A LITERATURE REVIEW ON THE MANAGEMENT OF PRESCHOOL TEACHER'S PROFESSIONAL COMPETENCE DEVELOPMENT IN THE 4.0 INDUSTRIAL REVOLUTION

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ABSTRACT

Background: The era of technological revolution 4.0 has ushered in new obstacles as well as advantages for all aspects of social life, most notably bringing about significant changes in the education of countries. Technology Revolution 4.0 is a tool to support, enhance, increase efficiency, and enrich educational content. Technology enables the promotion of individual planning and organization of learning processes, thereby encouraging teachers to develop effective learning programs adapted to students' specific requirements. Faced with the challenges, preschool teachers are required to increase their professional competence and acquire the necessary skills for the teaching process.

Methods: The study's purpose was to conduct a literature review on the professional competence of preschool teachers in Industry 4.0. In addition, the study examines the administration of preschool teachers' professional development within school systems. To develop educational managers must be able to adapt to new circumstances and surmount obstacles as technology continues to advance.

Results: The findings emphasize the significant impact that technology has had on the management of schools, providing advantages such as enhanced teacher-student interaction, and preparing the groundwork for the evolution of education.

Conclusion: Therefore, training quality management is a crucial technique for assembling a team of qualified professionals who adhere to contemporary standards.

Keywords: preschool teacher, management, professional competence, industry 4.0 technology.
UMA REVISÃO DA LITERATURA SOBRE A GESTÃO DO DESENVOLVIMENTO DA COMPETÊNCIA PROFISSIONAL DO PROFESSOR PRÉ-ESCOLAR NA REVOLUÇÃO INDUSTRIAL 4.0

RESUMO

Antecedentes: A era da revolução tecnológica 4.0 deu início a novos obstáculos, bem como vantagens para todos os aspectos da vida social, mais notavelmente levando a mudanças significativas na educação dos países. A revolução de tecnologia 4.0 é uma ferramenta para suportar, aprimorar, aumentar a eficiência e enriquecer o conteúdo educacional. A tecnologia permite a promoção do planejamento individual e a organização de processos de aprendizagem, incentivando assim os professores a desenvolver programas de aprendizagem eficazes adaptados às necessidades específicas dos alunos. Diante dos desafios, os professores pré-escolares são obrigados a aumentar sua competência profissional e adquirir as habilidades necessárias para o processo de ensino.

Métodos: O objetivo do estudo foi realizar uma revisão de literatura sobre a competência profissional de professores pré-escolares na Indústria 4.0. Além disso, o estudo examina a administração do desenvolvimento profissional de professores pré-escolares dentro dos sistemas escolares. Para desenvolver os gestores educacionais deve ser capaz de se adaptar às novas circunstâncias e superar os obstáculos à medida que a tecnologia continua a avançar.

Resultados: As descobertas enfatizam o impacto significativo que a tecnologia teve na gestão das escolas, proporcionando vantagens como o aumento da interação professor-aluno e preparando as bases para a evolução da educação.

Conclusão: Por isso, a formação de gestão de qualidade é uma técnica crucial para a montagem de uma equipe de profissionais qualificados que aderem aos padrões contemporâneos.

Palavras-chave: professor pré-escolar, gestão, competência profissional, indústria 4.0, tecnologia.

1 INTRODUCTION

The term Industry 4.0 initially appeared in Germany in 2011 as a suggestion to enhance the country's new high-tech-based economic policy (Mosconi, 2015). Industry 4.0 is widely recognized as a shift in the way that people work, with an emphasis on data administration, working systems enabled by technological advancements, and the improvement of work efficacy about human interaction. Revolution 4.0 is characterized by a transition from machine-centric assembly to digital and human-centered manufacturing using sophisticated automation (Oztemel & Gursev, 2020). According to Maria et al. (2018), devices, machines, sensors, and individuals within Industry 4.0 are equipped with the capability to establish communication using internet technology. Frequently employed terminologies encompass the Internet of Things, Artificial Intelligence, Quantum Computing, and other associated terms. The advancements and advances in technology associated with Industry 4.0 have significantly influenced several
aspects of human life, commercial operations, manufacturing, and education. These technological developments have experienced a series of innovations over the past few decades (Oztemel & Gursev, 2020). The pervasive connectivity facilitated by the internet enables the seamless transmission and interchange of data and information, fostering interactions not just among individuals, but also between individuals and automated systems, as well as among automated systems themselves.

