

# **COLLABORATIVE LEARNING IN THE DIGITAL ERA: STRATEGIES TO PREPARE PRIMARY SCHOOL STUDENTS TO FACE THE CHALLENGES OF THE 21ST CENTURY**

**Alia Latifah<sup>1</sup>**

*Universitas Islam Negeri Sunan Kalijaga Yogyakarta, Indonesia*

22204081008@student.uin-suka.ac.id<sup>1</sup>

**Ika Kartika<sup>2</sup>**

*Universitas Islam Negeri Sunan Kalijaga Yogyakarta, Indonesia*

ika.kartika@uin-suka.ac.id<sup>2</sup>

**Abstract:** Various aspects of people's lives have experienced changes in line with the development of the era of globalization and openness. 21st century education demands the need for a shift in mindset in teaching and learning methods, with an emphasis on developing 21st century skills as a top priority to equip students with relevant and competitive abilities. Learning at this time must be based on the four skills in 21st century learning. One method that can develop these skills is the collaborative learning method. The research method used is qualitative with data collection techniques in the form of interviews. The subject of this research is a class V teacher in the city of Yogyakarta. The research results revealed that 21st century skills is a narrative to change the mindset of educators. Things that need to be paid attention to are not only the academic aspects of students, but also life skills such as collaboration and communication. Collaborative learning is a teacher's effort to create a learning environment that prepares students to face the challenges and opportunities of the 21st century. Through a collaborative approach, students will not only develop academic knowledge, but also the skills and attitudes necessary to succeed in their lives.

**Keywords:** Collaborative learning, Primary Schools, 21<sup>st</sup> Century challenges

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## **INTRODUCTION**

Education has a crucial role in advancing a nation, especially in the era of globalization and industrial revolution 5.0, the need for quality education that is relevant to the demands of the times is increasingly urgent. The development of

the 21st century is a century where technology is developing rapidly.<sup>1</sup> 21st century education demands the need for a shift in mindset in teaching and learning methods, with an emphasis on developing 21st century skills as a top priority to equip students with relevant and competitive abilities.<sup>2</sup>

Various aspects of people's lives have experienced changes in line with the development of the era of globalization and openness. The free flow of information and various resources in an environment of cross-border interaction has brought about various powerful changes that have never occurred in previous times.<sup>3</sup> Educational technology offers various systematic ways to conceptualize planning, implementation, and evaluation in the educational process. In other words, educational technology helps learning by using modern learning techniques.<sup>4</sup>

A nation whose society is not ready will almost certainly fall due to the enormity of natural change and the rapid progress of science and technology as a characteristic of globalization itself. Therefore, the quality of education must be improved.<sup>5</sup> Education in Indonesia experiences developments that continue to change from time to time. This covers various aspects, including strategy, methods, management, and learning delivery design.<sup>6</sup>

Technology has great potential to change the way we learn and teach. With easy access to digital devices and the internet, learning is no longer limited to traditional classrooms. Learning technology also includes the use of mobile learning devices such as smartphones and tablets. Specialized mobile applications can help students access learning materials, solve problems, and participate in interactive activities.<sup>7</sup>

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<sup>1</sup> R D Prayogi, "21st Century Skills: Digital Competencies of Future Educators," *Educational Management* 14, no. 2 (2020), <https://doi.org/10.23917/jmp.v14i2.9486>.

<sup>2</sup> S Hanipah, "Analysis of the Independent Learning Curriculum in Facilitating 21st Century Learning for Upper Secondary Students," *Indonesian Education Star Journal* 1, no. 2 (2023), <https://doi.org/10.55606/jubpi.vi12.1860>.

<sup>3</sup> M Muhali, "Innovative Learning for the 21st Century," *Journal of Educational Research and Studies: E-Saintika* 3, no. 2 (2019), <https://doi.org/10.36312/e-saintika.v3i2.126>.

