

## **The Role of Elementary Teachers in Developing 21st Century Skills: Creativity, Collaboration, Communication, and Critical Thinking**

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### **ABSTRACT**

This research aims to explore the role of elementary school (SD) teachers in Mataram City in developing 21st century skills, with a focus on creativity, collaboration, communication and critical thinking. The research method used was a survey using a questionnaire to 100 elementary school teachers as respondents. Data were analyzed descriptively quantitatively and qualitatively to evaluate the extent to which teachers implemented 21st century skills development practices in their classrooms. The research results show that teachers show significant commitment in facilitating student creativity with an average score of 75%, as well as strong implementation of collaboration with an average score of 85%. Nevertheless, challenges such as limited resources and institutional support are still obstacles that need to be overcome to maximize the effectiveness of 21st century skills development in elementary schools. This research provides valuable insights for the development of more supportive education policies in the future.

**Keywords:** 21st century skills, creativity, collaboration, communication, critical thinkers, challenges

### **INTRODUCTION**

In the era of globalization and increasingly rapid technological developments, education plays a very important role in preparing the young generation to face future challenges. 21st century skills including creativity, collaboration, communication and critical thinking have become the main focus in educational curricula in various countries, including Indonesia (Van Laar et al., 2017; González-Pérez & Ramírez-Montoy, 2022). The application of these skills in elementary schools (SD) aims to equip students with the abilities needed to succeed in an increasingly complex and rapidly changing world (Chalkiadaki, 2018; Ibrahim & Suranti, 2024).

Primary school teachers have a central role in developing 21st century skills in students. As educators who first introduce basic concepts to children, elementary school teachers not only function as teachers but also as facilitators and guides in the learning process (Erfan et al., 2024; Shazali et al., 2023). They must be able to create a learning environment that supports the development of these skills through various innovative and effective learning methods (Bahtiar et al., 2022).

Creativity is one of the most important skills in the 21st century. In the context of basic education, creativity can be developed through various activities that encourage students to think outside the box and create innovative solutions to the problems they face (Noh & Lee, 2020). Elementary teachers must be able to design learning activities that stimulate students'

imagination and creativity, such as art projects, science experiments, and educational games (Yilmaz & Goktas, 2017).

Collaboration is another crucial skill in this modern era. In elementary schools, developing collaboration skills can be done through group work and joint projects that require cooperation and effective communication between students (Rasmitadila et al., 2021). Teachers play an important role in directing students to work together, share ideas, and resolve conflicts that may arise in the group work process. Through collaborative activities, students learn to respect differences of opinion and work toward common goals (Nahar, 2022).

Effective communication is also an essential skill that must be developed from an early age. In elementary schools, teachers can help students improve their communication skills through activities such as presentations, class discussions, and role plays (Suwangsih et al., 2019). Teachers must teach good communication techniques, including listening attentively, speaking clearly, and conveying ideas in a structured manner. Good communication skills will help students interact with others and convey their thoughts confidently (Sa'diyah et al., 2019).

Critical thinking, as part of 21st century skills, involves the ability to analyze information, make informed decisions, and solve problems effectively (Kenedi et al., 2019). Elementary teachers can encourage critical thinking through problem and project-based learning approaches that challenge students to think logically and analytically (Sarwanto et al., 2021). By giving students opportunities to explore multiple perspectives and discuss complex issues, teachers help them develop the ability to think critically and independently.

In implementing learning to develop 21st century skills, the challenges faced by elementary school teachers are not small. They must be able to adapt teaching methods to individual student needs, integrate technology in learning, and manage heterogeneous classes well. Therefore, support is needed from various parties, including the government, schools and society, to create a conducive environment for the development of these skills.

Overall, the role of elementary school teachers in developing 21st century skills is vital. Through a structured approach and adequate support, teachers can help students develop creativity, collaboration, communication, and critical thinking that will prepare them to face future challenges. This research aims to examine more deeply how elementary school teachers can develop 21st century skills in students and the factors that influence the successful implementation of these skills in basic education.

This research aims to identify the learning strategies and methods used by elementary school teachers in developing 21st century skills in students, analyze the effectiveness of various teaching methods in increasing students' creativity, collaboration, communication and critical thinking, and explain the challenges faced by elementary school teachers in implementing the approach. learning that supports the development of 21st century skills (Sulam et al., 2019). In addition, this research also aims to provide practical recommendations for teachers and educational policy makers to improve the implementation of 21st century skills in elementary schools (Hadiyanto et al., 2021). In this research, the importance of developing 21st century skills is emphasized because in an increasingly dynamic world and continuously developing technology, 21st century skills are the key to future success.

This research also argues that elementary school teachers have a strategic position in forming the foundations of these skills from an early age. Learning experiences in elementary schools greatly influence the development of students' skills, so the role of teachers in implementing effective teaching methods is very important. Various learning methods, such as project-based learning, collaborative learning, and the use of technology, have proven effective in developing 21st century skills. This research argues that by selecting the right methods, teachers can significantly improve students' skills. Although important, implementing 21st century skills development is not free from various challenges (Kan'an, 2018). This research aims to identify these challenges, such as limited resources, teacher readiness, and support from

the education system, and offer solutions to overcome them. Based on research findings, recommendations will be prepared that can help teachers develop 21st century skills in students. It is also hoped that these recommendations can become a reference for education policy makers in designing more effective training programs and curricula.

