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Enhancing Student Learning Outcomes through Effective Instructional Strategies, Educational Technology, and Continuous Evaluation in Primary and Secondary Education

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ABSTRACT

To improve proficiency and learning outcomes in students across primary (elementary) and secondary (middle and high school) levels, effective instructional approaches are needed. Focus on Education can create a generation that is not just intellectually curious but socially responsive and able to adapt to a fast changing society with inclusive, technologically advanced solutions.

It is a requirement to produce effective learning, to use a variety of teaching methods and approaches in designing educational strategies. Phases include needs analysis, approach and method selection, alignment with learner characteristics and evaluation and reflection of sustainable strategy development. It has been proven that if students engaged in problem-based education (PBE), collaborative learning and centered approaches where the goal is to develop 21st-century skills they are more engaged.

Educational technology provides flexibility, interaction, and personalized learning, which can enhance the educational experience. The success of blended learning also depends on behavior, such as infrastructure readiness, digital proficiency among educators, and the adaptability of students. Although resources availability and teacher preparation constraints are perennial challenges, outcome-based evaluations (adapting outcome-domain, process-domain and Feedback-Receive) offer a broader scope in potentially measuring how educational policies work in practice. In addition, to assessing academic success, the assessment checks students' progress toward social and emotional skills and satisfaction with the education they received.

Therefore, continuous reflection and refining of education strategies based on evaluation results are essential to guarantee that the evaluation results contribute to improving education for quality and sustainability.

Keywords: educational strategies, primary and secondary schools, strategy formulation, strategy implementation, strategy evaluation, reflection and refinement of strategies.

INTRODUCTION

One of the premier foundations for the development of a nation is education, and a good education system gives birth to a generation that is skilled, competitive, and can adapt to the dynamics of time. In Indonesia, the purpose of primary and secondary education is to prepare people with basic skills and enough knowledge to continue higher education or the work force directly. Hence, at all levels of education, but specifically at the primary and secondary school levels, it is important to formulate, implement, and evaluate effective and sustainable educational strategies.

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Educational strategies for primary and secondary schools are devised through a process of planning - an analysis of current conditions, the challenges faced, and needs to be met. Social, economic and technological developments in their local and global contexts should be taken into consideration when designing these technologies. The success of formulating educational strategies is reliant on the ability of the schools to adapt to changes in curriculum and the dynamic needs of society. Thus, a holistic and evidence-based approach is crucial towards addressing the factors leading to optimal learning environment.

Education policy at the primary and upper-secondary level is key to improving teaching quality and learning outcomes. Education at the primary level lays the basic foundation for character building and development of basic skills. Good education helps students acquire important reading, writing, math and social skills. Such approaches that center on fun, interactive, and experiential learning can also help to enhance students' motivation and mitigate fatigue. The inclusive and diversified ways of teaching by media, games and outdoor activities enables both the teachers and students to get involved and enjoy the learning process.

At the secondary level students recognize more complex and structured material Education at this level needs to encourage critical, analytical, and creative thinking skills. Therefore, strategies that stimulate higher order thinking skills (HOTS) such as problem-solving, discussions and research are essential in preparing for higher level cognitive functions. This exposure goes a long way in preparing them for real life challenges as they include their students in project-based learning or real-world problem-solving activities.

Secondary Education is not only learning but also character and attitude. Hence, it is critical to employ educational approaches that target students emotionally and socially. These programs focus on character education, and leadership training, along with the availability of after school activities develop intelligent student who are also empathetic, socially responsible and capable. Additionally, the right strategies can have a transformative impact on the learning trajectories of students. For instance, the use of technology-driven learning (ICT) at the secondary level makes lesson materials more readily available, heightens classroom excitement, and permits greater topic exploration.

The world is globalized and technology is changing rapidly, the validity of our education strategies from primary to secondary education must equip our students for the challenges ahead. For the next generation of students to have skills that align with the needs of the workforce, learning culture in schools must apply technology in learning — including online learning, application-based tools, and embedding of digital skills. Also, the curriculum should be integrated with 21st-century skills such as collaboration, communication, creativity, and problem-solving. Great teaching should work to develop a lifelong learner. Second at the primary and secondary levels (and even beyond), this attitude sets the stage for students to approach future learning challenges that they will face in higher education or professional life.

Inclusive education strategy should also underpin education, aiming to provide all students with equal access to good education regardless of their age, culture, economic or ability background. Inclusive strategies at the primary and secondary levels can help bridge educational inequality and give all children a successful opportunity to flourish. No successful education programs can exist and prevail without the active participation of parents and the community. Parent-centered educational strategies that bring parents into the learning process with their children – using methods such as regular meetings, home-based learning and emotional support – result in synergy that adds to students' learning outcomes.

OBJECTIVES

Effective education relies not only on the delivery of high-quality content but also on the implementation of various strategies that can optimize student learning outcomes. With the advancement of technology and changes in the way students learn, it is crucial for educators to continuously adapt their teaching methods to meet the needs of the modern world. This article aims to discuss three key elements that can enhance student learning outcomes: effective instructional strategies, the utilization of educational technology, and continuous evaluation in primary and secondary education.

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First, this article seeks to explore how the application of effective instructional strategies can improve student learning outcomes. The primary focus is to investigate various teaching methods that can optimize student engagement, reinforce content understanding, and facilitate the development of both academic and social skills. The discussion includes well-established teaching theories and best practices that educators can implement in their classrooms. In addition to instructional strategies, this article aims to demonstrate the role of educational technology in enhancing student learning outcomes. In an increasingly digital world, the use of technology to support teaching and learning processes has become indispensable. The article examines various types of technology that can be integrated into the classroom, ranging from learning software and mobile applications to interactive tools that can enhance student understanding and interest in the subject matter.

The article also aims to examine the importance of continuous evaluation in the learning process. Evaluation, when conducted regularly and systematically, enables teachers to monitor student progress, identify challenges faced by students, and adjust instructional methods to suit individual learning needs. The discussion emphasizes how evaluation serves not only as a means of assessing final achievements but also as a tool for providing constructive feedback throughout the learning process.

