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Survey of the Importance of Using Basic Biomedical Science Lecture Guidebooks Containing Personality Types for Health Faculty Students

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Abstract

In higher education, especially in the health sector, a deep understanding of the course material is the key to academic success. In improving the quality of student learning, the use of teaching materials is essential to achieve competency targets. However, each student has a different personality so that their learning style type is different. Based on this, it is necessary to develop more adaptive learning resources that not only include scientific materials, but also pay attention to the different personality types of students. This study aims to explore the importance of using basic biomedical science lecture guidebooks that are tailored to the personality types of students at the Faculty of Health. This research method uses a descriptive survey approach with a purposive sampling technique. A survey was conducted on a number of students to assess the effectiveness and needs of guidebooks designed based on personality types. The survey results showed that most students felt helped by the existence of guides that were in accordance with their learning characteristics, which ultimately improved understanding and academic achievement. It can be concluded that personalized teaching materials according to student personality are useful and needed in the learning process.

Keywords: Basic Biomedical Sciences; guidebooks; lecture; personality type; students

INTRODUCTION

In higher education environments, especially in the health sector, a deep understanding of the course material is the key to academic success. One effort to understand the material is to improve the quality of learning. In improving the quality of student learning, the use of teaching materials is essential to achieve competency targets. Teaching materials are a set of learning tools containing learning materials, methods, limitations, and evaluations that are designed systematically and attractively so that they can achieve learning objectives (Magdalena *et al.*, 2020; Eliana *et al.*, 2022; Gultom *et al.*, 2022). Teaching materials have benefits such as making learning activities interesting, being able to learn independently, and making it easier to learn each competency that must be mastered so that it has a major influence on the success of achieving learning objectives (Aisyah *et al.*, 2020; Nurfitri *et al.*, 2022; Siregar *et al.*, 2022).

Each student has a unique way of learning and is often influenced by their personality type. Psychologically, personality is a biological interaction with culture that gives a pattern to individual behavior, attitudes, methods, and thoughts. Personality is a description of how a person takes information and how a person makes decisions. Individual personality comes from four factors, namely intelligence, character, temperament, and somatics (Sulistiono, 2015; Maya, 2018; Dinata, 2022). In an academic environment, each student has a different personality, so each student will show

their own characteristics that can be seen in their daily behavior. In addition to personality, the student learning process is also influenced by each individual's learning style. Learning style is the way each student understands their lessons. Learning style is a style that is consistently carried out by a person to capture stimuli and information, how to remember, think, and solve problems. Recognizing and understanding each student's learning style will help students optimize their learning effectively and efficiently. By using an appropriate learning style, it will create a comfortable and enjoyable learning atmosphere so that it is easy to absorb, organize, and process information (Prihanti, 2014; Honesty *et al.*, 2019; Yayuk *et al.*, 2023).

Learning styles are divided into three, namely visual learning styles, auditory learning styles, and kinesthetic learning styles. Visual learning style is a learning style that uses images and the five senses. Individuals with a visual learning style prefer to learn by looking at interesting images, or with striking colors, so that individuals with a visual type will easily and quickly digest information and process newly received information (Lestari & Djuhan, 2021; Rahmawati & Gumiandari, 2021; Azizah & Bakhtiar, 2022). The second learning style is the auditory learning style, the auditory learning style is a learning style by listening, individuals with an auditory style are more dominant in using the sense of hearing. Learning through listening can be done by listening to cassettes, lectures, discussions, debates, and verbal instructions. Individuals with an auditory learning style need a quiet and uncrowded place, because auditory individuals need to focus on one sound in order to understand and capture information well and effectively (Azizah & Bakhtiar, 2022; Sarip *et al.*, 2022; Supit, Melianti *et al.*, 2023). The last type of learning style is the kinesthetic learning style. The kinesthetic learning style learns through movement. Individuals with a kinesthetic learning style find it easier to grasp information by learning through physical activity and direct involvement in the form of handling, moving, touching, and feeling/experiencing it themselves (Bire, Geradus *et al.*, 2014; Supit *et al*., 2023; Aswanto *et al.*, 2024).

