TRANSFORMATION OF TEACHER ROLES: ADDRESSING DISRUPTIONS IN EARLY CHILDHOOD EDUCATION

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Abstract: The era of disruption in early childhood education (ECE) poses significant new challenges for educators. This study analyzes the transformation of the teacher's role in dealing with technological dynamics and rapid societal changes. The primary focus is on exploring adaptive strategies applied by teachers to sustain their relevance in delivering effective and meaningful learning. The literature review method engages various sources related to the transformation of the teacher's role in addressing disruptions in early childhood education. The research findings highlight: firstly, the importance of enhancing digital competence as a key step in supporting the teacher's existence; secondly, the necessity of collaboration among teachers, parents, and other education stakeholders to create a holistic learning ecosystem; thirdly, integrating more cutting-edge technology will make teachers more creative in designing their lessons; and fourthly, the need for an approach that encompasses technological aspects, pedagogical skills, and personal development of teachers. This study contributes to the early childhood education literature by providing a profound insight into the teacher's role in facing disruption and laying the foundation for the development of more effective education policies and practices in the future.

Keywords: Disruption, Teachers, Early Childhood

1. Introduction

The demand to change the way people think in the 21st century requires a significant transformation in the national education system. Our education is an inheritance from the old educational system that merely memorizes facts without meaning. Changing the Indonesian education system is not easy. The Indonesian education system is one of the largest in the world, encompassing around 30 million students, 200 thousand educational institutions, and 4 million teachers in an area almost as vast as the continent of Europe. However, this change is necessary if we do not want to be eroded by global changes. Achieving 21st-century skills also requires adapting to the trends in learning and best practices, one of which is integrated or blended learning.

Early Childhood Education (ECE) refers to the Republic of Indonesia Law Number 20 of 2003 concerning the National Education System, as stated in Article 1, which stipulates that education for early childhood lasts from birth to six years old. It involves providing stimulation to children to ensure their physical and spiritual aspects grow and develop well, preparing them for entry into primary education (Indonesia, 2006). Meanwhile, in the Minister of Education and Culture Regulation of the Republic of Indonesia Number 137 of 2014 concerning the National Standards for Early Childhood Education, detailed in the Standard of Development Achievement Level for Children consisting of six aspects (Kebudayaan, 2014), Namely; 1)

religious and moral values aspect; 2) physical motoric aspect; 3) cognitive aspect; 4) language aspect; 5) social-emotional aspect; and 6) arts. All six aspects should be developed in a child to ensure comprehensive intelligence development by the year 2045 (Syifauzakia, 2020). Early childhood education should pay more attention to the developmental characteristics of learners rather than focusing on the delivery of burdensome materials that are not age-appropriate for children (Ashfarina & Soedjarwo, 2023).

In the era of disruption, teachers face challenges and opportunities, especially in the context of early childhood education. The presence of early childhood educators plays a crucial role as the foundation for the growth and development of children, preparing them for further education. Teachers serve as the second parents to children and should always be close to them. Being a friendly, caring, and attentive teacher can provide motivation and influence the spiritual development of a child. Therefore, a teacher should firmly adhere to religious teachings, possess noble character, and be compassionate and caring towards their students (Dacholfany & Hasanah, 2021). The education system requires a new movement to anticipate the era of the fourth industrial revolution (Industry 4.0). One of the government's initiatives is the new literacy movement, which aims to strengthen and even replace the old literacy movement. The old literacy encompasses basic literacy competencies, while the new literacy includes data literacy, technology literacy, and human literacy (Maulana & Nurhafizah, 2019). The low literacy interest among the Indonesian population is considered one of the reasons why the quality of education in Indonesia remains relatively low compared to other countries. If the role of teachers is limited to the information transfer process, their existence can be replaced by technology. Conversely, if teachers play a role in imparting moral and ethical education to children, their existence cannot be replaced by any sophisticated tools or technology.

II. Literature Review

Based on findings from various literary sources, this research encompasses data related to the transformation of the role of teachers in facing disruptions in early childhood education. Through the analysis of this data, the author gained insights related to the professionalism of teachers in the era of disruption, the competency standards of early childhood education teachers, and educational trends during times of disruption.