The fourth wave of industrialization has caused a previously unimaginable change in industrial and technological activity (Prause & Atari, 2017), necessitating new perspectives on labor and the use of human skills. As an integral and essential component of early childhood education and guidance, preschool teachers have encountered numerous challenges and delights in their professional development prior to the emergence of the big data era. When teaching children of various abilities in the same environment, teachers of kids face significant obstacles. Teachers limited professional development is a result of their incapacity to expand their thinking beyond their concerns, so that children's requirements are not an important factor of performance throughout the classroom. All teachers are proficient in time management, but there appears to be a lack of awareness regarding the conditions necessary for teaching to understand as opposed to teaching to gain knowledge (Phajane, 2020). Due to the advancement of the 4.0 revolution, the way children obtain knowledge is no longer restricted to preschools, nor are they reliant on teachers in conventional education. In a new era where big data keeps driving the development of educational informatization, it is evidently difficult for preschool teachers to adjust their traditional roles to the changing times. Additionally, Ghavifekr and Rosdy (2015), when a large number of students, each with a personal computer, are present in a classroom, the teacher will need additional assistance if technical issues arise. Moreover, Mahdum et al. (2019) suggested that teachers' motivation to use information technology is primarily based on their propensity to use based on both internal and external variables, encouraging teachers to incorporate information technology into the teaching-learning process. External variables include the availability of resources, while intrinsic factors include self-interest, experience, and preparedness.
1.1 THE EFFECT OF THE FOURTH INDUSTRIAL REVOLUTION ON EDUCATION AND THE SIGNIFICANCE OF INNOVATION IN TRAINING

To begin the fourth industrial revolution or the millennial era, individuals must be prepared for innovation disruptions in all fields, including education. Learning and teaching techniques for the twenty-first century are becoming progressively more complicated (Luna Scott, 2015). Due to the increasing demand for information technology in the workplace, the use of technology and information communication in education improves the content of education by contemporary developments. The educational industry has an essential role to perform in providing a 21st-century education that equips kids for the unpredictable and ever-changing demands of the future (Lamb et al., 2017). The enhancement begins with the learning process's management, methods, learning strategies, and resources. Changing a nation's education system is necessary for continued economic growth and investment attraction (Boev, 2017). Industry 4.0 necessitates a transition from traditional learning to information technology learning in the educational system. Education 4.0 is a conceptual framework that advocates for learners to engage in non-conventional modes of thinking. Education 4.0 is designed to cater to the demands of a dynamic and swiftly evolving global landscape, which has undergone a significant transition from an agrarian-based society to an industrialized one. In the field of education, information technology is employed as a tool to assist, facilitate improvement, enhance effectiveness, enrich content, optimize processes, and augment the dissemination of information. The introduction of information technology into the curriculum has been identified as a significant milestone in education, contributing to student growth and accomplishment (Lineways, 2017). In addition, contemporary technological advancements possess the capacity to facilitate educational endeavors across many subjects, offering valuable prospects for dialogue and efficient interaction between instructors and learners (Rahim Sajid, 2013). Technology enables the facilitation of individualized planning and organization of learning processes, so empowering instructors to develop efficacious learning plans tailored to the unique needs of their students. The utilization of synchronous and asynchronous online environments for instructional purposes is more prevalent in the field of education, and this trend has been expedited as a result of the global outbreak of the Coronavirus (Bolisani et al., 2021).