Based on the differences in learning style types, humans are seen as creative creatures who are controlled by their own values and choices genetically and naturally. However, for more than a decade, students have been faced with memorization material without developing their talents and creativity. So an effective learning process is needed to overcome various problems faced in the world of education. The humanistic learning theory approach teaches that learning not only provides targeted material or teaching materials, but also helps students develop themselves as human beings (Nast & Yarni, 2019; Utami, 2020; Adziima, 2021). It has the same point with direct observation in lake, forest, beach, and even laboratory (Pertiwi & Saputri, 2020; Ratih *et al.*, 2021; Laurenza *et al*., 2023; Mufida *et al*., 2023; Al Khairina *et al*., 2024). Given the diversity of personalities and learning styles, a uniform learning method is not necessarily effective for all students. Therefore, it is necessary to develop more adaptive learning resources such as lecture guidebooks that not only cover scientific materials but also pay attention to the different personality types of students. This study seeks to explore the importance of using guidebooks that are tailored to the personality types of students at the Faculty of Health in order to improve understanding and retention of lecture materials. One of the important foundations that must be mastered by students to build the knowledge needed for a career in the health sector is basic biomedical science. For this reason, the purpose of this study is a Survey of the Importance of Using Basic Biomedical Science Lecture Guidebooks Containing Personality Types for Faculty of Health Students.

METHOD

This research method uses a descriptive survey approach with a purposive sampling technique. This descriptive survey approach research is conducted with the main objective of creating a picture or description of a situation objectively. The use of purposive sampling technique is used because it is suitable for use in quantitative research, or research that does not generalize (Lestari *et al.*, 2022). The research participants are students of the Faculty of Health who are taking basic biomedical science courses. The stages of this research consist of three stages, the first stage is the preparation activity consisting of interview activities, determining the subject and object of research, and creating research

instruments. The second stage is implementation, including activities of collecting data in the field, data processing, and data analysis. The last stage is reporting the research results which are stated in this article.

The instrument used was a questionnaire designed to collect data on students' learning preferences, personality types based on certain indicators, and their perceptions of the effectiveness of guidebooks tailored to their personality types. The questionnaire included closed questions, namely questionnaires that present questions and answer choices so that respondents can only provide limited responses to the choices given and open questionnaires presented in a simple form so that respondents can provide free answers according to their wishes and circumstances. This questionnaire functions to obtain quantitative and qualitative data. Quantitative data were analyzed using descriptive statistics to describe the characteristics of the sample and their learning preferences. Meanwhile, qualitative data were analyzed thematically to identify general trends and students' views on the importance of personalized guidebooks.

The validity and reliability of the questionnaire were tested before being used in the study. The validity test was conducted to measure whether the research questionnaire was valid data or not while (Irianti & Mahrudin, 2021). The reliability test was used to measure the consistency of the questionnaire which is an indicator of the variable (Monigir *et al.*, 2024). It is expected that the results of this survey will provide an overview of the important role of guidebooks that are tailored to personality types in improving the learning process. Information based on the survey results was analyzed quantitatively using statistical methods with the help of open-source online survey software Lime Survey and qualitatively using content analysis methods and the data were presented descriptively.

RESULT AND DISCUSSION

Based on the results of a study conducted on 100 respondents of Faculty of Health students, as many as 75% of students stated that the guidebook designed based on learning preferences related to their personality type helped them understand the material better. This shows that most students feel the benefits of using a basic biomedical science lecture guidebook that is tailored to their personality type. When students understand their learning style personality type, it will be easier for them to understand the material (Prihanti, 2014; Supit *et al.*, 2023; Wibowo, 2016). Each individual has their own characteristics so that if the teaching material is arranged based on learning style, it is considered to be very influential in the learning process, students will be more focused on the learning process and can understand material that is considered to have high difficulty (S. Lestari & Djuhan, 2021; Rahmawati & Gumiandari, 2021; Yayuk et al., 2023). Distribution of respondents according to blood type can be seen in table 1.

