

## Biology education students' characteristics in basic biology courses

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Article Information	Abstract
<p><b>Keyword:</b> Students' characteristics; Basic biology; Qualitative research; Biology education; Learning process</p> <p><b>Kata Kunci:</b> Karakteristik mahasiswa; Biologi dasar; Penelitian kualitatif; Pendidikan biologi; Proses pembelajaran</p>	<p>The characteristics of biology education students in lectures must be known to design better lectures. This study aims to analyze and determine students' characteristics in the Biology Education Study Program enrolled in basic biology courses at Universitas Labuhanbatu. This study employed a descriptive qualitative approach. A total of 30 first-semester biology education students were sampled from the population of first-semester biology education students. The tool for data collection was interviewed, and the strategy for data collection was the distribution of a questionnaire. The results of this study indicated that Biology Education students' characteristics enrolled in basic biology courses at Universitas Labuhanbatu were as follows: (1) Confidence in analyzing and understanding basic biology materials 47.20%, (2) Discipline 76.66%, (3) Honesty 48.66%, (4) Responsible 81.86%, and (5) Social care 69.66%. According to the results of this study, the student's character in the education system is one of the main aims for supporting a learning process in students so that they can become the next generation of individuals with excellent character souls.</p>
<p><b>History:</b> Received : 12/12/2022 Accepted : 11/02/2023</p>	<p><b>Abstrak</b></p> <p>Karakteristik mahasiswa pendidikan biologi dalam perkuliahan perlu diketahui guna mendesain perkuliahan yang lebih baik. Penelitian ini bertujuan untuk dapat menganalisis dan mengetahui karakter yang ada pada mahasiswa Program Studi Pendidikan Biologi pada mata kuliah biologi dasar di Universitas Labuhanbatu. Metode yang digunakan dalam penelitian adalah kualitatif deskriptif, Populasi yang digunakan adalah mahasiswa pendidikan biologi semester satu dengan pengambilan sampel total sampling yang berjumlah 30 mahasiswa pendidikan biologi, Instrumen dalam pengumpulan data yang digunakan adalah wawancara serta teknik dalam pengumpulan data dilakukan dengan pemberian angket. Hasil dalam penelitian ini memperoleh hasil bahwa karakter pada mahasiswa Pendidikan Biologi pada mata kuliah biologi dasar di Universitas Labuhanbatu memperoleh hasil sebagai berikut bahwa perolehan hasil data berupa: (1) Percaya diri menganalisis dan memahami materi biologi dasar 47,20%, (2) Disiplin 76,66%, (3) Kejujuran 48,66%, (4) Bertanggungjawab 81,86%, (5) Peduli sosial 69,66%. Hasil penelitian ini menunjukkan bahwa karakter pada mahasiswa dalam sistem pendidikan merupakan salah satu prioritas yang sangat penting dalam menunjang suatu proses pembelajaran yang ada pada diri mahasiswa agar dapat menjadi generasi penerus yang terbentuk jiwa karakter yang baik.</p>

## **A. Introduction**

Implementing character education in a tertiary institution is one of the measures taken to produce academically and morally superior students. In a tertiary institution, and particularly in tertiary institutions at Universitas Labuhanbatu, it is a place for academics to build character education as a component of strengthening students' moral values, which must be applied to every learning process in college (Sin, 2019). Character education has a significant role in the formation of attitudes and values, particularly among the nation's future generation (Perdana & Adha, 2020).

The development of students' character is crucial to the advancement of education in Indonesia, since the character of the nation's future generations will be determined by the students' character formation (Manurung, 2017). Character education is the education of values, manners, morals, and attitudes, which also tries to develop in students the ability to determine if something is positive or negative (Nugraheni & Winarni, 2019).

In order to execute character education, lecturers and students will be made aware of the values present in each course they take. One of the actions in character education occurs in biology education classes, which may provide the idea that biology education courses have a character value that is not realized; thus, it must be researched and optimized to develop students' character (Putra, 2017).

Character development in biology education may assist students in establishing excellent character values in honesty, self-confidence, and discipline, as well as love for their God, so that they will build a positive attitude and a good generation inside themselves. the learner (Euitarini, 2019). In order to construct a national character for students, there must be sufficient effort to build individual characters (Rezekiah et al., 2022).