Furthermore, this article intends to highlight the interconnectedness of instructional strategies, educational technology, and continuous evaluation in improving student learning outcomes. These three elements work synergistically to create a dynamic learning environment that is responsive to student needs. In this context, the article will provide examples of how the integration of these elements can result in a more comprehensive and effective learning experience. This article also aims to provide insights to educators and policymakers regarding the importance of adopting flexible, data-driven teaching approaches. By continuously evaluating the methods employed in the classroom and integrating appropriate technology, educators can create more personalized and relevant learning experiences for students. This approach will not only increase student motivation but also help them reach their full potential.

Finally, the article intends to offer practical recommendations for primary and secondary schools in implementing innovative teaching strategies, effective use of technology, and sustainable evaluation systems. By understanding and applying these three elements, it is hoped that student learning outcomes will improve significantly, preparing them to face future challenges with the necessary skills and knowledge.

METHODS

The research conducted in this article is qualitative in nature, relying primarily on literature review and practical experiences from teaching in primary and secondary education settings. The purpose of this approach is to gather in-depth insights into the impact of instructional strategies, educational technology, and continuous evaluation on student learning outcomes. The qualitative method allows for a comprehensive understanding of how these factors contribute to the learning environment, focusing on educators' perspectives and real-life applications within the classroom.

The literature review serves as the foundation for the research, encompassing a wide range of academic journals, books, and studies related to effective teaching strategies, the integration of technology in education, and the role of continuous assessment in improving student performance. By synthesizing findings from various sources, this article highlights key concepts, theories, and best practices that have been shown to be effective in enhancing learning outcomes. The review also draws on existing models and frameworks that link these elements to student success.

In addition to the literature, the research incorporates practical experiences from teaching in both primary and secondary schools. These experiences are drawn from the author's personal involvement in classroom settings, as well as interviews and observations of other educators. Through these real-world insights, the study examines how instructional strategies and educational technology are implemented in actual teaching scenarios, as well as how continuous evaluation is used to monitor and support student progress. This approach provides a nuanced understanding of the challenges and successes faced by educators when applying these methods in diverse classroom environments.

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Finally, the research method emphasizes an interpretive approach to analyzing the data gathered from both the literature and the practical experiences. The focus is on understanding the underlying themes, patterns, and relationships between the teaching strategies, technology, and evaluation practices, and how they collectively influence student learning outcomes. By analyzing these elements in detail, the study provides meaningful conclusions and recommendations for improving educational practices in primary and secondary education.

RESULTS

Formulation of Educational Strategies for Primary and Secondary Schools

Educational strategies in primary and secondary schools include the creation of a guideline in a step-by-step plan along with addressing students needs, available resources, and confrontation with the educational background challenges. At the Primary level, the emphasis is on building the core skills (reading, writing and arithmetic) along with skills like character building. Over the secondary level, strategies move to deepening knowledge in specific topics, readying students for higher education or careers that often integrate technology and project-based learning to develop 21st-century skills.

Educational strategies are shaped by a number of things including government policies like curriculum standards and regulations, as well as the wide range of academic and social-emotional needs of students. Therefore, schools need to analyze the resources available to them, which may include teachers, physical and digital infrastructure, to put the best strategies in place. The teaching and management of schools must integrate new technologies as well, and strategies and resources must correspond to labor market needs and to the cultural plurality of the newly incorporated students into the school environment.

Educational strategies were also shaped by globalization and trends in global education (for example, competency-based and project-based learning). These developments in the global landscape require schools to evolve in order to properly prepare students. So, continuous assessment and feedback are necessary, so that over time, the educational methods can be tweaked to make them better suited for the students, parents, and society in general. A flexible, inclusive, data-driven approach to education will better serve students and prepare them for success in the future.

A. The Process of Formulating Educational Strategy

Formulating an educational strategy can be subjected to a stepwise approach, comprising a systematic review of the scenario, laying down educational objectives, planning of actions, carrying them out and evaluation. The analysis stage evaluates internal and external factors impacting education, including strengths, weaknesses, opportunities, and threats. Educational goals show short-term and long-term goals, and action planning includes choosing methods, techniques, and resources to achieve goals. This strategy is then implemented in daily learning activities, before being evaluated in terms of outcomes and revisions to the plan.

Formulation of the policy is a complex process which needs to be taken care of by different giants like the government, schools, teachers, parents and the community. To plan an effective, relevant, and inclusive educational process, it is necessary to pay attention to the factors influencing the strategy. By using this collective and methodical process, the educational plan can be kept dynamic to cater to learners and enhance learning.

B. Stages in the Formulation of Educational Strategy

The first step of developing an educational strategy is to analyze needs, a key component of creators of strong curricula, policies, and programs. The main goal of needs analysis is to discover educational needs that are directly related to the necessary context, objectives, and challenges. At this stage, when the data is collected, it needs to be ensured that decisions are taken on the basis of real needs. For example, student learning achievements, competency of teachers, infrastructure, educational policies, etc. Understanding who the key stakeholders are (i.e., students, teachers, parents, educations managers, the government, and the industrial sector) is critical as each group has unique needs and expectations.

The next step, after the data is collected, is to perform a gap analysis which contrasts the ideal conditions with the real existing conditions. This analysis will allow to identify what is missing in terms of teacher competencies, facilities or teaching material, among others. It also takes into account other issues, social economic or technological that could have an influence in education. This helps us see what fields still need work, so they can be taken care of.

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The identified needs are step two, and then step three is prioritization of those needs by urgency and potential to impact quality of education. Identify your most pressing needs, as you cannot tackle every need at once. If students are struggling with the material, then improving teaching quality might be a priority followed by addressing infrastructure development. By focusing on the most effective and impactful changes, you will be able to improve education systems relative to all of their work.

After prioritizing the needs, approaches to meet them are developed. These include operational plans, like allocating resources, developing curriculum, training teachers, and administrative strategies. These strategies must be realistic within the constraints and the available resources. The lack of an evaluation process to measure the strategy's effectiveness in addressing the identified needs and fulfilling educational goals.

Evaluation is the last stage, and is crucial to assess if the strategies have effectively addressed the identified needs. Regular assessments ensure continued effectiveness and stakeholder feedback is vital for iterations. It serves as a focused and relevant basis for the development of educational strategies and consequently leads to the ongoing improvement of the education system by connecting solutions to the actual needs of learners and stakeholders.