<sup>4</sup> I Ajizah and M Munawir, "The Urgency of Educational Technology: Analysis of the Advantages and Disadvantages of Educational Technology in the Era of Industrial Revolution 4.0," *Istighna: Journal of Islamic Education and Thought* 4, no. 1 (2021): Article 1.

<sup>5</sup> R Septikasari and R N Frasandy, "21st Century 4c Skills In Basic Education Learning," *Tarbiyah Al-Awlad: Journal of Elementary Level Islamic Education* 8, no. 2 (2018): Article 2.

<sup>6</sup> P M Thana and S Hanipah, "Merdeka Curriculum: Transforming Elementary School Education to Face the Challenges of the 21st Century," *Basic Scientific Conference Proceedings* 4, no. 0 (2023): Article 0.

<sup>7</sup> A Yani, "Technological Transformation In Learning In The Era Of Industrial Revolution 4.0," *PenKoMi Journal: Educational and Economic Studies* 6, no. 2 (2023), <https://doi.org/10.33627/pk.62.1235>.

21st century learning itself has its own characteristics and uniqueness, where learning carried out in educational institutions must focus on 21st century skills. Learning must be designed in accordance with the 4C skills which include, 1) critical thinking skills (critical thinking skills), 2) creative and innovative thinking skills (creative and innovative thinking skills), 3) communication skills (communication skills), and 4) collaboration skills (collaboration skills).<sup>8</sup>

Learning at this time must be based on these four skills so that the characteristics of 21st century learning can be achieved. Therefore, teachers must develop a learning design that is appropriate to the skills of 21st century learning.<sup>9</sup> Developing learning models that are adapted to 21st century learning is very important to provide learning experiences to students. The model used must also increase student involvement in learning.<sup>10</sup> Because, in this century, learning is no longer teacher-centered, but student-centered.

In the 21st era, technological developments have made it easier for students to get instant answers to their learning process. However, orientation towards answers rather than thinking, asking questions and solving problems can cause students' learning experiences to be minimal. So it is in this context that teachers play a role in creating learning designs that enable students to solve problems and obtain meaningful learning.<sup>11</sup>

Meaningful learning needs to be designed by teachers so that the implementation of learning does not only focus on students who have higher cognitive ability in solving existing problems. This is because learning designed in groups tends to only rely on students who have higher academic abilities, without any conflict.<sup>12</sup> If this is left unchecked, it will have an impact on low student cooperation in group learning and students who have a low cognitive level will

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<sup>8</sup> R Ratnasari et al., "Development Of A Steam-Based Activity Book As A 21st Century Learning Media In 1st Class Of Primary School," *ELSE (Elementary School Education Journal): Journal of Elementary School Education and Learning* 7, no. 1 (2023): Article 1.

<sup>9</sup> R Rosnaeni, "Characteristics and Assessment of 21st Century Learning," *Basicedu Journal* 5, no. 5 (2021), <https://doi.org/10.31004/basicedu.v5i5.1548>.

<sup>10</sup> R Handayani and D Wulandari, "Modern Assessment in Welcoming 21st Century Learning and Obstacles in Developing Countries," *Edutama Education Journal* 8, no. 1 (2021): 13.

<sup>11</sup> E Tarihoran, "Teachers In 21st Century Teaching," *Sapa: Catechetical and Pastoral Journal* 4, no. 1 (2019).