In implementing lectures, learning is a requirement for everyone and has a broad definition. Learning is the conscious application of a process that produces a change in specific behaviors and attitudes, both those that can be observed directly as experience (practice) and those that may be noticed directly via interaction with the environment. With a passion for learning, students will always be motivated to study diligently for excellent and pleasant achievements (Dalimunthe et al., 2021).

The learning system says that someone with awareness or intent performs an action. In this exercise, the student has demonstrated initiative in carrying out a component of his attitude that is likely to cause him to change (Murti et al., 2021).

The scientific attitudes and behaviors of students indicate that scientific behavior and attitudes will also influence achievement of biology learning objectives. Because scientific attitudes also provide students with a mentality that enables them to determine attitudes toward students in learning lessons (Mustain et al., 2021).

In the process of implementing a unit of learning, engagement and reciprocity between lecturers and students are essential to the learning process (Kurniati et al., 2021). Likewise with understanding fundamental biology, it is a field of science that examines natural knowledge that talks or learns about everything in life that is connected to and interacts with a living thing or the environment. With the study of biology, humans can gain a broader understanding of them, recognize what is in them, and learn and comprehend it. Since God created every living thing on earth to be the most perfect creature possible, all biology education students at Labuhanbatu University are required to take basic biology (Safitri & Panjaitan, 2021).

Biology is the scientific study of many sorts of living organisms and their environments. Basic biology courses can enhance attitudes, faith, and skills because in these sessions, students are introduced to the natural circumstances that exist on earth, and with this information, it is predicted that they will be able to recall the creator more vividly. In basic Biology lessons, memory is more important than counting. Hence, the role of the lecturer is also crucial so that students do not become bored during basic biology classes and can comprehend the material adequately (Renat et al., 2017). Biology subjects that are enjoyable and interesting to students are still required in a variety of processes in the development of an innovation or innovation in the process of implementing learning in the form of media such as information on the internet, bloggers, and YouTube regarding basic biology learning (Zaputri & Lufri, 2021).

Based on research that has been carried out by researchers on biology education students at Labuhanbatu University and conducted interviews with first semester biology education students and researchers also obtained information from students and lecturers that there are still some characters and behaviors in students who are not very good at the biology learning process basic because some biology education students have different characters and behaviors as according to Pratiwi & Harahap (2022). There are still students that lack interest and do not comprehend the topic. Throughout the process of applying learning in

college, there are certain pupils who do not comprehend the subject. Or other variables that cause pupils to pay less attention throughout class.

In this case, the formation of a character and morals towards students are two things that are related, namely character as a pattern for behavior that can describe a person's condition and morals as a source of reference to values to be able to train a habit and the right moral behavior in students to produce a good and appropriate character (Sari & Bermuli, 2021).

This study indicates that students' character in the education system is very important. This is a priority in education to encourage a habit in students to have commendable character and behavior in line with instilling character values in students. Especially biology education students at Labuhanbatu University, in which a component of this research indicates that we must have a socially concerned and responsible character. However, not all students have poor conduct and character during the implementation of fundamental biology learning; there are still some students with good behavior and character throughout the implementation of basic biology learning. Students' character will be shaped, and adopting basic biology learning at Universitas Labuhanbatu for students majoring in biology education will positively influence if the teaching is correctly implemented.

This research has never been conducted at Universitas Labuhanbatu on biology education students; therefore, the background on the aforementioned problems encourages researchers to conduct character analysis research on biology education students enrolled in basic biology courses at Labuhanbatu University. This study also intends to investigate and determine the nature of the biology education study program students enrolled in basic biology courses at Universitas Labuhanbatu.

## B. Material and Method

This research was conducted in October at Labuhanbatu University for first semester biology education students. The method in this study was descriptive qualitative. The population in the study were first semester biology education students with a total sampling of 30 biology education students. In taking samples using total sampling, it is sampling where the number of samples is the same as the population, due to taking total sampling because the total population is less than 100 (Sugiono 2014). The instruments in data collection used were interviews and techniques in data collection were carried out by administering questionnaires regarding the character of biology education students in basic biology courses at Universitas Labuhanbatu.

