

The Analysis of Character Formation of Curiosity in Science Learning in Elementary Schools

Niken Wulandari , Sunyoto Eko Nugroho, Lisdiana Lisdiana

Pascasarjana, Universitas Negeri Semarang, Indonesia


Article Info

History Articles
Received:
12 March 2020
Accepted:
15 April 2020
Published:
30 September 2020

Keywords:
curiosity, science
learning, elementary
school

Abstract

Embedding integrated character in learning is still a problem in implementation in schools, especially the development of the value of curiosity in science learning. This research aims to describe the value of the character of students curiosity in science learning; analyze the signs of curiosity character values that emerge; and know the obstacles experienced when applying the character of curiosity in the science learning process. This research used a qualitative research method, namely, case study research. Research in Elementary School 4 Besito Kudus. Research respondents included 16 fifth grade students and fifth-grade teachers. Data collection using interviews, observation, questionnaires, and documentation. Triangulation is used as a data validity test. The process of data analysis through the process of data reduction, data presentation, and conclusions. The results showed that the enthusiasm of students in the scientific process, enthusiastic about looking for answers; the emergence of the character of curiosity in science learning is carried out by the teacher in teaching by providing practice; and different backgrounds affect the character of children and the role of teachers and parents in encouraging student curiosity, so it can be concluded that the formation of curiosity characters in science learning through a scientific approach in elementary school, it is necessary to get used to teaching and learning activities.

 Correspondence address:
Kampus Pascasarjana UNNES, Jl. Kelud Utara III Semarang
50237, Indonesia
E-mail: nikenwulan.wd@gmail.com

INTRODUCTION

The character of education is seen to be an urgent matter, given the nation's character, which has begun to erode with the development of the times. Global currents that continue to flow cannot be dammed by intelligence. This results in moral degradation that cannot be avoided. Crime cases are increasingly widespread, and riots occur among officials, as well as the younger generation who are less precise in choosing relationships. These things are some examples of the destruction of the loss of character in humans.

Mertika et al (2017) character education is one of the main issues of education. The character education is expected to shape the morals of the nation's children and become the main foundation to improve the nation's dignity. Proper character education is in the identity and behavior of each individual given by God. Buchory and Swadayani (2014) stated the importance of character education applied in every learning process in the classroom.

The character development of students needs to involve more subjects and even all subjects, one of which is the science subject. It means the inclusion of the values of character education in learning in the classroom, both the material and the learning process that occurs so that values are expected to be well embedded in students, and finally formed into a character (Desstya, 2014). The scientific approach in science learning makes students more active, creative, and learning more fun, students can think more scientifically, and the character of students is increasingly formed.

Kammarudin (2012) character education embedded in elementary education is integrated with learning through strategic planning, programs in a systematic and integrated manner. The results can change the character of students by giving a complimentary color in the learning atmosphere and must be carried out continuously. The results of this study are relevant to the research in which character values are instilled in elementary school students.

The implementation of character education is developed through planned and programmatic learning activities so that the character values that have been embedded in the child can be done continuously and become a cultural thing always to be done within the scope of the family, school, and community environment (Raharjo et al., 2015).

Novelyya (2019) high attitude of curiosity held by a student; it will increase the learning activities of a subject. It is also essential to take action by the educator in the form of encouragement to enhance the student's curiosity. Both in terms of learning strategies, learning methods, the use of instructional media used in the process of teaching and learning activities in class, as well as actions that can motivate these students to be more enthusiastic and focused on their learning.

Suciati et al (2014), the dimension of curiosity has several indicators: (1) enthusiastic about seeking answers, (2) attention to observed objects, (3) enthusiasm in the science process, and (4) asking each step of the activity. The value of the character of curiosity of grade fifth elementary school students has always aroused my curiosity, asking questions, being interested in something that has not been found the answer, and exploring something that has not been found the answer. By forming the character of curiosity in science, learning is expected to provide students with the ability to think, do scientific work, and solve problems in everyday life. Asriningsih et al (2015) suggested the quality of quality education can produce human resources who can compete and have character. Character building is closely related to the implementation of natural science learning.

The scientific approach invites students directly to infer problems that exist in the form of problem formulations and hypotheses, a sense of caring for the environment, curiosity, and fond of reading (Machin, 2014). The effort made by the teacher in the scientific approach is to appoint less active children so that the child dares to ask for things that are not yet understood. Therefore, the application of the

scientific approach to science subjects is carried out very well (Rohmawati et al., 2018).

Dahlia et al (2019: 12) learning with a scientific approach is designed so that students actively construct concepts, laws or principles through the stages of observing, formulating problems, proposing or formulating hypotheses, collecting data with various techniques, analyzing data, drawing conclusions and communicating "discovered" concepts, laws or principles.

The purpose of this research is to describe more profound the value of curiosity characters in science learning, describe the signs of the emergence of curiosity character values in the teaching and learning process of science learning, and the constraints experienced by teachers and students when applying the character values of curiosity in fifth grade science learning.