III. Method

This research employs the method of library research as an effort to respond to the findings of previous studies on the phenomena emerging in society. Data collection involves gathering information and data from various sources such as articles, e-books, texts, and other documents available on the internet related to the transformation of the role of teachers in responding to disruptions in early childhood education. Furthermore, data analysis is conducted using the content analysis method on journals and other documents accessed through the internet (Creswell, 2012).

IV. Result and Discussion

Based on findings from various literary sources, there is data related to the transformation of the role of teachers in responding to disruptions in early childhood education. Subsequently, the author gained knowledge and conducted an analysis related to the professionalism of teachers in the era of disruption, the competency standards of early childhood education teachers, and educational trends during times of disruption.

A. Teacher Professionalism in the Era of Disruption

At present, the world has entered the era of disruption, also known as the Fourth Industrial Revolution, marked by rapid advancements in science and technology. The global revolution began in the 18th century with the invention of the steam engine, enabling massive-scale production, known as the first industrial revolution (Industry 1.0). The second industrial revolution (Industry 2.0) commenced in the 1800s and 1900s with the advent of electricity, reducing production costs. Around the 1970s, the third industrial revolution (Industry 3.0) emerged with computerization, contributing to the advancement of civilization. In 2010, globalization through artificial intelligence and the Internet of Things ushered in the era of the fourth industrial revolution (Industry 4.0), contributing to human efficiency and effectiveness (Cholily, Putri, & ..., 2019).

Characteristics of the era of disruption include the automation of robots, where the production process no longer relies on mass (the number of people) but is replaced by a more effective and efficient robotic system compared to humans. Another characteristic is 3D printing, which traditionally produces 2D prints. However, in this revolutionary era, 3D printing can create not only paper but also clothing and even build houses as easily as printing paper. The third feature is the Internet of Things, where the speed is controlled by the internet, and everything in our lives is connected to the internet. The last feature is product information. The era of disruption can also be interpreted as a fundamental change in how people work by creating new things that can help and are essential in human life (Faturahman, 2023).

The impact of the disruption era on education, particularly in information and technology, has a significant influence on school operations. New information spreads easily and is readily available to anyone who needs it. The role and presence of teachers in the classroom are not just about the transfer of knowledge but have become increasingly complex and require high creativity. Therefore, professional teachers are needed in the era of the fourth industrial revolution who can equip students with critical thinking, problem-solving, creativity, innovation, and the essential ability to manage technology and the internet. Professional early childhood educators reflect on their teaching and work, possess good insights, can manage and lead staff, have creative ideas to enhance early childhood education, and have the desire to transform education towards a better direction. A teacher's professionalism is not only influenced by external factors; internal factors play a crucial role in self-development, ultimately improving early childhood education (Nurkholis & Badawi, 2019).

In the era of disruption, there are at least three literacy groups: 1) Data literacy, which is the ability to read, analyze, and use information (big data) in the digital world; 2) Technology literacy, involving an understanding of how machines work, technological applications (coding, artificial intelligence, and engineering principles); and 3) Human literacy, related to humanities and communication skills (Meliantina, 2019).

B. Competency Standards for Early Childhood Education Teachers

Contemporary education, especially at the early childhood level, is referred to as the digital native generation because these children have been exposed to technology since birth. Teachers need to respond to this and be able to identify the needs of students, utilizing educational services connected to the digital world. Early childhood education aims to stimulate, guide, nurture, and provide learning activities that develop the abilities and skills of children. The focus of education for young children is on laying the foundation for physical growth, intelligence, creativity, emotional intelligence, and spiritual intelligence (Surya, 2017).