**Table 1 Character questionnaire grid of biology education students in basic biology courses**

No	Indikator	Question	Total
1	Confidence in analyzing and understanding basic biology material	1, 2, 3, 4, 5	5
2	Discipline	6, 7, 8, 9, 10	5
3	Honesty	11, 12, 13, 14, 15	5
4	Responsibility	16, 17, 18, 19, 20	5
5	Social care	21, 22, 23, 24, 25	5
<b>Total</b>			<b>25</b>

The questionnaire was distributed by sharing the Google Form link via the WhatsApp Group media to students using 5 indicators. The indicators in this study are: (1) Confidence in analyzing and understanding basic biology material, (2) Discipline, (3) Honesty, (4) Responsibility, (5) Social care that is spread through Google from the instruments on the media learning through the use of technology in the process of implementing learning in first semester students of biology education, is a modification of Putra (2017), Rezekiah et al. (2022), Susanti (2013), Dewi & Putri (2018). It can be seen in the table. 1 below regarding the indicators for the character grid of biology education students in

basic biology courses at Universitas Labuhanbatu, as for the indicator questionnaire in Table 1.

As for the opinion of Sugiyono (2014), there are three main stages in conducting qualitative research, such as (1) the description stage and the orientation stage, (2) the reduction stage, (3) and the selection stage. The steps in conducting data analysis and conducting research are:

- a) Finding a problem in research.
- b) Determining a limitation on research problem.
- c) Establishing focus and sub focus in research.
- d) Collecting a data.
- e) Processing and interpreting the data.
- f) The emergence of the theory.
- g) Results of research acquisition.

## C. Results and Discussion

The researcher provides a questionnaire statement having 25 statement items that have been obtained based on the results of the acquisition of the value provided to the respondent. The analysis is then conducted by giving a value (score) to each answer. The responses are undecided, disagree, strongly disagree, agree, and highly agree. The respondents were asked questions using a Likert scale measuring instrument with a maximum value of five. In response to statements, respondents were required to express their feelings.

The data that has been given to the respondents, namely questionnaires and observations that will be carried out will be analyzed using descriptive analysis. Biology education students have various personalities in the process of implementing basic biology courses at Labuhanbatu University. The indicators for character analysis in biology education students in basic biology courses at Labuhanbatu University are as Figure 1. The results of the data are: (1) Confidence in Analyzing and Understanding Basic Biology Material (47.20%), (2) Discipline (76.66%), (3) Honesty (48.66%), (4) Responsibility (81.86%), and (5) Social Care (69.66%).

From the results of the acquisition of data that has been obtained regarding the character of students in a process of implementing basic biology courses at Labuhanbatu University, that students have a fairly good attitude and character, such as the character of confidence. Analyzing and understanding Basic Biology Materials obtains a score of 47.20%, and students who have the character traits of discipline (76.66%, and responsibility (81.86%) get a score of 69.66%. In this case, the student's character is quite good for learning basic biology. However, there are still some students whose character is low and sufficient in terms of confidence in analyzing and understanding the material, lack of discipline, honesty, responsibility, and social care. In this case, the low character possessed by students in the process of implementing basic biology learning results in low student understanding in the process of learning basic biology and other subjects.

The character traits of discipline and responsibility, as well as social concern, honesty, and confidence in studying and comprehending biological material, must be fostered in pupils from an early age. As character is one of the character qualities that plays a crucial part in the development of students' social attitudes in the campus environment, it also has a significant impact on the development of students' character outside of the classroom (Yani et al., 2020).

### 1. Confidence in Analyzing and understanding Basic Biology Material.

There are still students who are not defined in terms of confidence in analyzing and understanding basic biology material earn yield of 52.80%, according to the study's findings about indicators of Confidence in Analyzing and Understanding Basic Biology Material. The application of character education in a tertiary institution is crucial in order to instill a sense of leadership and responsibility in the next generation of the nation, as well as to instill in students commendable morals and behavior consistent with national religious traditions and universal values (Sin, 2019).

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The student should be able to enhance awareness and cooperation in the study group by completing each of the many phases of the learning process, so that this has a direct impact on the quality of the lesson and the room becomes more dynamic for students who engage with one another. Support supports and aids in achieving a lesson objective so that a nice and pleasant interaction may take place in the learning group and a student with poor skills can be driven to enhance future educational objectives (Triansyah et al., 2020).

