

## A STUDY ON THE INTEGRATED APPROACH FOR CHARACTER EDUCATION IN MATHEMATICS EDUCATION

CHUNGHYUN YU

**ABSTRACT.** Character education is an important educational purpose in the current situation of secondary mathematics education. In the current mathematics curriculum, character education is mentioned in terms of core competencies. However, it is very difficult to concretely practice character education in secondary mathematics education. This paper examines the theoretical background of character education in the tradition of mathematics education, and suggests that mathematics is regarded as a practical tradition by the nature of mathematics from a value-intrinsic perspective. In this respect, mathematics education is defined as an intrinsic and nurturing character through long history of practice. This paper searched for an integrated approach to practicing character education in of secondary mathematics education, and argued that the teacher's personal approach including the class model approach of the human factors by an example of the exponential law  $a^m a^n = a^{m+n}$  and the value-oriented activities according to the nature of the mathematics was the core.

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### 1. Introduction

The importance of mathematics as a source of national competitiveness and a hub study in the era of the 4th industrial revolution is being emphasized. In the history of modern education in Korea, mathematics is not only taking its place as a central subject, but also in the future era of secondary education, mathematics is still taking its place as one of the central subjects. There are many reasons why mathematics is taught as a core subject. In the future society, the practical aspect of increasing national competitiveness and being a useful tool for industry and science and technology is highlighted. In addition, mathematics has been recognized for its importance as a subject in secondary schools in that it is an

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effective subject that trains and promotes the human mind with the usefulness of mathematical knowledge itself and the content of that knowledge. Character education is an important purpose of education in the context of secondary education in entrance education where human alienation dominates(see [25]). The recent trend of school education emphasizes the need to cultivate the right character to live together and contribute to the moral development and character formation process of students? (see [14]). As character education is the core purpose of education, attempts to focus on character education in mathematics education are also important.

The recent trend in the mathematics curriculum is emphasizing mathematics education for character education as well as the cognitive domain of secondary mathematics education. Whenever the mathematics curriculum is revised in recent years, the personality element along with the defining aspect of mathematics education must be included in the core competency development of the mathematics subject (see [8, 12]).

However, despite the emphasis on the character aspect in the national level mathematics curriculum, it is very difficult to concretely implement the practice of character education in mathematics education. Therefore, it is necessary to find out what character education traditions exist in mathematics education, what the nature of mathematics education for character education is, what the characteristics of its approach are, and how it can be achieved. Due to the need for such research, this study is an exploratory attempt to analyze the approach of character education in mathematics education and to explore the integrated approach of various methods of character education in mathematics education. To this end, we will first examine the theoretical background of character education in mathematics education. Next, it is necessary to explore the meaning of character education according to the perspective of understanding the mathematics subject. In addition, we will analyze the approach of personality education in mathematics education, examine the nature of personality education in mathematics education according to each approach, and propose an integrated approach of these approaches for the practice of character education in mathematics education. In addition, it will be examined that the core of character education in mathematics education should be a personal approach that emphasizes the role and model of a teacher, that is, a teacher's personality.

## **2. Theoretical Background of Character Education in Mathematics Education**

In fact, character education in secondary mathematics education has been argued for a long time by mathematicians and philosophers. For Plato(424BC ~ 348BC), mathematics is related to ideas, and through mathematics education, human beings open the 'eyes of the soul'. Learning mathematics is an essential step on the road to truth. Plato emphasized mathematics as a subject that develops and cultivates the overall aspects of humans and cultivates the mind

that makes humans human(see [9]). In this way, mathematics education in the ancient Greek era began as an education to raise true human beings, and it is a subject that began for character education to learn the form of human life, cultivation of mind, and human education. It can be said that Euclid's Elements is a mathematics textbook to embody Plato's ideology, and mathematics education through Euclid's Elements is no different from cultivating one's mind. Mathematics is a study that began to educate true human beings, and it is a subject that began to be taught for attitudes in life, cultivation of mind, and character education. Furthermore, among the four liberal arts in the Middle Ages, that is, arithmetic, geometry, astronomy, and music, it can be said that this tradition was inherited as character education(see [10]).