Through this research, it is hoped that a deeper understanding can be gained about how elementary school teachers can play an optimal role in developing 21st century skills in students, so that they can improve the quality of basic education and prepare competent young people to face the future.

## METHODS

This research uses descriptive research with quantitative and qualitative approaches to identify and analyze the role of elementary school teachers in developing 21st century skills in students. The research subjects were elementary school teachers in Mataram City. Research procedures include preparing research instruments, data collection, data analysis, and preparing research results reports. The main instrument used in this research was a response questionnaire distributed using Google Form. The questionnaire consists of 20 statements designed to measure the learning strategies and methods used by teachers, as well as the challenges they face in developing 21st century skills.

This data collection technique through response questionnaires includes several main indicators, namely creativity, collaboration, communication and critical thinking. Each indicator is measured through specific statements to gather information about how teachers apply related teaching methods, as well as the extent to which they face obstacles in the process. The research instrument grid is presented in the form of Table 1 below.

**Table 1.** Research Instrument Grid

No.	Indicator	Description	Number of Statements
1.	Creativity	Measuring how teachers encourage and facilitate students to think creatively and innovatively.	4
2.	Collaboration	Measures the extent to which teachers facilitate group work and collaboration between students.	4
3.	Communication	Measuring teacher efforts in improving students' verbal and non-verbal communication skills.	4
4.	Critical thinking	Measures how teachers encourage students to think critically and analytically in solving problems.	4
5.	Challenge	Measuring the barriers teachers face in developing 21st century skills in students.	4

The collected data was analyzed descriptively using quantitative statistics to identify general patterns and trends in teacher responses. In addition, qualitative analysis was conducted to interpret comments and open-ended responses from teachers, in order to gain deeper insight into the context and factors that influence the effectiveness of 21st century skills development in elementary schools.

## RESULTS AND DISCUSSION

The results of this research reveal various important findings regarding the role of elementary school teachers in Mataram City in developing 21st century skills in students. To provide a clearer picture of these findings, the research results are presented in table form. This table shows the distribution of teacher responses to various statements in the questionnaire, describes the level of effectiveness of the teaching strategies used, and identifies areas that require further attention to improve the development of 21st century skills in elementary schools.

**Table 2.** Distribution of Elementary School Teacher Responses

No.	Indicator	Strongly agree (%)	Agree (%)	Neutral (%)	Don't agree (%)	Strongly Disagree (%)
1	Creativity	60	20	8	7	5
2	Collaboration	65	15	10	6	4
3	Communication	60	20	10	5	5
4	Critical Thinking	40	25	15	10	10
5	Common Challenges	50	30	10	5	5

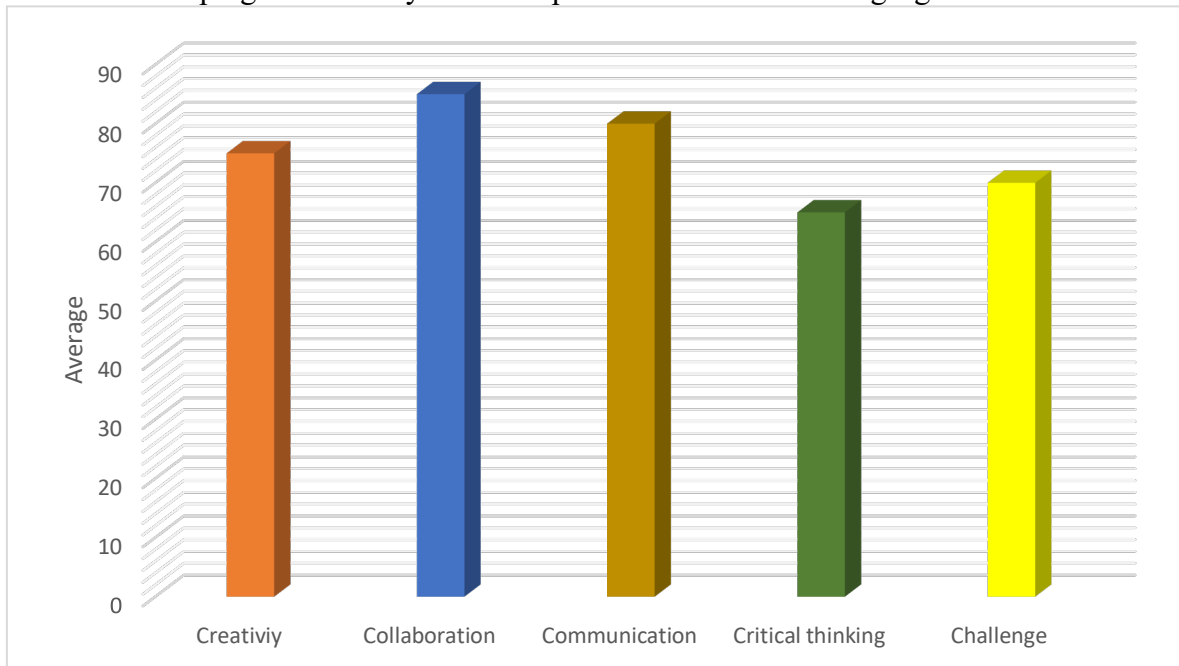
Table 2 above shows that on creativity indicators, 60% of prospective elementary school teachers strongly agree with the statement given, 20% agree, 8% are neutral, 7% disagree, and 5% strongly disagree. On the collaboration indicator, 65% strongly agree, 15% agree, 10% are neutral, 6% disagree, and 4% strongly disagree. In terms of communication indicators, 60% of prospective elementary school teachers strongly agreed with the statement given, 20% agreed, 10% were neutral, 5% disagreed, and 5% strongly disagreed. Indicators of critical thinking: 40% of prospective elementary school teachers strongly agree, 25% agree, 15% are neutral, 10% disagree, and 10% strongly disagree. Indicators of general challenges are 50% of prospective elementary school teachers strongly agree, 30% agree, 10% are neutral, 5% disagree, and 5% strongly disagree.