C. Establishing Educational Goals and Vision

The first major step in creating an educational strategy is defining educational objectives and vision, which are important to all the steps to be taken in decision-making and for the operation of the education system. The vision for education is an outward-looking picture of what we want education to look like in the future, inspired by broader social goals and overarching challenges. It provides an inspiring framework for all stakeholders toward a common goal. While educational goals are short- to medium-term, measurable, and results-oriented and essential for the performance evaluation of, among other things, the curriculum, skills of students, and quality of teachers.

Educational goals and vision are defined after an analysis of the current educational situation, such as a SWOT analysis (Strengths, Weaknesses, Opportunities, and Threats) which indicates the situation in the environment and what needs to future changes. Phase Two is the development of a clear, long-term vision that builds on the national aspirations and social needs of the country, and aligns with global changes. Such a vision should energize all stakeholders and symbolize educational excellence, as well as holistic progress. Indonesia, for example, has a national educational vision, the goal of which is to provide quality education for all Indonesian citizens in pursuit of national development goals.

Once the vision is formed, the next step is to develop specific educational aims — aiming for efforts that are measurable, focused on outcomes (e.g., enhancing teaching quality, access to education, and/or improving student competencies). These objectives must fit into the broader national vision but must also consider the local context. Specific, measurable goals — such as increasing literacy rates or improving the training of educators — ensure that progress can be tracked and evaluated.

The next step is engaging key stakeholders, including teachers, parents, students and government officials. Engagement through such a consultation provides an opportunity to seek different views on what is needed for education, and build partnership and support for the vision and goals. Ultimately, engaging stakeholders helps to create an inclusive educational strategy that reflects and relates to the needs of the community.

Finally, after determining which goals to reach and which road to take, the next step is designing how to get there, which strategies to implement in order to achieve the goals. This means designing policies, curricula, teacher-training programs, and allocating the appropriate resources. By doing so, these strategies become practical, implementable, and a reminder for educational systems not to depart from the goals that have been established.

D. Formulating Educational Strategies

Educational strategy formulation is a multi-staged process which must lead to appropriate learning and success of the educational objectives. The initial process is to perform an extensive educational needs assessment that considers the affinity of students, the necessary sequences of content to be covered in the curriculum, educational goals that must be achieved, and analysis of the difficulties that institutions have to overcome. Analyzing or evaluating the history of students, their learning styles and their capabilities, along with appropriate resources in the support of the education process comprises the context for formative analysis.

After determining educational needs, we need to decide on an appropriate learning strategy. The learning theory is therefore a guiding philosophy which underpins the educational process as a whole. These include, among others,

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the teacher-centered approach, the student-centered approach, the constructivist approach, and problem-based approaches (PBL), where PBL encourages students to actively engage and apply critical thinking skills in order to facilitate learning. All have their merits and reflect their cultural and educational context.

Once you have picked a learning approach, you need to then pick the appropriate learning methods that fit well into the educational goals. Learning methods are strategies employed, to organize learning experiences in order to accomplish more complex learning objectives, which include lectures, discussions, demonstrations, cooperative learning, and e-learning. These methods are useful for various learning outcomes or learning objectives: lecture for information sharing, discussion or critical thinking, demonstration for skills practice, cooperative learning for group collaboration, and e-learning for technology innovation implementation are just a few of these.

The third stage is adapting the chosen type of learning and approaches to learner attributes. This involves comprehending different learning techniques that will enable each student to connect with the material in a manner that caters to their strengths. Visual learners, for instance, may find images and videos helpful, while kinesthetic learners tend to thrive with its hands-on activities. Leveraging learning styles based on the VARK (Visual, Auditory, Reading/Writing, Kinesthetic) model can markedly improve learning delivery and uptake, enabling students to learn more effectively with better contextualization.

At last, it is essential for educators to focus on the starting points about students when choosing the learning plans. This is a way to make sure that the strategies and approaches selected fill those knowledge gaps and advance all students. Recognizing that each student is unique and that there is no one-size-fits-all approach to learning, the teachers whether they are in school, at home or online should plan their learning differently by aligning their learning approach, methods, strategies with the student characteristics.

E. Evaluation and Reflection

The third important step is — After the learning strategy has been implemented, it is important to evaluate how effectively the selected method and approach achieved the learning objectives. That evaluation includes one of what the students have learned, as well as an evaluation of the learning process. To measure all competency achievements of the students, they are assessed can through a test or assignments. For reflection on practice, respond by asking teachers to reflect on their use of the approaches and methods, identifying aspects that worked well and those that require further development.

Black et al. The brainy folk (2003) ask, in their famous book, Assessment for Learning: Putting it into Practice, how evaluation may be used to constantly improve the learning process. Use of formative assessment strategies and principles in learning process. This approach is about learning, not just obtaining the results of work and providing feedback to students. It is one of the key factors in gauging the learning gap and closing it, not just a measurement tool — Assessment for Learning.

F. Development and Improvement of Strategy

Educational strategies need to be further developed and improved, based upon evaluation results. which includes improving or even discarding outdated methods and adjusting to ongoing developments in the field of education. In his book entitled Instructional-Design Theories and Models: A New Paradigm of Instructional Theory, Reigeluth (1999) looked at how they can be applied in designing better learning. (Volume II)." The things talked about and learned in the book is an essential reference material for (ID) instructional design especially the one about how we could try to mold our curriculum based on distinctive individual needs. In the age of technology-driven learning and adaptive learning, Reigeluth's approach is indeed highly applicable, as he encourages flexible learning designs to suit individual student needs — a concept that works perfectly with modern technology's capability of delivering customized learning experiences to students.

The Implementation of Educational Strategies in Primary and Secondary Schools

Active learning approaches like Project-Based, Problem-Based, and Collaborative Learning have been introduced in primary and secondary school settings with the intention of enhancing engagement, promoting in-depth learning, and fostering critical, problem-solving and collaboration skills. Project-Based Learning (PBL): students work in groups to prepare and presents on a project relevant to the concepts studied. According to Bell (2010) and Thomas (2000), this approach encompasses three stages: planning, execution, and presentation. Stage 1 is project planning: teachers create meaningful projects that inspire students to seek solutions. In Stage 2, students work in teams to

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research and generate solutions, with minimal guidance. Lastly, the final stage is presentation and evaluation; students present their work to peers or other audiences.

