Character Education in Mathematics Learning in Contemporary Era: A Case Study in Indonesia

Hardi Suyitno, Fariz Setyawan

Matematics Education Department, Universitas Ahmad Dahlan, Indonesia E-mail: hardi.suyitno@pmat.uad.ac.id

Abstract

This research aimed to discover character education in the Contemporary Era. This research is qualitative phenomenological research. As the main instrument, researchers have long studied several library studies in the form of journal articles related to character education in mathematics learning in Indonesia. In addition, some descriptive data are obtained from the writer's experience studying character education over the last five years. Character development through mathematical teaching requires teachers to associate the character values they want to develop with the importance of mathematics and their learning. Then, teachers must be capable of planning and implementing their knowledge. The axiom is determined by agreement; thus, the deal is significant in mathematics. It will embed the agreement's value in the soul of every child who succeeds well when learning mathematics. Eventually, obedience will be inherited in the child's soul. A theorem is a broad range of factual statements and truths obtained from axioms using deductive reasoning. If, in mathematical learning the teacher succeeds in inserting the values contained in the relationship between theorem and axiom, the teacher can also integrate Pancasila values so that Pancasila is positioned like axioms. In short, contextual and contemporary mathematical learning plays a significant role in developing skills essential to modern society and the formation of national character.

Keywords: Character Education, Indonesia

How to Cite: Suyitno, H., Setyawan, F. (2023). Character Education in Mathematics Learning in Contemporary Era: A Case Study in Indonesia. *International Journal on Emerging Mathematics Education*, 7(1), 45-54. http://dx.doi.org/10.12928/ijeme.v7i1.28149

INTRODUCTION

The 21st century is a milestone; it can be described as a contemporary era, and its societies can be called modern societies. Revolution Industries Era 4.0 shows changes in industry and technology. That change will result in political, economic, social, cultural, ideological, environmental, and even religious practices. History shows that any change always affects changes in systems, behavior, and the character of society (Savitri, 2019).

Revolution Industries 4.0 brought digital technology. This era combines technologies that use artificial intelligence, the Internet of Things, and ample data storage. The result was, among other things, the emergence of robots with extraordinary intelligence. Technological change has resulted in many jobs no longer being needed, such as toll officers, mailmakers, shopkeepers, bank tellers, and drivers. Factories or companies that use internet-based technology do not need much human labor. This creates much unemployment, raising humanitarian problems, including social, political, economic, and cultural. (Risdianto, 2019). Technological developments capable of producing advanced tools or machines, such as robots, will tremendously impact the social and cultural spheres because humans know ethics or culture, while tools do not. Revolution Industries 4.0 and the COVID-19 pandemic impact the younger generation's future. Today's younger generation is experiencing lifestyle changes (excessively free lifestyles) and a loss of religious and social values, including the loss of ancestral cultural values and the degradation of character fields. The

result is mental fragility, decreased competitiveness, and character traits like honesty, discipline, caring, integrity, and nationalism (Poluakan et al., 2019).

This highly creative and innovative era can have a negative impact that can destroy the order of life. The idea arose that contemporary society should not lose its human side. The new idea that emerged in Japan is Society 5.0 (Fukuyama, 2018). Japan does not want to be afraid of remarkable technological development, but it can create a mess. Japan will face it optimistically by dominating it and using it as much as possible to build the wellbeing of humanity. This concept is embedded in the Fifth Science and Technology Basic Plan, which embodies Japan's hopes for the future of society. This concept is a human-centered and technology-based system of society (technology-based). People not only master technology but also know when and where it is used. Society is expected to have high mutual respect and live actively and pleasantly. In Revolution Industries 4.0, people search, collect, and process information using the Internet with sources in cyberspace. In Revolution Industries 5.0, information is generally searched from the real world, collected in the virtual world as big data, and then processed with artificial intelligence. Ultimately, the data processing results are returned to the public in various forms as needed. It appears that in Revolution Industries 4.0, society's life system is dominated by technology. In contrast, in the Revolution Industries 5.0 concept, the community life system focuses on people and technology as the primary means of running life so that life feels comfortable. A society that mastered technology and knew when and where it was used should at least be able to think in two kinds of ways: reflective thinking and interdisciplinary thinking.

