

CURRICULUM TRANSFORMATION IN THE 21ST CENTURY EDUCATION: PERSPECTIVES, CHALLENGES, AND PROSPECTS

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KEYWORD

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ABSTRACT

Massive changes in various aspects of life are characteristic of the 21st century, triggered by the rapid development of technology. In facing this era of technological progress, globalization and social complexity, education must adapt its curriculum so that students are equipped with skills and competencies that are relevant to the ever-changing demands of the global market. Innovation in the curriculum is a must, which not only addresses current problems but also integrates 21st century skills. This article aims to examine the competencies required by 21st century education and identify the challenges faced in implementing curriculum changes. This study uses a literature review methodology, taking sources from textbooks, scientific journals, and the latest research findings. The selected sources meet the criteria of relevance and novelty. 21st century skills needed to carry out curriculum transformation include critical thinking, creativity, collaboration, communication, digital literacy, and problem solving. Challenges in implementing curriculum changes that need attention include intensive teacher training, development of appropriate assessments, support from various parties, and adequate resource allocation. Overall, curriculum transformation can create relevant, contextual, and responsive learning experiences that meet student needs in an ever-changing educational landscape.

INTRODUCTION

The 21st century is an astonishing era marked by rapid advancements in science and technology. Amidst the rapid progress of technology, social transformations, and global economic dynamics, our world finds itself in an era that demands rapid adaptation and innovative thinking. These changes have also impacted the job landscape, with the emergence of new professions that require different skills from previous generations. Furthermore, changes in communication patterns, access to information, and globalization have also influenced how students learn and acquire knowledge.

facing these challenges, education plays a crucial role. 21st-century education emphasizes the development of skills and competencies that are relevant to the needs of modern society. The development of 21st-century skills has become the primary focus in education today. Schools and educational institutions worldwide strive to design relevant curricula and create learning environments that support the development of 21st-century skills. The importance of 21st-century skills lies in their ability to provide a strong foundation for individuals to face the challenges and opportunities in this era of information and knowledge.

Modern society requires individuals who can adapt quickly, think critically to solve complex problems, and collaborate with people from different backgrounds and cultures. 21st-century skills are not only preparing individuals for the workforce but also focusing on the comprehensive development of quality of life. In 21st-century education, it is important to ensure that students

are given opportunities to develop these skills through active, collaborative, and integrated learning approaches. By developing 21st-century skills, individuals will have a competitive advantage in the ever-evolving and complex world of work. They will be able to tackle emerging challenges in innovative and sustainable ways. Additionally, 21st-century skills will also help individuals build strong and meaningful relationships in their personal and professional lives.

Education is demanded to be responsive and adaptive to changes in order to remain relevant and effective in fulfilling its functions. One of the functions of education is to develop the potential, skills, values, and character of individuals to adapt and meet the needs of the times. One of the efforts that must be made to improve the quality of education in facing the challenges of the times is curriculum change. In the education system, the curriculum is one of the components that serve as a guideline in achieving educational goals. In many ways, the curriculum can be used as a measure of the quality of the output of educational provision (Nurgiyantoro, 2008).

The quality of education delivery is greatly influenced by the quality of the curriculum. Therefore, innovative curricula and learning approaches need to be designed to promote the development of social, emotional, and metacognitive skills that are crucial in everyday life. In this article, we will delve deeply into and identify relevant skills and competencies, as well as effective learning approaches, to develop these skills. We will also highlight the challenges and obstacles in implementing 21st-century education.

By developing 21st-century skills, individuals will have a competitive advantage in the ever-evolving and complex world of work. They will be able to tackle emerging challenges in innovative and sustainable ways. Additionally, 21st-century skills will also help individuals build strong and meaningful relationships in their personal and professional lives. In this work, we will further explore 21st-century skills and why these skills are crucial in facing challenges in the modern era. We will discuss the essential intellectual, interpersonal, and technological skills within 21st-century skills, as well as strategies for developing these skills in the context of education and the workforce. In this work, we will further explore 21st-century skills and why these skills are crucial in facing challenges in the modern era.

RESEARCH METHODS

This study is conducted using a literature review. The reading sources used include textbooks, encyclopedias, scientific journals, and research findings. The reading sources used meet the criteria of relevant and up-to-date literature. By integrating findings and perspectives from multiple empirical studies, a literature review can answer research questions with excellence that other studies may not possess (Snyder, 2019). A literature review is useful in providing a general overview of a particular research problem or issue.

