The Role of Family as Students' Character Building in Natural Science Learning at Junior School

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Abstract. For student outputs in the realm of quality education to meet the Sustainable Development Goals (SDGs), they must be competitive. Parents' roles as well as teachers' roles contribute to a student's development of character. Based on data from science teachers at SMP Negeri 3 Kertosono, researchers aim to: (1) describe the character indicators that students have engaged in while at home; and (2) provide modeling of the role of the family in developing students' character in science learning. Teachers find it challenging to keep an eye on students' behaviour while they are at home. This study used descriptive quantitative methods. Simple random sampling was utilized as the sampling method. Seventh-grade students from 70 families at SMP Negeri 3 Kertosono served as the samples. Interviews and questionnaires were used as data-gathering methods. Descriptive statistics were used as a method of data analysis. According to the findings, 77% of students' character traits were discipline, 70% were creativity, 77% were responsibility, 73% were honesty, 70% were thorough, and 57% were teamwork. Making rules, allowing for creative freedom, setting an example of discipline, and fostering trust are all aspects of the family's role that can be performed.

Keywords: Family Role · Character · Quality Education

1 Introduction

Science is a collection of knowledge that is arranged systematically about natural phenomena and their development is not only shown by facts but also by the emergence of scientific methods or scientific attitudes [1]. The nature of science is an attitude that shows the values that arise when the scientific process is carried out (scientific attitude). The values that exist in science include curiosity, logical thinking, critical, creativity, independence, innovation, honesty, discipline, and not easily giving up. Junior High School is generally taken by children aged 12-15 years. At that age, the child is said to be a teenager, where the child experiences physical, emotional, cognitive, social, and behavioural development. This resulted in many cases of junior high school students showing a decrease in behaviour and morals. For this reason, character building is needed in children so that they can prevent immoral acts committed by children in their teens. The junior high school age is also a determinant of the devel-

opment of courtesy and respect for teachers, and away from evil habits such as drug, free sex, abuse, and theft [2].

Character education is not only needed when students are at school but also when they are in the family and community environment. The family is the environment closest to students because the first education a child gets is in his family. The family is the most basic and effective place in carrying out functions from the aspects of education, health, departments and welfare. If families fail to teach their children about honesty, passion, and mastering basic skills, it will be difficult for others to correct them [3]. Family failure in forming character in children will result in the growth of a child with bad character. Therefore the family must have an important role by having the awareness that the nation's character is very dependent on the character education of children at home.

The expected character education values of student behaviour are discipline, responsibility, a caring attitude, courtesy, confidence, and honesty. The formation of character in students will not run smoothly if there is no cooperation from the school and family [4]. Character education is not only given by teachers at school but parents or families who play a role and take part in the character education process. States that cooperation between teachers in schools and families needs to be improved so that there is no misalignment between the values that students must adhere to at school and those that students must follow in the family environment [5]. The obstacle to parental involvement in education is the reduced commitment of parents to accompanying their children. For that reason, schools need to build strong support by external to develop a parental role again. Therefore, this study seeks to present something new to examine the collaboration between schools and parents in implementing online integrated character education based on local cultural values comprehensively on performing teachers, and parental engagement [6].

If the process of forming educational character does not go as expected, there will be many cases of child delinquency in society such as brawls and promiscuity. This happens a lot because of the lack of exemplary good behaviour and intensive supervision in the family and society so it becomes one of the causes of acts of violence that are contrary to character values [7]. A strong character foundation in students can grow and train emotional and spiritual intelligence in a child's life activities and can be intensified through educational activities in schools in the process of learning and teaching activities [8].

Character education is one of the most important aspects in creating quality human resources so that quality education can run according to the goals of the Sustainable Development Goals (SDGs). The Sustainable Development Goals aim to achieve quality education by ensuring equity in quality education and increasing learning opportunities for all [9]. The goal of quality education is the importance of education for sustainable development and this goal explicitly requires action from educational institutions, given its direct relevance in teaching and learning activities [10].

Based on the information data from SMP Negeri 3 Kertosono above, it is necessary to follow up with the aim of namely: (1) describing the character indicators that have been carried out by students while at home, (2) providing modelling of the role of the family in building students' character in science learning.

2   Method

This research used descriptive quantitative methods. Simple random sampling was utilized as the sampling method. The samples consisted of 70 students from grade VII, including 35 from grade VII-A and 35 from grade VII-D. Interviews and questionnaires were used as data-gathering methods. Descriptive statistics were used as a method of data analysis 70 pupils in grade VII were handed questionnaires in the Google Forms format. Interviews with kids about the family's role in character development at home were done as adjustments from completing the Google questionnaire. In particular, the interview at SMP Negeri 3 Kertosono seeks to uncover how family role activities help students develop positive character traits. The data analysis method has three steps: data reduction, data presentation, and conclusion-making. These research-based character markers for science education include discipline, creativity, responsibility, honesty, thoroughness, and teamwork [11].