Contemporary societies facing rapid change must have adequate character, competence, and literacy supplies. A person's character is how he faces a constantly changing environment. Competence is about how he deals with complex challenges. Literacy is how one applies skills to facing problems in real life. Indonesia, part of the world's society, also faces challenges that are not much different. However, Indonesia has a characteristic character, among other things, in the lives of nations and states based on Pancasila. Therefore, the theory and practice of education, including mathematical education, will have different characteristics.

RESEARCH METHOD

This research is qualitative phenomenological research. As the main instrument, researchers have long studied several library studies in the form of journal articles related to character education in mathematical learning in Indonesia. In addition, some descriptive data are obtained from the writer's experience studying character education over the last five years.

The data obtained is from some literature that studies the subject of mathematical learning in Indonesia. This research can be categorized as a case study, given that the study carried out is limited to the context of character education in mathematics learning in Indonesian. The obtained data is analyzed by reducing some of the literature, presenting the data, and drawing conclusions (Miles & Huberman, 1994).

RESULTS AND DISCUSSION

Mathematical Learning and Skills in the Contemporary Era

The contemporary society that lives in the era of the Industrial Revolution 4.0 requires the skills of critical thinking and problem-solving, creativity and innovation, communication, and collaboration (Trilling & Fadel, 2009). Among these skills, creativity and innovation belong to the most recent ones. Bloom's learning taxonomy, updated by Anderson & Krathwohl (2001), on the cognitive domain consists of the ability to remember-C1,

understand-C2, apply-C3, analyze-C4, evaluate-C5, and create (creating-C6). So, the highest level in the cognitive domain is creativity. As stated in the previous chapter, the logical sequence is logical, critical, creative, and the next is innovative. Therefore, the development of the character of innovation in contemporary society must reach its maximum level. It appears that research is needed to answer the question, "Does the latest Bloom taxonomy (2001) need to be revised again to meet the demands of the skills required by contemporary society?".

Someone well-known must have high-level or Higher-Order Thinking Skills (HOTS). HOTS covers problem-solving, critical thinking, creative thinking, reasoning, and decisionmaking. HOTS is the ability to think, which consists of critical thinking, creative thinking, and problem-solving. (Conklin, 2012). Critical thinking is solving contextual problems using critical and rational logic. Creativity is the ability to find various solutions and design unusual ways. Collaboration is the ability to work in a team, be tolerant, understand differences, and live together toward a goal. Communication is the ability to communicate broadly, capture ideas and information, interpret information, and argue in a broad sense.

One of the implications of mathematical learning is that learning should be carried out with HOTS. The implementation of mathematics learning that HOTS describes is strongly recommended to be associated with real-life or contextual, and the process involves elements of exploration, discovery, and creation. Besides, it also includes applied elements, namely the application of mathematics to solve real-life problems. The advantage of the existence of applied elements is that a modeling process increases the capability of abstraction and idealization, ultimately supports the development of creative abilities, and makes students creative people. The mathematical learning that HOTS describes should also enhance communication skills. One way is to allow students to find a problem, communicate the process of solving problems, and communicate mathematical answers (model answers) and concrete answers (The answer to the real problem). Then, the students are encouraged to be able to transfer the results of their learning experience.

In the commercial world, 10 things need attention to enhance the character of innovation. Aim for change, overcome your fear of it, adopt an adventure capitalist mindset, create a dynamic suggestion scheme, flout the law, assign two jobs to everyone, work together, embrace failure, create prototypes, and be passionate (Sloane, 2007).

