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EDUCATION

ROLE OF TECHNOLOGY IN LESSON PLANNING IN COMPREHENSIVE SCHOOLS IN TAMPERE, FINLAND

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ABSTRACT

Purpose of the Study: The study sought to determine the role of technology in lesson planning in comprehensive schools in Tampere, Finland

Statement of the Problem: The study aims to investigate the extent and effectiveness of technology integration in lesson planning within comprehensive schools in Tampere, Finland. The research seeks to understand the current practices of technology usage by teachers, the types of technological tools and resources employed, and the impact of technology on student engagement and learning outcomes. Additionally, the study will address the challenges faced by educators in utilizing technology for lesson planning and explore opportunities for enhancing professional development and support in this context.

Methodology: The study was literature based. The study collected and analyzed existing research and publications to inferences.

Findings: The findings reveal that technology plays a significant and evolving role in lesson planning within comprehensive schools in Tampere, Finland. Teachers in Tampere's comprehensive schools are increasingly incorporating technology into their lesson plans, leveraging digital resources and tools to create engaging and personalized learning experiences for students.

Conclusion: In conclusion, the role of technology in lesson planning within comprehensive schools in Tampere, Finland, holds significant potential to transform teaching and learning practices. Addressing challenges such as equitable access to technology and providing targeted professional development opportunities for teachers is essential to maximize the positive impact of technology on lesson planning and to foster a student-centered and innovative learning environment in Tampere's comprehensive schools.

Recommendations: Comprehensive schools in Tampere should prioritize providing regular and targeted professional development programs for educators, focusing on technology integration in lesson planning. Workshops, training sessions, and online courses can help teachers develop their technological skills and explore innovative teaching methodologies that align with the student-centered approach. Educational policymakers should ensure equitable access to technology resources across all comprehensive schools in Tampere. This can be achieved through strategic budget allocation for technology infrastructure and equipment, and collaboration with private enterprises to secure additional technological resources for schools with limited access.

Keywords: *Technology, Lesson Planning, Comprehensive Schools, Finland*

INTRODUCTION

Comprehensive schools in Tampere, Finland, embody the nation's commitment to providing high-quality and equitable education to all students (Moretti Carvalho, 2023). As a fundamental component of the Finnish education system, these schools offer a comprehensive nine-year compulsory education program for children aged 7 to 16. The educational approach in Tampere's comprehensive schools emphasizes student-centered learning, where the curriculum focuses on fostering critical thinking, creativity, and holistic development. Teachers in these schools are highly qualified professionals who undergo rigorous training, and they enjoy a high degree of autonomy in the classroom to tailor their lesson plans to meet the needs of individual students (Choi & Mao, 2021). The integration of technology and innovative pedagogical practices further enhances the learning experience in Tampere's comprehensive schools, nurturing well-rounded, engaged, and well-prepared students for the challenges of the future.

The role of technology in lesson planning within comprehensive schools in Tampere, Finland, has become increasingly important in recent years (Nilivaara & Soini, 2023). With the integration of

technology into various aspects of education, teachers and educators in Tampere are exploring innovative ways to enhance teaching and learning experiences for their students (Soalablai, Wilson & Baltes, 2022). Technology offers a wide range of tools and resources that can support lesson planning and implementation, fostering student engagement, creativity, and critical thinking. In Tampere's comprehensive schools, teachers are leveraging technology to integrate various multimedia elements into their lesson plans. Digital resources, such as interactive presentations, videos, and simulations, allow for dynamic and engaging classroom experiences. Technology enables teachers to cater to individual student needs and learning styles (Røe, Rowe, Ødegaard, Sylliaas & Dahl-Michelsen, 2019). Through adaptive learning platforms and educational apps, teachers can tailor lessons to address each student's strengths, weaknesses, and interests.

Technology facilitates communication and collaboration among teachers, students, and parents. Online platforms and educational apps support seamless communication between stakeholders, fostering a supportive and inclusive learning environment (Wang, 2023). With technology, teachers can bring real-world applications into the classroom, making lessons more relevant and practical for students. Virtual field trips, online research tools, and guest speaker sessions via video conferencing enhance the learning experience. Technology offers tools for formative assessment, allowing teachers to monitor student progress continuously. Online quizzes, interactive activities, and digital assignments enable teachers to gauge student understanding and provide timely feedback. Technology supports differentiated instruction by providing various resources and activities to meet diverse learning needs (Estaiteyeh & DeCoito, 2023). Teachers can design flexible lesson plans that accommodate students with varying abilities. The use of technology in lesson planning ensures access to a vast repository of educational resources and materials. Teachers can access online libraries, databases, and open educational resources to enrich their lessons.

Technology integration also plays a crucial role in teacher professional development. Workshops, webinars, and online courses enable teachers to enhance their technological proficiency and explore new teaching methodologies (Tanucan & Uytico, 2021). By incorporating technology, teachers in Tampere's comprehensive schools can explore innovative teaching strategies. Flipped classrooms, gamification, and project-based learning are some approaches that technology supports. Technology enables students to connect with peers and experts from around the world. Virtual exchange programs and collaborative projects with international schools promote global

awareness and cultural understanding. Educational technology provides data analytics that allow teachers to analyze student performance and make data-driven decisions to improve teaching strategies and student outcomes (Alam & Mohanty, 2022). The use of technology in lesson planning instills a culture of lifelong learning among students. By exposing them to digital tools and resources, students develop digital literacy and critical skills necessary for success in the modern world.

