

THE CHALLENGE OF THE INTEGRATED CHARACTER EDUCATION PARADIGM WITH 21st-CENTURY SKILLS DURING THE COVID-19 PANDEMIC

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Abstract: This study explores a new paradigm of character education with 21st-century skills through online learning during the Covid-19 pandemic in Indonesia. The researcher adopted a qualitative approach with the library research method. Research data were collected from primary and secondary sources such as books, proceedings, and journals. The collected data is then analyzed using descriptive content analysis by selecting, comparing, and presenting the data findings deductively. This research shows that students with 21st-century character and skills will become individuals who can take opportunities and face global development challenges. The findings of this study describe that online learning is an excellent opportunity for teachers to instill technology-based character values. An in-depth study is needed to complete this study by discussing the role of parents and teachers in instilling character education during online learning.

Abstrak: Penelitian ini bertujuan untuk mengeksplorasi paradigma baru pendidikan karakter dengan keterampilan abad 21 melalui pembelajaran online pada masa pandemi Covid-19 di Indonesia. Peneliti mengadopsi pendekatan kualitatif dengan metode kajian kepustakaan. Data penelitian dikumpulkan dari sumber-sumber primer dan sekunder seperti buku, prosiding dan jurnal. Data yang terkumpul kemudian dianalisis menggunakan teknik analisis deskriptif dengan cara memilih, membandingkan dan

menyajikan data temuan secara deduktif. Penelitian ini menunjukkan bahwa siswa yang berkarakter dan memiliki keterampilan abad 21 akan menjadi individu yang mampu mengambil peluang, dan berupaya menghadapi tantangan perkembangan global. Temuan penelitian ini mendeskripsikan bahwa pembelajaran dalam jaringan menjadi kesempatan besar bagi guru untuk menanamkan nilai-nilai karakter berbasis teknologi. Perlu dilakukan kajian mendalam untuk menyempurnakan kajian ini dengan membahas peran orang tua dan guru dalam menanamkan pendidikan karakter saat pembelajaran dalam jaringan.

Keywords: covid-19; character education; technological age; 21st-century skills

INTRODUCTION

Massive technological developments are increasingly challenging Indonesian education. Students' skills are at the center of education attention to prepare them to face the current of globalization. As a result, according to students' increasingly complex skill needs, curriculum changes are needed.¹ At the same time, attention to character problems must also be paid, considering the many damaging news treats related to students' character.² Various cases include fights between peers, brawls, bullying behavior, *hate speech*, acts of violence against peers to parents, decreased honesty, loss of sense of responsibility and empathy, drugs, sexual harassment, and others.³ The moral decline of these students is a serious problem that must be resolved immediately.

Implementing character education in the curriculum is necessary to face the challenges of shifting students' character today. Character generation becomes a vital asset in building a nation's human resource civilization. Because the character generation has superior competence, empathy for others, strong religious values, progressive mindset, noble personality, and sense of responsibility, and contributes to creating a healthy, peaceful, advanced, and accomplished environment and life.⁴ In addition, Nadiroh added that character education in the 21st-century curriculum is also oriented toward developing

¹ Khaldoon Al-Htaybat, Larissa von Alberti-Alhtaybat, and Zaidoon Alhatabat, "Educating Digital Natives for the Future: Accounting Educators' Evaluation of the Accounting Curriculum," *Accounting Education* 27, no. 4 (2018): 333-57.

² Dana Schwieger and Christine Ladwig, "Reaching and Retaining the Next Generation: Adapting to the Expectations of Gen Z in the Classroom," *Information Systems Education Journal (ISEDJ)* 16, no. 3 (2018): 45-54.

³ Siti Zubaidah, "Pendidikan Karakter Terintegrasi Keterampilan Abad Ke-21," *Jurnal Penelitian Dan Pengkajian Ilmu Pendidikan: E-Saintika* 3, no. 2 (2019): 1-24.