The tremendous challenges posed by technology have necessitated the involvement of education in creating changes, not just at one level, but at all levels, from...
preschool to university. Preschool education has received a great deal of consideration in the process of incorporating technology into education because preschool education is the initial phase of education. A preschool is essential for educating children ages 2 to 6 before their enrollment in elementary school. Bruner (1966) argued that infancy is the most influential period in terms of idea generation and the transmission of positive information. According to Ibharim et al. (2013), today's children grow up in linguistic contexts in which they have multiple opportunities for interaction and actively engage in the environment generated by digital technology. A quality early childhood education can be an indicator of a student's long-term academic success because it enhances the emotional and social growth of children, fosters their language and cognitive abilities, and helps them acquire confidence. Because a child's development and personality can be influenced during the first years of life (Burlacu, 2013), early childhood education is crucial for a child's long-term development. Early life experiences are the foundation of subsequent experiences (Bagiati et al., 2010). Early childhood education improves a child's social and emotional development, language and cognitive abilities, and self-confidence. Preschools that provide a quality education that is continually updated and revamped may assist children more. Preschool education endeavors to foster the physical and intellectual development of children during the formative years, as well as the moral qualities, concept comprehension, and learning patterns of individuals during the decisive years. Strong, consistent, and objective early childhood education will successfully shape future generations. Consequently, the use of technology in the education of young students can promote critical thinking, enhance creativity, encourage exploration, facilitate the application of knowledge and skills in a variety of situations, and heighten students' enthusiasm and concentration (Parker, 2023). It has been demonstrated that incorporating information technology into preschools helps instructors perform their duties more effectively. The initiative to promote information and communication technology in the classroom is motivated by its benefits, which include instantaneous access to information, multimedia communication, and potent educational tools. It is crucial to provide curriculum resources that are more pertinent to the actual work of preschool teachers and to adjust more effectively to the need for post-employment training of kindergarten teachers to shape their personalities. Numerous studies have demonstrated that early childhood education has numerous positive effects on children that lead to advantageous future outcomes, including increased cognitive development,
academic progress, social skills, and high school graduation, as well as positive health and employment outcomes (Morgan, 2019). Preschools require qualified teachers; therefore, teacher training programs are essential to equip teachers with the knowledge and skills necessary to meet the requirements of their students.

The accelerated development of Industry 4.0 technology offers preschool teacher new opportunities to acquire 21st-century skills. In the past, preschool teachers offered students skills and knowledge. In addition, the responsibility for management, oversight, and transmission of knowledge has been considered. Trainers and learners have a reception-transmission relationship. In today's cyber-age, the teacher's function will be redefined, and many new roles will emerge, including researcher, learning partner, manager, learner, and learning organizer. Network multimedia technology has mobilized people's perception and contact in numerous ways, increased learning efficacy, and made learning enjoyable for students. Teachers' knowledge, skills, and competence in developing and overseeing teaching strategies have a significant impact on the efficacy of their instructional activities. The ability and skill of teachers to plan prior to, during, and after instruction and learning are essential for successful instruction and learning in the classroom. Along with the digital environment of today, a study by (Copriady, 2014) indicates that it is essential for teachers to integrate information technology into their daily instruction and replace traditional teaching tools with modern conveniences. According to Qiu (2019), the advancement of big data necessitates a reevaluation of the profession of preschool teachers. To adapt to this changing landscape, teachers must modify conventional notions and redefine their roles. This entails transforming a teaching mindset, adopting new instructional approaches, and modernizing the professional development model to align with contemporary demands. By research Jemimah and Suziyani (2019), preschool teachers have a positive outlook on the integration of information technology in the classroom, and their level of information technology proficiency is high and effective. When the use of information technology for preschoolers is average, the prevalence of teachers having trouble using information technology is also average. This study demonstrates that preschool teachers in Malaysia are prepared to implement technology in the classroom to satisfy the needs of Industry 4.0 (Jemimah & Suziyani, 2019). According to Taiwanese research, preschool teachers are optimistic about the creative capabilities of the Internet to enhance their pedagogical practices (Chen, 2016).
1.2 THE ROLE OF PRESCHOOL TEACHERS AND THE INFLUENCE OF TECHNOLOGY ON TEACHING

