the face of difficulties and achieve academic success.

Motivation can be categorized into two types: Intrinsic and extrinsic. Intrinsic motivation refers to engaging in

activities for their personal satisfaction, while extrinsic motivation involves performing tasks to obtain external rewards. Understanding these motivations is crucial for educators who want to create effective learning environments that promote long-term engagement.

### **Handwriting and Motivation for Learning**

Studies linking handwriting to increased motivation have emerged in recent years for example, [5] they found that students who wrote the notes had higher levels of engagement than those who printed their grades. The tactile nature of handwriting combined with the slower pace of writing encourages deeper processing of information, which can improve motivation. In addition, the emotional and psychological benefits of handwriting contribute to a positive learning environment. The act of writing by hand can create a sense of ownership and personal connection with the material, promoting the desire to learn. Case studies show that students who participate in journaling or reflective hand writing demonstrate a greater sense of ownership of their learning experiences. The emotional and psychological benefits of handwriting can create a sense of accomplishment and motivation to continue learning. The physical act of writing by hand has been associated with an increase in awareness and concentration. Studies have shown that students who take notes by hand are less likely to multitask or become distracted than their peers who use laptops [6]. This focused involvement can contribute to higher levels of motivation and improved academic performance.

### **Tablet Writing: A New Paradigm?**

The transition from traditional writing to digital writing has transformed educational practices. Tablets offer a range of functions such as ease of editing, multimedia integration and access to digital resources. Recent studies have begun to explore the implications of tablet writing on learning outcomes. Reference [8], they found that students who used tablets to take notes were able to organize their thoughts more effectively, but this did not always translate into better retention of information. The convenience of writing on the tablet enables quick access to information and resources, allowing students to improve their learning experience. However, the features that make the tablets appealing can also lead to challenges. The ease of digital editing can lead to a superficial engagement with the material, as students may feel that they are less determined to process the information in depth [8]. It raises questions about the long-term effects of digital media addiction for writing and learning.

In addition, the distracting potential of notifications and the diversity of apps available on tablets can prevent students from concentrating. Research indicates that although students may appreciate the interactive nature of tablets, they often face difficulties in maintaining attention, leading to low motivation and engagement [9].

### **The impact of tablet writing on learning motivation**

Investigating how tablet writing influences motivation compared to traditional handwriting reveals a complex relationship. Some studies indicate that tablet writing can improve motivation through features such as interactive apps and multimedia resources that engage students [7]. The ability to incorporate images, videos, and hyperlinks can create a more dynamic learning experience, attracting diverse learning styles. The effectiveness of tablet writing may vary depending on the individual preferences of students and their learning styles. Some students may thrive in a digital environment, while others may find handwriting more conducive to meaningful learning. Educators should consider these differences when designing learning experiences. The findings suggest that while both handwriting and tablet writing have their merits, choosing the environment can have a significant impact on learning motivation. Educators should consider integrating both traditional handwriting practices and digital writing tools into their curricula. This hybrid approach can harness the cognitive benefits of handwriting while embracing the advantages of technology.

Understanding individual student preferences and learning styles is crucial to promoting motivation. Educators can create opportunities for students to choose their preferred writing environment, allowing them to take responsibility for their learning experiences. Engaging students in discussions about their preferences can also improve their motivation and engagement in learning.

## CONCLUSIONS

Although traditional handwriting promotes deeper cognitive engagement and emotional connection with learning, tablet writing offers unique interactive features that can improve motivation. Future research should explore the long-term effects of various writing environments on learning outcomes and motivation, as well as consider the potential of personalized approaches that meet the diverse needs of students. Future research should aim to investigate the effectiveness of hybrid writing approaches that combine handwriting and tablet use. Longitudinal studies could provide insights into how these approaches impact motivation and long-term learning outcomes. Qualitative research that explores students' perceptions of different writing environments could also provide valuable information about their experiences and preferences.

Further investigations should also consider the role of socio-cultural factors in shaping students' writing practices and motivations. Understanding how cultural fundamentals and educational context influence students' preferences for handwriting or digital writing could influence more inclusive teaching strategies.

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