Having a vision for Change means people must be prepared for change or renewal. Fight the fear of change; that means people should not be afraid of change. Think like a venture capitalist have the courage to take risks. Have a dynamic suggestion scheme; People have plans that are feasible and open to improvement. Break the rules: Innovative behavior will not be imprisoned by rules or assumptions most people accept. Innovative activities have similarities with artistic activities, that is, creating new ways or things with improvisation. Innovative behavior can develop well when the application of rules is not rigid. If everyone has two jobs, this means that innovative character will increase when people often face two or more jobs at once. Collaborate: this means that making changes, and renewal requires cooperation with various parties. There's a slogan that says work success is achieved when you want to work, can work, and can work together. Welcome failure; **it** means being ready to accept failure. People must have the courage to try out new ideas and the bravery to do it in the broader area. Be passionate; People must have a high spirit. The ten things are summarized in Table 1.

47

| No | Innovation | Keyword | Material | Learning |
|----|--|---------------------------------|---|--|
| | Character | | | |
| 1 | have a vision for change | Ready to face change | Arithmetic, definition, operation, and aggregation | Discussion, project |
| 2 | fight the fear of change | promotes change | Arithmetic, definition, operation, aggregation, open-ended problem | Discussion, project, and troubleshooting |
| 3 | think like adventure capitalist | Dare to take risks | The line of numbers, the invention, | game |
| 4 | have a dynamic suggestion scheme | Open to repairs and upgrades | Mathematical Modeling | Problem posing |
| 5 | break the rules | flexible | Open ended problem | Troubleshooting, problem-possing |
| 6 | give everyone two jobs | Two tasks | Open-ended problem | Troubleshooting, problem-possing |
| 7 | collaborate | collaboration | Open-ended problem | task discussion, group. |
| 8 | welcome failure, | Outlet and tough | Discovery, proof. | game, troubleshooting |
| 9 | build prototypes, | creative | Open-ended problem | game, troubleshooting |
| 10 | be passionate | spirit | Discovery, proof, open- ended problem | game, troubleshooting |

Table 1. Increased Innovative Character in Mathematical Learning

Based on Table 1, Sloane's opinion can be implemented in mathematical learning to develop an innovative character. This requires an analysis to determine the learning material and model that corresponds to these aspects of enhancing the character of innovation. The results of the Suyitno study (2018) on materials that can be used to improve innovative character are presented in Table 10.1. These results are not complete but are expected to be used as a basis for further studies in the sense of being corrected, revised, and expanded. In learning the subject of arithmetic, the teacher asks the student, "What is 4 + 4?" Experience shows that the student answers quickly with "8." Even many students respond like that. If they have understood the clock's arithmetic and the counting operations on a certain basis, then the answer is not even one. In equal-hour arithmetic, the answers are four, five hours (3), two hours (2), a goal hour (1), eight hours (8), etc. Suppose the student learns the arithmetic with various rules of the hour. In that case, they will be accustomed to solving problems whose circumstances and conditions change in learning with different rules, even the student who creates the rules. This learning can enable

students to have a vision for facing change. It can also be used to instill tolerance and obedience to rules. When the child is asked to make five groups A, B, C, D, and E, the teacher asks the student to answer the student's question, "How much is 4 + 4?" with the agreement that the coward A answers by using the arithmetic rule of 4 hours, A replies by using 4 hours' rule, dst, then the answer between the groups will be different (depending on the base used). All right, but different, and we will not blame each other.

The problem-solving issues that are being solved through the formulation of mathematical models can be used to support one of Sloane's ways of enhancing the character of innovation, which is to have courage. A presentation of open-ended issues that can be solved in some way or with some possible answers corresponds to the ability to solve or choose more than two alternatives. If presented with a collaborative learning model, it can enhance the ability and attitude toward collaboration. Those discoveries can be used to raise the spirit of a risky traveler. The problem-solving learning presented with the problem-posing model supports the formation of rules and the ability to be ready to face all possibilities. This kind of learning has been developed in Japan. When a student asks a question, he makes a rule different from the one that already exists: a geometry build-up that combines various basic geometric build-ups, etc. It all requires new insights and the ability to innovate. The ability to collaborate is recognized by many as one of the keys to success in innovation. In mathematics learning, the collaborative learning model can be chosen to enhance the ability to collaborate. Collaborative learning models are relevant for use in the learning process of teaching mathematics to enhance innovative character.