In the era of disruption, teachers must be able to master at least five skills, as follows: a) Educational competence, which involves internet-based learning as a basic skill; b) Competence in technological commercialization, providing support for students' innovative

works; c) Competence in globalization, the ability to solve culturally-based problems; d) Competence in future strategies, the ability to predict future directions; and e) Counselor competence, as the development of the times poses challenges for students. All these competencies demand the role of digitalization in education as an effort to maximize students' learning outcomes (Hibana & Surahman, 2021). Referring to the Law on Teachers and Lecturers Number 14 of 2005 in Chapter IV Article 10, it emphasizes that a teacher must possess four basic competencies to carry out their duties effectively (Indonesia, 2005), Those competencies are:

First, pedagogical competence includes sub-competencies: (1) understanding the physical, social, moral, cultural, emotional, and intellectual characteristics of students; (2) understanding the family and community backgrounds of students and their learning needs in the context of cultural diversity; (3) understanding students' learning styles and difficulties; (4) fostering the development of students' potential; (5) mastering theories and principles of learning in education; (6) developing a curriculum that encourages student participation in learning; (7) educational planning; (8) implementing education; and (9) evaluating the process and results of learning.

Second, teacher's personality competencies include caring, understanding individual students, relationships between students and teachers, and the classroom environment. Personality competencies have sub-competencies that include: (1) presenting oneself as a firm, mature, wise, and authoritative person; (2) presenting oneself as a noble character and being an example for students and the community; (3) self-evaluation of activities; and (4) continuous self-development.

Third, social competencies involve a teacher's communication and community skills. Social competencies include skills such as: (1) effective and empathetic communication with students, parents, schoolmates, teachers, and the community; (2) contributing to the development of school and community education (sharing for school development) at the local, regional, national, and global levels; and (4) utilizing information and communication technology for self-development.

Fourth, professional qualifications involve a comprehensive and in-depth mastery of learning materials, enabling students to meet competency standards. Professional competencies have several sub-competencies, including: (1) mastery of the content and methodology of scientific fields of study; (2) mastery of the structure and content of the curriculum in scientific fields of study; (3) mastery and utilization of information and learning technology; (4) organization of curriculum materials in scientific fields of study; and (5) improving the quality of learning through classroom action research (Maulana & Nurhafizah, 2019).

Entering the era of disruption, a teacher must possess three competencies: 1) Fundamental competence and skills as a teacher who never stops learning and self-development are essential. Technological advancements require teachers to prepare students to be critical, creative, innovative, communicative, and collaborative. 2) Teachers should foster solidarity with their colleagues to enhance their own development. Building moral character is crucial for teachers to support and guide each other in facing the evolving educational landscape. 3) Teachers must maintain community engagement, fulfilling their professional duties and obligations as educators. This involves actively participating in societal life, recognizing the broader responsibilities associated with the teaching profession

C. Trends in Education in the Era of Disruption

Despite the continuous changes in educational trends over time, there are several key trends identified as the transformation of the role of early childhood education teachers in

responding to disruptions in early childhood education in the 21st century. Here are the nine main trends that have emerged in the field of education: 1) Educational Technology: The integration of technology into teaching and learning has become crucial. The use of educational software, online learning platforms, and adaptive learning technology is increasing to provide a more interactive and personalized learning experience. 2) Project-Based Learning: 21st-century education emphasizes active learning and student engagement. Project-based learning allows students to learn by doing and creating, combining theory and practice. 3) Collaborative Learning: Social learning and the ability to work in teams are considered essential to prepare students for future challenges. 4) Soft Skills: Soft skills related to academic knowledge are essential to develop skills such as problem-solving, creativity, communication, and teamwork to face real-world challenges. 5) Lifelong Learning: The concept of lifelong learning is increasingly applied to respond to rapid changes in the economy and technology. Students and professionals must continue learning and developing skills throughout their lives. 6) Inclusive Education: Inclusive education considers diversity and individual needs. This concept involves integrating students with special needs into regular educational environments and providing necessary support. 7) Outcome-Based Learning: Focus on achieving measurable results that are concrete and related to practical skills needed in the professional world. 8) Global Education: 21st-century education emphasizes global understanding and cross-cultural skills. Students are encouraged to develop a broader understanding of global issues and participate in global communities. 9) Adaptive Learning: Adaptive learning involves using technology to provide a learning experience tailored to the individual needs of students. This includes the use of artificial intelligence to adjust learning materials according to students' abilities and learning speeds (Hussin, 2018).