The primary objective of the early childhood education program is to provide students with the necessary information, skills, and competencies required for successful professional engagement within early childhood education settings. Teachers possess a crucial responsibility in facilitating the aforementioned paradigm shift within the realm of education, therefore assuming a pivotal role in the pedagogical dynamics of teaching and learning. The credentials and professional competence of educators, as well as their function in contemporary times, have seen significant transformations, signifying a pivotal moment in the field of pedagogy. Furthermore, it is important to emphasize the need to cultivate a high degree of awareness, a strong drive for excellence in a position, consistent self-study, and continuous self-improvement to enhance the professional qualities of every teacher. The goal should be to establish a standardized level of training. The ongoing professional growth of kindergarten educators extends beyond the acquisition of knowledge and abilities, necessitating a reliance on pedagogically oriented teaching and research endeavors. Preschool educators serve as effective communicators, facilitating children's acquisition of information. Additionally, teachers play a crucial role in designing practical activities that promote children's development. Furthermore, preschool teachers assume the responsibility of organizing and leading various live activities inside the classroom setting. According to Setyaningsih and Suchyadi (2021), educators can cultivate social empathy, enhance imagination and creativity, and promote national unity and integrity. As stated by Barnett (2003), early childhood programs of high quality exert a substantial influence on the holistic development of children. Within the conventional preschool setting, preschool teachers undertake dual roles including the provision of care and the facilitation of education for young children. These responsibilities are directly linked to the optimal growth and development of a vast number of children, as well as the advancement of early childhood education. Traditional pedagogical principles emphasize the notion that teaching should revolve around the instructional material. In this paradigm, the teacher adheres to the prescribed instructional plan, while the students dutifully follow the teacher's lead. This approach is characterized by a strict adherence to rules and a sequential progression of learning activities. The existing body of literature provides substantial evidence regarding the significant impact of the child-teacher relationship on the classroom environment (Booren et al., 2012).
These studies have recognized the crucial role of these relationships as an asset in managing diverse behavioral patterns exhibited by children across various social settings. Typically, it is necessary for children, regardless of their level of adjustment, to get direction and support to cultivate intimate connections, manage emotions, address challenges, and acquire competencies (Sprick & Borgmeier, 2010).

However, the evolving educational environment necessitates new teacher characteristics to accommodate these shifts. Teachers need to have proficient classroom management abilities to foster a better learning environment, particularly by implementing proactive approaches (Emmer & Stough, 2003). With the arrival of the era of big data, teachers tend to promote following the curriculum, and students no longer follow the teacher's guidance. Teachers are now required to develop personalized methods of instruction that are truly suitable for students to practice and assimilate. Due to the rapid growth of the information age, children's learning pathways no longer rely solely on preschool educators, making it difficult for preschool teachers to fulfill the children's traditional role. Preschool teachers become facilitators, advisers, and collaborators in their students' learning activities (Shen, 2015). The role of the teacher has shifted from that of a traditional classroom teacher to that of a contemporary classroom teacher. Today's educators must be more receptive to new ideas. In addition to comprehending the scientific literature being taught, teachers must understand the technology and continue to be innovative and imaginative. Preschool teachers have shifted from conventional approaches to teaching to multimodal teaching, allowing sophisticated multimedia devices to enter the traditional classroom and expanding their teaching methods. Preschool instructors are required to have certain information technology skills by traditional teaching methods. Today, technology is advancing at an astounding rate, which has widened the interaction and made it essential for teachers and academic candidates to cooperate and deliver educational activities practically and effectively (Guillén-Gámez et al., 2021). Information and Communication Technology must be mastered by preschool teachers to make it simpler for teachers to manage and design technology-based learning or learning activities. This is necessary not only to assist teachers in conquering technology but also to teach preschoolers information technology from an early age (Valencia-Molina et al., 2016).