### 2. Discipline

In essence, character education aims to develop a disciplined country with noble, moral, tolerant, and other disciplines, as well as science and technology (Susanti, 2013). In this case that character is very important for our lives as the results of research that has been carried out on discipline indicators can be seen in the acquisition of results which have shown a value of 76.66%.

In the application of character in education, such as the character of discipline related to subjects with provisions in accordance with a material or goals to be achieved, and a school culture that can include class culture, the culture related to an application of character education is discipline and responsibility, which can be



observed in activities that are typically conducted outside and inside the classroom (Yani et al., 2020).

Students in the field of education have acquired a decent amount of character. In this instance, it has been demonstrated that 82.2% of students have good character in the character of discipline, as well as 95.7% of students, an increase of 9.6% from the previous year. In the application of a character education as a student, it is very beneficial, so that when you become a teacher, you will already have a lot of knowledge, as well as an understanding of how to apply it in a character education in every subject that will be taught in

school in the future, particularly in learning biology as a foundation (Santoso, 2013).

In this study, however, some students lacked discipline, as indicated by the result of 23.34%. In this situation, however, it is evident that there are still students in the realm of education that exhibit character-based learning attitudes. As for the character values of FKIP students, the overall percentage is 75.95%, indicating that Teacher Training and Education Faculty students continue to demonstrate intelligent character values in the dimensions of faith and piety, honesty, intelligence, toughness, and compassion, including in the category of good (Umari & Rosmawati, 2018).

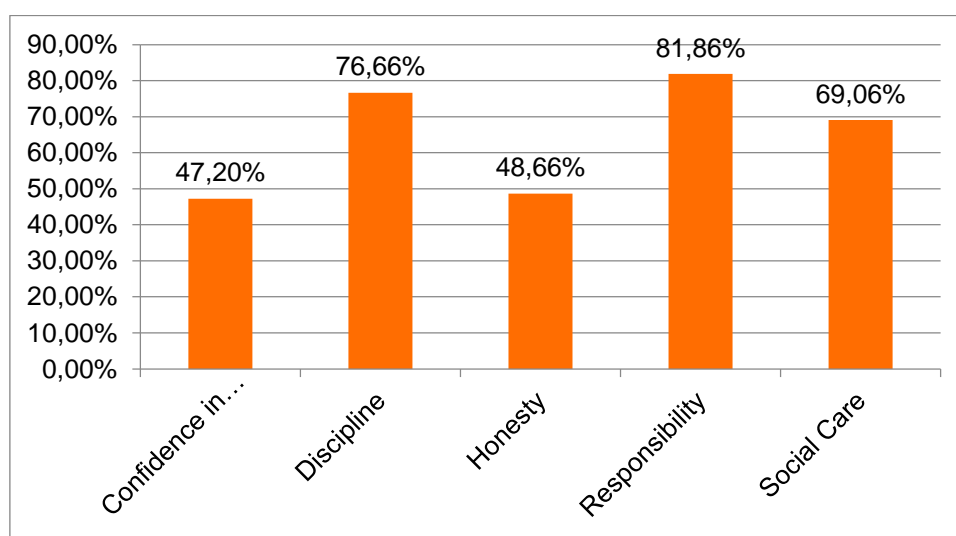


Figure 2

Diagram of Character Analysis of Biology Education Students in Basic Biology Courses at Universitas Labuhanbatu

### 3. Honesty

Indicators of honesty have yielded a result of 48.66% based on research. According to students, the characteristic of honesty is the concept that things are as they are, without being concealed, diminished, or added. The students also asserted that students had been trained by their parents from an early age to have an honest and other character-based attitudes (Dewi & Putri, 2018).

But in this case there are still students who lack the character values of Honesty as in this study the results were 51.34%. A character education is something that is very important in its role so that it can form an affective domain for students and can also strengthen the character of honesty for students, in addition to forming the values of other character education, both as elements of forming a good personality, superior and moral and ethical (Dewi & Putri, 2018).

In terms of character and morals, students really need to develop something to the fullest, then students are also not only superior in the

academic field, but also excel in non-academic fields that can support a self-identity in the midst of a globalization. Therefore, how can we cultivate a noble character for students in Indonesia is a very important thing that must be implemented immediately (Nurpratiwi, 2021). The percentage of practicing the character values of honesty in FKIP students is basically in a pretty good category (Umari & Rosmawati, 2018).