The benefit of research is to add to the scientific treasures and insights about the formation of the value of the character of curiosity in science learning through a scientific approach in elementary school.

METHOD

This study uses qualitative research methods in the design of case study research. Sources of research data came from class teachers and fifth grade students at Elementary School 4 Besito Kudus.

Curiosity has several indicators including enthusiastic looking for answers; attention to the object being observed; enthusiastic about the scientific process; and asking every step of the activity.

Data collection techniques for the formation of curiosity characters in science learning through scientific learning by conducting interviews, observations, questionnaires, and documentation about science learning. Triangulation was used as a data validity test. The process of data analysis through the process of data reduction, data presentation, and conclusions.

RESULTS AND DISCUSSION

The indicators most often seen in the character of students curiosity during research conducted in science learning are shown in Figure 1.

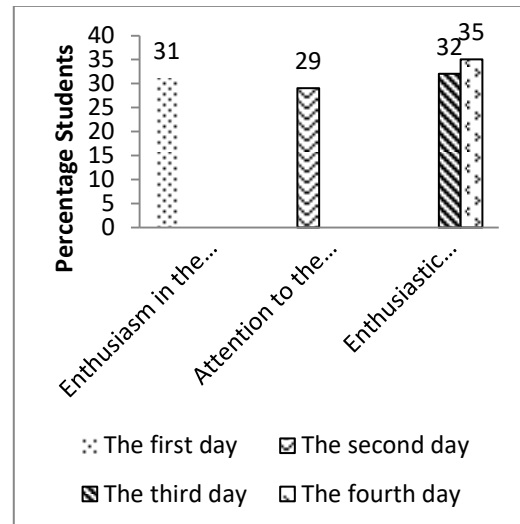


Figure 1. The Indicator in The Character of Curiosity

Based on Figure 1 of the analysis on the character of curiosity can be concluded for four days on 16 students, on the first day, the prominent indicator was enthusiasm in the scientific process by 31% through practical activities carried out regarding the material relations of force and motion. The same thing was conveyed by students when researchers asked questions about the practice of learning science as follows.

Researcher: "Do you like practice in science learning?"

Student: "I like it because it's like learning while playing, and learning is fun. "

Researcher: "Did you ever ask a teacher or a friend during practice about the practice steps or materials used in practice? "

Student: "I have, so that I don't do the wrong thing in doing the practice."

On the second day, the prominent indicator was the attention to the object observed by 29% through the activities carried out by the teacher in learning science about the material in a variety of styles, On the third day

the prominent indicators were enthusiastic searching for answers by 32% through practical activities undertaken by the teacher during science learning, making students enthusiastic about looking for answers from the material provided, and On the fourth day, the prominent indicator was enthusiastic searching for answers by 35% through activities through practical activities undertaken by the teacher during science learning making students enthusiastic about looking for answers from the material provided.

The results of the analysis of the development of the character of curiosity can be presented in Figure 2.

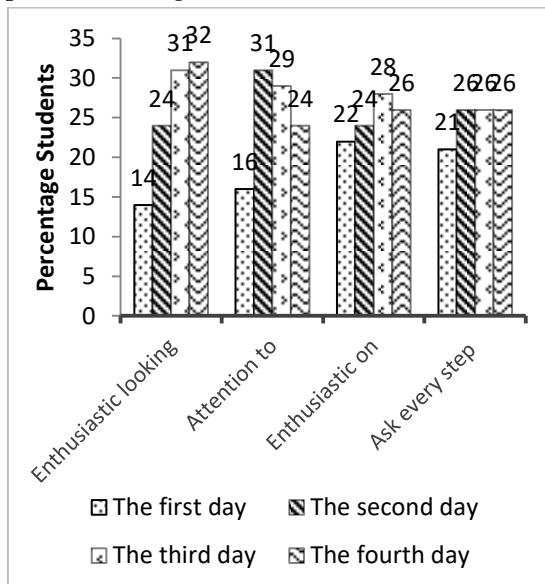


Figure 2. The Character Development of Curiosity

Based on Figure 2 of the analysis of the development of the character of curiosity for 4 days on 16 students, it can be explained that the enthusiastic indicators of searching for answers have the highest percentage of 32% with observations daring to ask teachers or friends about material not understood as many as 9 students; attention to the object observed has the highest percentage of 31% with the results of the observation focused on learning provided by the teacher as many as 15 students; enthusiasm in the science process has the highest percentage of 28% with the results of observations focused on learning science (especially in practice)

conducted by 14 students; and ask that each step of the activity has the same percentage of 26% with observations daring to ask teachers or friends about the practice of 10 students.

It can be seen that the indicator of enthusiastic searching for answers obtained the highest percentage of students as much as 32% with observations daring to ask teachers or friends about material not understood as many as 9 students and observations daring to ask teachers or friends about material related to learning outside of learning as much as 10 students. Nuvitalia et al. (2016: 15) suggested that when learning takes place, each stage in the scientific approach should supports the realization of curiosity indicators.