This article aims to investigate the competencies demanded by 21st-century education and identify the challenges faced in implementing curriculum changes. Through a literature review, the author will gather relevant information from reliable and current sources to obtain a comprehensive understanding of this topic. Thus, this article is expected to contribute to understanding the importance of developing 21st-century skills in education and the challenges that need to be overcome to achieve this goal.

In this research, the literature review method is used as an appropriate approach to explore knowledge from existing literature. By referring to trustworthy sources, researchers can gather relevant and up-to-date information about the competencies that are important in 21st-century education. Additionally, this research will also analyze the challenges and obstacles faced in implementing curriculum changes that support the development of 21st-century skills. Therefore, this research is expected to provide valuable insights for educational practitioners, decision-makers, and researchers interested in understanding 21st-century skills and the challenges in modern education.

RESULTS AND DISCUSSION

Curriculum Development

In the traditional view, the concept of curriculum is defined as a set of subjects that students must master (Zais, Robert S, 1976). The curriculum is likened to a track where students must master a certain number of subjects to reach the finish line. However, a broader definition of curriculum is presented by Stratemeyer (Sabda, 2016). According to him, the curriculum is defined as "the sum total of the school's effort to influence learning either in the classroom, on the playground, or outside of school." This idea views the curriculum as a series of school efforts to influence learning in various contexts. A similar opinion is also expressed by (Beauchamp, 1968), who sees the curriculum broadly as "all activities of children under the jurisdiction of the school." Although there are differences in defining the curriculum, essentially it is understood as a guide for learning. The view of the curriculum concept has expanded from curriculum as content to curriculum as a process.

The curriculum plays a strategic role in the implementation of the education system. The curriculum is one aspect that influences the success of education (Rusman, 2018). (Hunkins & Ornstein, 1989) state that the curriculum is a design or plan to achieve educational goals. Through curriculum development, educational goals can be clearly defined and serve as a reference in designing structured and directed learning experiences for students. The curriculum provides a systematic framework to facilitate learning, determine teaching materials, teaching strategies, and learning evaluation, enabling the educational process to run effectively and efficiently. With a good curriculum, education can provide meaningful and relevant learning experiences for students, meeting their needs in facing the challenges of the modern era. Results consists of data or finding of the research, table of data, and results of data analysis. Figure captions should be centered below the figure; table captions should be located at the top left of the tables. Avoid placing figures and tables before their first mention in the text.

Curriculum development is a cycle consisting of planning, development, implementation, and evaluation activities. According to (Oliva, 1992), curriculum development is a systematic process of designing, developing, implementing, and evaluating a learning plan that includes goals, content, teaching methods, and assessment. On the other hand, according to (Hamalik, 2009), curriculum planning is a complex social process that requires various types of decision-making. In the face of change, curriculum development must be dynamic, adaptive, and futuristic. The direction and goals of educational curriculum will undergo refinement and change in line with the dynamics of social change (Bahri, 2022). Failure to respond to social changes in the curriculum will result in outputs that are irrelevant to the evolving social needs or conditions. The curriculum of the future must go beyond the traditional model that solely focuses on academic knowledge and skills. Instead, the curriculum should be more holistic, offering an interdisciplinary approach to prepare students for an increasingly complex world.

In order to achieve educational goals, the curriculum serves as a guide in the implementation of the educational process at educational institutions. In its application, the form of the curriculum will vary depending on the curriculum concept used by the curriculum developers, and ultimately, it will have implications on how the educational process is carried out. According to McNeil (1990), there are four conceptions of curriculum in curriculum development: (1) Academic Subject Curriculum, which is oriented towards the development of disciplinary knowledge, (2) Humanistic Curriculum, which is oriented towards the development of personality, attitudes, and emotions/feelings, (3) Social Reconstruction Curriculum, which is oriented towards the development of problem-solving abilities in society, and (4) Technological Curriculum, which is oriented towards the development of behaviors/competencies in various aspects of life. In practice, curriculum development does not have to adhere to a single concept but can incorporate various concepts that are suitable for preparing learners to have competencies aligned with their interests. We can design a curriculum by combining the strengths and weaknesses of these four concepts.