3   Result and Discussion

Based on the results of filling out the questionnaire through the Google form and interviews that have been conducted on six characters in science learning including discipline, creativity, responsibility, honesty, thoroughness, and teamwork, the following results are obtained:

3.1   The Role of Family as Students' Discipline Character Building

Most teachers have come close to establishing the character of student discipline in school, but there are still variables that obstruct this process, especially environmental influences outside of school like family, play environment, and community [12]. Discipline is an act that shows orderly behavior and obeys various rules and regulations. From the results of the questionnaire, the percentage of family roles in the formation of disciplinary character when children are at home, namely grade VII-A as much as 84%, and grade VII-D as much as 70% (See Fig. 1).
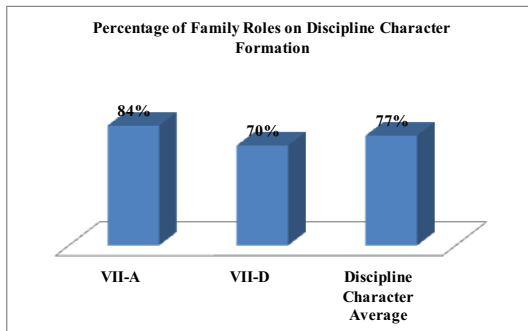

Fig. 1. Graph of Discipline Character Building Percentage Results

Grade VII-D has a lower percentage of the role of the family in forming disciplinary character than grade VII-A. From the conclusions of the interviews in grade VII, the formation of disciplinary character is carried out by accompanying and supervising children during learning at home because grade VII students are still in the transition period from elementary to junior high school subjects. Parents of students prefer their children for tutoring so that children can be disciplined in doing schoolwork, this proves that the role of the family is not fully active in accompanying the work on assignments directly. The average percentage results show that 77% of families play a role in providing and monitoring disciplinary character values. Based on data from two grades in science learning, all families need to pay attention to all their children. In instilling the character of family discipline, three things can be done, namely by motivating children, directing children's attention and creating a positive impression on their learning outcomes. Families also create as much as possible harmonious environmental conditions that allow children to develop self-discipline [13].

3.2   The Role of the Family Forms Students' Creative Character

The ability to generate or recognize ideas, alternatives, or possibilities that might be helpful in problem-solving, interacting with others, and entertaining ourselves and others is what is meant by the term "creativity." Creativity is a collection of mental skills [14]. Creativity is a person's way of thinking about doing something to produce new ways or results. Cultivating creative character values from an early age will make children become resilient individuals. From the results of the questionnaire filled out in the Google form application, the percentage of the role of the family in forming the creative character of children while at home was obtained, namely in grade VII-A as much as 65% and grade VII-D as much as 75%. The results of these percentages obtained an average of 70% (See Fig. 2). Creative character formation can be done by families by freeing children to be creative in doing schoolwork, giving children the opportunity to develop their ideas, and providing examples of creative things to children.
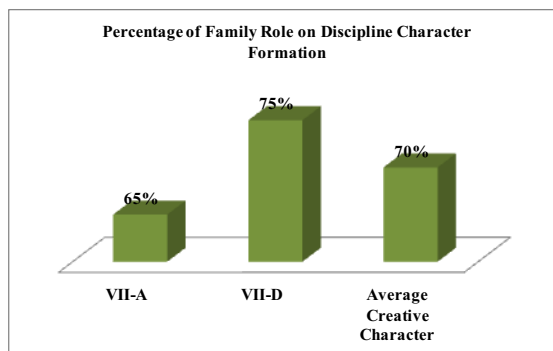

Percentage of Family Role on Discipline Character Formation

75%

70%

65%

VII-A   VII-D   Average Creative Character

Fig. 2. Graph of the Percentage of Creative Character Formation Results

Families tend to only provide motivation and supervise the results of assignments so that their children can be creative about the assignments given by the teacher. At school, the teacher does not play an important role in the formation of student character, but the teacher develops the mindset of students to be creative. If students are at home, the formation of creative character is the task of the family to develop children's creativity, so that it gives pleasure in learning and keeps children from feeling bored. So that at home students can develop their creativity in the assignments given by the teacher [15].

