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INNOVATION AND STRATEGIC PLANNING IN EDUCATION: REALIZING SUSTAINABLE AND COMPETITIVE EDUCATION

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Abstract

This research explores the development of sustainable and competitive education through comprehensive planning strategies in educational institutions. It aims to evaluate the effectiveness of strategic approaches in curriculum design, human resource management, and technology use in preparing students for global challenges. The study adopts a survey method with a quantitative approach, collecting data from a diverse range of respondents to assess their perceptions of sustainable education. Data was gathered through questionnaires and analyzed using descriptive statistical techniques to examine perceptions related to educational sustainability, soft skills development, technology readiness, and curriculum evaluation. The findings reveal that 85% of respondents acknowledge the importance of education in not only addressing immediate needs but also preparing students with relevant skills for the future. Regular teacher training on technology-based teaching methods, such as e-learning platforms, was identified as a crucial step, along with the need for schools to collaborate with local industries to align curricula with industry demands and offer internships to develop practical skills. Furthermore, 78% of respondents considered technology an essential factor in education, although infrastructure limitations remain a challenge in some regions. This study suggests that education in Indonesia must strengthen strategic planning, particularly in integrating soft skills and improving technological infrastructure, to create more inclusive and adaptive educational systems. Recommendations include fostering collaborations with external sectors to enhance the development of sustainable, globally competitive education.

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INTRODUCTION

Sustainable and competitive education is an important priority in the era of globalization, where technological developments and socio-economic dynamics occur very quickly (Hariram et al., 2023; Marszowski et al., 2020; Stolyarova et al., 2020). Education no longer focuses solely on knowledge transfer, but must be able to equip students with relevant skills and understanding to face future challenges. The importance of sustainable education is emphasized by the theory of sustainable development which includes environmental, social, and economic aspects for the sustainability of future generations. In addition, 21st-century skills theory emphasizes that critical thinking, creativity, communication, and collaboration skills are key in preparing an adaptive and competitive generation. This shows that education today must have a more holistic approach, not only focusing on the academic aspects but also the development of practical skills and the instillation of sustainability values to create balanced individuals ready to face future challenges.

A number of studies have raised the importance of 21st century skills, technology and sustainability-based education in supporting quality education. Fadel et al.'s research shows that the integration of critical thinking, creativity, communication, and collaboration skills can produce graduates who are better prepared for the world of work (Haryani et al., 2021; Thornhill-Miller et al., 2023). In addition, a UNESCO study reveals that technology plays an important role in improving access and quality of education, although many developing countries still face obstacles in terms of infrastructure (Lorente et al., 2020; Okoye et al., 2023). Another study by Kim and Park found that education integrated with the concept of sustainability can increase students' awareness of

environmental and social issues, thereby encouraging the emergence of a generation that cares more about global challenges (Glavič, 2020; Hadjichambis & Paraskeva-Hadjichambi, 2020). These three studies provide a strong foundation on how elements such as soft skills, technology, and sustainability values play a role in shaping education that is responsive to the needs of the times.

However, there are still several problems in realizing sustainable and competitive education. Many schools have not fully integrated soft skills and sustainability values in the formal curriculum, and the application of technology is still limited, especially in regions with inadequate digital infrastructure. This shows that there is a gap between the need for education that is ready to face global challenges and the current conditions. This research aims to formulate an educational model that can synergistically integrate soft skills, technology utilization, and sustainability values, so as to increase students' competitiveness and prepare them for future changes.

This study offers gaps and novelties that have not been explored in depth in previous studies. Although many studies have highlighted the importance of soft skills, technology, and sustainability, no research has specifically integrated these three elements in one overarching education model. The novelty of this study lies in its synergistic approach, combining soft skills, technology utilization, and sustainability education in an adaptive curriculum. This not only answers global challenges but is also relevant to local needs, so it is expected to make an important contribution in formulating a sustainable and competitive education model in the future.

RESEARCH METHODS

This study uses a qualitative approach with a descriptive type of research. The qualitative approach was chosen because the purpose of this research is to explore and understand phenomena related to sustainable and competitive education, especially in the context of the integration of soft skills, the use of technology, and the value of sustainability in the educational curriculum. This research aims to describe in depth the practices applied in educational institutions and to gain an understanding of the challenges and opportunities that exist in developing education that is adaptive to global changes.