⁴ Krido Pramono and Margaretha Hanita, "Strategy for Strengthening Nation Character Building in Facing the Challenges of the Information Age," *Journal of Strategic and Global Studies* 4, no. 1 (2021): 55-70.

students' talents and interests, being competent in their scientific fields, and understanding literacy culture.⁵ Thus, the affirmation of character education is necessary for the national curriculum as the direction for implementing learning in schools.⁶ Character education is the primary provision for students to continue to exist in the global competition of the 21st-century.

21st-century life requires metacognitive skills that must be included in the curriculum. Character education is part of four integral dimensions of a complete and balanced education in the 21st-century: knowledge, skills, character, and metacognition.⁷ Metacognition skills are the central aspect of growing the process of self-reflection and learning methods and can improve the other three dimensions.⁸ Another benefit of metacognition is that it can help students clarify assignments at school, find learning difficulties and choose learning strategies to improve the quality of their learning.⁹

Since Indonesia contracted the Covid-19 virus in March 2020, the learning strategy has changed from face-to-face offline to online technology. The technology used can support lectures objectively, such as zoom meetings, google meet, e-learning, and other supporting technologies. Implementing character education in learning is a challenge for teachers as curriculum implementers.¹⁰ This challenge is increasingly meaningful because teachers must present subject matter while paying attention to student character development through technology as a learning medium.¹¹ Technology is essential during this Covid-19 pandemic in achieving the desired learning goals.¹² So technology plays an

⁵ N. Nadiroh, V. Zulfa, and S. Yuliani, "Learning Transformation of the 21st Century Curriculum for Prospective Teacher in Term of Eco-Literacy," *IOP Conference Series: Earth and Environmental Science* 802, no. 1 (2021): 1-6.

⁶ M. Habib Qazi, "National Identity in a Postcolonial Society: A Foucauldian Discourse Analysis of Pakistan's National Curriculum Textbooks and Their Social Practices in Schools for Shaping Students' National Belonging," *British Educational Research Journal* 45, no. 2 (2019): 275-97.

⁷ Harriet Wambui Njui, "Education Reforms Towards 21st Century Skills: Integrating Character Education in Teacher Education Curriculum," *European Journal of Education Studies* 3, no. 12 (2017): 234-54.

⁸ Heriyanto et al., "Character Education in the Era of Industrial Revolution 4.0 and Its Relevance to the High School Learning Transformation Process," *Utopia y Praxis Latinoamericana* 24, no. Extra5 (2019): 327-40.

⁹ María Luisa Sein-Echaluce, Ángel Fidalgo-Blanco, and Gustavo Alves, "Technology Behaviors in Education Innovation," *Computers in Human Behavior* 72 (2016): 596-98.

¹⁰ Marvin W Berkowitz, "Implementing and Assessing Evidence-Based Character Education," *Journal of Education*, no. June (2021).

¹¹ Ade Muslimat et al., "Develop Technology Based Multimedia For Indonesian Teachers," *Journal of Contemporary Issues in Business and Government* 27, no. 1 (2021):

¹² Apri Wardana Ritonga et al., "E-Learning Process of Maharah Qira'ah in Higher Education During the Covid-19 Pandemic," *International Journal of Higher Education* 9, no. 6 (2020): 227-35.

essential role in the arrival of character learning to students during the Covid-19 pandemic.¹³

The emergence of technology allows humans to optimize their brain function in learning better. Therefore, character education helps humans optimize brain function according to the skills needed in the 21st-century.¹⁴ Education is a part that must change from a classical pattern to a modern one to continue to play an important role in changes towards the development of globalization.¹⁵ These changes are significant in preparing students to live honorably and with dignity in the 21st-century.¹⁶ The world of education uses technological developments to establish an interaction between educators and students in realizing these goals.¹⁷

Many discussions of character integrated with 21st-century life skills have been carried out. The implementation of character learning during the Covid-19 pandemic is still an exciting study that requires literature. A study conducted by Masnia stated that character education is an alternative to building a better generation of the nation. In addition, character education also aims to develop the nation's next generation and minimize cultural and character problems.¹⁸ Zurqoni found that schools in character education can apply a strategy to provide facilities for character building and design good character development programs.¹⁹ Schools carry out character education by providing role models, interventions, consistent habits, and reinforcement. However, realizing student character takes

¹³ Fathikah Fauziah Hanum, "Character Education in Online Learning on Citizenship Education (College Student's Perspective)," *Advances in Social Science, Education and Humanities Research* 524, no. 1 (2021): 89-93.