<sup>12</sup> S Rahman, "The Importance Of Learning Motivation In Improving Learning Outcomes," *NATIONAL PRIMARY EDUCATION SEMINAR PROCEEDINGS* 0, no. 0 (2022), <https://ejurnal.pps.ung.ac.id/index.php/PSNPD/article/view/1076>.

become dependent on students who have higher cognitive levels during the learning process.<sup>13</sup>

One effort to improve the effectiveness and quality of learning in elementary schools is by selecting the appropriate learning approach and model for the students' conditions and characteristics. The collaborative learning model is one model that can be applied. Collaborative learning is a combination of two or more students working together and sharing the workload equally to realize the desired learning outcomes.<sup>14</sup> The collaborative learning model is a learning model that trains students to work together with their friends to find learning material. Ted Panitz explains that collaborative learning is a personal philosophy, not just a classroom learning technique. According to him, collaboration is a philosophy of interaction and a lifestyle that makes cooperation an interaction structure designed in such a way as to facilitate collective efforts to achieve common goals.<sup>15</sup>

Collaborative learning carried out in this century is not just doing assignments in groups, without the involvement of all group members. Collaborative learning is one of the skills that students must have in the 21st century. Educators need to understand that the professionalism of educators in the 21st century is not merely expertise in a particular topic. Instead, they must be experts at finding out together with their students, know how to collaborate, and are experts at joining students to seek new discoveries in every learning process.<sup>16</sup>

Several studies have revealed that collaborative learning has a positive effect on student learning outcomes in elementary schools.<sup>17</sup> Collaborative learning is also closely related to students' social and emotional abilities. Students' ability to collaborate in groups during learning also depends on the students' social and emotional abilities. This is because collaboration requires mature attitudes from each member, especially when there are differences of opinion between students. Therefore, good social skills and the ability to manage emotions are needed to

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<sup>13</sup> N.K.N.S. Dewi, I G Astawan, and I G Margunayasa, "Analysis of the Influence of Collaborative Learning Models on Elementary School Students' Science Learning Outcomes," *MIMBAR PGSD Undiksha* 8, no. 2 (2020): Article 2.

<sup>14</sup> E F Barkley, C H Major, and K P Cross, *Collaborative Learning Techniques: A Handbook for College Faculty* (John Wiley & Sons, 2014).

<sup>15</sup> N Suryani, "Implementation Of A Collaborative Learning Model To Improve Students' Social Skills," *LEARNING SCIENTIFIC MAGAZINE* 8, no. 2 (2010), <https://journal.uny.ac.id/index.php/mip/article/view/3654>.

<sup>16</sup> Prayogi, "21st Century Skills: Digital Competencies of Future Educators."

<sup>17</sup> Dewi, Astawan, and Margunayasa, "Analysis of the Influence of Collaborative Learning Models on Elementary School Students' Science Learning Outcomes."

succeed in these situations.<sup>18</sup> Collaborative learning is learning for the present and the future because one of the current intelligence of a person is measured by the ability to collaborate and/or collaborate to work on a particular project or field.<sup>19</sup>

UI Elementary School is one of the schools in the city of Yogyakarta that has implemented a collaborative learning model in the learning process which allows students to develop not only their cognitive skills but also their social skills as a challenge for the 21st century. From the background that the researcher has described above, the aim of this research is to reveal the implementation of collaborative learning in an effort to prepare students to face the challenges of the 21st century

## DISCUSSION

### *21st Century Challenges in Learning*

The rapid development of technology poses challenges in education, especially as teachers as educators have a fairly large role in being able to balance the flow of technological progress. This was conveyed by Mrs. Aj as the resource person, saying that:

"Indeed, currently there are many challenges in learning. As technology develops so rapidly, of course this is a challenge for me as a teacher to be able to keep up, let alone use it in learning. However, what is no less important is balancing academic skills with life skills. Developing the life skills they need, such as working together and communicating, because the most worrying challenge is the decline in students' sense of concern for each other."

In today's digital era, this means the rapid development of technology, digital technology is easily accessible at any time and has become an inseparable part of human life Likewise in education.<sup>20</sup> 21st century learning is required to be technology-based to balance the demands of the millennial era with the aim that students will become accustomed to 21st century life skills.<sup>21</sup> Globally 21st century skills are described in 4 categories as follows: (a) Ways of thinking: Creativity and innovation, critical thinking, solving problems, making decisions, and learning to learn; (b) Ways to work: Communicate and collaborate; (c) Tools for the job:

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<sup>18</sup> R I Sari et al., "The Relationship between Collaborative Learning and the Social Emotionality of Children Aged 4-5 Years at RA Muslimat NU 2 Palembang," *ULIL ALBAB: Multidisciplinary Scientific Journal* 1, no. 5 (2022): 1105–1113.