At Problem-Based Learning method, students get to solve real issues or problems– promoting knowledge retention and higher-order thinking skills. PBL is divided into three stages: (1) problem identification, (2) collaboration, and (3) reflection (Barrows, 1986; Hmelo-Silver, 2004). In the first stage, teachers present multifaceted problems that have no one way to solve them. The second stage is for students to design solutions to the problems in groups while the teacher acts as a facilitator. The final stage is reflection and presenting the solution, which fosters further discussion and learning.

Collaborative Learning highlights students working together in groups to accomplish common learning goals. Interaction among students is crucial to build knowledge collectively Johnson and Johnson (1999) and Gokhale (1995), and the supporting literature. The components of the steps to implementation include group structuring, group interaction, and assessment of interaction. In the first stage, the teacher organizes students into small groups with specific roles. This means that students can discuss and work through problems together, with the teacher facilitating and providing guidance in the second step. The last step is the evaluation of both the learning and the collaborative process, how students communicate, share chores and work together.

Now, although these methods of active learning are great to develop on time features in class like; not only improving student engagement but also TALENT OF 21st century skills, but also creating learning in independence, but it comes with a few challenges. Skills to design and manage activities are necessary, especially in PBL and collaborative settings, and teachers have to be equipped with them. PBL is resource and time intensive which can pose significant challenges in terms of planning and implementation. In addition, looking at assessment is a challenge — one cannot just assess on learning outcomes, but also among students' collaboration skills, critical thinking skills, creativity and so on and so forth.

A. The Implementation of Educational Technology in Learning.

Learner Educational technology is the integration of technology, techniques, and tools used in instructional methods to facilitate the improvement of teacher and student competencies. It enables a student-centered approach as the educational technology makes the learning interactive, flexible, and more efficient. This consists of technologies like computers, tablets, and projectors as well as types of software such as learning apps, classroom management applications (e.g. Learning Management Systems or LMS), and online resources, including instructional videos or interactive modules (Bates, 2015) The end goal is to enhance the teaching process and engage the learners better by making technology a part of the routine activities of learning.

The application of educational technology can follow several steps for efficacy. To begin with, Technology-Enhanced Learning (TEL) provides multiple tools to enhance lessons, which can involve using videos, animations and simulations. Interactive quizzes that cultivate material mastery (Hattie & Yates, 2014) can also be made with the help of tools like Google Form and Quizizz. Second of all and most of all, Blended Learning combines traditional classroom experience with online education that enables learners to study online anytime in any place with the help of tools such as Google Classroom (Graham, 2006). Third, in the Flipped Classroom, students learn content by watching videos outside the class, while class time is used to focus on discussion and solving problems, which allows deeper understanding and application to be done during class time (Bergmann & Sams, 2012).

The technology, likewise, prompts Collaborative Learning & Collaborates in a virtual environment. Tools like Google Docs or Microsoft Teams or Slack allow students to collaborate to share and exchange ideas or group problem discussions which enhances the understanding of the concepts over the long run (Johnson & Johnson, 1999). Another strategy that has been proven successful is Gamification where game elements are included (for example points or levels) in the process of learning, increasing the motivation of students. (Deterding et al., 2011) You can use this approach to work in making learning far more fun and engaging, with teachers getting students involved in this participatory work (Deterding et al., 2011). If applied systematically, these strategies can improve the learning experience and learning outcomes.

B. Challenges in the Implementation of Educational Technology

In many regions, a significant challenge would be the lack of infrastructure with no sufficient access to technology devices such as computers, tablets, or stable internet connections. This renders the widespread and effective use of

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educational technology impossible. Another challenge relates to teachers' digital skills. Teachers must have adequate digital skills to use technology effectively within a teaching environment. Hence, in order to solve this problem and improve the quality of education, it becomes very necessary to provide training and professional development for teachers about how to use technology effectively.

A second challenge is the readiness of students and their resistance to change. There might be some students who find it hard to adjust to the new technology driven way of learning, while some are comfortable with normal teaching methods. Like students, teachers also may resist utilizing new technologies if they have been using traditional methods for an extended period of time.

C. Benefits of Implementing Educational Technology in Learning

There are many advantages of utilizing educational technology in learning: accessibility, engagement, individualized education, time, and resource utilization. And technology (and the internet) makes learning materials accessible anytime and anywhere, giving a flexibility for self-directed learning. Moreover, technology provides a range of educational tools like simulations, videos and games that help students understand more complex ideas in a fun, interactive way.

Another role technology plays are to personalize learning for each learner. Digital platforms allow teachers to materialize and assign content appropriate to students' personalized skill levels, enabling them to learn at their own pace. Another aspect is time saving when delivering content, as it could be done with use of learning videos and given them to students who can access them multiple times. Additionally, the use of Learning Management Systems (LMS) enables an instructor to track a student's progress in real-time whereby granting him/her better classroom management.

There are many research papers available that show the positive effects of technology implementation in education. This includes their motivation, level of engagement, and overall academic performance (Bebell and O'Dwyer, 2010). Zhao et al. Teenagers, according to Bers (2002), who use educational technology improve their cognitive skills, specifically their reasoning and problem-solving abilities, and learn cooperatively and collaboratively. In addition, Mouza (2008) stated that, although technology makes the learning experience rich, without proper teacher training, it is difficult to use technology properly in the classroom.

D. The implementation of Student-Centered Learning (SCL).

SCL stands for student-centered learning, which means prioritizing the needs and potentials of students by making them the center of the process of learning. This method promotes student involvement, catering to their specific needs, interests, and skills, which fosters a stimulating and efficient learning atmosphere. SCL draws on the diversity of learning styles and characteristics existing among students to make learning more enjoyable and accessible (Shehata et al., 2024). This drives the teacher to transition from a simple presenter of information towards a more interactive, student directed format, where students are experiencing activities more relevant to their own interests and lives.

