

Designing Technology-Driven Homeschool

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Abstract

This literature review, examines the role of digital technologies in homeschooling, highlighting how **self-directed learning (SDL)** enhances digital competence and information literacy among homeschooled children. Findings shows that SDL is often instinctive for these students, unlike in traditional educational settings.

The review discusses how high-quality online resources and **flipped learning** environments support effective homeschooling. It also explores **motivation in unschooling**, focusing on transformative experiences and self-efficacy. Additionally, **personalized teaching** methods and collaboration in STEM education are emphasized.

The review concludes by stressing on the NETP 2024; The Digital Design Divide, addressing opportunities for parents to expand their professional learning and build the capacities necessary to design learning experiences enabled by technology.

Research Question

How does the use of technology in homeschool settings affect student engagement, motivation and academic achievement?

Equity Issue and Purpose Statement

This presentation focuses on the **digital design divide** which is between and within those systems that provide every educator the time and support they need to build their capacities to design learning experiences with digital tools, and those that do not.

The purpose of this study is to examine how technology use in homeschool settings influences student engagement, motivation, and academic achievement. By analyzing the benefits of self-directed learning (SDL) with digital technologies among homeschooled children, highlighting how their regular engagement with digital tools enhances their digital skills and information literacy.

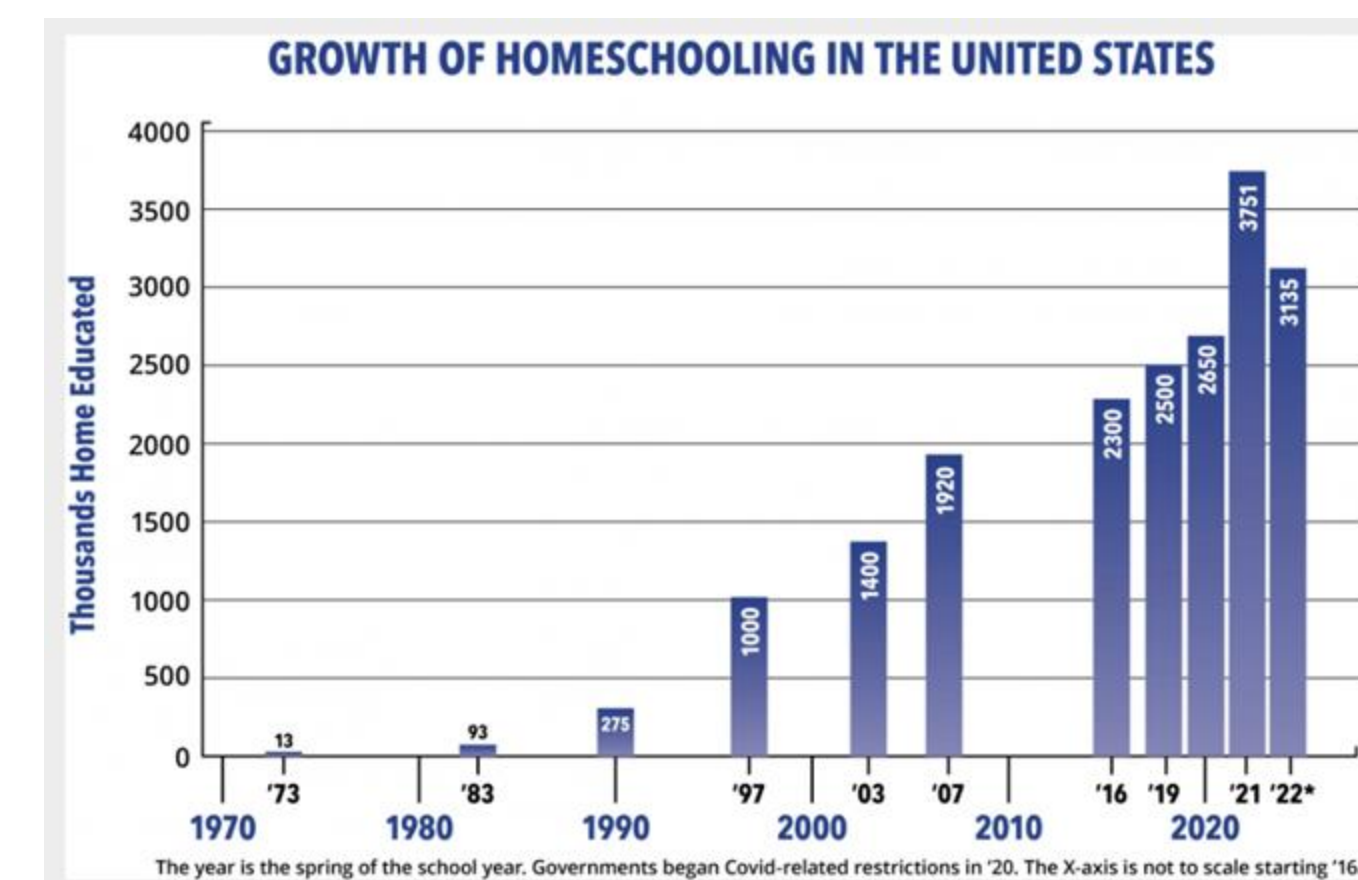
The research emphasizes the role of parents in tailoring education to fit their children's needs to thrive in a personalized learning environment that encourages responsibility and collaboration. With the growing homeschool population and the dependency on technology, it has also addressed the limitations of the research and the emerging opportunities.