Preserving the values of Pancasila and the formation of national character

Contemporary society, in the context of technologically advanced Indonesia, must also safeguard human dignity. Thus, Indonesian society is not sufficiently equipped with the character of innovation and skills as proposed by Trilling and Fadel. However, it must also have a life order as the concept is embedded in Society 5.0, that is, a society order that is centered on technological progress but remains centered or human-oriented. However, for the Indonesian people, this is not enough because the people of Indonesia also have the characteristic that in the lives of nations and states within the framework of the Union State of the Republic of Indonesia, they have the philosophy of Pancasila. The citizens of the Republic of Indonesia who are part of contemporary society must have the character, skill, and basic literacy competence necessary to face the era of disruption; their younger generation must have character, which is the embodiment of the values contained in the foundation of the philosophy of the state, Pancasila. All the nations' children will be blessed first if they embrace the religion and do it properly. When this is fulfilled, contemporary Indonesian society, along with technological advances and prosperity, will also gain happiness in their lives.

The disgrace of the Indonesian people is caused, among other things, by the numerous tribes, languages, religions, customs, etc. The implications are, among other things, social, political, economic, and cultural differences. This could have a negative impact, such as a potential conflict between citizens. There are indications of a fading national perception that could lead to disorientation and national division, which would threaten the integrity of the NKRI. To this day, the problem of sexual immorality still leaves many problems both nationally and internationally.

A nation is a group of people with a common identity, including language, territory, culture, ideology, etc. Nationality must not have the same race, tribe, religion, language, geography, or other similar things. (Bachtiar, 1987). For example, citizens of the United States are made up of people from different continents and races, but generally, when asked, they say, "I am American." The Indonesian nation is formed by historical unity, unity of destiny, territorial unity, and cultural unity. According to Moetodjib (2010), there are three elements of nationality: nationality, national understanding, and national spirit. Every

nation must have a high level of loyalty to preserve its people's identity and integrity. Such a person seems to have a high sense of nationality or nationalism. The spirit of this nationalism must be expressed in its behavior. Every child of the nation has a common purpose for the future of his people, with a national understanding that includes the unity of ideology, politics, economics, social, cultural, and defense of security. The keyword for nationality is unity. (unity). It is called national spirit.

Forming a nation's character includes self-reliance, international dignity, national unity, and democracy. (Hadi, 2011). Prerequisites for a nation to have independence include intelligence, wisdom, skill, rigor, and tenacity. A nation with international dignity means protecting itself from losing its sovereignty and gaining recognition, appreciation, and privilege in world affairs. That nation must have the courage to fight the hegemony of one nation against another. Respect is the basis for the formation of a nation's character. National unity becomes a prerequisite for achieving national ideals, and tolerance is a necessary precondition for realizing national unity. The fourth prayer, whose formula is "The preaching of wisdom guided by wisdom in preaching and representation," indicates that, directly or indirectly, every child of the nation in the life of nations is involved in political processes and decision-making to attain prosperity. In national and national life, every country must have a constitution. The Constitution will be enforceable when several agreements cover the common purpose and ideals, the rule of law, and the form of institutions and procedures of statehood (Andrews, 1968; Assiddigie, 2005). Thus, in the lives of nations and nations that are framed in the NKRI, Pancasila must be accepted and considered accurate by all citizens. The implications of Pancasila's values must be the character of the Indonesian nation. The rule of law is the basis of government. This agreement is used as a guideline for the maintenance of the state in the form of written basic laws (Basic Act 1945) and unwritten laws. Therefore, all statements in the fundamental law must be consistent and must not contradict the Pancasila, which means that the process of drafting the primary legislation and the legislation underlying it follows a logical process of reasoning.