The core tenets of SCL involve student-centered approaches in which students actively engage in meaningful learning experiences through contextualized learning that connects to their social, cultural, and personal experiences. Collaborative interactions, such as group work and discussions and problem-solving, foster social and cognitive skills as students learn to communicate and engage with their peers. SCL also includes reflection and evaluation, which provides the students with the opportunities to assess their learning progress and also allows teachers to do the formative assessment (Wright, 2011). According to Xhomara (2022), SCL promotes the importance of independent learning processes alongside critical and creative thinking thus creating basic building blocks for personal development.

In this context, different teaching methods facilitate the implementation of SCL, including cooperative learning, project-based learning, problem-based learning, open discussions, and debates. Technology is used to increase student engagement and collaboration as well. Such approaches give ownership to students around their learning, allowing them to select subjects and work independently toward goals and solutions. Nevertheless, SCL must be tailored in accordance with individual learning types, such as visual, auditory, kinesthetic, or independent (Xhomara, 2022). SCL aims to leverage challenges in the academic, social-emotional and cognitive spheres but in

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practice often requires significant resources, teacher training, and addressing challenges around facilities and technology.

Alongside their academic skills, SCL is also building their social and emotional skills. For instance, teachers need to identify individual students' strengths and weaknesses and modify their learning strategies as needed. Engaging parents and the community is essential to enhancing students' learning. SCL promotes motivation, improves critical thinking and enhances learners' self-esteem by granting students the freedom and responsibility to determine their own path. Nevertheless, it takes more time, resources and training of teachers to implement successfully and this often results in underperformance due to limited facilities and technology not being up to the limit.

However, SCL comes along with a number of challenges such as a need to modify the teaching system and assistive mechanisms. In conjunction with qualifications of teachers, available resources, and the involvement of students and the community, SCL work well in practice.

E. Barriers in the Implementation of Strategies

The implementation of educational strategies, especially those targeting curriculum changes or teaching innovations, often encounter various barriers. There are three main obstacles undermining the effectiveness of strategy implementation, including the lack of resources, insufficient teacher professionalism, and the absence of managerial support. One of the most significant impediments is the lack of resources, which include funding, infrastructure, teaching and learning materials and equipment, technology, and time, among others.

Resources are essential when it comes to implementing strategies that require updating current teaching methods or deploying various technologies. Schools and other educational institutions often confront budget constraints and inadequate infrastructure, which prevents them from acquiring the necessary educational software, classroom technologies, or access to suitable facilities. Among the other resource-based problems are the use of old equipment, limited available classroom space, and weak internet connections, among others. Somantri et al. (2023) explain that resource constraints, specifically facilities and physical infrastructure, are a major challenge to implementing policies at the primary school level in Indonesia. Similarly, Nisa et al. (2023) further explain that investment in educational infrastructure is essential to enacting and supporting new curriculum changes.

Professional issues related to teachers are also a challenge. Teachers are an inseparable part of the implementation process, and their professionalism or lack it thereof can prevent them from using different types of methods efficiently. Although many policies are aimed at enhancing the quality of teaching, many teachers are unable to change their practices without proper training. Sinsuw and Sambul (2017) note that insufficient training is a significant barrier to the active use of technology-based teaching. They argue in favor of continued professional training and development to allow teachers to improve their skills and knowledge so that they could implement new approaches. Prihatini et al. (2023) also support this view by showing how lack of training processes restrict the use of more interactive and research-based teaching techniques.

Lack of managerial support is another significant barrier. The support of school management or educational authorities is critical if change is to be implemented effectively. Without a clear commitment and adequate support, teachers and other staff members feel unable or unenthusiastic about following the rules. Sudirman (2019) adds that a lack of effective change management plans, such as poor communication or lack of preparation for major changes, result in mutual confusion. Sukatin et al. (2022) add further that a lack of strong leadership, especially that of the principal, diminishes the chances of achieving any educational improvement goals.

Evaluation of Educational Strategies in Primary and Secondary Schools

This comparison is important in evaluating educational strategies in primary and secondary schools, providing robust evidence of the effectiveness of different curricula, teaching techniques, and education policies. According to Stufflebeam and Shinkfield (2007) educational evaluation provides a method for assessing the degree to which educational goals, as defined in terms of strategies, are attained in schools. This assessment could be regarding how a teacher's utilization of technology affects her students or the academic success of students enrolled in project-based learning courses versus traditional learning.

Evaluation results also inform whether the curriculum taught is relevant and effective in helping students develop. In the words of Guskey (2000), "Evaluation assists teachers and educational administrators in modifying approaches to teaching or curriculum to meet the needs of students." Evaluation is crucial feedback that teachers,

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school leaders and policymakers rely on to strengthen the quality of teaching and to understand where improvement in certain practices is needed.

Additionally, you can evaluate the education itself the way you would an assessment examining the direct effect it has on development, both academic and social/emotional, of students. Greenberg et al. (2001) indicates that successful educational approaches do more than improve academic skills; they promote social skills such as cooperation and self-management. Evaluations enable measurement of how well schools help students develop in different life areas. It also aids in assessing the enhancement of cognitive abilities like critical thinking and problem-solving.

Carnoy & Rhoten (2002) also mention how evaluations can be applied to detect differences in academic achievements among students. With these types of data focused on evidence-based decision-making, policymakers can make informed steps to address educational inequities, from the funding of programs to the design of pedagogies. According to Pritchett and Woolcock (2010), the changing dynamics of education—such as globalization, technological transformations, etc.—call for better educational policies that can only be achieved through evaluation.

A. Outcome-Based Evaluation

Outcome-based evaluation (OBE) is an evaluation method that focuses on measuring the end result of the educational process, which is the competency achievements of students (Kushari & Septiadi, 2022). In basic education, OBE does not only direct the design of learning outcomes, but OBE is used to evaluate (outcomes), how far the educational goals can be achieved through measurable outcome indicators (Kemendikbud RT RI, 2022). OMaintaining the emphasis on the accomplishment of pre-defined educational goals, OBE focused on measuring and assessing the effectiveness of the educational process in accomplishing desired outcomes including competencies, knowledge, skills, and attitudes (Sathya & Narayanan, 2021). In short, the main elements of OBE are defined and measurable learning outcomes, criteria and indicators for the assessment of the achievement of the learning outcomes, objective methodologies for assessing learning outcomes, and feedback to improve learning for the future.