Literature Review

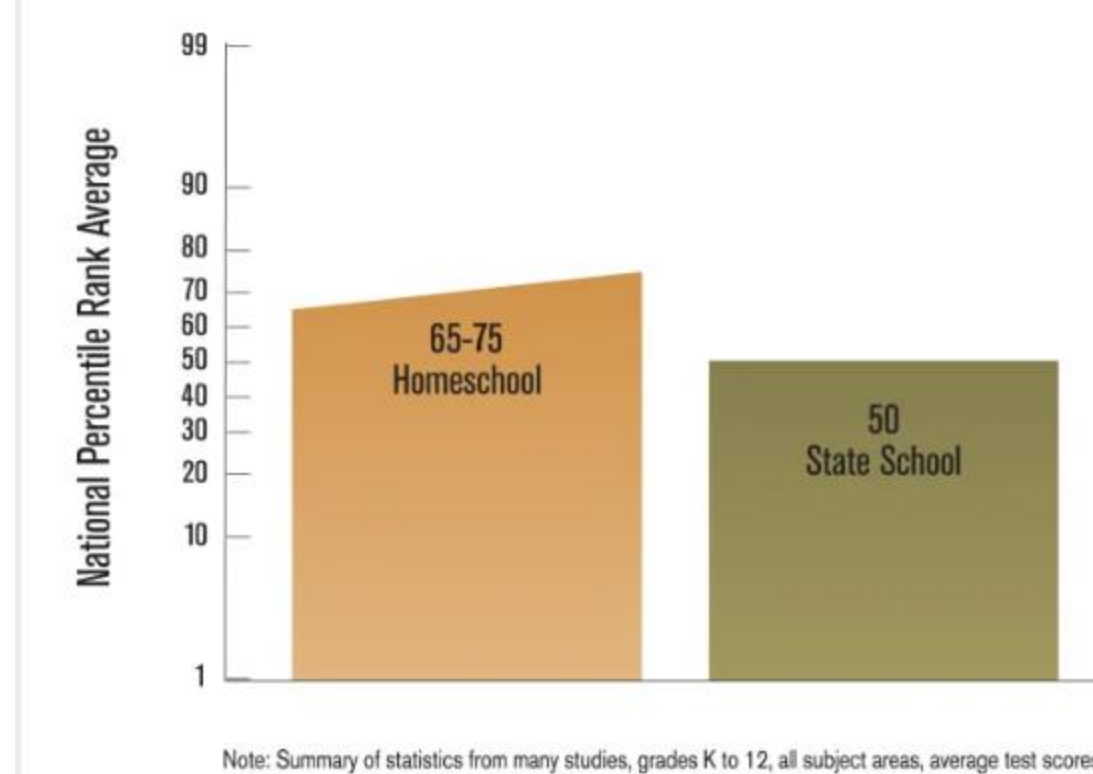
1. We discovered that self-directed learning (SDL) with **digital technologies is almost natural for homeschooled children**, as they regularly engage with various digital tools, enhancing their digital skills and information literacy over a prolonged period. (Morris and Pannone, 2024)
2. Study's findings indicate that homeschoolers develop digital competence and literacy through regular self-directed learning with digital tools. This contrasts with research on **traditional educational settings, which often shows a deficiency in using digital technologies** for learning. (Morris and Rohs, 2023).
3. With access to high-quality online learning resources, many parents feel ready to homeschool their children. Those who support homeschooling are often introduced to the concept of a **flipped learning environment**, where students learn in less conventional ways. Consequently, flipped learning is seen as a significant enhancement to self-directed learning and homeschooling. (Alamry and Karaali, 2016)
4. The complexities of motivation in the context of unschooling enhance our understanding of the unschooling process. The **theories of motivation** are focused on transformative experiences, self-efficacy, self-regulation, expectancy-value theory, and both intrinsic and extrinsic motivation as they pertain to the progressive learning model of unschooling. (Sherman, 2017)
5. Parents often use **personalized teaching**, adjusting it to fit their children's needs and resources. This usually includes one-on-one tutoring and techniques to ensure students understand the material well. Parents also encourage kids to **take responsibility for their own learning**. Other methods in STEM education involve students working together with peers and parents, as well as **applying and connecting** what they learn. (Gann and Carpenter, 2017)
6. Homeschooling significantly impacts children, and it's crucial to understand how parents implement it. Research primarily focuses on **parents' ideologies**, but it's also essential to consider their **personality traits and socioeconomic backgrounds**. The meta-analysis found that extraverted parents tend to be more involved, fostering assertive parenting with a focus on discipline. Additionally, conscientious parents often create a more structured environment for their children. (Guterman and Neuman, 2017)

Implications

- The design of educational technology is crucial for enhancing or hindering effective homeschooling and self-directed learning.
- Digital design divide, challenges parents in personalizing learning experiences and students have lower motivation leading to disengagement.
- Homeschooling students often develop strong digital skills, poor technology design can create gaps in building critical skills.
- Families with limited resources can widen educational disparity.



ACADEMIC ACHIEVEMENT OF HOMESCHOOL AND STATE-SCHOOL STUDENTS, SUMMARY OF MANY STUDIES



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Recommendations

1. With the growing technology dependency, homeschool educators (parents) should have a **platform to build their capacity**.
2. Vocational schools should offer **short-term homeschooling programs** for parents who are considering alternative education for their children.
3. According to NHERI, the homeschool population had been growing at an estimated 2% to 8% per annum over the past several years, but it grew drastically from 2019-2020 to 2020-2021. This perspective should be worked upon by developers to **improve and customize their LMS** to cater this population.
4. During my research on this topic, I, along with many authors of this literature review, encountered significant challenges due to the **limited existing studies on the impact of technology on homeschooling**. I recommend that policymakers and relevant agencies **initiate pilot studies/ research to explore this area** further. Such research would help identify both the gaps and the factors that facilitate effective homeschooling practices.

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