3.3   The Role of the Family Forms the Character of Student Responsibilities

Human awareness of actions or attitudes, whether taken consciously or unintentionally, is responsible. Being responsible also includes being aware of one's obligations and acting accordingly [16]. Responsibility is the attitude and behaviour of a person to carry out the duties and obligations that should be carried out. In learning activities at home, the formation of an attitude of responsibility by the family to children begins with building children's awareness that they must be responsible for everything, including when given homework, they have to do it.
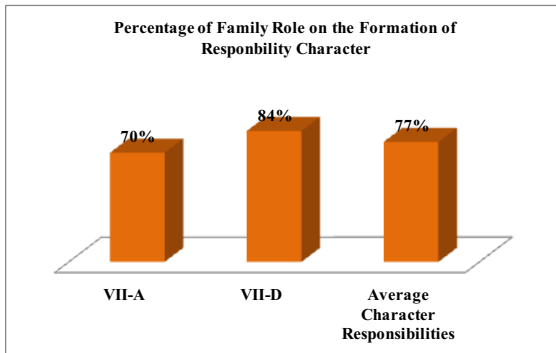

Fig. 3. Graph of the Percentage of Responsibility Character Formation Results

From the results of the questionnaire (see Fig. 3), it was found that the percentage of family roles in forming the character of responsibility in children at home in grade VII-A was 70% and grade VII-D was 84%. In cultivating an attitude of responsibility in students, the teacher can reward students who collect assignments on time and give punishment to students who do not collect assignments such as emptying their grades. If this is done students will feel responsible for the work they have to do. The average percentage of the role of the family on the character of responsibility is 77% but it still requires stricter family action towards their children while still paying attention to educational rewards and punishments.

3.4   The Role of the Family Forms Students' Honest Character

One of the components of spiritual power, noble character, behaviour that reflects personality, speaking and acting truthfully, and possessing noble character is honesty [17]. Honest is a person's behaviour based on efforts to make himself a person who can be trusted in words, actions, and work. At school, honesty can be practised such as not cheating when doing assignments or exams, returning library books on time, and telling the truth to friends and teachers. From the results of the questionnaire, it was found that the percentage of the role of the family in forming honest character was 76% for grades VII-A and 70% for grades VII-D. Children are freed to get the results of their assignments because of the family's inability to help in a structured way like a teacher. Families in grades VII-A get the highest percentage in forming honest character with their children. The average result of the role of the family in forming the character of honesty in children when carrying out science learning activities is 73% (see Fig 4).
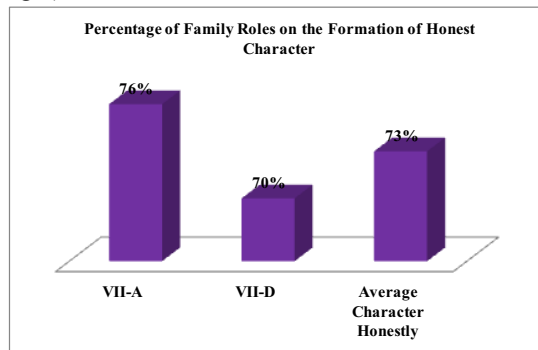

Percentage of Family Roles on the Formation of Honest Character

Fig. 4. Graph of the Percentage of Honest Character Formation Results

When students are at home, the teacher has difficulty controlling their students in assessing honesty. For that, the formation of honest character becomes the responsibility of the family. To instil the honest character of a family, what a family can do is to set an example of honesty towards children and accustom children to being honest. The warmth of the family, the affection of the family, and the intensity of the presence of the family are very encouraging and have an important role in the honesty of children. If the child is in a comfortable family environment full of love and care, the child will be carried away to say and behave honestly with the family [18].

3.5   The Role of the Family Forms the Thorough Character of Students

Thorough is the nature of someone who does a job that is not careless, very careful in doing a job. In science learning, thorough character can be seen from being careful in doing something, for example, making a measurement, must be done carefully to get the right measurement results. The role of the family in forming thorough character is very much needed, the family must find it to be careful in doing anything so that it doesn't do something in a hurry which will harm itself later. From the results of the

questionnaire, it was found that grade VII-A was 65% and grade VII-D was 75%. The average is 70%. Based on the results of interviews with families, they considered that their children tended to do assignments close to the set deadline, resulting in less thoroughness in every answer they received. The form of role of the family in fostering conscientious character is always reminding children to be careful in doing assignments and school exams.
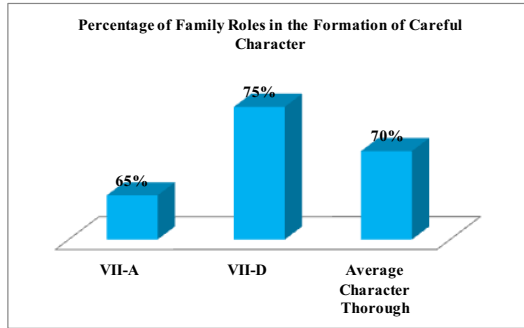