<sup>19</sup> T Sarah and R Witarso, "The Effect of Collaborative Learning on Animal Movement Imitation Skills in Elementary School Students," *Journal of Educational Research* 4, no. 1 (2023): Article 1.

<sup>20</sup> F Mansir, "Actualization of Religious and Science Education in Character Building for Students in Schools and Madrasas," *J-PAI: Journal of Islamic Religious Education* 7, no. 2 (2021), <https://doi.org/10.18860/jpai.v7i2.11704>.

<sup>21</sup> Rosnaeni, "Characteristics and Assessment of 21st Century Learning."

General knowledge and skills of information and communication technology; (d) Way to live.<sup>22</sup>

In Ansori's research, it was revealed that learning that is carried out in a boring manner can have an impact on the development and attitudes of students in the digital era. Students are faced with materialistic and hedonistic relationships.<sup>23</sup> This will have an impact on students' social outcomes. Many people think that schools that implement technology-based or online learning are not good because the interaction process is less carried out and there are concerns that students' character will not be formed because schools are considered free. This condition is inversely proportional, the role of technology which is increasingly capable and sophisticated today has distorted the facts and mindset of the wider community that only with technology-based learning can the learning process survive and develop.<sup>24</sup>

21st century skills are a narrative to change the mindset of educators. Educators in the past were very different from today, where educators had to keep up with very rapid technological developments in order to balance the challenges that emerged. Things that need to be paid attention to are not only the academic aspects of students, but also life skills such as collaboration and communication. Collaborating and communicating are 21st century skills that need to be trained.

Educators do not only present information to students, which has no relevance to life safety, does not provide deep meaning to their students (Kasse & Atmojo, 2022). So implementing collaborative learning is one of the efforts made by teachers to create more enjoyable learning and train students to solve problems together. So that the development of increasingly advanced technology does not eliminate students' social awareness and feelings.

### ***Application of Collaborative Learning***

This collaborative learning is important, because it has good benefits in the learning process, and provides a meaningful learning process. Students are not only required academically, but also socially. This was expressed by Aj's mother as the source, saying that:

"In my opinion, collaborative learning is very important so that students learn to solve problems together. In carrying out learning, they can share ideas and

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<sup>22</sup> Prayogi, "21st Century Skills: Digital Competencies of Future Educators."

<sup>23</sup> R A M Ansori, "Strategy For Implementing Islamic Education Values In Students," *HERITAGE JOURNAL* 4, no. 2 (2017): 14–32, <https://doi.org/10.35897/ps.v4i2.84>.

<sup>24</sup> S Suyuti and P Yustitia, "Challenges and Opportunities for Implementing Character Education in Religious High Schools," *Ta'dibuna: Journal of Islamic Education* 10, no. 4 (2021): Article 4.

perspectives from their classmates, help each other in solving problems and facing existing challenges, so that a sense of caring and social relations can be established. When they study in groups it also helps them develop their social skills which are very necessary in the real world, in social life. Don't let them be active on their cellphones but when interacting with each other they can't, they don't care about people, so this collaborative learning trains them to become students who don't just excel in academic knowledge.