The data collection techniques used in this study consist of in-depth interviews, observations, and documentation studies (Holili et al., 2024; Munkar & Walid, 2023; Walid & Sutiah, 2024). Interviews were conducted with various related parties, including principals, teachers, administrative staff, and students. This interview aims to obtain their views and experiences related to the implementation of continuous education, soft skills development, and the use of technology in the learning process. Observations were made to see firsthand how learning activities take place in the classroom and extracurricular activities related to the development of students' non-academic skills. In addition, documentation such as curriculum, teacher training plans, and educational evaluation reports are also collected to provide a complete picture of the policies and practices implemented in schools.

The data analysis in this study uses a thematic analysis approach. Data obtained from interviews, observations, and documentation will be analyzed by identifying emerging themes, related to aspects of soft skills, use of technology, and sustainability of education. This process involves coding the data to group relevant information according to the research category. Furthermore, these findings will be analysed to identify patterns that reflect best practices in sustainable and competitive education. The results of this analysis will be used to formulate an educational model that can integrate the three elements synergistically and contribute to efforts to improve students' competitiveness in facing global challenges in the future.

FINDINGS AND DISCUSSION

Quality education is one of the main pillars for the development of a nation (Hofman-Bergholm, 2020; Suwito Eko et al., 2020). For this reason, innovation and strategic planning in education play an important role in creating an education system that is not only relevant to the times, but also able to answer increasingly complex global challenges. In this context, sustainable and competitive education are two inseparable things, which need to be integrated in the process of planning and developing education.

Innovation in Education

Educational innovation includes changes or updates in various aspects of education. Education will be more dynamic and can keep up with the rapid development of the times(Kim & Maloney, 2020; Tan, 2021). This is in accordance with the statement conveyed by the professor of education that

> *Innovation in education is the process of developing and applying new ideas, methods, or technologies to improve the quality of learning. This innovation is not only limited to technology, but also includes learning methods, classroom management strategies, and ways to motivate and involve students in learning (A.F-24)*
>
> *New technologies and methods such as PBL can overcome many challenges. One of them is the challenge of providing equal access to education (A.F-24)*
>
> *The biggest challenge is the readiness of infrastructure and human resources. Uneven technological infrastructure is a major obstacle, especially in remote areas. In addition, teachers' competence in using technology also varies greatly (A.F-24)*

Insight into the importance of innovation in the world of education. The educational innovation in question is not only limited to technology, but also includes updates in learning methods, classroom management strategies, and ways to increase student motivation and engagement in the learning process. This shows that innovation is a comprehensive process that seeks to improve and improve the overall quality of education. For example, the application of Project-Based Learning (PBL) as one of the innovative methods mentioned in the interview shows how this approach can enrich the learning experience of students by providing real challenges that encourage them to be more active and engaged in learning.

This innovation is also expected to overcome major challenges in the world of education, one of which is the problem of equal access to education. With increasingly evolving technology and methods like PBL, learning is no longer tied to a limited physical classroom (Boss & Krauss, 2022; Kim & Maloney, 2020). Learning can be done online, reaching remote areas, and facilitating a variety of student learning styles. This is particularly relevant to the challenge of providing education that is accessible to all levels of society.

However, in its implementation, Dr. Fadli highlighted significant challenges, especially in terms of infrastructure readiness and human resources (HR). The main problem faced is the uneven technological infrastructure across Indonesia, which is a major obstacle in introducing educational innovations in areas that are still underdeveloped. Even in more developed areas, teachers' competence in using technology is still very varied. Some teachers may already be quite skilled in utilizing technology, while others need further training to be able to keep up with these developments. Therefore, to maximize the potential for innovation in education, it is important to ensure that adequate infrastructure and training for teachers are provided evenly across the region.

Thus, it can be underlined that innovation in education is a crucial step in facing the rapid development of the times. However, in order for these innovations to be accepted and implemented effectively, adequate infrastructure readiness, teacher capacity building, and supportive policies are needed. Equitable access to education and improving the quality of teachers through continuous training and development are the main keys in creating a more dynamic education that is able to compete at the global level.