In addition, mathematics education as a modern human cultivation was claimed as a public education attempted by Pestalozzi(1746 ~ 1827), and the educational value of mathematics as a stepping stone for mental cultivation was emphasized. For Pestalozzi, who wanted to realize 'high humanity' through mathematics education, mathematics is a tool to cultivate human morality, cultivate a sense of truth, develop cognitive forms, and cultivate thinking ability, and learning mathematics is a 'mental gymnastics'. thought and insisted that it should become a major portion of human spirit for the public(see [10]). Fröbel (1782 ~ 1852), who highly appreciated the human educational value of mathematics education in the mid-19th century, showed that mathematics shows the immanence of reality in the human mind and phenomena, and that mathematics education can be a shortcut to internalizing reality. By studying mathematics, human beings come to know that there is a mathematical order in the natural world, and that such an order is expressed in the thought laws of the pure human spirit. By seeing the reality of the natural world through mathematics, mathematics is the basis of true spiritual life, and learning mathematics is to gain eyes to see reality through the form of mathematics(see [10]).

In this way, according to the tradition of character education in mathematics education, math teachers and students should recognize mathematics as a very important subject that can contribute to teaching humanity and being a proper human being. In the current mathematics education, which is facing the era of the 4th industrial revolution, which is attracting attention recently, this character educational value orientation is very important. Looking at the recent trends in the mathematics curriculum, the recent mathematics curriculum also emphasizes character education in mathematics education and aims to educate the whole person. The 2011 revised mathematics curriculum also emphasizes character as follows. " In school mathematics, it is necessary not only to improve cognitive ability, but also to develop a desirable personality to understand and be considerate of others along with improvement in affective areas such as interest and curiosity in mathematics, confidence and positive attitude toward mathematics learning(p.2)"(see [15]). In addition, in order to cultivate students' character, the following points to keep in mind in relation to character are presented in teaching and learning. " First, respect other learners' solving methods

and opinions, and through this, cultivate the character of caring for others. Second, through the process of expressing one's mathematical ideas convincingly and logically, proving their validity, and drawing rational conclusions based on them, students develop the skills of democratic citizens. Third, it makes them aware of the importance of the process leading to the result in solving mathematical problems (p.35)"(see [15]).

The 2015 revised mathematics curriculum, which is currently being implemented, presents the characteristics of mathematics as follows. " Mathematics has been a driving force in the development of human civilization throughout its long history and provides essential competencies to members of the future society where globalization and informatization are accelerating. Through mathematics learning, students can appreciate the beauty of the regularity and structure of mathematics, use the knowledge and skills of mathematics to creatively solve not only mathematical problems, but also problems in real life and other subjects. Rational decision-making ability and democratic communication ability can be cultivated (p.3)"(see [16]). According to the 2015 revised mathematics curriculum, students should be able to develop competencies essential for the future society by cultivating the aesthetic nature and usefulness of mathematics, creative problem-solving skills, as well as the ability and personality as citizens of the global community through mathematics education. It emphasizes that the main purpose of this is the holistic development of students as follows. "The purpose of teaching and learning in the Department of Mathematics is to help students achieve the goals presented in the curriculum of the Department of Mathematics and grow holistically (p.37)"(see [16]). The goals presented in the mathematics curriculum are expressed as follows. " Having interest and confidence in mathematics, recognizing the value of mathematics, and cultivating desirable attitudes and practical skills as mathematics learners (p.5)"(see [16]). Here, the desirable attitude and practice as a math learner is specifically presented as one of the core competencies of the subject. Attitude and practical competency is suggested as the ability to recognize the value of mathematics and practice it with an attitude of independent mathematics learning and democratic citizenship. The following points are emphasized in teaching and learning to develop attitudes and practical skills. " First, by instructing mathematics in relation to the surroundings of life, society and natural phenomena, students can learn the necessity and usefulness of mathematics and recognize the role and value of mathematics. Second, to actively participate in mathematics learning with interest, interest, curiosity and confidence in mathematics, encourage persistent challenge, and induce learning motivation and enthusiasm. Third, make students develop self-study habits and attitudes to set goals, perform learning, and evaluate learning results. Fourth, act honestly, fairly and responsibly through mathematical activities, have a courageous attitude to overcome difficulties, an attitude to consider, respect and cooperate with others, and present opinions based on logical grounds and make rational decisions. Have it and put it into practice (p.39)"(see [16]).

The implication for character education given by the current mathematics curriculum is that it helps students' character education through educational efforts in mathematics class. Mathematics education presupposes that various aspects of students' personality and positive responses that represent holistic growth can be improved through various teaching-learning methods. The mention of personality in the mathematics curriculum is also a theoretical background that mathematics education can positively help character education.