¹⁴ Ashraf Atta Mohamed Safein Salem, "Engaging ESP Students with Brain-Based Learning for Improved Listening Skills, Vocabulary Retention and Motivation," *English Language Teaching* 10, no. 12 (2017): 182.

¹⁵ Feiby Ismail et al., "Education Planning and Its Implications for Education Policy during the Covid-19 Pandemic," *International Journal for Educational and Vocational Studies* 3, no. 2 (2021): 110-15.

¹⁶ Halah Ahmed Alismail and Patrick McGuire, "21st Century Standards and Curriculum: Current Research and Practice," *Journal of Education and Practice* 6, no. 6 (2015): 150-55.

¹⁷ Magdalena Claro et al., "Teaching in a Digital Environment (TIDE): Defining and Measuring Teachers' Capacity to Develop Students' Digital Information and Communication Skills," *Computers and Education* 121 (2018): 162-74. See also Mohammad Nehal Hasnine, Mahmoud Mohamed Hussien Ahmed, and Hiroshi Ueda, "Learner-Centric Technologies to Support Active Learning Activity Design in New Education Normal: Exploring the Disadvantageous Educational Contexts," *International Journal of Emerging Technologies in Learning* 16, no. 10 (2021): 150-62.

¹⁸ Masnia, Pipit Fitriyani, and Liang Ji Bing, "Conceptual Analysis of Character Education with Integrated Quality Insight in Indonesia," *International Colloquium: Opportunities and Challenges on Education Management in 21st Century*, 2018, 33-42.

¹⁹ Zurqoni et al., "Strategy and Implementation of Character Education in Senior High Schools and Vocational High Schools," *Journal of Social Studies Education Research* 9, no. 3 (2018): 370-97.

parental responsibility as the first madrasa for children, teachers as role models of character in schools and society as students' social environment.²⁰ The results of character education collaborated by these three groups will provide good news for the nation and state because it prepares future leaders.²¹ During the Covid-19 pandemic, character education can be realized when participating in learning from homes, such as independence, cooperation, and creativity.²² The content of character education above is the primary provider for these students to reach their careers in the future.²³

Based on the analysis of previous research that discusses the objectives and scope of character education, it is necessary to develop a study related to the new paradigm of character education during the Covid-19 pandemic as a significant capital for students to face 21st-century life skills. Through this research, it is hoped that a plural and harmonious understanding will be formed in shaping students' character during the Covid-19 pandemic so that the purpose of education as a place for inculcating character values for students can be realized to give students access to global skills in the 21st-century.

THEORETICAL FRAMEWORK

Character education has long been discoursed in the world of education in Indonesia. The main goal of Indonesian education is to form a character generation that is prepared to respond to the challenges of the times. It is stated in the Law on the National Education System No. 20 of 2003, which reads that national education functions to develop capabilities and shape the character and civilization of a dignified nation in the context of the intellectual life of the nation, aiming at developing the potential of students to become human beings who believe and fear God Almighty, have a noble character, are healthy, knowledgeable, capable, creative, independent, and become a democratic and responsible citizen.

Character education is a joint movement on a national and international scale in forming an ethical, caring, and responsible young generation. It is a deliberate and proactive effort by schools, teachers, parents, and the community

²⁰ Prayuningtyas Angger Wardhani et al., "Moral Literacy and Social Climate with Perception Teacher's Character Education in Elementary School," *Advances in Social Science, Education and Humanities Research* 251, no. Acec (2018): 301-4.

²¹ Balraj Singh, "Character Education in the 21 St Century," *Ijss* 15, no. 1 (2019): 1-8.