Strategic Planning in Education

Strategic planning in education is very important to determine the direction and priorities in achieving the long-term goals of an educational institution (Ferrer-Estévez & Chalmeta, 2021; Lukyanova et al., 2020). Observation through interviews with principals, teachers, and administrative staff, as well as direct observation of the planning process carried out at work meetings and staff meetings showed the results of

The curriculum planning process involving stakeholders includes needs assessment, collaborative discussions among educators, students, parents, and relevant parties, as well as continuous evaluation to ensure the curriculum's relevance and effectiveness. Through a planning meeting involving all relevant parties, including teachers and heads of study fields. Learning targets are formulated to ensure alignment between the curriculum taught and the needs of students and the demands of the ever-evolving world of work. The curriculum not only emphasizes the academic aspect, but also pays attention to the development of soft skills, such as leadership, creativity, and teamwork. This reflects the school's efforts to prepare students to be ready for the

challenges of an increasingly competitive and sustainable world.

In addition, the management of human resources in schools is highly regarded through professional development programs for teachers and staff. Every year, teachers are required to attend training to update their knowledge and skills. This training covers various aspects, such as the latest learning methodology, the use of technology in learning, and effective classroom management. The principal and administrators actively identify the potential and development needs of each individual teacher, which is then planned through workshops, seminars, or collaborations with other educational institutions.

The use of technology in education is also an important part of school strategic planning. Technology is used to support learning both online and offline. Various digital learning tools, including learning management systems (LMS) such as Google Classroom, must be integrated to facilitate the distribution of materials, collection of assignments, and the provision of feedback in person. In long-term planning, schools need to plan to expand digital facilities, such as providing a tablet or laptop device for each student, to facilitate more flexible access to learning materials.

Evaluation of curriculum implementation and teaching strategies is also an integral part of strategic planning (Belita et al., 2020; Kools & George, 2020). Evaluation should be carried out not only through midterm exams and end-of-year exams, but also through direct feedback from students and parents about the quality of learning received. At the end of each school year, an internal evaluation is conducted to assess the achievement of the strategic objectives that have been set, and the results of this evaluation are used as a basis for designing necessary improvements in the following year. In addition, schools can also plan the development of remedial programs or mentoring for students who are experiencing difficulties in certain subjects.

The school's long-term vision to be a sustainable educational institution, not only in terms of the quality of education, but also based on the facilities available (Díez et al., 2020; Maki, 2023). In long-term planning, schools must commit to continuously improving the quality of education by introducing project-based learning methods and strengthening student character. The school also plans to increase cooperation with various parties, both other educational institutions and the private sector, to support the sustainability and development of the education they offer.

Table 1. That Summarizes Some Of The Strategic Aspects Found In Educational Planning

Aspects	Findings	Information
Curriculum Development and Learning	The curriculum planning process is carried out in a structured manner by involving all stakeholders every year. Focus not only on academics but also on soft skills such as leadership, creativity, and teamwork.	Alignment is carried out to ensure that students are ready to face the ever-changing world of work. Input from parents and technological developments are also considered.
Human Resource Management	Professional development programs for teachers and staff are held annually. Teachers are required to attend training related to methodology, technology, and classroom management	The principal actively identifies the needs and development potential of each teacher. Activities such as workshops, seminars, or collaborations with other educational institutions are planned to improve teachers' skills
Utilization of Technology in Learning	Technology is an integral part of learning. LMSs such as Google Classroom are used to facilitate online learning and material distribution	In the long-term plan, there is a proposal to provide digital devices for students, such as tablets or laptops, but it is still in the process of budgeting
Evaluation and Measurement of Success	Evaluations are carried out periodically through exams, but also by collecting feedback from students and parents. An internal evaluation is held at the end of each year to assess the achievement of	The results of the evaluation are used to design an improvement strategy in the following year. Remedial or special mentoring programs are planned to help students who are struggling in a

	strategic objectives	particular subject
Sustainability and Long-Term Development	The school is committed to continuing to improve the quality of education and strengthen the character of students. The long-term plan includes collaboration with external parties, such as educational institutions and the private sector, to support the sustainability of education	Project-based learning methods and global values are planned to be improved in learning, aiming to create graduates who are ready to compete at the national and international levels

The interpretation of the results of strategic planning in education shows that the planning carried out in schools has a holistic, structured, and future-oriented approach. The curriculum is designed not only to meet the academic needs of students, but also to prepare them for the ever-changing world of work. Focusing on the development of soft skills, such as leadership, creativity, and teamwork, is a strategic step in preparing students for the greater challenges of the future, where these skills are increasingly important in a competitive global job market.