Challenges faced in the era of disruption, particularly in the context of early childhood education, tend to be observed in several factors: a) Limited Access to Technology: Many Early Childhood Education institutions, especially in rural areas or with limited resources, may face constraints in obtaining and utilizing advanced educational technology. b) Lack of Teacher Skills in Technology Integration: Early Childhood Education (ECE) teachers are not fully prepared to integrate technology into the learning process. Adequate training is necessary for teachers to effectively utilize technology. c) Digital Divide Among Students: The digital gap between students who have access to technology and those who do not can create disparities in the quality of early childhood education. d) Child Safety and Privacy: The use of technology in ECE raises questions about the safety and privacy of children. It is crucial to ensure that the technological solutions used meet security and privacy standards. e) Changes in Skill Needs: The Fourth Industrial Revolution demands different skill developments than those required previously. ECE needs to continuously update the curriculum to ensure that children acquire skills relevant to future needs. f) Technology as a Substitute for Human Interaction: While technology can be an effective tool, complete substitution of human interaction may hinder the social and emotional development of children. g) Inappropriate Developmental Stage Approaches: There is a risk that technology may be used inappropriately, not aligning with the developmental stages of children and hindering age-appropriate learning experiences. h) Dependency on Technology: Excessive reliance on technology in ECE learning may reduce flexibility and creativity in the teaching approach. i) Challenges in Inclusive Education: Enhancing inclusive education in the era of disruption might be more challenging as it requires providing additional resources and support for children with special needs.

V. Conclusion

Based on the data from the Global Education Monitoring (GEM), education in Indonesia is ranked 10th out of 14 developing countries, and the quality of teachers is ranked 14th out of 14 developing countries worldwide. Out of the 3.9 million existing teachers, there is still 25% of teachers who do not meet academic qualification requirements, and 52% of them do not possess a professional certificate. According to Meliantina (2019), the low competence of teachers in Indonesia is attributed to several factors:

1. Mismatch of Academic Discipline with Teaching Fields: The lack of alignment between the academic discipline of teachers and their teaching fields affects the learning process, resulting in suboptimal teaching, and students may not fully grasp the material taught by the teacher.
2. Inequitable Qualifications: A significant portion of Early Childhood Education (ECE) teachers, based on data from the Directorate General of ECE and Community Education of the Ministry of Education and Culture in 2017, amounted to 552,894 individuals. However, only 47.79% were qualified as bachelor's degree holders, and not all of them had relevant educational qualifications for ECE.
3. Low Participation in Continuous Professional Development Programs: The effectiveness of programs aimed at enhancing the continuous professional development of teachers is hindered by low participation. These programs aim to elevate teacher competence by keeping them updated with the latest developments in knowledge and technology.
4. Ineffective Teacher Recruitment: Many potential teachers are recruited without going through the required recruitment system. This situation contributes to lower teacher competence and hampers their ability to face challenges in the era of disruption.

Transforming the role of teachers in addressing disruption in early childhood education requires adaptation and a profound understanding of technological changes and societal dynamics. Through a holistic approach, teachers can play an effective role in supporting the optimal development of learning and play in early childhood. The hope is that teachers can face the challenges of the disruption era by providing more meaningful learning experiences for their students.

References

Ashfarina, I. N., & Soedjarwo, S. (2023). Implementasi Kurikulum Merdeka Belajar di Pendidikan Anak Usia Dini (PAUD). *...: Jurnal Pendidikan Dan ...*. Retrieved from http://mail.jurnaledukasia.org/index.php/edukasia/article/view/442

Cholily, Y., Putri, W., & ... (2019). Pembelajaran di era revolusi industri 4.0. *Seminar &Conference ...*, (Query date: 2023-11-17 21:08:03). Retrieved from http://jurnal.umt.ac.id/index.php/cpu/article/view/1674

Creswell, J. (2012). *Educational research*. ds.amu.edu.et. Retrieved from https://ds.amu.edu.et/xmlui/bitstream/handle/123456789/12961/Educational%20Research%20Creswell.pdf?sequence=1&isAllowed=y