### **3. Discussion on the Characteristics of teaching and learning mathematics for Integrated Character Education in mathematics education**

It suggests the possibility that a good program, the best model, and environmental factors in mathematics class can have positive values for character education in real mathematics education. However, As a result of the entrance exam-oriented mathematics study, Students with a low affective domain for mathematics have a wrongly formed belief or feeling about mathematics, and it can be an obstacle in solving mathematics problems, and they have difficulty even starting mathematics studies, which negatively affects the overall educational effect(see [19]). Mathematics learning deficits, accumulated failure experiences, lack of intuition and logic, negative beliefs about mathematical abilities, and mathematics teachers' uniform teaching method and limitations in evaluation are negative factors in character education in mathematics education. In this way, mathematics education in reality may result in reinforcing undesirable personality dimensions due to the external situation of competitive atmosphere for entrance examination and the inherent limit of human's instinctive desire(see [3]). Based on the discussion so far, it can be argued that teaching and learning mathematics does not automatically guarantee character development. In other words, only teaching and learning mathematics in the right way can bring about character development, and positive effects on character education can be confirmed. Considering the reality of mathematics education, although it may not be clear to say that 'mathematics education automatically helps character education', as the character education tradition in mathematics education shows, proper mathematics education is essential to character education. In other words, only when you properly teach and learn mathematics can you internalize and acquire proper personality traits. What kind of mathematics is a proper mathematics subject? What is mathematics as the correct educational content? In this regard, mathematics can be grasped from two contrasting perspectives, namely, a value-neutral perspective and a value-intrinsic perspective. First, the value-neutral point of view can be said to be an objective approach that views mathematics subject only as a set of mathematical concepts and algorithms and problem-solving activities using them. Teaching and learning mathematics is a way of seeing that it does not pursue any purpose other than the practice of objective mathematical activities. The personality factor here

means the human characteristics that help to maintain and understand the objective characteristics of these mathematical activities. Personality identified in this way is also regarded as a value-neutral concept. In that the personality identified in this way means the human characteristics that play a decisive role in maintaining the objective nature of the mathematics curriculum, it means only the human characteristics mainly in the cognitive aspect related to abstract thinking such as logical reasoning. Mathematics education identified in this way is the precise execution of mathematical concepts and algorithms and the mental activities involved in the process, and therefore personality is limited to human characteristics represented by cognitive characteristics that can perform well.

On the other hand, it is possible to consider the position of identifying mathematics itself as a value-inherent activity and seeing the attitude and practice that encourages it as character in mathematics education. Here, personality is a human characteristic that practices desirable values, and means more than an objective cognitive function that knows and performs legitimate thoughts, rules, and laws in mathematics. The personality identified in this way can be said to be a human characteristic that makes mathematics subject itself a more value-oriented activity. It is seen that learning and teaching mathematics is not an objective activity, but that values related to practicing virtues such as honesty, responsibility, consideration, courage, patience, and harmony, such as important and valuable characteristics, are inherent in mathematics. Mathematics education identified from this point of view enables the purpose of education to character education. The purpose of secondary mathematics education presented in the 2015 revised mathematics curriculum is interpreted as grasping from this point of view. The method of understanding mathematics as a value-inherent activity can be said to be an attempt to understand mathematics as a whole, and the essence of mathematics and its It can be seen as an attempt at the essence of teaching and learning mathematics education.

According to McIntyre, tradition of practice refers to a cooperative and consistent form of human activity as a social mode of human activity(see [1]). Through the practice tradition, when a certain human activity is suitable for its form, it has the standard to define the value and meaning, and the inner value of the activity is realized in the process of achievement of the human activity as a practice tradition. As a result of the performance of the practice tradition, it is systematically expanded in the process of pursuing excellence in the purpose and value of human activity(see [1]). Mathematics based on a cultural model that values are inherent(see[7]). Not only education, law, art, culture, and economy are examples of such practice traditions, but mathematics is also an example of such practice traditions. L. Black demonstrates that the broader discourse about mathematics is all about the cultural influence of mathematics(see [13]). As the cultural model for mathematics has socially shared beliefs and values about the subject and socially shared proposals that focus on the subject of mathematics, mathematics can be understood as one of the practice traditions. Mathematics

education is an area of human activity that has been developed as a value system by accumulating and cultivating various internal values that humans have historically practiced for a long time(see [4, 5]). The nature of mathematics presented in the 2015 revised mathematics curriculum is interpreted as having been grasped from this point of view. “ Mathematics has been a driving force in the development of human civilization through a long history, and provides essential competencies to members of the future society where globalization and informatization are accelerating. Through mathematics learning, students can appreciate the beauty of the regularity and structure of mathematics, and further develop the ability to make rational decisions and democratic communication as citizens of the global community (p.3)”(see [16]).