In social and national life, especially in the maintenance of the state, the UUD 1945 and its derivative, which is the unification of legislation, are the game's rules. (rule of the game). As in the mathematical system, the legislative rules governing social and national life must not contradict or collide. The consistency of legislative regulations is similar to consistency in mathematical systems. Therefore, Pancasila's position in legislation is similar to the position of axioms in mathematical systems. Meanwhile, derivative regulations such as laws, presidential decisions, ministerial regulations, etc., must not conflict with Pancasila and UUD 1945. Thus, the formation of consistent attitudes in drafting legislative regulations can be integrated into learning. In the national and civil life of the NKRI, UUD 1945 and all the legislative units are the rules of the game that the government must observe at any level and by every WNI. When mathematical education succeeds, then every Indonesian man will have a soul of obedience to all the rules and regulations that have been jointly agreed upon. Thus, they would also place Pancasila's state philosophy as an axiom in the mathematical system and UUD 1945, along with its derivative legal regulations, as definitions or theorems in the mathematical system. It will have the effect of informing the government at any level. It will run well by the provisions of the legislation without the existence of deviations in order to achieve the common goal as formulated in UUD 45. The sense of unity in achieving a common goal will play a major role in increasing the sense of union. (national unity).

According to Santoso (1983), mathematics is a fundamental means of cultivating and developing clear, accurate, concise, authentic, and orderly thinking. Such a thinking character is a prerequisite for forming an independent human being. An independent nation will have a high bargaining position, and then it will be a highly dignified nation.

Habits, cultures, and characters are very closely linked. A wise saying says, "What you think will be the fruit of action; what you do continually will become a habit; the habit that

dwells in the soul will become character, and the same character possessed by all the children of nations will become the culture of the nation. Character is the set of values that are inherited and reflected in behavior. (Kementrian Pendidikan Nasional, 2010). Bohlin & Ryan (2001) argued that the main components of a character are knowing the good, loving the good, and doing good. (doing the good). Culture is the whole system of ideas, actions, and results of human work within the framework of social life and will be possessed by man through learning. (Poespowardojo, 1993). The culture of a nation is a way of life that is lived, developed, and possessed by the nation. A culture contains many elements, including religion and politics, customs, languages, tools, clothing, buildings, and works of art. Skiner states that behavior is a response or reaction of a person to an external stimulus or stimulus (Notoatmodjo, 2003). Human behavior reflects the culture of its society. When a group of people forms a nation, the custom becomes part of the culture of the nation. Therefore, one of the ways to build a nation's character is by getting used to doing activities that match values and continuing to pay for them. What is expected to be in a country must also be in schools. One of the meanings is that building a nation's character should start at school, and the implication is that character education should also be carried out at school as soon as possible.

Character education is an effort to educate children to make wise decisions and practice them in everyday life. (Megawangi, 2007). The Department of National Education stipulates that starting with the 2011 teaching year, all levels of education in Indonesia must include characterized education. The Regulation of the Minister of Education and Culture of the Republic of Indonesia of 2012 on the Basic Framework and Structure of the Curriculum of Elementary Schools, Primary Secondary, Higher Secondary, and Secondary Teaching Schools directs that the curriculum should be a medium, among other things, for the internalization of character-forming values. Educators are obliged to educate students to be able to internalize the values of character formation in the nation through all curricular activities.

Mathematics is very useful in life; it is useful to discipline the mind and guide man to understand the mind of God (Role, 1993). A person who studies mathematics will have a character that is consensual, appreciates freedom, is consistent with the truth that is believed, respects context or environment, and is highly disciplined in following a rule or procedure. Character development through mathematical teaching requires teachers to be able to associate the character values that they want to develop with the values of mathematics and their learning, and then teachers must be capable of planning and implementing their learning.

There are 18 values in the development of national culture and character education developed by the Department of National Education: religious, honest, tolerance, discipline, hard work, reactive, self-reliant, democratic, curiosity, national spirit, love of the homeland, appreciation of achievement, friendly/communicative, the love of peace, loving reading, caring for the environment, social care, and responsibility. Because of the importance of these characters, in order to strengthen character education, Presidential Regulation No. 87 of 2017. The rules formulate the core of the Indonesian character, which includes religious values, nationalists, independence, gotong royong, and integrity as a core of character that will be strengthened. Here are some examples of revitalizing mathematical learning for the development of race character and character in general.