OECD (Graphique 2.10. Implementation guides or documents accompanying curriculum frameworks, 2021) has conducted a study focusing on the process of curriculum design changes in various countries. OECD synthesizes principles of curriculum design that are considered effective and promote a systematic and accountable process. These principles encompass several important aspects. Firstly, concerning the development of the curriculum vision and goals, it involves having a clear vision, measurable goals, and clarity about the competencies and values to be achieved through the curriculum. Secondly, regarding the design of the curriculum structure and content, it involves organizing the curriculum content with a focus on deep and integrated learning, as well as considering the needs and interests of students. Additionally, there are principles related to learning and teaching approaches, assessment and evaluation, and stakeholder engagement. This study provides a significant contribution in guiding effective curriculum design changes and offers guidance to countries and education systems in enhancing overall educational quality. By following the curriculum design principles suggested by OECD, countries can ensure that their curriculum is able to face future challenges, meet the needs of students, and provide a strong foundation for the development of relevant skills and knowledge in the face of the ever-changing world.

In response to rapid changes in the workplace and technological advancements, organizations across various sectors have recognized the importance of preparing for the challenges of the 21st century. To that end, several organizations have made efforts to develop frameworks of 21st-century competencies that aim to identify and develop relevant and crucial skills for individuals in this era. The Association for Education defines competencies as the knowledge, skills, and abilities demonstrated by individuals through performance standards. In this context, competencies refer to individuals' ability to effectively demonstrate the knowledge, skills, and abilities they possess in a specific environment (Rina Febriana, 2021). According to Dessler (2017), competencies are personal characteristics that can be demonstrated, such as knowledge, skills, and personal behaviors like leadership. A competency is more than just knowledge and skills (Summary, n.d.). It involves the ability to meet complex demands by leveraging and mobilizing psychosocial resources, including skills and attitudes, within a specific context.

These competency frameworks are designed to ensure that individuals have the skills needed to face the changes and demands occurring in the modern workplace. Some key aspects often included in 21st-century competency frameworks are critical thinking, creativity, collaboration, communication, digital literacy, and problem-solving. The Partnership for 21st Century Learning (P21) has developed a comprehensive competency framework aiming to ensure that education not only focuses on the mastery of academic knowledge but also integrates essential skills in the context of the workforce and society. There are three major themes considered important in 21st-century learning. These themes are Life and Career Skills, Learning and Innovation Skills, and Information, Media, and Technology Skills.

Firstly, Learning and Innovation Skills are one of the important themes in the P21 framework. These skills encompass four key learning areas considered critical, known as the "Four Cs": critical thinking, communication, collaboration, and creativity.

1. **Critical Thinking:** This area emphasizes the importance of students' ability to analyze information critically, evaluate arguments, identify underlying assumptions, and develop deep understanding.
2. **Communication:** Effective communication is a crucial skill in the P21 framework. It includes students' ability to convey ideas clearly, use various communication media and platforms, and adapt their communication style to different audiences.
3. **Collaboration:** The ability to work in teams and collaborate effectively is an important aspect in today's workplace. The P21 framework encourages students to develop collaboration skills, such as the ability to listen, contribute meaningfully, appreciate differing opinions, and achieve common goals.

4. Creativity: Creativity is emphasized in the P21 framework as it is considered essential in generating new ideas, innovative solutions, and out-of-the-box approaches. Students are expected to develop the ability to think creatively, see problems from various perspectives, and apply innovative thinking within their contexts.

Secondly, Information, Media, and Technology Skills encompass individuals' abilities to access, evaluate, use, and participate in the ever-evolving information world. In the P21 framework, these skills include:

1. Information Literacy: The ability to identify, search, evaluate, and use information critically and effectively.
2. Media Literacy: The ability to understand, analyze, and create messages through various media, including print, digital, and social media.
3. ICT (Information, Communications, and Technology): The ability to use technology effectively to gain access to information, communicate, collaborate, and solve problems.