Ghavifekr and Rosdy (2015) claimed that the integration of information technology in classroom instruction and learning has been actively promoted in Western
nations over the past three decades. In the context of the dynamic information technology era, teachers must prioritize two key domains: the utilization of technology for learning purposes, and the comprehensive development of teachers’ information technology competencies, encompassing both personal and professional dimensions. Teachers in contemporary times are progressively recognizing and acknowledging the utilization of information technology in the development of instructional methodologies and educational experiences. In accordance with Masnan and Hashim (2014), it is recommended that early childhood teachers employ diverse methodologies and engage in a range of activities that align with the developmental stage, skills, capabilities, talents, and interests of young children. Suggested activities employing information technology to facilitate the pedagogical and learning processes encompass the acquisition of information, engagement with educational resources for independent study, collaboration with peers, and enhancement of the overall learning encounter. Internet-based apps play a crucial role in the professional development of preschool teachers, serving as both a significant catalyst and a valuable instrument for fostering creative instructional practices and facilitating efficient administrative processes within preschool settings. The Internet assumes a significant practical function in shaping the perception of innovation and facilitating the professional development of preschool teachers. The growing utilization of the Internet exemplifies teachers’ inclination towards actively engaging in knowledge production and fostering professional community involvement (Qablan et al., 2015). The acquisition of internet-related usage skills and the incorporation of information and teaching abilities have emerged as significant components in the professional advancement of early childhood educators. Teachers have utilized the Internet as a means of engaging in human interactions to effectively address and resolve practical issues about education, while also considering variables such as collaboration and harmony. It has been recognized that the Internet serves as a valuable tool for enhancing the educational engagement and academic achievements of preschoolers. Preschool teachers can include creative Internet-related integration into their instructional practices, therefore augmenting the cognitive and social development of young children. In the contemporary era of digital technology, educators must possess a comprehensive understanding of digital management, assuming the position of a digital learning manager. This entails the ability to effectively oversee and guide online or digital classrooms, exercising power in the process. According to Keshavarz and Ghoneim (2021), In the 21st century, it is
required that preschool teachers possess a proficient understanding of utilizing diverse technological tools to effectively improve the educational experience and optimize academic achievements. Hence, the significance of teachers' knowledge and understanding of technology cannot be overstated, as it has the potential to enhance the implementation of IT-related initiatives in preschool settings.

1.3 PRESCHOOL TEACHER’S PROFESSIONAL COMPETENCE

The professional competence of teachers is crucial to the organization of effective childcare, providing care, and educational activities in educational innovation broadly and early childhood education in particular (Pandey et al., 2021). Spencer and Spencer (2008) maintained that competence is an essential feature of a person that correlates to effective personal performance at work. Spencer (1993) also stated that competence continually correlates with the teacher's skill in the learner's level of comprehension, learning process, and self-realization. Competence is a combination of knowledge, behaviors, and abilities that a teacher must possess to attain learning and educational objectives. Competence is a skill and knowledge acquired in social life and professional that has been integrated, and accomplished, and can be used to generate value by fulfilling obligations and operating effectively (Sari & Setiawan, 2020). Competence attained via education, guidance, and independent study utilizing learning resources. According to Setyaningsih and Suchyadi (2021), competence encompasses all of one's knowledge, attitudes, and abilities. Mulyasa (2007) showed that pedagogical competence is the ability to manage student learning, which includes comprehending students, designing, and implementing instruction, assessing learning outcomes, and fostering student development. In the current digital and Industry 4.0 era, teachers must possess the necessary skills to succeed as professionals. Personal, scientific, technological, interpersonal, and spiritual competencies comprise teacher competence. Early childhood teachers can effectively carry out their duties if they are capable and willing to exercise skills in the teaching and learning process using methodologies suited to the designated learning material, goals, and subjects, and if they are competent in technical evaluation.
2 RESULTS AND DISCUSSION