Revitalizing Mathematical Learning in Character Education

Any formal mathematical system has axiomatic deductive properties that place the axiom at the top of the system. (Suyitno, 2014). This means that the axiom placed at the top of the hierarchy of truth is the first and primary source of all statements. In a mathematical

system, truth flows from the axiom of all the statements that exist in the system including theorems. Axioma has self-evident falsehood, which means the truth of an axiom does not require evidence and must be followed. The axiom is determined by agreement; Thus, the agreement has a very important meaning in mathematics. It will make the value of the agreement will be embedded in the soul of every child who succeeds well when learning mathematics and eventually obedience will be inherited in the child's soul.

A theorem is a broad range of true statements and truths obtained from axioms using deductive reasoning. If in mathematical learning the teacher succeeds in inserting the values contained in the relationship between theorem and axiom and on the other hand the teacher is also able to integrate Pancasila values so that Pancasila is positioned like axioms, then the Shawa will also place Pancala values and uphold them and will not behave and not be in conflict with Pancasil's values. Furthermore, since Pancasila's first prayer is the Divinity of Isa, then the student will also put the teaching of religion in a high place in his life and make the teachings of religion as the axiom in mathematics.

Since the first prayer is for the One God, we will put the religion of doctrine at the top. It implies that because all students are religious, every student who has absorbed the mathematical values will behave in accordance with their religious teachings. The religious differences that are embraced will not make the negotiations box-boxes and hostile because, in mathematics, there is no mutual blame between two different systems. (Tolerance values). As in the world of geometry, the axioms of equivalence in parabolic geometries are opposed to those of equivalence in hyperbolic geometrics, but they cannot blame each other, yet they all have usefulness in real life. Baba (2007) stated that socially open-ended problems carry social values through the development of open-ended approaches. While the application of mathematics is useful for the development of students' ability to solve problems in life (Suryanto, 2002), The development of these abilities has played a major role in the formation of a highly competent, independent, and internationally dignified human being. In short, contextual and contemporary mathematical learning plays a major role in the development of skills that are essential to contemporary society as well as the formation of national character.

The learning of the concept of fraction in the sense of the fraction as a division can be used to instill justice. In learning mathematics with a fractional topic in elementary school, the teacher can start the activity by giving a problem-solving question like this: "Baby Umi will distribute a legit lapis cake in the shape of a rod to her four sons, namely Amalia, Bani, Chitra, and David. She will divide it fairly by making the cake into four equal parts. In religion, righteousness is emphasized.

Justice brings peace, and injustice breeds envy, jealousy, and hostility. The question is how to measure fairly and how many ways there are." After delivering the question, the teacher emphasized the importance of fairness in life. In order to solve the problem, teachers can divide students into groups. Such a learning process will enable students to understand the concept of fragmentation, grow a fair character, develop skills and creativity, and grasp the character of gotong royong, or collaboration.

In a process of learning equation topics with the question "Determining the solution or solution of the equation x - 3 = 7, x real binomial!" usually the process of solving is as follows:

- 1. x 3 = 7(x 3) + 3 = 7 + 3. The properties of equality, the two fields are added by the same number.
- 2. (x + (-3)) + 3 = 10 the meaning of deduction (deduction by a number of equal means adding to the opposite of the deductor).
- 3. x + ((-3) + 3) = 10 the associative value of aggregation:
- 4. x + 0 = 10
- 5. x + 0 = 10.

So the solution to the equation is 10.

Such settlement measures can be exploited to develop justice and honesty (the first step), and the affirmation of justification on each step contains the value that any action should not violate the law.