²² Anita Trisiana, "A New Paradigm of Character Education During Covid-19 Pandemic: Comparative Analysis Towards Digital Revolution," *Advances in Social Science, Education and Humanities Research* 524, no. Icec 2020 (2021): 17-29.

²³ Teemu Valtonen et al., "How Pre-Service Teachers Perceive Their 21st-Century Skills and Dispositions: A Longitudinal Perspective," *Computers in Human Behavior* 116, no. May 2020 (2021): 1-9.

to instill these ethical values important to students to adapt to the ever-changing environment and conditions quickly.²⁴ While parents are obliged and responsible to: (a) nurture, nurture, educate, and protect their children; (b) develop children according to their abilities, talents, and interests; (c) prevent child marriage; and (d) provide character education and inculcating character values in children. (Law of the Republic of Indonesia NO. 35 of 2014 Article 26 paragraph 1).

The teacher or educator is responsible for producing a character, culture, and morals generation. The teacher is a role model for students and has a massive role in shaping students' character. Suppose we look back at the work of an extraordinary teacher. In the Law on Teachers and Lecturers, Law no. 14 of 2005, teachers are defined as professional educators with the main task of educating, teaching, guiding, directing, training, assessing, and evaluating students in early childhood education through formal education, primary education, junior secondary education, and senior secondary education. All forms of character education efforts aim to develop students' abilities in making good and bad decisions, maintaining goodness and realizing that goodness in everyday life, and so on have been stated in the vision and mission of the school as a developer of character education.²⁵

In addition, character education aims to achieve five main goals. First, develop the noble attitude of students as Indonesian human resources who inherit the values of the nation's character. The second is fostering the growth and development of noble attitudes under the provisions of society and the nation's Religious-cultural traditions. Third, strengthen the spirit of leadership and a sense of responsibility and belonging to students towards the sustainability of the nation's human development. Fourth, provide space for students to continue to develop creativity and competence so that they can be independent and have a national perspective. Fifth, ensure the continuity of the school as a learning environment for students to instill the values of honesty, creativity, nationality, and dignity.²⁶

RESEARCH METHOD

This study employed a qualitative approach. It was chosen because of the researcher's desire to comprehensively understand the meaning of character

²⁴ Aan Komariah et al., "Participation in Character Education," *Advances in Social Science, Education and Humanities Research* 400, no. Icream 2019 (2019): 414-17.

²⁵ Johan Dwi Saputro and Mukhamad Murdiono, "Implementation of Character Education through a Holistic Approach to Senior High School Students," *International Journal of Multicultural and Multireligious Understanding* 7, no. 11 (2020): 460-70.

²⁶ Ida Umami, A. Gani, and Tejo Waskito, "Proposal of Character and Moral Education for Gifted Young Scientists in Indonesia," *Journal for the Education of Gifted Young Scientists* 7, no. 2 (2019): 377-87.

education with 21st-century skills during the Covid-19 pandemic. Researchers used the library research method. The research steps in conducting a literature study are as follows. First, search for information in the library or on the internet. Second, prepare the necessary points in recording information from the library, including the completeness of information sources, information criteria, how to record information sources from the internet, and others. Third, prepare references in previous research journals, books, and experiences to collect relevant information. Fourth, prepare systematic information collection. Research data was collected, selected, categorized, interpreted, explained, and described concerning the discussion of character education in the concept of 21st-century life skills during the Covid-19 pandemic. The collected data was then processed and analyzed using descriptive content analysis by selecting, comparing, and describing research data using deductive methods to find more comprehensive results.

FINDINGS AND DISCUSSION

Challenges in the Implementation of Character Education During the Covid-19 Pandemic

Strengthening character education in schools requires careful focus and planning. The application of well-designed character education will produce good results as well. In practice, character education has been degraded since implementing the online learning policy amid the spread of the Covid-19 virus in Indonesia. Teachers cannot monitor the development of student attitudes directly except by using technology as a learning medium.