### 4. Responsibility

The following responsible indicators that the research results yielded yielded 81.86%. That being responsible is a character trait that must be used in life, as is notably the case with character education, which is an education aimed at teaching a value, although the value itself cannot be divorced from an education. Throughout the course of their education, students should not only obtain information but also an understanding of right and wrong and good and evil. In addition to cognitive proficiency, values and morals will help pupils

develop emotional intelligence and moral maturity in their behavior and actions (Dewi & Putri, 2018).

However, in this study, there were still students who did not have a responsible character, which obtained a result of 18.84%. Character traits like responsibility and independence really need to be instilled in a student so that he can believe in himself both in making a decision and taking initiative, as well as being critical and trying to do routine tasks independently, not giving up easily, and trying to be able to get satisfaction from a business and be able to overcome a challenge that is being faced (Arfiah & Prasetya, 2017).

In this study, there is a significant influence of the professional ethics variable (X) on character formation in students (Y). Professional ethics (X) on character formation in students (Y) is 9.6%; in this case, the character that exists in students has been formed based on an ethic that will last longer in a student because the ethics and character that have been shown can be internalized by students (Sultoni et al., 2018)

In the formation of character values, namely responsibility, this is a character that students must possess during learning as it is currently required to be applied throughout the way lessons are implemented. In this case, because character education is education that must be carried out both on an ongoing basis and so that it can form a positive character that exists in students (Sari & Bermuli, 2021).

## **5. Social Care**

In the research that has been done, the results of the research value on the social care indicator obtained results in the form of 69.66%. In this case, the efforts made at Labuhanbatu University to develop the character of social care are carried out in various types of activities, both in relation to a community relationship or in social relations. The characters that have been achieved are characters that interact with each other in relationships between humans, such as acting politely, being involved in activities in the community, being able to work together, and having compassion and caring for other people (Anwar, 2018).

Ethics is a collection of principles, values, and morals that become one of the guidelines for a person's behavior. In applying an ethic, it also relates to something related to good or bad things in behavior; there is a right or a moral obligation for someone in social life. It is also very important to instill in him values regarding character and ethics when he is young (Sultoni et al., 2018).

However, in this case, it is still found that there are still students who lack character traits in

social care, as in this case, obtaining a result of 30.34%. Characteristics that have been obtained at the unit level in education, namely at the university, especially at Labuhanbatu University Character education has several types, namely in values education, as well as in character education, as well as in moral education. It is found in the environment and society, families and schools in character education, which is very important for future generations (Maulana & Supriyanto, 2020).

Initial data indicates that the value of caring and collaboration held by students is 37% and 34%, respectively. From these initial data, it can be said that efforts are needed to increase the value of caring and cooperation among students, which can be expected to have an impact on improving learning outcomes (Triansyah et al., 2020)

In this situation, this research demonstrates that character has a significant influence on students in both the educational setting and the school or community environment, since character, attitudes, and behavior are factors that reflect on us and are a priority for living a life of character. College students are required to have a positive attitude. In this instance, the student is also deemed competent, able to differentiate between good and bad behavior, and always capable of cultivating a positive attitude.

Students also have quite good character and morals, are able to deal with a global problem and independently solve a problem, and are able to instill a certain character value that includes a component of knowledge, awareness, or a will, as well as actions to carry out values in society or the family or school environment. In this instance, character education is a type of activity, a very significant activity in life that will be required of pupils in the future. In this case, having a goal in character education is a matter of continuously forming a person's character and training their skills in order to lead them in a better direction in the future; therefore, character in the field of education is an important aspect of both the teaching and learning system; therefore, education can form good character for the future.

## **D. Conclusion**

From the results of this research on character analysis in biology education students enrolled in basic biology courses at Universitas Labuhanbatu, the following data collection indicators provided the following results: (1) Confidence in Analyzing and Understanding Basic Biology Material, 47.20%; (2) Discipline, 76.66%; (3) Honesty, 48.66%; (4) Responsibility, 81.86%; and (5) Social Care, 69.66%. The results of this study

indicate that the character of a student in the education system is one of the most important priorities in supporting a learning style that exists in students so that they can become the next generation capable of forming good character souls and building character values in both education and society.

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