The third theme is Life and Career Skills. These skills emphasize an individual's ability to work effectively with diverse teams, have an open mind to various ideas and values, set and achieve goals, manage projects effectively, take responsibility for outcomes, demonstrate ethical practices, and be accountable to oneself and the broader community. In an increasingly complex and ever-changing world, these life and career skills are key to success in the workplace and daily life. By developing these skills, individuals can become responsive, collaborative, and responsible leaders who contribute positively to the larger society. The P21 Life and Career Skills include:

1. Flexibility and Adaptability: The ability to adapt and be flexible in the face of changing circumstances and challenges.
2. Initiative and Self-Direction: The ability to take initiative and direct oneself in achieving goals without continuous direction.
3. Social and Cross-Cultural Skills: The ability to interact effectively with others in both social and cross-cultural contexts.
4. Productivity and Accountability: The ability to be productive, work efficiently, and take responsibility for tasks and work outcomes.
5. Leadership and Responsibility: The ability to be an effective leader, take responsibility for actions and decisions, and make positive contributions in social and work contexts.

The World Economic Forum (WEF) Future of Jobs Report is a report focused on the development of the workforce and the skills considered important for success in the future. Through research involving global stakeholders, the WEF identifies key skills such as complex problem-solving, creativity, leadership, and digital literacy as important skills in addressing changing market demands (Report, 2018). This report provides deep insights into workforce trends and offers guidance on the skills needed for future success. You can access this report through the World Economic Forum's website to learn more about the WEF's version of the 21st-century competency framework and their findings in this research.

The Partnership for Global Learning, a part of the Asia Society, has developed a 21st-century competency framework that includes Entrepreneurship, Character Skills, Global Awareness, and Linguistic Skills. This framework aims to prepare students with relevant and important skills in a competitive global era, with a focus on entrepreneurship, character skills, global understanding, and linguistic skills. Through this framework, they are committed to helping students become competitive global citizens ready to face future challenges.

The Education 2030 Project has identified three further categories of competencies known as "Transformative Competencies" to address the growing needs of youth in becoming innovative, responsible, and conscious individuals. Transformative competencies include the ability to create new value through critical and innovative thinking, reconcile tensions and dilemmas through critical thinking and finding balance, and take responsibility for actions and decisions by understanding their consequences. By developing these competencies, youth will be

better prepared to navigate change and become positive agents of change in an increasingly complex society and world (Skovsgaard, 2018)

The 21st-century knowledge-skills rainbow framework, developed by Trilling and Fadel (2009), summarizes these three skills within a comprehensive framework. This framework offers valuable guidance for understanding and developing relevant skills to meet the demands of the modern era (Trilling & Fadel, 2009). The scope of 21st-century skills extends beyond digital skills. This aligns with the fact that the 21st century has introduced numerous new approaches to student skills as the basis for academic experiences and life success (Chalkiadaki, 2018).

21st Century Learning

21st Century Learning refers to an educational approach that aims to prepare students for the challenges and opportunities of the 21st century. This approach recognizes the need to go beyond traditional teaching methods and adapt to the changing world characterized by rapid technological advance.

There has been a paradigm shift in 21st-century learning, bringing forth new approaches and unique challenges. In an era characterized by technological advancements and rapid social changes, learning is no longer limited to knowledge transmission but involves active student engagement, the utilization of technology, the development of 21st-century skills, and an emphasis on character and ethics. This new paradigm demands that teachers act as facilitators and students become critical, collaborative knowledge builders who can adapt to change. 21st-century learning is increasingly relevant in preparing students to face the demands of the modern age and develop their holistic potential.

The Framework for 21st Century Learning provides a comprehensive vision for education that focuses on students' success in an ever-changing world (Systems, 2019). This framework recognizes that in today's dynamic and interconnected society, learning is a lifelong process that extends beyond the traditional classroom environment. The framework emphasizes the development of essential skills, knowledge, and attitudes for students to thrive in the 21st century. These skills include critical thinking, communication, collaboration, creativity, and global understanding. The framework also highlights the importance of digital literacy, information literacy, and the ability to adapt to new technologies. By adopting this framework, educators can create learning environments that prepare students to be active and engaged citizens, capable of facing complex challenges, and making positive contributions to society and the world at large.

There has been a paradigm shift in 21st-century learning, bringing about new approaches and unique challenges. In an era marked by rapid technological advancements and social changes, learning is no longer limited to the transmission of knowledge. Instead, it involves active student engagement, the utilization of technology, the development of 21st-century skills, and an emphasis on character and ethics. This new paradigm demands that teachers take on the role of facilitators, while students become critical thinkers, collaborative builders of knowledge, and adaptable to change. 21st-century learning is becoming increasingly relevant in preparing students to meet the demands of the modern era and develop their potential holistically.