Learning from home during the Covid-19 pandemic requires the synergy of parents and teachers. Teachers provide learning materials to students online, and parents guide children to carry out teacher instructions well. Responding to this, Rasmitadila stated that parents also feel burdened by implementing online learning policies because parents must be teachers at home, accompanying children to study and completing all homework.²⁷ The joys and sorrows of online learning are different. Some parents want offline learning at school. In addition to increasing internet bills at home, spending on children's consumption is also more significant.²⁸ However, the positive value is that parents have much time

²⁷ Rasmitadila et al., "The Perceptions of Primary School Teachers of Online Learning during the COVID-19 Pandemic Period: A Case Study in Indonesia," *Journal of Ethnic and Cultural Studies* 7, no. 2 (2020): 90-109.

²⁸ Maman Suryaman et al., "Covid-19 Pandemic and Home Online Learning System: Does It Affect the Quality of Pharmacy School Learning?," *Systematic Reviews in Pharmacy* 11, no. 8 (2020): 524-30.

with their children, follow their child's psychological development, can monitor their children's character, worship, and strengthen their emotional relationship.²⁹

In practice, the implementation of character education reaps various obstacles. Sari & Murdiono describe the obstacles in strengthening character education in the Covid-19 pandemic era, including a) the condition of teachers and students who sometimes experience illness or have activities that cannot be left behind, b) lack of supporting facilities and infrastructure for teachers and students such as technology, internet, network, and internet quota, c) learning is done online so that teachers find it challenging to build student awareness, and d), not all parents have the entire time to accompany their children to learn at home.³⁰ These obstacles slow down the cultivation of character values in the student learning process.

Serious steps need to be taken to minimize the obstacles to strengthening character education during online learning. The first effort that can be made is to educate parents on solutions for their children's learning activities during the Covid-19 pandemic. Khotimah describes the six main steps in monitoring the development of student character education through online learning as follows:³¹ a) Increase knowledge related to the use of the internet and online media so that parents can monitor children's activities when using the internet as a learning medium; b) Provide education to children regarding things that can be accessed via the internet and content that is not allowed; c) Set the time for children to use the internet; d) Provide examples of good internet use for children, such as time adjustment, content accessed; e) Give strict sanctions to children if they are proven to have accessed inappropriate things; f) Always communicate learning developments using the internet, the obstacles, and the positive impacts of online learning. Parents play an essential role in shaping the child's character at home and being a remote control when the child commits a moral violation.

Conceptually, character education in schools seems to be quite well established. However, in its implementation, it faces an enormous challenge. These challenges can come from the educational environment itself or from outside. Challenges from the internal aspects come from personal education and

²⁹ Daniel Dike, Lusila Parida, and Ivan Stevanus, "Micro Strategy And Character Educational Transformation In Elementary School During The Covid-19 Pandemic of Sintang Distric, West Kalimantan Province," *European Journal of Molecular and Clinical Medicine* 7, no. 8 (2020): 775-86.

³⁰ Resti Anika Sari and Mukhamad Murdiono, "The Strategy of Civics Education Teachers in Strengthening the Character of Responsibility During the Covid-19 Pandemic," *Advances in Social Science, Education and Humanities Research* 524, no. 1 (2021): 151-60.

³¹ Husnul Khotimah, Sri Umi Mintarti Widjaja, and Heny Kusdiyanti, "Character Education Based on Cooperative Personality Values in the 2013 Curriculum During the Covid-19 Pandemic," *Journal of Education and Social Sciences* 17, no. 1 (2021): 133-38.

educational software (mindset, education policy, and curriculum). Challenges from the external aspect in the form of changes in the global social environment that change a nation's values, norms, and culture are very open. These changes cannot be controlled and limited due to the development of information technology. Cheng mentioned the challenges of character implementation during the Covid-19 pandemic as follows:³²

The first finding in this study challenges traditional schools. Massive technology development requires schools to transform education from classic to modern. Traditional schools that do not adapt to the times will experience a decline in quality.³³ It affects monitoring student character learning which cannot be accessed without using technology.