Table 1. Percentage of blood types of students at the Faculty of Health, Muhammadiyah University, Sukabumi

Blood Group	Percentage (%)
A	21
B	13
AB	16
O	41
Don’t Know	9

Based on Table 1 which shows the distribution of respondents according to blood type, it shows that the majority of respondents have blood type O, namely 41%, then blood type A as much as 21%, blood type AB as much as 16%, blood type B as much as 13% and as many as 9% do not know their

blood type. The results of the responses to the questions on the Blood Type Relationship Indicator with Personality Type and the Personality Type Guidebook can be seen in Table 2.

Table 2. Response results for question indicators on the relationship between blood type and personality type and guidebooks containing personality type

Question Indicator	Yes	No
There is a relationship between blood type and personality type	40%	60%
The importance of further discussion of blood type material which contains personality types in Biomedicine	93%	7%
Blood type material containing personality types is useful	89%	11%

Based on Table 2, the results of responses to questions regarding the relationship between blood type and personality type and guidebooks containing personality types show that 40% answered "yes" there is a relationship between blood type and personality type, while 60% answered "there is no relationship between blood type and personality type". As many as 93% of respondents answered the importance of further discussion of blood type material containing personality types in Biomedical Sciences. Meanwhile, 7% answered "it is not important for further discussion of blood type material containing personality types in Biomedical Sciences". As many as 89% of respondents answered "yes" that blood type material containing personality types is useful. Meanwhile, 11% of respondents answered "not useful for blood type material containing personality types". Learning needs must be adjusted to the uniqueness and diversity of students, which can include personality factors. Humanistic learning theory encourages educators to adjust teaching approaches that can more broadly involve personality assumptions based on blood type (Nast & Yarni, 2019; Utami, 2020; Adziima, 2021).

Furthermore, data analysis on student learning styles shows that students with visual learning styles prefer guidebooks equipped with diagrams and illustrations. This is because individuals with visual learning styles emphasize visual acuity, they must be shown concrete evidence so that individuals can easily receive information. Diagrams and illustrations will help students remember the subject matter so that it is positively related to the learning achievements obtained (Azizah & Bakhtiar, 2022; Harahap, 2023; Supit *et al*., 2023). Students with auditory learning styles tend to be more helped by verbal explanations and practical examples. This is because individuals with auditory learning styles find it easier to digest, process, and convey information by listening or verbally. Individuals with auditory learning styles tend to prefer talking to themselves when doing something, enjoy telling stories rather than writing, and are active in discussions (Prihanti, 2014; Yayuk *et al*., 2023; Aswanto *et al.*, 2024). In addition, students with kinesthetic learning styles prefer guidance that includes practical activities or simulations. Individuals with kinesthetic learning styles are more suitable and will develop if learning uses an active learning system, where individuals are heavily involved in the learning process. individuals will find it easier to grasp lessons if they move, feel, or take action. A person who has a kinesthetic learning style will prioritize the sense of touch and body movements to remember information (Bire et al., 2014; S. Lestari & Djuhan, 2021; Rahmawati & Gumiandari, 2021). Respondents assessed that the use of personalized guidebooks increased their learning motivation and academic achievement.

These findings suggest that the use of diverse teaching materials that are in accordance with each individual's learning style can improve the effectiveness of the educational process, especially in complex subjects such as biomedical sciences. The implementation of learning that is adapted to the type of learning style will affect learning achievement and increase learning motivation (Prihanti, 2014; Azizah & Bakhtiar, 2022; Harahap, 2023). However, this study also shows that there are challenges in implementing personalized guidebooks, such as the need for additional resources to develop and update materials according to students' personality types. Nevertheless, investment in the development of these adaptive guidebooks is expected to result in significant improvements in student understanding and retention of the material.

CONCLUSION

Based on the results of the Survey of the Importance of Using Basic Biomedical Science Lecture Guidebooks Containing Personality Types for Health Faculty Students, it can be concluded that the results of this survey support the importance of developing adaptive and personal teaching materials, such as guidebooks that consider students' personality types, to improve the effectiveness of the learning process. This study emphasizes that a more adaptive approach to teaching material design, such as guidebooks that consider students' personality types, not only improves the learning experience but also helps students achieve better academic results. This study is useful for the nation, especially educators, because it can be used as an initial reference for the development of teaching materials used in the learning process.

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