2.1 PROFESSIONAL COMPETENCE AMONG PRESCHOOL TEACHERS IN THE 4.0 INDUSTRIAL REVOLUTION

In the era of the 4.0 Industrial Revolution, teachers must be competent with technology to utilize it for beneficial objectives such as organizing, implementing, and assessing learning to maximize early childhood growth and development (Novitasari & Fauziddin, 2022). To satisfy the needs of their students, preschool teachers must receive quality training at universities. Children who receive high-quality early childhood education and care will mature into happier, more productive individuals, and enhancements to these settings can have economic, educational, and social benefits. There is a positive relationship between the teacher-child relationship and the competence of teachers (Prasertcharoensuk et al., 2015), and teacher competence has a significant impact on the student's learning process (Chung et al., 2005). In addition, there is a strong relationship between preschool instruction and the care of the environment, the level of teacher qualifications, and children's educational and growth experiences. Recent studies have also demonstrated the significance of the professional growth opportunities of preschool teachers for the quality of childcare and education. The professional development of preschool teachers primarily involves the progression from professional to seasoned professionals and the continuous improvement of their professional quality (Qiu, 2019). The professional competence of preschool teachers is regarded as a determining factor of preschool education quality.

According to Dudek and Dojeiji (2014), evaluating a teacher's competence is an effective management and development tool. Professionalism, specifically the capacity to comprehend the study material comprehensively and in-depth. Other studies have identified several factors that influence the professional development of preschool teachers, including training programs, school compensation policies, and the teachers' participation in the training procedure (Qiu, 2019). Teachers' professional development should begin with training, hiring, and remediation (Crawford et al., 2021). To accomplish the aim of educating children, teachers must possess a variety of competencies, including the ability to develop soft skills, emotional and social skills, and the ability to help children with special needs (Collie et al., 2017). In addition to theoretical knowledge of child development and learning, preschool teachers must possess content knowledge and teaching skills to engage in high-quality and current
pedagogical activities. Urban (2013) agreed with this opinion that preschool teachers must demonstrate professionalism and theoretical knowledge. The preschool teachers of today must be able to adjust to altering conditions. In the digital age, educators are expected to comprehend technology (Novitasari & Fauziddin, 2022). An indicator of a competent and professional early childhood educator's achievement is the ability to acquire knowledge and conquer the developments of an era that is becoming increasingly complex and changing swiftly.

Programs for the professional development of teachers include developing, implementing learning strategies, and comprehending the subject are important. Teaching can involve developing and refining teaching ability, organization, and personality. Teachers' efficacy is enhanced through the implementation of training programs (Akbar & Tobari, 2017). According to the "professional standards" of teachers, it is evident that preschool teachers must understand the features and standards of physical and mental development of children of various ages, as well as possess strategies and methods to promote the development of the whole child; to comprehend individual distinctions in children's growth levels, speeds, benefits, and other factors; and to conquer the corresponding strategies and methods. Therefore, preschool teachers must break loose from traditional instructional practices. Fan and Tan (2019) identified the application of technology to the organization of educational activities for preschool children as one of the most essential professional competencies required of preschool teachers. Based on the findings of (Sugiarti et al., 2013), the implementation of technology in the capacity building of preschool educators through the Knowledge Management System seeks to investigate the challenges the preschool teachers encounter in capacity development, particularly educational and professional capacity. Information technology creates standards for organizing organizations to provide the necessary conditions for the professional growth of teachers, enhancing their qualifications and assisting by not only understanding the causes of career difficulties but also determining the nature of each career goal (Shnejder et al., 2020).