The importance of human resource management is also seen in the professional development policies implemented in schools. Teachers as the main agent in the educational process, are expected to continue to develop their competencies. Training programs that focus on the latest learning methodologies, technology, and classroom management demonstrate an awareness that the quality of teaching is greatly influenced by the ever-evolving skills and knowledge of educators (Anis, 2024; Gudadur, 2023). Identification and mapping of individual teacher development needs, which is then followed by the preparation of a development program, shows a human resource management system based on continuous quality improvement.

The use of technology in education is also an integral part of the school's strategic planning. The integration of learning management systems (LMS) and the use of other digital learning tools allows for more flexible and efficient learning, both online and offline. With a long-term plan to provide every student with a digital device, the school demonstrates its commitment to strengthening the technological infrastructure that supports digital-based learning. This is a step that is relevant to the development of the times that increasingly rely on technology to facilitate a more effective and efficient teaching and learning process.

Evaluations that are carried out regularly are also part of strategic planning that is very important. The evaluation is not only conducted through formal examinations, but also through feedback from students and parents, which shows the school's efforts in paying attention to the quality of learning as a whole. The use of evaluation results to formulate improvements in the next school year shows an outcome-based approach in educational planning. In addition, remedial or mentoring programs for students who have difficulties in certain subjects demonstrate the school's commitment to inclusivity and equality in learning.

The school's long-term vision to become a sustainable educational institution, both in terms of educational quality and facilities, reflects planning far ahead. By introducing project-based learning methods and strengthening students' character, the school seeks to prepare future generations who are not only academically competent, but also strong in moral and social aspects. Cooperation with other educational institutions and the private sector is an important strategy to ensure the sustainability and development of education that is relevant to the times.

Overall, the strategic planning at this school reflects the seriousness in formulating concrete steps that can improve the quality of education and prepare students to face future challenges, both in the world of work and in wider social life.

Continuing and Competitive Education

Continuing education focuses not only on academic achievement, but also on character building, life skills, and environmental awareness (Nature, 2022; Ferreira et al., 2020). Meanwhile, education that is able to produce graduates who are ready to face global challenges, have skills relevant to the needs of the job market, and contribute to economic and social development is a form of competitive education (Goulart et al., 2022; Herbert et al., 2020).

In a survey on sustainable and competitive education, most respondents (85%) showed a deep understanding of the importance of education that focuses not only on meeting short-term needs, but also on developing relevant skills to face long-term changes. In this context, as many as 70% of respondents feel that schools have sufficiently integrated the concept of sustainability in their curriculum, both in environmental, social, and economic aspects. This is considered a positive step that prepares students to face an increasingly dynamic and challenging world.

In addition, education that focuses on developing *soft skills* such as leadership, creativity, and teamwork received a positive response from 75% of respondents. Schools can integrate soft skill development into the formal curriculum by designing project-based learning, cross-subject collaboration, communication skills training, and practice-based evaluations to ensure real-world application across various life contexts. These skills are seen as an essential element that prepares students for an increasingly competitive workforce. However, around 40% of respondents feel that the development of *soft skills* is still not integrated in the formal curriculum and is more often encountered in extracurricular activities. This shows the need to increase the role of schools in aligning the curriculum to better support the development of these skills.

Technology is also considered an important component in sustainable education by 78% of respondents. Digital tools such as *Learning Management Systems* (LMS), online learning applications, and various other digital devices are considered to be able to improve the quality of learning and provide greater flexibility. However, as many as 35% of respondents revealed that infrastructure limitations, especially in remote areas, are still the main obstacle in the optimal implementation of technology in all educational institutions.