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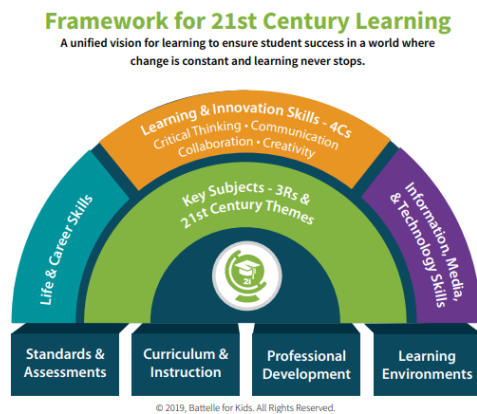


Figure 1. Framework for 21st Century Learning

The framework developed by Partnership for 21st Century Learning (P21) is a highly relevant and comprehensive guide for 21st-century learning. This framework provides a clear understanding of the skills and knowledge required by students to meet the demands of the modern era. With a focus on four key skill domains, namely collaboration, communication, creativity, and critical thinking, the framework emphasizes the importance of developing social interaction skills, problem-solving abilities, innovation, and critical analysis. Additionally, the P21 framework integrates the use of technology, media literacy, and understanding of global issues into the learning process. This reflects the urgent need to prepare students to adapt to the rapid and complex changes in the modern world. By utilizing the P21 framework, educators can design relevant and student-centered learning experiences that promote the development of essential 21st-century skills for success in life and career. By employing this framework, educators can design learning experiences that are relevant and supportive of the development of 21st-century skills in students, ensuring they are prepared to face the challenges and opportunities of this modern era.

In designing education, it is important for schools to promote a deeper understanding of academic content by integrating interdisciplinary 21st-century themes into core subjects. Some important themes to include are global awareness, financial literacy, economics, business, and entrepreneurship, civic literacy, health literacy, and environmental literacy. By incorporating these themes into the curriculum, students will gain a better understanding of global issues, acquire knowledge of financial management, understand the importance of active citizenship, develop awareness of health and the environment, and cultivate skills relevant to the changing times. Therefore, 21st-century education can provide students with a broader perspective and prepare them to face the challenges and opportunities in an increasingly complex world.

21st-century learning specifically develops 21st-century skills such as critical thinking, creativity, communication, collaboration, problem-solving, digital literacy, and social-emotional skills. Learning is designed to engage students in the development and application of these skills so that they are prepared to meet the demands of the modern era. Here are some characteristics of 21st-century learning:

1. Collaborative: 21st-century learning encourages students to work collaboratively, both with their peers and with external parties outside of school. Students are invited to work in teams, share ideas, engage in discussions, and support each other in achieving learning goals. Through collaboration, students can develop important communication, cooperation, and leadership skills for the workplace and social life.
2. Student-centered: 21st-century learning shifts the role of the teacher from being an authority figure who imparts knowledge to students to a facilitator or guide in the learning process. Student-centered learning provides opportunities for students to take initiative, choose topics

of interest, and develop independent learning abilities. Teachers play a role in supporting and guiding students in achieving their learning goals.

3. Project-based: 21st-century learning often employs a project-based approach, where students are engaged in real-world projects or situations that require them to apply knowledge and skills in relevant contexts. Through projects, students develop critical thinking, problem-solving, and creativity skills in tackling the challenges they face.

Integrated: 21st-century learning integrates various disciplines and real-life contexts. Students are encouraged to see the connections between different fields, understand the implications of learning in various contexts, and develop comprehensive understanding. This integration prepares students to face the complexities of the real world that require connected and integrated thinking.

Challenges in Implementing Curriculum Changes

In the 21st century, students face various risks and uncertainties due to the rapid development of their environment. This urges them to learn more and be proactive in acquiring adequate knowledge and skills. They live in a world that is different and much more complex compared to previous times. Changes in learning paradigms and educational patterns demand that education stakeholders also adapt. The implementation of curriculum changes in the context of education often faces various challenges that need to be overcome in order to succeed and have a positive impact.

Curriculum changes assume that education is an ecosystem with multiple stakeholders. Students, teachers, school leaders, parents, national and local policymakers, academic experts, labor unions, and social and business partners work together as a unity to develop projects (OECD, 2019). These challenges involve aspects such as curriculum development, implementation, assessment, and acceptance by education stakeholders. Here are some common challenges that often arise in implementing curriculum changes.