The universe of talk or universal assembly can be exploited to instill an attitude of tolerance, empathy, and wisdom. The following four elements have the same formula but with different universes of talk. Determine the solution set of the following equation:

 $(x + 3)(x - \frac{1}{2}) = 0, S = \{x \mid x \text{ real number} \}$ $(x + 3)(x - \frac{1}{2}) = 0, S = \{x \mid x \text{ positive number} \}$ $(x + 3)(x - \frac{1}{2}) = 0, S = \{x \mid x \text{ round numbers} \}$ $(x + 3)(x - \frac{1}{2}) = 0, S = \{x \mid x \text{ real number} \}$

The answer to this question is that for Number 1 it is {}, for Number 2 it is $\{1/2\}$, for Number 3 it is {-3}, and for Number 4 it is {-3,1/2}. Each answer is true, albeit different. The meaning or value contained is that although the problem is the same, in different contexts, the solution can also be different. In everyday life, solving problems in accordance with the context is a matter of wisdom and a load of right and good. True is the result of reason or thought, and good is the consideration of the heart (taste results). When supplemented with examples from everyday life, it will get students accustomed to paying attention to the social and cultural environment as well as the philosophy of life. Solving the problems that arise in the lives of nations and nations must consider the philosophy of the state, Pancasila. On the subject of line numbers, the question "Determining the n-quarter of line 0, 0, 4, 12, 24, 40, 60,." has the potential to enhance intelligence, persistence, rigor, competitiveness, experience, and luck. Strength is very closely related to stamina. Experience is gained through a series of practical activities, which also means diligent learning. Luck belongs to individuals who are prepared to receive it, that is, those who strive and pray.

This can be done by explaining the probability of events not only with an apriori approach but also by emphasizing an empirical approach. A priori, the probability of an event in an experiment by drawing a metal currency is the appearance of an image (G) or a number (A), and the chance of the occurrence of A or G, respectively, is half. Empirically, if the drawing is done 100 times, then the emergence of G does not necessarily occur 50 times, and neither does the appearance of A. This empirical approach can be used by the teacher to explain that in each event, there is another force beyond human control that determines the outcome of an experiment.

CONCLUSION

Character development through mathematical teaching requires teachers to be able to associate the character values that they want to develop with the values of mathematics and their learning. Then, teachers must be capable of planning and implementing their learning. The axiom is determined by agreement; thus, the agreement has a significant meaning in mathematics. It will embed the agreement's value in the soul of every child who succeeds well when learning mathematics. Eventually, obedience will be inherited in the child's soul. A theorem is a broad range of factual statements and truths obtained from axioms using deductive reasoning. If, in mathematical learning, the teacher succeeds in inserting the values contained in the relationship between theorem and axiom, the teacher can also integrate Pancasila values so that Pancasila is positioned like axioms. In short, contextual and contemporary mathematical learning plays a significant role in developing skills essential to contemporary society and the formation of national character.

DECLARATION

Author Contribution

All authors contribute in the research process, such as collecting the data, analyzing the data, and writing the manuscript. All authors approved the final manuscript.

Funding Statement

Not stated.

Conflict of Interest

The author declares that they have no competing interests.

Ethics Declaration

I as author acknowledge that this work has been written based on ethical research that conforms with the regulations of our institutions and that I have obtained permission from the relevant institutes when collecting data. We support the International Journal on Emerging Mathematics Education (IJEME) in maintaining high standards of personal conduct, practicing honesty in all our professional practices and endeavors.

REFERENCES

Fukuyama, M. (2018). Society 5.0: Aiming for a New Human-Centered Society. Japan Spotlight.
 Miles, M. B., & Huberman, A. M. (1994). Qualitative data analysis: An expanded sourcebook.
 Sage.

Poluakan, M. V., Dikayuana, D., Wibowo, H., & Raharjo, S. T. (2019). Potret Generasi Milenial pada Era Revolusi Industri 4.0. *Focus: Jurnal Pekerjaan Sosial*, *2*(2), 187-197.

Risdianto, E. (2019). Analisis pendidikan indonesia di era revolusi industri 4.0. *April, 0–16. Diakses pada, 22.*

Savitri, A. (2019). *Revolusi industri 4.0: mengubah tantangan menjadi peluang di era disrupsi* 4.0. Penerbit Genesis