Based on the results of interviews with the fifth-grade teacher, the obstacles experienced in applying character values in the science learning process are different backgrounds affecting the character of children, do not understand the student characteristics, are not optimal in embedding characters in students, not getting closer to students, not implementing learning fun for students, and the need for facilities that need to be improved in schools to support the application of character values following the level of elementary school children and based on the applicable Curriculum 2013.

Based on the results of interviews and observations with students, the obstacles experienced in applying the character value of curiosity have constraints on the learning atmosphere that is less attractive by 69%, student motivation is lacking in learning science by 44%, the role of teachers and parents in encouraging curiosity students by 56%.

CONCLUSION

Based on the research results that have been described can be summarized as follows indicators of curiosity character that often appear enthusiastic from students in the scientific process are enthusiastic about looking for answers to problems given by the teacher and dare to ask the teacher or friends about material related to learning outside of learning; the

emergence of the character of curiosity in science learning was observed by the teacher during the teaching process, providing practice, and the courage of students to ask about science learning to teachers or friends; and different backgrounds affect the character of children, not yet optimal in instilling character in students, the atmosphere of learning that is less attractive, lack of student motivation in learning science, the role of teachers and parents in encouraging student curiosity.

REFERENCES

- Asriningsih, K. K. A., Supardi, K. I. & Wardani, Sri. (2015). Pengaruh Model Pembelajaran Inkuiri Terbimbing Berbasis Lingkungan terhadap Kemampuan Pemahaman Konsep dan Karakter pada Siswa Kelas V SD. *Journal of Primary Education*, 4(2), 131-138.
- Buchory, MS & Swadayani, T. B. (2014). Implementasi Program Pendidikan Karakter di SMP. *Jurnal Pendidikan Karakter*, 4(3), 235-244.
- Dahlia, D., Setiawati, N. S., & Taufina. (2019). Pendekatan Saintifik dalam Meningkatkan Hasil Belajar Pembelajaran IPA di Kelas IV Siswa Sekolah Dasar. *Pesona Dasar: Jurnal Pendidikan Dasar dan Humaniora*, 7(2), 10-17.
- Desstya, A. (2014). "Penguatan Karakter Siswa Sekolah Dasar Melalui pembelajaran IPA". *Jurnal Pendidikan Universitas Muhammadiyah Surakarta*, 2(1), 1-7.
- Kammarudin, S. A. (2012). "Character Education and Students Sosial Behaviour". *Jurnal of Education and Learning*, 6(4), 223-230.
- Machin, A. (2014). "Implementasi Pendekatan Saintifik, Penanaman Karakter dan Konservasi pada Pembelajaran Materi Pertumbuhan". *Jurnal Pendidikan IPA Indonesia*, 3(1), 28-35.
- Mertika, Astuti, T. M P., & Rodyah. (2018). The Implementation of Character Education in Shaping Social Development of Students in Private Elementary School of Mazmur 21 Pontianak. *Journal of Educational Social Studies*, 7(2), 185 – 195.
- Novelyya, S. (2019). Pengaruh Karakter Rasa Ingin Tahu Siswa terhadap Hasil Belajar Mata Pelajaran IPA Fisika di SMP Negeri 08 Muaro Jambi. *BRILIANT: Jurnal Riset dan Konseptual*, 4(2), 174-181.
- Nuvitalia, D., Patonah, S., Ernawati, Khumaedi, & Rusilawati, A. (2016). Dimensi Rasa Ingin Tahu Siswa melalui Pendekatan Saintifik berbantuan Alat Peraga Penjernihan Air. *Phenomenon Jurnal Pendidikan MIPA*, 6(2), 10-17.
- Raharjo, T. J., Rifai, A. RC., & Suminar, T. (2015). Keefektifan Manajemen Pendidikan Karakter Pilar Konservasi Budaya melalui Strategi Pembelajaran Inkuiri Sosial bagi Mahasiswa Jurusan Pendidikan Luar Sekolah Fakultas Ilmu Pendidikan Universitas Negeri Semarang. *Journal of Nonformal Education*, 1(1), 25-34.
- Rohmawati, S., Sihkabuden, & Susilaningih. (2018). Penerapan Pendekatan Saintifik pada Mata Pelajaran IPA di MTS Putri Nurul Mayithoh Lumajang. *Jurnal Kajian Teknologi Pendidikan*. 1(3), 205-212.
- Suciati, N., Arnyana, I., & Setyawan, I. (2014). Pengaruh Model Pembelajaran Siklus Hipotetik-Deduktif dengan Setting 7E Terhadap Hasil Belajar IPA Ditinjau Dari Sikap Ilmiah Siswa. *e-Journal Program Pascasarjana Universitas Pendidikan Ganesha Program Studi IPA*, 4(1), 1-14.