Planning and Development Challenges: Designing and developing a curriculum that is responsive to environmental changes and educational needs is a complex process. These challenges involve selecting relevant content, effective teaching strategies, and valid and measurable assessments. Additionally, curriculum changes should also consider sustainability to avoid being a process that simply follows trends or temporary needs.

The implementation of a curriculum often faces challenges in terms of understanding and adaptation by teachers. According to Fullan (2007), curriculum implementation is defined as "putting into practice an idea, program, or set of activities that are new to the individual or organization using it." The implementation process involves various activities that demonstrate how teachers practice the curriculum, how they teach, and how they evaluate students (Nevenglosky et al., 2019). The successful implementation of a new curriculum is often dependent on the understanding and readiness of teachers. They need to have a solid grasp of the core changes in the curriculum and master appropriate teaching methods. Additionally, the success of curriculum implementation also relies on the institution itself (Olamo et al., 2019). (Hasan, 2008) identified influential factors in the curriculum implementation process, including human factors (teachers, school principals, students), resources and access to resources, teaching and learning materials, as well as the school and classroom environment.

Lack of understanding and adequate training can lead to resistance to change and hinder the effectiveness of implementing the new curriculum. In fact, it has been found that some teachers do not accept the changes, and at times, they state that they do not implement the new curriculum because they prefer to continue with their existing practices (Ball & Bowe, 1992)

Accurate and objective assessment is an essential part of the curriculum. However, implementing curriculum changes often requires updates in the evaluation and assessment methods used. Evaluation is an activity carried out to make judgments about the feasibility of a plan, implementation, and outcomes of a program or policy (Ali, 2010). On the other hand, Kaufman, R & Thomas (1980) state that the purpose of evaluation is "to collect data (results),

convert the data into information (that which aids in making a useful decision), and use the information to make decisions." Assessment, on the other hand, is an integral part of learning. Assessment is conducted to measure and evaluate the level of competency achievement.

The problem faced in improving the assessment of process and learning outcomes is changing the teachers' paradigm regarding the assessment standards that should be implemented. In general, teachers in Indonesia are only familiar with assessment instruments in the form of tests (Ridwan Abdullah Sani, 2016). To measure the achievement of 21st-century competencies, a more comprehensive assessment is needed, such as using authentic assessment (Rosnaeni, 2021). Authentic assessment can take various forms, depending on the learning objectives, including observation, self-assessment, portfolio, authentic tasks, experiments, focused discussions, journals, event analysis, and collaboration among peers (Rosnaeni, 2021). Assessment should be seen as both an instructional tool to be used during learning (formative) and as a means of accountability to determine whether learning has taken place (summative). Both functions are important and should be utilized in classroom performance (Winaryati, 2018). Teachers and the education system need to develop assessment instruments that align with the objectives of the new curriculum and are capable of evaluating students' holistic achievements.

The success of implementing curriculum changes also heavily depends on the acceptance and support from various stakeholders. Stakeholders in curriculum reform, such as teachers, parents, students, and the community (Marques & Xavier, 2020), play a crucial role in this process. The challenge lies in effective communication, adequate socialization, and raising awareness about the importance of curriculum changes in achieving better educational goals.

As the frontline figures in the education process, teachers are expected to provide knowledge, attitudes, behaviors, and skills through appropriate teaching strategies and patterns that align with the demands and developments of the 21st century (Hosnan, 2014). Therefore, it is the responsibility of teachers to equip learners with the necessary tools to thrive in the future. One effort to prepare students for this global era is by developing a school curriculum that incorporates a global perspective.

Discussion

The 21st century has brought significant shifts in the world of education, which requires us to evaluate curriculum design and implementation. Perspectives on curriculum transformation are very diverse, reflecting the evolving needs of society. One perspective emphasizes the integration of technology and digital literacy into the curriculum, recognizing the role of technology in shaping modern life and the job market. Another perspective emphasizes the importance of developing critical thinking, problem-solving, and creativity skills in students to prepare them to face the complexities of an ever-changing world. This diversity of perspectives shows the complexity of curriculum transformation and the need for a holistic approach that accommodates various educational philosophies.

