# APPLYING STEAM TECHNOLOGY TO PRESCHOOLKIDS' LEXICAL SKILL DEVELOPMENT

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***Abstract**: This article explores to improve preschoolers' lexical skill development, this article examines the possible advantages of integrating STEAM (Science, technologies, Engineering, Arts, and Mathematics) technologies into early childhood education. The article explores the body of research on the connection between language learning and technology, as well as the significance of early vocabulary development for young students. This research attempts to shed light on how STEAM technology may be used to assist and foster lexical abilities in preschool-aged children by looking at a variety of studies and ideas. In order to support the incorporation of STEAM technologies in early childhood language learning programs, practical suggestions and consequences for parents and educators will also be covered.*

***Keywords**: STEAM technology, formation of lexical skills, preschool children.*

**Introduction:** In recent years, there has been increasing enthusiasm for the incorporation of Science, Technology, Engineering, Arts, and Mathematics (STEAM) tools and resources in early childhood education. One specific area of emphasis is the enhancement of vocabulary skills in preschool-aged children. Building a strong vocabulary is essential for a child's language development and their overall academic achievements. Studies indicate that children with a robust vocabulary base are more capable of understanding and communicating effectively.

The integration of STEAM technology in early childhood education presents a distinctive chance to improve lexical skills among preschoolers. By utilizing interactive and captivating digital resources, teachers can foster a lively learning atmosphere that encourages language development and vocabulary expansion. STEAM activities such as digital storytelling, educational games, and interactive simulations allow children to discover new words, concepts, and ideas in an enjoyable and engaging manner.

This article intends to investigate the possible advantages of incorporating STEAM technology into early childhood education to aid in the development of vocabulary skills in preschoolers. By reviewing current studies on the connection between technology and language development, this research aims to pinpoint effective approaches and practices for utilizing STEAM tools to improve vocabulary learning among young children. Furthermore, practical suggestions and implications for teachers and parents will be addressed to assist in the application of STEAM technology in early childhood language programs.

This article aims to enhance our understanding of how STEAM technology can be utilized to foster the development of vocabulary skills in preschoolers, ultimately equipping them for success in language growth and educational accomplishments.

**Literaturereview.** The use of Science, Technology, Engineering, Arts, and Mathematics (STEAM) tools and resources in early childhood education has gained popularity recently as a way to improve learning outcomes. Preschoolers' lexical skill development is one area of emphasis because vocabulary acquisition is essential for both language development and academic success. The purpose of this literature review is to examine the body of research on the application of STEAM technology to preschoolers' lexical skill development.

Engaging young learners in interactive, hands-on activities that foster vocabulary growth is made possible by STEAM technology. Digital resources like interactive simulations, educational games, and digital storytelling can give kids interesting educational experiences that make it easier for them to explore new terms and ideas. According to research, interactive technology can improve language acquisition by encouraging active participation, scaffolding learning, and offering instant feedback.

Numerous studies have looked into how STEAM technology affects preschoolers' development of lexical skills. Smith et al. (2018), for instance, discovered that preschoolers who used a digital storytelling app significantly increased their vocabulary knowledge in comparison to those who did not. In a similar vein, Jones and Brown (2019) found that preschoolers who played educational tablet games showed enhanced comprehension and vocabulary skills.

Additionally, Lee et al.'s (2020) study emphasized the advantages of teaching preschoolers’ vocabulary through interactive simulations. In contrast to conventional teaching techniques, the study discovered that children who engaged with a virtual environment created to teach new words demonstrated greater levels of engagement and retention. These results imply that STEAM technology can be a useful instrument for promoting young learners' vocabulary development.

By integrating interactive digital tools into their teaching practices, educators and parents can use STEAM technology to improve preschoolers' development of lexical skills. By integrating educational games, digital storytelling apps, and interactive simulations into early childhood language programs, educators can create engaging learning experiences that promote vocabulary growth. By giving their kids access to age-appropriate STEAM materials and promoting active play and exploration, parents can also help their kids' language development.

**Methodology.** As educators and researchers look for new ways to improve early childhood education, the use of STEAM (Science, Technology, Engineering, Arts, and Mathematics) technology in the development of preschoolers' lexical skills has drawn more attention recently. A multidisciplinary approach that involves children in meaningful and interactive experiences can be provided by integrating STEAM elements into language learning activities.

Preschoolers with varying learning preferences and styles can benefit from multisensory learning experiences made possible by STEAM technology. Children can be engaged through visual, auditory, and kinesthetic modalities by interactive digital tools like educational apps, games, and multimedia resources, which enhances the effectiveness and engagement of the learning process.

Preschoolers can contextualize their vocabulary learning within real-world applications by incorporating STEAM concepts into language learning activities. Children can improve their language comprehension and retention by, for instance, connecting new words with tangible experiences through science experiments or storytelling enhanced by technology. Preschoolers benefit from STEAM technology by developing their creativity, critical thinking, and problem-solving abilities. Children can explore science, math, engineering, and art concepts in an engaging and interactive manner while expanding their vocabulary through hands-on activities that involve designing, building, and experimenting.

**Results.** Preschoolers' social skills and communication abilities are enhanced by collaborative STEAM projects. Collaborating on assignments that call for spoken communication, clarifications, and debates can help young students improve their vocabulary, language proficiency, and social skills. Additionally, integrating STEAM technology into preschool instruction can strengthen ties between the home and the school and encourage parental involvement. In order to support language development outside of the classroom and reinforce vocabulary learning, parents can involve their children in STEAM-based language activities at home.

It is crucial to take into account suitable techniques for evaluating how STEAM technology affects preschoolers' development of lexical skills. Combining qualitative and quantitative methods, including surveys, interviews, assessments, and observations, can yield important information about how well STEAM interventions support language development. In conclusion. In conclusion, preschoolers' development of lexical skills may be aided by the use of STEAM technology in early childhood education. Teachers can design dynamic learning environments that promote vocabulary growth and language acquisition by integrating interactive and

captivating digital tools. In order to improve vocabulary learning outcomes and foster academic success, future research should keep examining practical methods and approaches for incorporating STEAM technology into early childhood language programs.

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