Fig. 5. Graph of the Percentage of Thorough Character Formation Results

3.6   The Role of the Family Forms the Character of Student Teamwork

Teamwork is when a group of individuals with various skills, talents, backgrounds, and experiences work together to complete a task in one or more activities [19]. In the world of education, the ability to work between students in class is a form of activity that must be carried out by students both in small and large discussions. In teamwork students can exchange ideas with friends and submit their respective opinions, thereby accelerating learning objectives. But at home working together is difficult.
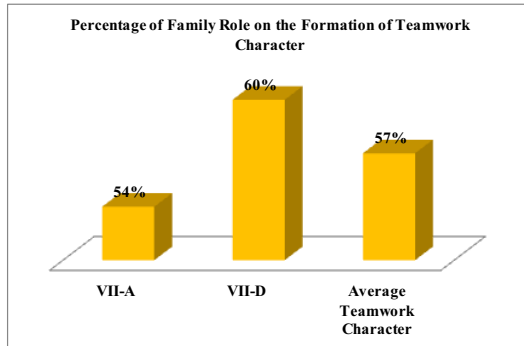

Fig. 6. Graph of Teamwork Character Building Percentage Results

From the results of the completed questionnaire, it was found that the percentage of the role of the family in forming the character of teamwork in children at home in grade VII-A was 54% and grade VII-D was 60%. teamwork in grade VII is still the lowest because more students do not know their friends. From the results of inter-

views conducted the average value of the character of cooperation when learning science is 57%. Many argue that when children are at home, they have less interaction with their friends, children tend to do their work and ask more for help from the family if they have difficulties or ask for help from friends' answers and study guidance. In forming the character of teamwork, families do light teamwork at home, just like cleaning the house to train teamwork in children with other family members. Collaboration has been essential to humanity's development, survival, and progress [20].

The goal of character education was to teach more than only right from wrong. More than that, character education instils excellent habits (habituation) so that kids can distinguish between right and bad, feel positive values, and become accustomed to performing it [21]. The family provides children with a positive role model for parenting. Character education in schools will not be successful without the support of the family [22]. According to the percentage of recognized character indicators, the following traits rank highest: teamwork 57%, responsibility 77%, responsibility 77%, honesty 73%, and thoroughness 70%. It has been determined that the family plays a key influence in the character development of children based on the character traits of discipline, creativity, responsibility, honesty, thoroughness, and teamwork. The family plays the role of a facilitator, assisting kids in efficiently developing character at home. The family must also be able to serve as a filter to help kids avoid encounters with other kids and different learning resources that can be harmful to their development. Additionally, the family catalyzes so that it is possible to explore and maximize the potential that children have. Collaboration between educators, families, and students accelerates the development of 21st-century power. Additionally, this partnership is a perfect learning composition since the learning arrangements used can integrate technological mastery with information, skills, and attitudes. Habituation teaches self-evaluation in addition to knowledge of what is right and wrong. Through Habituation, efforts are made to develop moral principles such as discipline, honesty, tolerance, hard work, responsibility, peace, and compassion. Students need to be encouraged to develop these values so that they can reflect the way of life of the Indonesian people [23]. By setting an example and maximizing the mother's role as a giver of affection, caregiver, place pouring out hearts, managing household life, and educator in controlling sides children's emotions, parents can help their children develop their potential to become the next generation nation that has a noble character. The father, as the head of the household, is crucial in setting policies for the family, serving as the internal family liaison with the community and the outside world, providing a sense of security for all family members, offering protection from all external threats, making decisions in cases of disagreement, and educating children in logical terms [24]. Examples are essential in character education. Because of the significant role that parenting at home plays in forming character and habits. Teachers in both schools and community settings are accountable for the same things [25].

4   Conclusion

In This research, the role of the family has been identified in shaping character values for their children when learning science at SMPN 3 Kertosono in grades VII-A and VII-D. The results of the percentage of identified character indicators include the character of discipline 77%, creativity 70%, responsibility 77%, honesty 73%, thoroughness 70%, and teamwork 57%. The results of interviews in forming children's character include accompanying children in learning, reminding children of their duties, presence and responsibilities, giving children the freedom to be creative, demanding children to be thorough and honest in doing things and training children to work together. Based on this data, the family must improve the formation of children's character because, in essence, the six character indicators are continuous with each other so that one character can reflect another character. Student character education plays a role in developing the ability to behave well. Good character education can create quality education for the goals of the Sustainable Development Goals (SDGs).

5   Acknowledgements

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