Akella said collaborative learning focuses on developing meaningful activities and performance.<sup>25</sup> The way the learning experience is designed by the teacher greatly influences the meaningfulness of the experience for students. The learning experience shows more connections between conceptual elements to make the learning process more effective. Collaborative learning emphasizes the learning process together between students. In line with Wiersma's opinion that "collaborative learning is a philosophy: working together, building together, learning together, improving together". Collaborative learning has a philosophy of learning together, working together, building knowledge together, changing knowledge together, and experiencing improvement together.<sup>26</sup>

Learning management in the world of education can improve students' social skills and motivation if they use appropriate models or methods. To improve the quality of the teaching and learning process, apart from educator creativity, active student participation is also needed. It is important to plan and build a classroom atmosphere so that students have the opportunity to interact with each other.

#### Preparing for 21st Century Challenges

Collaborative learning is a teacher's effort to create a learning environment that prepares students to face the challenges and opportunities of the 21st century. Through a collaborative approach, students will not only develop academic knowledge, but also the skills and attitudes necessary to succeed in their lives. This was expressed by AJ's mother as the source, saying:

"Why I chose to implement collaborative learning is because I believe that education must reflect real world demands. In everyday life and the world of work, collaboration is a key skill. By practicing collaborative learning, I help students build the social, leadership, and teamwork skills they will need in the future. Collaborative learning involving them in discussions, group projects, or team-based activities can increase their motivation and interest in the lesson.

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<sup>25</sup> N K R Purwati and N K Erawati, "Development of a Numerical Methods Textbook Based on Collaborative Learning," *Mosharafa: Journal of Mathematics Education* 10, no. 1 (2021): 37–48.

<sup>26</sup> S Susanti, T Prasetyo, and S A Nasution, "Collaborative Learning Model as an Alternative to Social Science Learning," *TAUHIDI DIDACTICS: Journal of Primary School Teacher Education* 4, no. 1 (2017).

Collaborative learning encourages students to feel responsibility for their group. They learn that their contributions have an impact on the success of the group, teaching the value of cooperation and shared responsibility. Overall, implementing collaborative learning is part of my efforts to create a learning environment that prepares students to face the challenges and opportunities of this increasingly advanced era. I am confident that through this approach, students will not only develop academic knowledge, but also the skills and attitudes necessary to be successful in their lives.

The demand for professionalism in 21st century educators is not in the ability of educators to know and be proficient about everything, but rather that educators have the skills to find out together with their students, becoming role models of trust, openness and perseverance for their students to face the realities of 21st century digital life.<sup>27</sup> Teachers need to develop learning methods that allow students to connect with the real world (real words). Teachers also need to help students find value, meaning and confidence in what they are learning and can apply it in their daily lives.<sup>28</sup>

In research written by Prayogi and Estetika, it is revealed that collaborative learning is one of the 21st century learning designs.<sup>29</sup> Cooperative learning is a learning model where the learning system works in small groups of 4-6 people collaboratively so that it can stimulate students to be more enthusiastic about learning.<sup>30</sup> This learning model will certainly support students' skills to work together and collaborate.

## CONCLUSION

Based on research, teachers' skills in the 21st century learning era are required to develop competence, especially in terms of effective and meaningful learning activities. The application of collaborative methods is important in the school environment. The collaborative learning approach is a learning method that needs to be developed by teachers in 21st century learning to encourage students to be actively involved and interact, as well as work together in completing various academic tasks in the classroom. Through a collaborative approach, students will

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<sup>27</sup> F Kasse and I R W Atmojo, "Analysis Of 21st Century Skills Through Scientific Literacy In Primary School Students," *JOURNAL OF EDUCATION AND DEVELOPMENT* 10, no. 1 (2022): 124–128.

<sup>28</sup> R Rahayu, S Iskandar, and Y Abidin, "21st Century Learning Innovations and Their Application in Indonesia," *Basicedu Journal* 6, no. 2 (2022): Article 2.

<sup>29</sup> Prayogi, "21st Century Skills: Digital Competencies of Future Educators."

<sup>30</sup> H Isjoni, *Cooperative Learning, Effectiveness of Group Learning*, 2014.



not only develop the academic knowledge, but also the skills and attitudes necessary for success in life that they need.

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