Outcome-based assessment principles include transparency (learning objectives and outcome indicators are readily accessible and easily understood by all stakeholders); student focus (assessment based on student achievements); accurate measurement (objective tools for assessing learning outcomes) and ongoing engagement (continuous assessment and feedback on teaching and learning for continuous improvement) (Kushari & Septiadi, 2022). These key elements inform how OBE is applied within educational settings to create improved evaluations of student understanding and growth.

On the other hand, outcome-based evaluation in primary and secondary schools practically encompasses not only the attainment of basic competencies like reading, writing, and arithmetic in primary schools but also the competencies of subjects in secondary schools (Sathya & Narayanan, 2021). Employing competency-based assessment employing diverse assessment tools formative tests, summative tests, research portfolios, projects, and observation to assess student growth. Another important aspect includes mapping learning outcomes, whereby a student's performance is measured against certain standards in the curriculum with a particular emphasis on developing critical thinking and problem-solving skills, especially in the secondary sphere.

However, according to the results of Aliffiansyah et al. (2024) Time, human resources, and facilities availability is one of the major challenges in the implementation of OBE. In practice, however, this is often the case and many schools still have problems to formulate clear learning targets; and, primarily at primary education, not all competences can be adequately tested with existing evaluation instruments. Furthermore, the inability to determine the humanistic care and planner or educator in the performance indicator of outcome-based education has had a negative impact on the performance of the results. These hindrances are a clear call for innovative framing of approaches of assessment and additional education of colleges involved to streamline OBE and its success.

B. Process-Based Evaluation

Which is an increasingly common method in education which evaluates specific steps, interactions, and dynamics of the learning process rather than the final product (Stufflebeam & Shinkfield, 2007). This approach focuses on organizing, monitoring, and collecting information during the learning process, which are designed to measure the effectiveness of the learning process, teacher-student interaction, learning materials, and the learning environment. Through data for improvement or data for judgement -- or both -- we cannot just assess our summative results but

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develop the objects of the educational process and help to make sure that our teaching and learning practices are focusing on the needs of our students and the course aims.

Process-based evaluation is characterized by several principles: continuity, where practitioners evaluate the process of learning; participatory, where data collection is performed by both teachers and students; qualitative data collection (observation, interview, etc.) to catch the situation that happens in learning; descriptive analysis, which seeks to understand rather than quantify results; and reflection, which encourages teachers and students to reflect on the learning experience and find solutions to encountered challenges (Kushari & Septiadi, 2022). Such principles help the improvement of the teaching practices on an ongoing basis with continuous feedback.

Process-based evaluation requires a series of phases: plan, collect, analyze, reflect and improve. During the planning phase, areas to assess — teaching methods or student engagement, for example — are determined. (for instance,) which can include observation, interviews, document analysis, and student surveys. Once the data is collected, the analysis is just one of many more stages to explore whether the learning was successful or in the other hand what are the barriers in the process, more specifically the interactions of the teacher and students, among others which are the teaching strategies that were effective. Finally, feedback is provided to the relevant stakeholders, such as teachers and students, based on the analysis to help improve future learning experiences (Supriyadi, 2019).

Process-based evaluation provides many advantages, for example by potentially improving the quality of ongoing education, increasing student involvement, and adapting to local contexts; its implementation also faces challenges, however. It is more demanding in terms of time, manpower, and material, making it hard especially in low resource settings. Teachers also need skills in observing, analyzing, and giving constructive feedback, as well as in using qualitative data to inform teaching. According to Stufflebeam and Shinkfield (2007), the switch to this paradigm may encounter some backlash, particularly from those involved with education who are familiar with traditional methods of evaluation centered on examination performance alone. However, evidence from studies carried out by Supriyadi (2019) and Amalis (2020) show that process-based evaluation is effective in improving the student excitement and interaction of the teacher with student, which shows how in spite of these challenges this method has proven to enhance the educational experience.

C. Assessment through feedback from students, teachers, and parents (feedback-based evaluation).

Assessment of Educational Strategies: Among the most fundamental elements driving various aspects of an education system, particularly at the primary and secondary school levels, is that of evaluating educational strategies. This process examines not just academic achievement, but teaching methods, curriculum, and the learning environment. An approach I advise considering for evaluation is feedback from key stakeholders (examples include students, teachers, and parents). This feedback gives a great overview of the educational process and points to necessary changes and enhancements. Utilizing feedback from these stakeholders allows schools to develop a more comprehensive assessment process that encompasses multiple facets of the educational experience (Hattie & Timperley, 2007).

The feedback and analysis of educational strategies occur through two types of assessment: formative and summative. In fact, formative assessments are carried out continuously within the learning process and provide feedback which can be used to change teaching or learning practices in order to improve students' achievement. Start of the day; Summative assessments– These are conducted at the end of a learning unit, end of a term or an academic session to assess student achievement against the taught educational objectives. This more basic approach communicates that evaluation is not only concerned with the final result but also that it is a process that goes on throughout teaching and learning (Epstein, 2001). Therefore, receiving input from students, teachers, and parents is imperative to appraising the near-term and longer-term efficacy of education approaches.

Students, as primary stakeholders in their own learning, can provide meaningful feedback on their experiences in the educational environment. Student feedback includes factors such as their understanding of the material, the teaching methods utilized, the classroom environment, and the types of assessments used. This information enables educators to modify their teaching practices to more effectively respond to the needs of students. Moreover, the feedback provided by students can provide schools with insight into whether the learning environment is conducive to learning and whether students are engaged in the learning process (Hattie & Timperley, 2007).

Teachers, who put the educational strategies into practice, are too essential a source of feedback. It gives indications of the issues that they encounter while delivering the curriculum, their available resources and its quality, and

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whether the teaching methodology is serving the needs of the pupils. The teachers can also give important insights into how things are going at a school level and recognizing which instructional methods are having some effects on the students or not. It helps schools determine whether the curriculum and pedagogy work and where additional support or changes might be needed (Halimah, 2015).

Parents, integral to supporting students' education beyond the classroom, also provide essential feedback. Parents can shed light on how their children are doing outside of the school environment, what home-based learning activities they are engaged in, and what they feel about the school–home communication. Research has proven a strong relationship between educational feedback from parents and the academic performance of children. In addition, when parents participate in the feedback process, it reinforces the collaboration that exists between the school and the family, which in turn fosters learning and development for students (Epstein, 2001; Halimah, 2015). Gathering feedback from students, teachers, and parents helps schools to utilize more effective educational strategies to cater to diverse stakeholders.