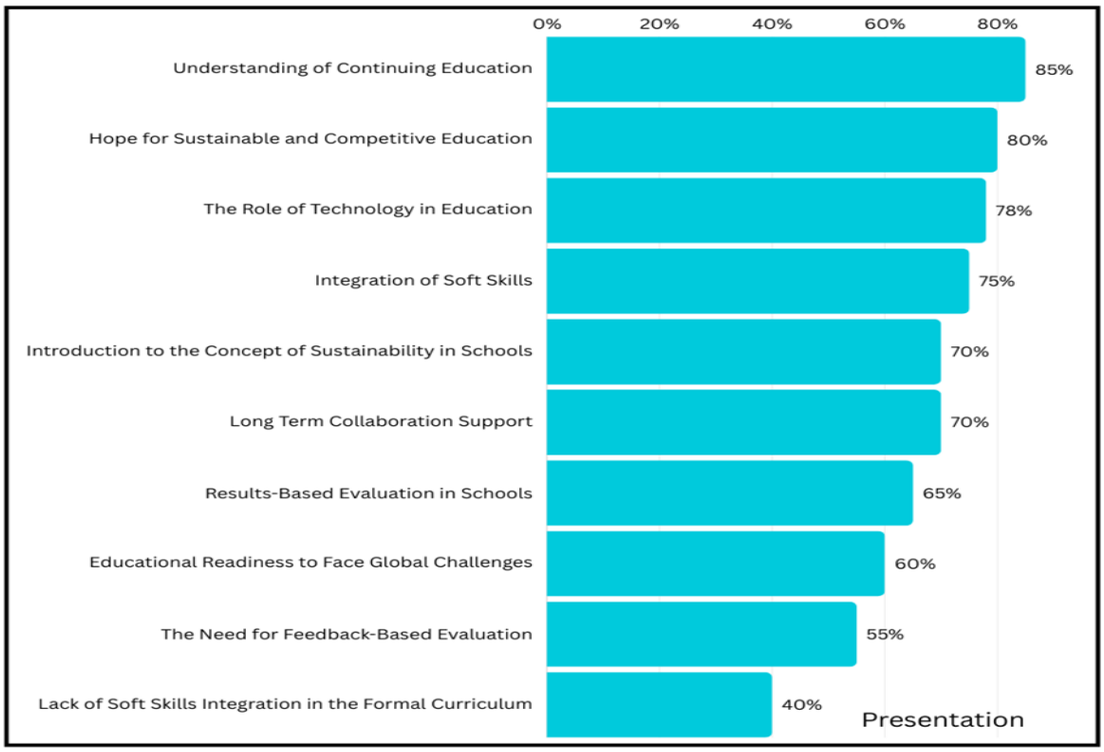
When discussing the readiness of education to face global challenges, only 60% of respondents feel that the education system in Indonesia is ready to compete on the international stage. Although most respondents are aware of the urgency to prepare students for global competition, they argue that many educational institutions have not focused enough on preparing students with the adaptability, critical thinking, and technological skills needed in the rapidly evolving workforce.

Evaluation and measurement of educational success are also a major concern. As many as 65% of respondents feel that the evaluation of the curriculum and teaching strategies in schools is quite good and structured, generally through formal examinations. However, 55% of respondents stated that evaluation methods involving direct feedback from students and parents need to be improved. Many propose that the results of this evaluation can be further optimized in improving teaching methods and adjusting the curriculum to be more in line with the needs of the times.

In terms of long-term planning, as many as 70% of respondents support long-term collaboration between educational institutions and the private sector, government, and international institutions. This collaboration is considered to be able to enrich the quality of education, expand student opportunities, and open their access to compete in the global market.

Expectations for sustainable and competitive education are high, with 80% of respondents expecting the education system in Indonesia to place more emphasis on skills relevant to technological and industrial developments. Respondents also hope that the education system will pay more attention to sustainability aspects in social and environmental aspects, and can instill inclusive global values, such as respect for diversity and peace.

Figure 1. Sustainable and Competitive Education



CONCLUSION

Based on the results of this study, it can be concluded that sustainable and competitive education requires a strong integration between soft skills, technology utilization, and sustainability principles in the educational curriculum. Educational institutions can improve the quality of education by adopting policies that enhance teacher professionalism through continuous training, strengthening collaboration with industry to ensure curriculum relevance, and utilizing technology to improve access and learning efficiency. Additionally, it is important to develop mentoring programs for students and conduct regular curriculum evaluations and improvements based on feedback from stakeholders. The schools involved in this study have been quite effective in developing soft skills through extracurricular activities, but there is still a need for improvement in integrating these aspects into the formal curriculum. In addition, although technology is increasingly adopted in the learning process, limited infrastructure is an obstacle in its implementation, especially in underdeveloped areas. The sustainability of education is also an important concern, with schools striving to instill environmental, social, and economic values in students to prepare them for future challenges.

For further research, it is recommended to expand the scope of the research by involving various types of educational institutions, including those in remote areas, in order to get a more comprehensive picture of the implementation of sustainable and competitive education. Further research can also delve deeper into the influence of technology training on the quality of learning and its impact on students' 21st century skills. In addition, further evaluation of the sustainability of soft skills development in the formal education curriculum and its integration with evolving industry needs could also be an important focus in future research.

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