The second is the challenges of teacher teaching methods. The learning method chosen by the teacher determines the arrival of the subject matter to students, which ultimately realizes the expected learning objectives. Embedding character education through internet applications requires teacher skills that are not just explaining the subject matter. Teachers must also master the learning field, have technology operating skills, understand student psychology, and know well-learning strategies.³⁴

Third, Challenges of Student Learning Styles. Students have different learning styles from one student to another. As a result, teachers' understanding of students' learning styles must be upgraded periodically. Student learning environment factors at home often affect learning styles that are constantly changing.³⁵ Teachers must understand each student's learning style well so that the subject matter taught reaches students and is well understood.

Fourth, The Challenge of Teaching Resource Innovation. Character learning during the Covid-19 pandemic has changed. In line with that, the strategy for presenting materials and the content of teaching materials has also changed.³⁶ The first is the maximum transformation of conventional teaching resources into digital. Technological advances also demand the digitization of

³² Xiaoqiao Cheng, "Challenges of 'School's Out, But Class's On' to School Education: Practical Exploration of Chinese Schools during the Covid-19 Pandemic," *Science Insights Education Frontiers* 5, no. 2 (2020): 501-16.

³³ Iivko Bojovii et al., "Education in Times of Crisis: Rapid Transition to Distance Learning," *Computer Applications in Engineering Education* 28, no. 6 (2020): 1467-89.

³⁴ Matthew A Kraft, Nicole S Simon, and Melissa Arnold, "Sustaining a Sense of Success: The Importance of Teacher Working Conditions During the Covid-19 Pandemic," *EdWorkingPaper No. 20-279*, no. 20 (2020): 1-56.

³⁵ Wahab Ali, "Online and Remote Learning in Higher Education Institutes: A Necessity in Light of Covid-19 Pandemic," *Higher Education Studies* 10, no. 3 (2020): 16-25.

³⁶ Dirk Lauret and Durdane Bayram-Jacobs, "Covid-19 Lockdown Education: The Importance of Structure in a Suddenly Changed Learning Environment," *Education Sciences* 11, no. 5 (2021).

teaching resources. Second, verify the learning materials. The curriculum that took place before the pandemic needed to be changed according to conditions during the pandemic, adding materials on pandemic prevention and control, health education at home, mental health, and practical activities to fill activities at home.³⁷

Fifth, School Administration Challenges. The implementation of character learning requires good planning in accordance with the conditions of the times. During this Covid-19 pandemic, teachers need to formulate the documents to implement character learning.³⁸ Coordination of schools, teachers, and parents is a necessity that must be done to get the desired results. Collaborative learning and increasing synergy with education providers have become a routine that cannot be eliminated.

New Paradigm of Integrating Character Education with 21st Century Skills

The demands for changes in the 21st-century human mindset align with the demands of significant changes in national education. The phenomenon of national education that has been running so far is a legacy of old education which contains the activity of memorizing subject matter.³⁹ Changing the education system is not an easy job but a complex issue that must be addressed immediately. Because the Indonesian education system plays a vital role in developing its human resources. This change is a must if we do not want to be crushed by the changing times.

Significant changes in the impact of technological developments have highlighted the attention of many sectors, including the education sector. Partnership for 21st Century Learning develops a learning framework in the 21st-century that requires students to have skills, knowledge, and abilities in technology, media, and information, learning and innovation skills, and life and career skills.⁴⁰ This framework also describes the skills, knowledge, and expertise that must be mastered so that students can be successful in life and work. In line with this, the Indonesian Ministry of Education and Culture formulated that the 21st-century learning paradigm emphasizes the ability of students to find out

³⁷ Cheng, "Challenges of 'School's Out, But Class's On' to School Education: Practical Exploration of Chinese Schools during the Covid-19 Pandemic."

³⁸ Dike, Parida, and Stevanus, "Micro Strategy And Character Educational Transformation In Elementary School During The Covid-19 Pandemic of Sintang distric, West Kalimantan Province."