D. Metrics and Indicators of Success

Measures and Key Performance Indicators of academic success, social and emotional competency, and satisfaction with the process of learning are vitally important aspects of improvements in education and to the development of children. Academic Performance: Academic grades, cognitive abilities, academic portfolios, individual progress. Academic Grades: Test results and exams are used to assess students' mastery of the material. Moreover, cognitive abilities, including critical thinking and problem-solving, are significant predictors of the overall performance in other study fields (Shi & Qu, 2021). The main purpose of academic portfolios is that academic portfolios will provide an overview of student achievements and progress by collecting work and projects that are expected and reflect students' development over the school year (Saputra, et al., 2023).

Success in achievement also shows up in progress for individual students against standards or previous capabilities. The results of the study are in line with the expectations of Luthfia and Mustofa (2024), which revealed that the right guidance strategy can increase the achievement of students. Subsequent positive correlation has been shown between students' achievement motivation and performance in school (Sugyanto, 2009). By adopting these metrics and indicators, education will finally be more about empowering students to aspire to their higher selves. Success indicators for students' social and emotional skills: emotional intelligence (EI), social behavior, self-control and social activity. Research by Parker, et al. (2004), Emotional intelligence is the key to academic success, who stated that emotional intelligence can solve any social and emotional problems that students face. How well they perceive and regulate their own emotions and interact effectively with others are a key predictor of social and emotional success. In addition, social competence is used to maintain student relationships and facilitate adaptation (Mella, et al., 2021).

No less an indicator of social and emotional skills is self-control — the capacity to delay gratification and manage unwanted emotions. In fact, Dent (2013) found that those individuals with good self-control did better academically. Also, there will be social activities that will boost the social skills and academic performance of the students (José Sá, 2023); like – Extracurricular activities, Group discussion etc.; This becomes a reality through engagement with parents around the social and emotional skills of the students and their engagement with the learning environment. Learning process satisfaction is also quantified by surveys that gauge students' perceptions of teaching quality, how relevant the material is and how engaged they feel with the teachers. Research by Balmeo, et al. (2014) which quality facilities, interaction between teacher and students and various learning media factors are the factors that led to student satisfaction. The satisfaction surveys provide insights into what factors enhance or impede students' learning experiences, which can be used to either improve or jeopardize the quality of education. Additionally, a study conducted by Roorda, et.al. (2011) have a profound effect on student engagement and academic achievement, revealing an evidence-based link between positive student-teacher interactions and their achievement.

The other key indicators in measuring the satisfaction of the students from Learning/teaching process are Flexibility and Innovation in Teaching Methods. As demonstrated through the research carried out by Wright and Jones (2018), innovation in teaching (such as the inclusion of technology, project-based learning strategies, and other techniques) is important, as these tools are necessary to prepare students for their futures through aiding their creative innovation skills. When innovation is applied in the learning process, it can motivate students by making them more actively involved in the learning process, which in turn improves the quality of education.

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DISCUSSION

Reflection and Refinement of Strategies

In the context of education, reflection and refinement are among the essential processes to check the quality of learning as well as the sustainability of the education system, especially in the case of primary and secondary schools where the basic knowledge and skills are developed. Schools' educational practices should be monitored on a continual basis in order to evaluate their effectiveness and highlight aspects needing improvement: adapting the curriculum, teaching methods, learning environments and student achievement. All this emphasizes the importance of evaluation, because it is the most objective source of information about the share of the educational goals achieved and about the aspects that require improvement, therefore evaluating the data, collecting and analyzing the data on evaluation results becomes an integral part of the process of continuous improvement of educational strategies.

A. Reflection on the results of strategy evaluation

The reflection practice in education is a process of analyzing and assessing the learning process applied by school administrators, educators and students. Teacher reflection is primarily about analyzing whether an approach to teaching works, whether students have a clear understanding of the material and how is the interaction with students. These reflections offer ideas about the good and the bad. Feedback, Discussions and Surveys to understand students' perspective in their learning experience (Hattie, 2009) Students, as well, can reflect by giving feedback or participating in group discussions or surveys. In a similar fashion, school leaders assess the broader implementation of the curriculum, school policies, and the learning culture of a school to ensure that the vision and mission of a school are being met by both teacher performance and student learning outcomes.

These evaluations inform the fine-tuning of pedagogical approaches. The evaluation results indicate strengths and weaknesses within an educational process, leading to changes in the curriculum or the training process. If students have difficulty with some topics, the material may be simplified or integrated with more relevant examples and activities (Wiggins & McTighe, 2005) Furthermore, if the teaching techniques to decrease the video lectures' effectiveness could be discovered, more interactive approaches like project-oriented education or mutual discussions could be included. To enhance the teaching set process, technology can also be integrated. Teacher professional development through workshops or training is another important component that can address weaknesses in teaching, improve instructional quality and enhance the learning experience.

Evaluating the social and learning environment is essential for enhancing educational strategies. Results may reflect a need for more social support for students, through elements such as building up counseling systems or strengthening the school-home relationship. Schools may implement a set of measures to address this, including expanding the available technological resources for students with effective educational tools (such as online platforms or interactive applications) that allow for gamification of learning processes. So, how does this lack of continuous evaluation affect education? We fail to sustain improvement in education without continual evaluation, where we structure mechanisms to monitor curriculum, teaching methods, teacher performances, and standard student learning outcomes. Collaboration among teachers, school leaders, parents and students are key to enabling continuous improvements and meeting regularly to discuss evaluation findings and make necessary changes (Darling-Hammond et al., 2017).

B. Refinement of Educational Strategies

Ongoing improvement of educational strategies - improving teaching methods, curriculum and school management, making them more effective and relevant to the needs of students. This fine-tuning is an improvement from past assessments and reflections. These components are essential in shaping educational practices in primary and secondary education settings and include improvement of the learning experience; reform of the curriculum and assessment; integration of the use of education technology; management of the classroom or learning environment; and the professionalism or competence of teachers (Fitzpatrick et al 2011). Through a flexible model of thinking and learning, Regular evaluation and renewal assist to make sure that their expertise are in step with trendy calls for; through learning about various values, wants, and skills of students, they are able to alter their techniques of educating accordingly.