School mathematics is a subject that has historically practiced mathematical concepts and processes for a long time and accumulated good and valuable things in them to pass on to the next generation. Character in mathematics education is cultivated in the process of realizing and practicing various values inherent in mathematics as a practical tradition. Mathematics as a practice tradition inherently contains moral and ethical values, so students can acquire a desirable personality if they properly learn mathematics from the point of view of intrinsic values. Character education in mathematics education is the proper internalization of moral values embedded in mathematics as the viewpoint of understanding mathematics as a value-inherent activity sees that the moral essence is inherently embedded in mathematics as a practical tradition.

#### **4. Discussion on mathematics education methods for integrated character education**

As an approach to teaching character, a specific and systematic program for character education is needed. Previous studies on the development of character education materials and preceding studies on the development of mathematics instructional models for character education fall into this category. Joon-guk Shin presents a respectful performance model, an independent performance model, a mutually driven performance model, a self-directed performance model, a cooperation-oriented model, a self-understanding model, and a story empathy model(see [11]). Young-bae Park presented subject-centered experimental activity materials with the theme of the Tower of Hanoi and character education materials with the theme of the Fibonacci sequence in nature as examples of developing materials for mathematics and character education(see [24]). On-nam Kwon et al. suggest intuition discovery class, object internalization class, and story creation class(see [17]). Sang-heon Song points out that character education using the internal contents and external materials of mathematics can be used in mathematics education(see [18]). So-ra Nam argues that character development can be achieved if a discussion class is organized in mathematics education as a way to practice character education or if appropriate questions and comments from teachers are used(see [22]). Bo-eok Seo said that a class in

which storytelling is applied to mathematics education is helpful in cultivating the value of mathematics and character in students(see [2]).

As such, the program-centered perspective as a teaching method for teaching character presupposes that, in the process of learning mathematics, the character does not grow naturally, but systematic measures and separate methods are needed. In mathematics education, designing a teaching model that extracts personality elements, understands the relationship between each element, and presents specific teaching methods for cultivating them is the mainstream. Behavioral expression of appropriate personality according to each stage presented in the teaching model is detailed, and after going through the previous stage of education, it is reviewed and evaluated. If the student shows behavioral change, it is allowed to enter the next stage. In the reality of mathematics education, personality is neither completely teachable nor completely unteachable. Also, there is no guarantee that character can always be taught well if one tries hard, and it does not necessarily mean that one cannot be taught badly. Given the circumstances, what alternative approaches exist for teaching character in mathematics education? Character education is not only a separate program but also a viewpoint that thinks that it is achieved through practice in the course of mathematics education. It can be said that character education is learned through the non-formal curriculum through the process of socialization in the course of mathematics education rather than the program, and takes place in the midst of initiation into practical traditions in the teacher, educational environment and atmosphere, culture, and human relations. As a methodological approach to teaching character, the value-inherent point of view is that character is fundamentally learned from life while living, and personality is melted into students' experiences and engraved in their minds along with the form of life while learning mathematics. The approach is that mathematics education is not just a set of mathematical concepts and algorithms, but a practical tradition, an intellectual tradition of mankind, which takes time and effort, thoughts and minds for a long time. Mathematics is not just the sum of understanding mathematical concepts and principles and successful problem solving, but a collection of life attitudes and ways of thinking that go beyond mathematical concepts and algorithms. It is an intellectual culture that has been developed with this in mind.

Mathematics education is an introduction to both visible and invisible dimensions as a cultural heritage that is currently being practiced. The inside and outside of mathematics, the functional and visual aspects, the superficial level and the deep level, and the practical level and the aesthetic level must all be experienced and understood in order to learn correct mathematics. The value-inherent point of view centered on the practice tradition, which includes the practice of life, the invisible dimension, the perspective aspect, and the in-depth dimension, has the advantage of being able to reproduce the traditional meaning of personality in the most meaningful way. From this point of view, what is most important is a mathematics teacher who identifies mathematics



as a practice tradition and experiences it himself, and as a result, mathematics as a practice tradition is realized. What the mathematics teacher shows is the essence of mathematics, and through the learning he guides, students are introduced to mathematics as a practical tradition.