³⁹ Pepen Supendi, Palah, and Aan Hasanah, "Development of Character Education Models in Madrasas Through the Establishment of the Tahajud Prayer," *Jurnal Pendidikan Agama Islam* 17, no. 2 (2020): 101-18.

⁴⁰ Partnership for 21st Century Learning, "21st Century Student Outcomes," 2015, 1-9, <http://www.p21.org/our-work/p21-framework>.

from various sources, formulate problems, think analytically and collaborate in solving problems.⁴¹

The 21st-century learning framework has become a reference for implementing the learning process in schools. 21st-century learning carries the concept of long-term life in the face of challenges. The explanation of 21st century learning items can be described as follows: (a) students are formed to have critical and skilled skills in solving life problems faced both individually and in groups; (b) students are equipped with communication and collaboration skills with various parties to create good quality work; (e) students are formed into creative and innovative humans who can produce bright ideas; (f) students are skilled in operating technology as a communication medium that makes it easy for everyone to carry out their respective tasks; (g) students have contextual learning competencies as part of self-development; and (h) students have skills in obtaining accurate information from various media and information sources when interacting with various parties.⁴²

The success of implementing 21st-century learning as described above is closely related to using information technology as an online communication medium that continues to grow.⁴³ Several studies on the use of information technology to support 21st-century learning have been carried out in various countries. The following are the characteristics of 21st-century learning:

Table 1: Paradigm shift 21st-century

21st-Century Characteristics	Learning Model
Information (available anywhere and anytime)	Learning is directed to encourage students to find out from various observation sources not being told.
Computing (faster-using machines)	Learning is directed to hone students' skills in formulating problems, not just solving problems.
Automation (reaching all jobs)	Learning is directed to train students' analytical thinking, not just mechanistic thinking.

⁴¹ Tri Murhanjati Sholihah and Badraningsih Lastariwati, "Problem Based Learning to Increase Competence of Critical Thinking and Problem Solving," *Journal of Education and Learning (EduLearn)* 14, no. 1 (2020): 148-54.

⁴² Aam Hamdani et al., "Vocational Education in the Industrial 4.0 Era: Challenges and Opportunities," *Advances in Social Science, Education and Humanities Research* 520, no. Tvet 2020 (2021): 33-35.

⁴³ Reza Rachmadtullah et al., "The Challenge of Elementary School Teachers to Encounter Superior Generation in the 4.0 Industrial Revolution: Study Literature," *International Journal of Scientific and Technology Research* 9, no. 4 (2020): 1879-82.

Communication (from anywhere, Learning emphasizes to students the importance of cooperation in solving problems.)
anywhere)

The 21st-century learning model above is also a differentiator from the learning model. In addition, the number of character-based aspects was also determined as an essential part needed by humans amid increasingly massive technological developments, among others: (a) leadership attitudes become the forefront which is very much needed to decide on various breakthroughs; (b) an attitude of responsibility for every action taken either individually or in groups; (c) uphold values and ethics in socializing with the community; (d) have the basic skills needed to carry out social activities; (e) have an adaptive attitude to various kinds of changes that occur in the dynamics of life; (f) have a life principle that is the basis for doing business to achieve the desired goal; (g) accountability as an individual who has solid reasons for every decision taken; (h) have a social responsibility towards the environment and society; (i) continue to strive to increase community productivity through various daily social activities.⁴⁴

Aware of the high demand for the “creation” of human resources, the education system and model must also adapt to the demands of the times. Information technology as a learning medium that is readily available today helps realize learning goals by following the demands of the 21st-century.⁴⁵ The abundance of literature that is the fruit of thought and the result of discussing 21st-century education is expected to inspire teachers and educational institutions to run the learning wheel in schools and campuses in various parts of the world.