The results of this research show a promising picture of the efforts of elementary school teachers in Mataram City in developing 21st century skills. In particular, the average teacher response shows that they actively encourage creativity, collaboration, communication and critical thinking in the classroom. The highest average is in the communication aspect, followed by creativity and collaboration, while critical thinking shows a slightly lower average. These findings illustrate teachers' awareness and commitment to the importance of developing skills relevant to today's demands among their students.

Nevertheless, the challenges teachers face in managing heterogeneous classes and utilizing technology is still a significant focus of attention (Motallebzadeh et al., 2018). The results of this research also highlight that most teachers face obstacles in integrating technology in their daily learning (Menggo et al., 2022). This indicates the need for further support in the form of training and professional development to improve teachers' skills in using technology as an effective learning support tool (Wrahatnolo, 2018).

This research provides an important foundation for the development of more thoughtful education policies and training initiatives to support teachers in meeting these challenges. Integrating 21st century skills is not just about improving the quality of learning, but also about preparing students to face the complexities of the modern world (Anagun, 2018). By continuing to increase the support and resources available to teachers, it is hoped that more inclusive and innovative learning environments can be created in Mataram City elementary schools and

throughout Indonesia. In general, the average response results of prospective elementary school teachers in developing 21st century skills are presented in the following figure.



**Figure 1.** Average Response of Prospective Teachers

Based on Figure 1 which displays the average score for each indicator in developing 21st century skills by elementary school teachers in Mataram City, it can be seen that collaboration gets the highest score with an average of 85. This indicates that the majority of teachers have succeeded in facilitating group work, and collaboration among students, which is an important aspect of 21st century skills.

Communication also received a high score with an average of 80, indicating that teachers provide sufficient opportunities for students to improve their communication skills both verbally and non-verbally. It reflects efforts to train students in speaking clearly, listening attentively, and using class discussion as an effective learning tool. On the other hand, creativity received an average score of 75, indicating that teachers have been active in encouraging students to think creatively and innovatively. However, there is still room to improve methods that stimulate students' imagination further, as well as to provide more resources that support creative activities in learning.

Critical thinking, with an average score of 65, indicates that teachers have paid attention to developing students' abilities to question information and evaluate various solutions in problem solving. However, these scores also show that there is potential to deepen the approach in supporting the development of students' critical thinking more systematically (Ghafar, 2020). Challenges received an average score of 70, reflecting the obstacles teachers face in developing 21st century skills in primary schools. Obstacles such as limited resources, support, and heterogeneous classroom management are still challenges that need to be overcome to achieve optimal implementation of 21st century skills in learning.

Overall, these graphs provide a clear picture of how teachers in Mataram City have adapted their approaches to teaching to meet the skills demands of the 21st century. While there have been significant gains in some areas, there continues to be room for further improvement by addressing the challenges that arise, identified and integrated wider best practice in a modern educational context.

These results are based on the concept of developing 21st century skills in an educational context, which emphasizes the importance of preparing students with the critical,

creative, collaborative, and communicative abilities necessary for success in an ever-changing society. This concept demands that education not only focus on mastering academic material, but also on developing skills that are relevant and practical in everyday life (Rahman, 2019; Sulaiman & Ismail, 2020). In this context, the teacher's role is not only as a transmitter of information, but also as a facilitator who allows students to learn through direct experience, reflection, and interaction with their learning environment (Handajani & Pratiwi, 2018). The integration of 21st century skills in learning is expected to increase students' readiness to face complex and unpredictable future challenges.

## CONCLUSION

Based on the results of this research, it can be concluded that elementary school teachers in Mataram City have shown significant commitment in developing 21st century skills, especially in the aspects of creativity, collaboration, communication and critical thinking. However, challenges remain in terms of resource management, institutional support, and adapting to diverse student needs.

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