Educational technology refers to technology that is utilized to support learning in the digital age: the use of educational software, e-learning platforms, and social media that support remote learning, collaboration and digital

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skills. Other important aspects include classroom management and the development of a positive learning environment, which encompasses discipline, time management, and the teacher-student interaction process. Also, since teachers are integral to education success they need to constantly develop skills, because they are precisely the ones in charge of improving educational strategies. In this regard, evaluations are effective in identifying those specifically training areas that can develop teachers' pedagogical ability, subject matter knowledge, and technological skills (Stufflebeam & Shinkfield, 2007).

C. The Use of Evaluation Results for Continuous Improvement

This, of course, cannot be denied as evaluation in education is extremely important as it gives us a picture of how we are performing in terms of achieving the goals of education and where we need to improve. Feedback: The results of this evaluation need to be used to increase and change education strategies in other words, formative evaluation takes place during the process of learning to track the progress of the learners and helps to provide feedback that is informative for instruction (Dungca, 2015), whereas summative evaluation occurs at the end of learning period that reflects on the overall success of the students. Apart from examinations, feedback from the students and parents is also important in assessing the effectiveness of teaching, allowing schools to better understand the needs and expectations of the stakeholders.

Evaluation data enables decision makers, like school principals and education authorities, to design better, more effective policies. Drawing on data to inform decision-making allows for more relevant policies to the needs of schools and communities (Guskey, 2002). Evaluation results showing students struggle in enrichment for some subjects or topics can be useful for improving the curriculum or redesigning learning plans. If many students address the mathematics in a problematic way, you might explore a problem-solving situation in those mathematics subsystems.

Challenges and Opportunities in Formulating, Implementing, and Evaluating Educational Strategies

However, the formulation, implementation and evaluation of education strategies is a complex, multidimensional challenge made all the more difficult by financial constraints, competing school cultures and evolving education policies. Education systems have a lot of problems, and one of the problems is the budget, for example in Indonesia, inclusively the target called flower as the flower will need a lot of resources to build the infrastructure, teacher's salary, training, and quality learning material. Due to the limited funds, educational programs, especially those that demand upfront investment, such as technology curriculum, may not be implemented (Liu & Zhang, 2021). Furthermore, as government policies and political regimes change, schools are left helpless in maintaining consistent progress and changes with regards to learning (Fullan, 2016). Consideration may shift to new ideas and initiatives while previous strategies become outdated.

The second challenge is the cultural variation of the schools which may also influence the assumption and development of educational methods. Values, norms and practices differ across cultures, which in turn affects the uptake of strategies by students, teachers and parents. This includes identifying practices that may be more effective in collaborative cultures versus schools that tend toward individual or siloed thinking. Further, this cultural variation can be an obstacle in the assessment of education policies, for what works in one country may not work in another. These cultural disparities should be taken into consideration when evaluating to design appropriate methods for assessing knowledge (Heffernan & Bembenutty, 2014). However, some opportunities exist for educational strategy development. There are tremendous opportunities to be had through innovations in education, collaborative arrangements among schools, and technology. On a broader level, educational innovation can enable more relevant and effective learning experiences by incorporating blended-learning, project-based learning, as well as technology integration (Schröder & Krüger, 2019).

This team-based approach to realizing this goal can increasingly help overcome interscholastic workarounds that depress access to high-quality education. Schools can learn from each other by collaborating, pooling resources, best practices, and experiences-sharing on teaching method, management of teaching, and use of technology, among others. Competitions between schools can enhance the quality of education and foster cooperation between personnel education through student exchange programs and collaborative teacher training (Wasitohadi, 2016). Moreover, fostering effective school management and raising the bar of educational quality highly depends on the collaborative networks that help build the capacity and competency of school leaders (Idris et al., 2021). Finally, it is

technology that offers the tremendous potential to better educational methodologies, which helps them become flexible, personalized. The use of technology enables distance learning, removing geographical restrictions, and providing students from remote locations the opportunity for quality education (Surwuy et al., 2024). Nonetheless, to fully reap the benefits of digital tools in education, issues related to access to technology in rural areas need to be overcome by developing infrastructure and training teachers (Subroto et al., 2023).

CONCLUSION

There are some approaches that should be considered in section educational strategies. Success of such strategies will depend on steps like needs analysis, approach selection and ongoing evaluation based on student characteristics. Problem-Based Learning (PBL) and collaborative learning are types of active learning that have shown to be efficient in engaging students and building 21st-century skills. But this will not happen without up-front planning, skilled teacher facilitation, and regular assessment of a teaching and learning cycle (Guskey, 2002).

The new technology, if used right, could improve educational quality. Technology could also allow for more flexible and personalized learning, and help educators tailor education to individual student needs. But the plans for implementation need to factor in infrastructure, support teachers' digital literacy and demand that students adapt to new modalities of learning. With the right integration and support within education context, technology has the potential to make teaching and learning more inclusive and efficacious (Schröder & Krüger, 2019).

Used properly, student-centered learning can result in increased motivation, social skills and academic achievement along with a focus on collaborative and agency-based learning. The problem with this approach is that it encourages students to be creative, think outside the box, and solve a problem; although there are some challenges in its adoption. This method prepares students with tools to face the challenges of the real world. Though this can also pose challenges, such as the insufficiency of resources or a lack of training for teachers, which may lead to the failure of educational innovations; thus, closer collaboration is needed between governments, schools and educational communities in order to overcome these limitations (Fullan, 2016).

Regular and systematic evaluation is an important step to get better quality education. Such evaluations can be of three types: an outcome-based evaluation (the result-focused evaluation consisting of the validity of the double loop), a procedure-focused evaluation (which helps into discovering the learning process of the student with process-based information throughout the teaching & learning process), and finally a feedback-focused evaluation (which provides a holistic proficiency of the discussed learning, development, and progress demonstrated). Then we see qualitative therapies, where reflective action on evaluation performance allows for ongoing education system improvement. This secondary adjustment consists of modifications to curricula, educational technology, and teacher competencies, thus guaranteeing relevant and purposeful education for students (Liu & Zhang, 2021).

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