Easy access to learning centers through technology has had a very significant change in the roles of teachers and students. It is time for student-oriented learning to be applied to react to changing times. The sentence “the world is my class” reflects how the whole world and its contents are a place for human learners to increase their knowledge and competence. The process of seeking knowledge is not only confined to the classroom walls. The teacher’s role is no longer an “infomediary” because students can directly access sources of knowledge that have been assigned to teachers in the classroom. Teachers will function more as facilitators, trainers, and companions for students following the learning process. Even at the extreme, it is undeniable that in several contexts, teachers and students together learn and acquire knowledge through

⁴⁴ Ezinne Eze- Ajoku, “Exploring Organizational Change In Healthcare: Understanding The Innovation Decision Process of Adopters,” *Johns Hopkins University* (2019).

⁴⁵ Ika Rahmania, “Project Based Learning (PjBL) Learning Model with STEM Approach in Natural Science Learning for the 21st Century,” *Budapest International Research and Critics Institute (BIRCI-Journal): Humanities and Social Sciences* 4, no. 1 (2021): 1161–67.

the interactions that exist between them when discussing a particular material.⁴⁶ In addition, the implementation of teaching and learning activities must also be expanded beyond the classroom boundaries by increasing the interaction of students with the surrounding environment in various forms of methodologies and approaches.⁴⁷

The 21st-century needs teachers whose profiles are practical, professional and charming, and suitable to face the challenges of the 21st-century. Teacher competencies that the government has formulated include personality competencies, professional competencies, social competencies, and pedagogic competencies that need to be contextualized in the learning process to prepare and predict the learning needs of 21st-century students and the demands of 21st-century society.⁴⁸ In the same event, teachers are also obliged to pay attention to students' character combined with technology-based learning.⁴⁹

Table 2: Combination of character education and 21st-century skills

Quality of Character (Students adapt to a dynamic environment)					
Religiosity	Nationalism	Independence	Mutual cooperation	Integrity	
Basic Literacy (Students apply basic skills in daily life)					
Language	Literacy numerical	Literacy science	Literacy digital literacy	Financial	Cultural literacy and citizenship
Competencecompetent (Students solve complex problems)					
Critical thinking		Creativity	Communication	Collaboration	

Table 2 above reveals the chances of a successful combination of information technology-based character education applications. The Covid-19 pandemic period is an excellent opportunity for teachers to implement technology as a medium for improving student character. Even though they cannot meet in person, teachers can still communicate with students using various media such

⁴⁶ Linda Darling-Hammond et al., *Preparing Teachers for Deeper Learning*, 2019, <https://www.hepg.org/hepg-home/>

⁴⁷ M. Wasith Achadi and Noor Laila Fithriyana, "Integration of Pancasila Values in Student Books of Islamic Religious Education and Character at High School Level," *Jurnal Pendidikan Agama Islam* 17, no. 2 (2020): 119-36.

⁴⁸ Adnan Hakim, "Contribution of Competence Teacher (Pedagogical, Personality, Professional Competence and Social) on the Performance of Learning," *The International Journal Of Engineering And Science* 4, no. 2 (2015): 1-12.

⁴⁹ Muslimat et al., "Develop Technology Based Multimedia For Indonesian Teachers."

as video calls, Zoom, Google Meet, Video Conference, Google Drive, etc. That way, teachers will still be able to guide their students.

CONCLUSION

Children's character education should be parents' main priority, and schools must be developed. Because children now determine the type of community Indonesia will have in the future. This research shows that character education applied in schools today is the principal capital for students to face the opportunities, pressures, and challenges of 21st-century life that will lead them to the gates of success in the future. Another finding of this study also describes that learning during the Covid-19 pandemic is an excellent opportunity for teachers to implement character education using advanced technology such as Zoom, Whatsapp Call, Google Meet, Google Drive, etc. Through solid character education combined with 21st-century skills, it is hoped that Indonesian students will be able to compete in the context of increasingly stringent global developments and be ready to take on roles through creative thinking and ideas. This research needs to be followed up by examining the role of parents and teachers in instilling character education during online learning with more comprehensive research methods, objects, and samples so that this study obtains more perfect results.

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