Dacholfany, M. I., & Hasanah, U. (2021). *Pendidikan anak usia dini menurut konsep islam*. Books.google.com. Retrieved from

https://books.google.com/books?hl=en&lr=&id=eN5WEAAAQBAJ&oi=fnd&pg=PP1&dq=pendidikan+anak+usia+dini&ots=0D9-vt0sWf&sig=Hd-r61uzbyf0HPDwqwZ6Q0ZpzJ8

Faturahman, A. (2023). *Guru Profesional Di Era Revolusi Industri 4.0*. (Query date: 2023-11-17 21:08:03). Retrieved from https://osf.io/4arze/download

Hibana, H., & Surahman, S. (2021). Kompetensi Digital Guru Dalam Upaya Meningkatkan Capaian Pendidikan Anak Usia Dini. *Jurnal Studi Guru Dan Pembelajaran*, (Query date: 2023-11-17 21:08:03). Retrieved from https://www.e-journal.my.id/jsgp/article/view/1392

Hussin, A. (2018). Education 4.0 made simple: Ideas for teaching. *International Journal of Education and Literacy ...*, (Query date: 2023-11-22 15:33:23). Retrieved from https://journals.aiac.org.au/index.php/IJELS/article/download/4616/3541

INDONESIA, P. (2006). *Undang-undang Republik Indonesia nomor 20 tahun 2003 tentang sistem pendidikan nasional*. (Query date: 2023-11-23 20:32:44). Retrieved from https://piaud.uin-suka.ac.id/media/dokumen_akademik/43_20210506_Undang-Undang%20Nomor%2020%20Tahun%202003%20tentang%20Sistem%20Pendidikan%20Nasional.pdf

Indonesia, R. (2005). *Undang-Undang Guru dan Dosen Nomor 14 Tahun 2005*. (Query date: 2023-11-23 20:31:39).

Kebudayaan, S. (2014). *Peraturan menteri pendidikan dan kebudayaan republik Indonesia*. (Query date: 2023-11-23 20:45:56). Retrieved from https://intranet.polibatam.ac.id/SISTEM%20PENJAMINAN%20%20MUTU%20INTERNAL/KEBIJAKAN%20EKSTERNAL/KEPEGAWAIAN/PERATURAN/07198%20Permen%2052%20Tahun%202014%20tentang%20Pedoman%20Pengembangan%20Sumber%20Daya%20Manusia%20Kebudayaan.pdf

Maulana, I., & Nurhafizah, N. (2019). Analisis kebijakan pendidikan anak usia dini di era revolusi industri 4.0. *Jurnal Pendidikan Tambusai*, (Query date: 2023-11-17 21:08:03). Retrieved from https://www.jptam.org/index.php/jptam/article/download/266/244

Meliantina, M. (2019). Menerapkan budaya literasi guru sekolah dalam upaya meningkatkan pendidikan di era industri 4.0. *Muróbbî: Jurnal Ilmu Pendidikan*, (Query date: 2023-11-17 21:08:03). Retrieved from http://jurnal.iaibafa.ac.id/index.php/murobbi/article/view/199

Nurkholis, M., & Badawi, B. (2019). Profesionalisme guru di era revolusi industri 4.0. *Prosiding ...*, (Query date: 2023-11-17 21:08:03). Retrieved from https://jurnal.univpgri-palembang.ac.id/index.php/Prosidingpps/article/view/2571

Surya, Y. F. (2017). Penggunaan Model Pembelajaran Pendidikan Karakter Abad 21\pada Anak Usia Dini. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*. Retrieved from https://obsesi.or.id/index.php/obsesi/article/view/31

Syifauzakia, S. (2020). Pendidikan Anak Usia Dini Dalam Keluarga Di Era Industri 4.0. *AL-TARBIYAH: Jurnal Pendidikan (The ...*, (Query date: 2023-11-17 21:08:03). Retrieved from https://www.syekhnurjati.ac.id/jurnal/index.php/tarbiyah/article/view/7347