### **5. A Proposal for an Integrated Approach to Character Education in Mathematics Education**

It is necessary to seek an integrated approach to practice character education in the field of mathematics education. First of all, it is possible to consider choosing only one method, designing detailed methods faithfully, and applying it consistently to the field of mathematics education. However, although the approaches of character education in mathematics education seem to be completely different from each other, in fact, these approaches overlap or share each other in specific situations of mathematics education. Therefore, another way to consider is to consider the overlapping parts in the specific situation of mathematics education, and consider the method of integrating various approaches by mathematics teachers according to the situation of mathematics education. In mathematics education, the approach to character education should be an integrated approach that can have all the advantages of various approaches.

If mathematics education is viewed as a practice tradition, mathematics education is identified as a value-inherent character and can have the possibility of realizing its inherent value in the process of achieving human activities of teaching and learning mathematics. It is very important to analyze the personality area in mathematics education and to understand the specific contents that make up it along with discussion at the theoretical level. The possibility of character education will also be able to be estimated by finding out what the detailed contents that make up the character area are.

What are the specific contents of the personality domain in mathematics education? In the 2011 revised mathematics curriculum, respect, consideration, sharing, and openness were mentioned as character elements in mathematics education, and the personality presented in the current 2015 revised mathematics curriculum was It can be summarized as knowledge and an attitude that values the process. In this way, considering the personality factors that are specifically presented in the recent mathematics curriculum and preceding studies, it can be said that the personality in mathematics education has diversity and specificity. The specific elements that make up character in mathematics education can be said to be essential in mathematics education in that they develop teachers and students, who teach and learn mathematics, into more human beings. It can be said that it is realized with personality elements. Therefore, personality education in mathematics education first needs to grasp the comprehensive nature and at the same time, it is necessary to select and materialize one element that constitutes personality.

Consideration and respect are commonly presented as personality factors in recent mathematics curriculum and preceding studies. Accepting this, consideration and respect can be defined as one of the representative elements of specific personality factors, and a plan can be considered that can be specified in terms of teaching-learning methods in mathematics classes as follows. Considering the pedagogical situation in mathematics, mathematics classes can consider teachers and students and mathematics as a subject, and considering that the class form of character education is mainly conducted as group classes, the character elements of consideration and respect are specifically tried as follows.

First of all, respect and consideration for group members are personality elements that are required for cooperative problem solving in a team to which one belongs in a team-based learning situation. Group members are a group of collaborators to achieve their current goals, satisfy their aspirations and passions, and above all, to achieve the tasks required by mathematical activities. Through these, my mathematical activities can be more satisfactory and I can create the best problem solving. as an example, Let's take the process of studying the exponential law  $a^m a^n = a^{m+n}$  when  $m, n$  are natural numbers. The teacher can present a task for each group to create a concrete example first. For example, students can configure by making an example  $3^2 \times 3^3$  and present its value in various ways using powers. It can also be expressed as  $3^2 \times 3^2 = (3 \times 3) \times (3 \times 3 \times 3) = 3^5$  or  $3 \times 3^2 \times 3^3 = 9 \times 27 = 243 = 3^5$ . What is important here is that students in the same group participate on their own and make independent efforts, while at the same time having an attitude of being considerate of each other in the same group for a common purpose.

The second is consideration and respect for other groups. Through this, other groups can broaden the possibility of problem solving and enable access from various perspectives and methods. Appropriate competition can improve the concentration and efficiency of the task, and by working together among the competing groups, it is possible to achieve greater improvement and create the best task-solving ability. The other group is an object of respect, and the other party should be recognized as a collaborator who carries out a common purpose with me. as an example, students can consider and respect each other's task performance and results while performing activities to compare examples organized by group. Each group can freely compose various examples, try different methods, and compare them while dealing with similar examples. Eventually, we'll move on to sophisticated expressions in the form of formulas like  $3^2 \times 3^3 = 3^{2+3} = 3^5$ . Now, through cooperative problem solving by group, students can arrive at a generalized mathematical law called the exponential law  $a^m a^n = a^{n+m}$  when  $m, n$  are natural numbers. Expanding this one step further, the teacher can assign a task to construct an example of the exponential law  $a^m a^n = a^{n+m}$  when  $m, n$  are integers. Students can experience the process of discovering various things while carrying out activities in groups, and through

the presentations of other groups, they can experience that they are collaborators who achieve the common goal of improving task performance and moving toward the best solution in the process of re-experiencing.