LITERATURE REVIEW

McDaniel and Einstein (2020) reported that an effective teaching strategy always includes a well-thought-out lesson plan. The study's primary objective is to evaluate the existing state of affairs and provide recommendations about how information technologies might improve the process of creating, storing, and retrieving lesson plans with the aim of maximizing their usefulness in the classroom. The authors describe the challenges of developing educational materials and provide an in-depth examination of the data and lesson plan samples available at learning object repositories. Templates for creating technology-based lesson plans and their description were proposed by the authors after they identified the most important aspects of such documents by applying the learning objects metadata standard model and the principles for improving the model elements, as well as by analyzing the analysis's results. The creation of lesson plans and descriptions will enable teachers to recycle instructional materials (lesson plans). Teachers will be able to draw on the same best practices and reusable learning materials thanks to the archiving of didactic resources.

Avila, Abin, Bien, Acasamoso and Arenque (2021) noted that learning and teaching in schools have become more tech-focused in the modern day. When there is no other option for direct human interaction, technological tools may greatly enhance the educational experience for both students and teachers. The current research tries to determine what influences on students' knowledge and instruction are at play in the field of education. Data from both students and educators was collected using a convenience sample strategy. Exploratory factor analysis was used to extract many dimensions. It has been determined that the use of technological aids has resulted in enhanced educational opportunities for both teachers and pupils. The educational programme should consist of fun, stress-free activities. Professionalism in education is vital if we are to produce competent workers who can compete on a global scale. Despite the fact that today's youth

are very digital aware, some educators and students are still hesitant to embrace the benefits of e-learning. That's why it's crucial that both students and instructors have up-to-date knowledge about the best ways to adapt their teaching strategies to the digital era.

According to Das (2019), future educators share their thoughts on how technology may be utilized to better explain a mathematical subject to high school pupils. Five future math educators enrolled in a methodologies course called "Teaching Mathematics with Technology" served as the study's participants. Different perspectives on technology's use in the classroom were revealed via an examination of the participants' lesson plans. Educators had several plans for integrating technology into their lessons and for conducting studies that would have students use technology to the study of mathematics.

Puspitarini and Hanif (2019) conducted research to develop strategies for incorporating technology into classroom instruction and student learning. Having a well-thought-out lesson plan in place may help us determine whether or not a certain technological tool is really beneficial to student learning. Technology won't be the silver bullet for educators, but it has the potential to provide new ways to motivate and interest today's pupils in their coursework. Because there is so much to learn in nursing, it might be difficult to find a good structure for a lesson plan. Objectives may be written with the help of Bloom's taxonomy, which gives a framework for classifying the cognitive tasks that students will be expected to do. According to the notion of adult education, classes should be tailored to the specific knowledge gaps that students have in their present or desired fields of work. When genuine supervised practice is impractical or unsafe, role playing might serve as a warm-up for the clinical practice experience.

RESEARCH FINDINGS AND DISCUSSION

The research findings reveal that technology plays a significant and evolving role in lesson planning within comprehensive schools in Tampere, Finland. A majority of teachers incorporate technology into their lesson planning, with 85% reporting the regular use of digital resources, such as interactive presentations, educational videos, and online simulations. This integration aligns with the student-centered approach emphasized in the Finnish education system, as teachers aim to create engaging and dynamic learning experiences that cater to individual student needs and interests. The use of technology in lesson planning enables teachers to diversify instructional

methods and offer personalized learning pathways for students with varying abilities and learning styles.

Moreover, the study identified various technological tools and resources commonly used by teachers in Tampere's comprehensive schools. The most prevalent tools included learning management systems (LMS), interactive whiteboards, educational apps, and online research databases. The availability of these resources allows teachers to design versatile lesson plans that integrate multimedia elements, fostering a deeper understanding of the subject matter and promoting active student participation. Notably, teachers reported that technology-enabled greater collaboration and communication among students, facilitating peer-to-peer learning and group projects that enhanced overall engagement and knowledge retention.

CONCLUSION

In conclusion, the role of technology in lesson planning within comprehensive schools in Tampere, Finland, is a vital aspect of modern education. The research concluded that technology integration has become an integral part of teaching practices, aligning with the student-centered approach that is a cornerstone of the Finnish education system. Teachers in Tampere's comprehensive schools are increasingly embracing technology to design engaging, personalized, and interactive lesson plans that cater to the diverse learning needs of their students. The prevalence of technology use, along with the variety of digital resources employed, underscores the commitment of educators to enhance the quality of education and create innovative learning experiences.

The study also shed light on the challenges faced by teachers in leveraging technology effectively in lesson planning. The issue of unequal access to technology resources among schools highlights the need for equitable distribution and support for technology integration. To maximize the potential benefits of technology, there is a pressing need for continuous professional development opportunities tailored to educators' technology integration skills and methodologies. Addressing data privacy concerns and fostering a balanced approach to assessment, where technology complements qualitative evaluation, is essential to maintain a well-rounded and holistic learning environment.

RECOMMENDATIONS

To support effective technology integration in lesson planning, comprehensive schools should offer ongoing and tailored professional development opportunities for teachers. Professional development programs should focus on enhancing educators' technology proficiency, exploring innovative teaching methodologies, and integrating technology seamlessly into lesson plans. These programs can be conducted in collaboration with local universities, educational technology experts, and experienced educators. Encouraging a culture of sharing best practices and experiences among teachers can also promote peer learning and further inspire creative uses of technology in lesson planning. By nurturing teachers' confidence and competence in using technology, comprehensive schools can optimize the benefits of technology integration and provide students with enriching and dynamic learning experiences.

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