Curriculum development is a complex and essential process in the world of education. Because the curriculum is an educational plan that contains all the learning experiences that will be provided to students at school (Sukmadinata, 2019). The curriculum functions as a guide for teachers and education personnel in organizing the educational process. Because in essence a curriculum is a written document that contains students' educational plans while they are enrolled in a particular school or institution (Beauchamp, 1975). In order to face the challenges of change, Toffler (1970) suggested developing a curriculum based on the needs of society in the future. This is in line with the statement of Ornstein and Hunkins (2016), namely that the curriculum taught in today's society must refer to the relevance of the usefulness of knowledge, behavior and skills needed by society in the present and future. John D. McNeil (1996) in his book explained that there are five current issues in the curriculum, namely development of thinking, competition in education with other nations, vocational education, moral education, and school safety. These five issues are considerations for curriculum developers so they can develop learning that suits students' needs.

Integrating competencies in the curriculum is a crucial step in preparing students to face the increasingly dynamic demands of society and the 21st century job market. Competencies to consider include academic skills, critical thinking, creativity, digital literacy, collaboration, and social skills. A holistic curriculum must provide space for the development of all these aspects, enabling students to become individuals skilled in solving problems, communicating effectively, adapting to change, and contributing to global society. Wagner (2008) groups the skills needed to survive in the 21st century into seven types, namely (1) critical thinking and problem solving abilities; (2) the ability to collaborate with anyone and have a leadership spirit; (3) agility and ability to adapt in various situations; (4) have high initiative and entrepreneurial spirit; (5) ability to communicate effectively verbally and in writing; (6) ability to access and analyze information; and (7) high curiosity and ability to imagine. Delors et al. (1996) in the International Commission on Education for the 21st Century outlined four visions of learning: knowledge, understanding, competence for life, and competence for action. These four visions are reflected in the four pillars of education, namely learning to know, learning to do, learning to be, and learning to live together. Furthermore, Scott (2015) outlines 21st century skills into four educational pillars.

- a. Learning to Know: This involves lifelong activities to acquire, deepen, and utilize knowledge. Learning in the 21st century must focus on interdisciplinary learning, covering topics such as global awareness, economic literacy, business, finance, citizenship, and health.
- b. Learning to Do (Learning to Do): Students must be able to contribute to a society that continues to develop. It involves creativity, adaptability, and skills such as critical thinking, problem solving, communication, and technological literacy.
- c. Learning to Be: Students must be able to function and learn in a variety of social contexts. This includes social skills, self-responsibility, self-regulation, logical thinking, metacognitive skills, and a passion for lifelong learning.
- d. Learning to Live Together: Students are required to learn cooperatively in a diverse society. This includes valuing diversity, teamwork, digital citizenship, global competence, and intercultural competence.

In delineating these pillars, the primary goal is to prepare students to face future challenges with skills and understanding relevant to an ever-changing world. Although the need for curriculum transformation is clear, its implementation faces a number of challenges. One of the main challenges is resistance to change, both from educators and institutions accustomed to traditional teaching methods and content. Adapting to new approaches and technologies requires significant professional development and sufficient resources. As stated by Madondo (2020), the three main problems that influence the implementation of the curriculum are not running effectively, namely the first is that the new curriculum was implemented hastily. The second highlights the issue regarding teachers in interpreting the new curriculum because as agents of change they have not been actively involved in curriculum planning. The third concerns the lack of resources to support the successful implementation of the new curriculum, especially in rural areas. Additionally, aligning curriculum transformation with standardized testing and assessment practices can be challenging, as traditional assessments may not adequately measure 21st century skills. Overcoming these challenges requires not only a change in mindset but also major investments in teacher training, infrastructure, and policy reform.

CONCLUSION

The 21st century has brought about many new approaches to student skills, recognized as crucial foundations in their academic experiences and life success. In an era marked by social dynamics, technological advancements, and rapid change, education is no longer solely focused on knowledge transmission but also on developing skills that are relevant to the demands of the times. Skills such as creativity, problem-solving, critical thinking, collaboration, and digital literacy take center stage in 21st-century learning. Through active, collaborative, and real-world-connected learning approaches, students are prepared to become adaptable, innovative

individuals ready to face change and achieve success in various aspects of life. Various challenges also need to be addressed in adapting to these changes. It is the summary of the results of the study and discussion. It is suggested to highlight the novelty as well as the breakthrough of the study. Recommendation may also be expressed in this section.

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