The third is respect for mathematics subject. Considering that the mathematical activity currently performing is mathematics as a practice tradition, it can be said that his mathematics has been handed down as an intellectual heritage of mankind for a long time. Respect for mathematics and learning mathematics can be said to be an initiation into the practice tradition of mathematics. as an example, the formalized expression of exponential law  $a^m a^n = a^{n+m}$  can be seen as a reflection of the practice tradition of discovering mathematical laws and structures through the use of letters in mathematics. The fact that the use of letters in mathematics by Viete (1540 ~ 1603) made general statements of mathematics possible can arouse respect for mathematics in students. 'Number' expresses only one object, but 'letters in mathematics' can express all possible objects at the same time. and 'Language' is limited to objects of fixed meaning, but 'letters in mathematics' can freely determine the scope of the subject.

The fourth is consideration and respect for math teachers. Mathematics teachers lead students to become better by guiding individual students and groups. It is a teacher who does not simply train to solve problems, but teaches to perform mathematical activities correctly and educates to become a better person. Therefore, Mathematics teachers must also respect and care for their students.

Changing and improving the human mind is far from quick results and the implementation of mechanical mechanisms. This is a job that requires a lot of time, hard work, patience, and meticulous consideration at the same time. Different approaches may differ in when and for whom they are most effectively utilized. The best way for math teachers to approach character education in mathematics education is to use various approaches in an integrated way and integrate the aspects that are commonly regarded as important by various perspectives to achieve balance and harmony(see [20]). The integrated approach of character education in mathematics education can be said to be an attempt to properly teach and learn school mathematics. First of all, the integrated approach of character education pursues the same educational goal as holistic education, and by broadly understanding mathematics as a practice tradition with mathematical concepts and principles as the basic content of education, deep-level educational content can be added to the superficial dimension. Students who have experienced personality education in mathematics education for holistic growth will regard mathematics as a practical tradition of life and live a true life of holistic growth. Regardless of which approach is used for character education in mathematics education, the most important condition for it to be effective is that it is a mathematics teacher who forms a personal relationship with students. Whether teaching mathematical concepts, guiding personality education programs, or introducing mathematics as a practice tradition, the key to all of these is that the role of a mathematics teacher's personality is more

important than anything else. due to the nature of character education, what plays a decisive role in changing people's minds is the personal influence of people who already have such qualities(see [20]). Just as a mathematics teacher who wants to introduce mathematics as a practical tradition should be a person who has been introduced to that tradition, the personality maturity and dignity of a mathematics teacher who teaches character are a decisive and essential prerequisite that can never be overlooked in character education. As a mathematics teacher, it is impossible to teach students the correct character without being prepared in the aspect of character. Character education in mathematics education can achieve the proper effect only when the personality of the mathematics teacher is integrated in the mathematics education as a personal relationship with the students along with various approaches of character education. the personality approach in mathematics education can achieve the effect of other character education approaches, and in itself becomes an important source of an integrated approach to character education.

## 6. Conclusion

As the most important purpose of education, one that cannot be overlooked is character education. The reality of mathematics education should positively contribute to the process of forming the correct personality of students to live together. In fact, character education in mathematics education has been argued for a long time by mathematicians and philosophers, and the recent mention of character education in mathematics curriculum shows the possibility of character education in mathematics education. Mathematics can be understood as one of the traditions of practice if the subject of mathematics is understood from a value-oriented perspective. Mathematics has been developed as a value system by accumulating and cultivating various internal values that humans have historically practiced for a long time, and mathematics education is a human activity area that practices those values. Character in mathematics education is cultivated in the process of realizing and practicing the values inherent in mathematics as a practice tradition. Mathematics education identified from this point of view enables the purpose of character education. Character education in mathematics education first needs to be approached at a comprehensive level related to the nature of the mathematics subject, and at the same time, the level of specifying personality elements is also needed. It is necessary to integrate various perspectives to achieve balance and harmony. Therefore, the approach of character education in mathematics education should be an integrated approach that can have all the advantages of various approaches. After all, the key to an integrated approach is the personal role of a math teacher. it is the source of an integrated approach in that the proper effect can be achieved only when the mathematics teacher's personality approach is integrated with the integration of various approaches of personality education.

**Conflicts of Interest :** The author declares that there is no conflict of interests regarding the publication of this paper.

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**ChungHyun Yu** received Ph.D. at Seoul National University. His research interests are mathematics education and special functions.

Department of Mathematics Education, Hannam University, Daejeon 34430, Korea.

e-mail: profyu@hnu.kr