2.2 MANAGEMENT OF PRESCHOOL TEACHER'S COMPETENCE IN THE 4.0 INDUSTRIAL REVOLUTION

Education faces greater challenges in the 21st century when rapid technological advancements entered classrooms without a requirement for social and moral control. To
remain competitive, educational institutions have to concentrate on offering quality education and cultivating human resources (González-Pérez & Ramírez-Montoya, 2022). Especially for educational institutions on the path of creativity and growth, implementation and engagement in the education quality certification process is a crucial task for demonstrating their capacity and maximum potential. Management of teacher education is segmented into models that include one or more of the following processes: instruction, training, organization, and research. Based on Kumari (2022) suggested a four-step strategy for managing and nurturing preschool instructors' human resources: capacity assessment, strategy and plan, implementation of capacity-building processes, and monitoring and evaluation. Some findings emphasized the substantial influence of technology on educational administration, which provides benefits such as enhanced efficiency, individual interaction, and enhanced learning opportunities. However, the use of technology presents numerous obstacles, such as high costs, the digital divide, and employee opposition. As technology continues to advance, education management must be willing to adapt to new circumstances and overcome obstacles to be successful. Jangjarat et al. (2023) emphasized the significance of technology in educational management and the need for additional research in this area to fully exploit its potential. Rawung et al. (2023) investigated a positive, significant, and robust relationship between preschool administrators for digital leadership and preschool teachers with digital leadership competencies. The results demonstrated the vital role preschool administrators play as digital leaders. In a similar vein, Hamzah et al. (2021) illustrated that the head's sphere of digital leadership is related to the teaching competence of digital teachers. According to the findings of Yuting et al. (2022), digital leadership is also correlated with teachers' technological literacy or digital skills.

Training quality in principle and training quality management, in particular, play an important role in the progression of education, revealing not only the current level of educational improvement but also providing the foundation for the development of future education. Consequently, in the majority of governments, training quality management is a crucial method for acquiring a team of competent, trained professionals and public servants to satisfy reformatory standards. Training quality management, as well as teacher training quality management, can be affected by a variety of techniques, manners, and materials, as well as numerous factors. Training is both the process of training and the act of enhancing an employee's abilities to perform a specific job (Flippo,
1966). Based on education predictions and educational development planning, the fundamental contents of management include training plans for determining the requirements of vocational instructors and organizing the training process. Therefore, it is essential to completely appreciate the constantly changing character of information derived from quality control and recognize quality assurance as both a management solution and a training technique. Teacher training is the most essential program because it determines the success of educational system implementation in schools (Azam et al., 2014). This system can provide a platform and innovative ideas for the development and improvement of the preschool curriculum system, as well as systematizing preschool education. Moreover, education is primarily funded and almost entirely managed by government or non-profit organizations today. Not only do government initiatives have a significant impact on the quality of teacher instructional programs, but also on standards, qualifications, and the structure of apprenticeships. The state management of preschool teachers' professional training and the necessary qualifications for preschool teachers are essential for standardizing the preschool teacher qualification framework and professional education system.

3 CONCLUSION

The fundamental and comprehensive renovation of the economy society has had a significant impact on altering the education and training management system and enhancing the quality of teaching and learning, particularly in the disciplines of early childhood education and training. The evolution of education is reflected not only in its scope, but also in its content, teaching methods, training plans, and strategies, all of which are intended to produce quality education. To meet the requirements of the times, education in general and primary education is abandoning the traditional teacher-centered educational model and adopting a student-centered approach. Faced with this circumstance, the professional capacity of preschool teachers must be bolstered through training and capacity-building courses so that they can develop a high-quality education system. The teacher training management system plays a significant role in providing specific strategies and objectives, as well as designing courses and training programs to enhance teachers' professional capacity. To provide appropriate strategies and policies for early childhood education in the new socioeconomic context, management is carried out by school leaders, educational institutions, or the government based on a common
educational development objective. This study has certain methodological limitations; it is a literature review based on prior research, so it cannot assess the status of preschool teachers' administration of their professional competence. In order to objectively and comprehensively evaluate the professional competence of preschool teachers and the management activities of educational institutions within the context of the 4.0 revolution, future research can use quantitative methods and in-depth interviews. In the context of global change, research has highlighted the significance of management activities for enhancing the professional capacity of teachers in general and preschool teachers. Managers must propose measures, strategies, and plans for developing capacities for teachers to improve the quality of education; to ensure a smooth transition from the traditional role to the modern role of the teacher; and for preschoolers to develop academic-social skills, qualities in the technological age.
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