



Correlation Learning Style with Grade Point Average Fourth Year Medical Student

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Abstract

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BACKGROUND: Learning achievement is an important indicator to determine the learning and teaching process, each student has a different learning style. Student learning learns how they choose the suitable method and the results obtained optimally. A student must also learn their learning styles to choose methods or ways of learning that are appropriate to their character.

AIM: Knowing the relationship between learning style and cumulative Grade Point Average (GPA) of 4th-year students at the Faculty of Medicine, Universitas Baiturrahmah.

METHODS: The scope of this research covers the fields of medical science, especially medical education, correlative analytical research with cross-sectional design. The study was conducted at the Medical Faculty Universitas Baiturrahmah. The study was conducted from May to January 2019. The affordable population in this study were 4th-year students numbered 80 students with the Simple Random Sampling technique. Data analysis was univariately presented in the form of a frequency distribution table and bivariate analysis using the correlation test using the SPSS program.

RESULTS: At most with female gender, namely (71.3%), the highest place is at most boarding, namely (77.5%), most have quad-model learning styles, namely (80%), most have a GPA graduated that is (61.3%), there is a relationship between the learning style and the GPA of 4th-year medical students with a value of $p = 0.024$ ($p < 0.05$) and $r = 0.0253$.

CONCLUSION: It can be concluded that the 4th-year medical students have the most female sex, the most places to live are boarding, quad-model learning style, and there is a correlation between learning styles and the 4th year GPA Medicine at Universitas Baiturrahmah.

Introduction

Learning achievement is an important indicator to measure the success of the learning process and the instructor. Learning objectives are for behavioral change that is expected to be achieved by someone after carrying out a learning process [1], [2]. Factors that can affect the learning outcomes of each student are internal factors, factors that originate from the individual, while external factors are factors that come from outside the individual. Many things include internal and external factors, including learning styles and achievement index. Learning styles are very influential in the process of learners and instructors, because if everyone has understood their learning styles each will be quick and easy in accepting new information or knowledge [3], [4].

According to Al-Saud's study, the percentage of learning in 1st-year Dentistry students at one institution in Saudi Arabia found that 59% of students had a single learning style. Significant differences were found in the percentage of learning styles with a Grade Point Average (GPA), by comparing the GPA of a student's GPA with the highest. Respondents who had a "D" GPA had a low cumulative achievement index, causing comparisons with other values that did not reach statistical significance.

Students with a "C" GPA show an increased preference for unimodal learning styles when compared to a GPA "A" which is more likely to have bimodal and quad model preferences. From the study dentistry students, who found learning and were associated with a higher or lower GPA in the students surveyed [3], [5].

Based on an initial survey conducted on 10 students, the results of the learning styles trimodal 3 people (30%), and quad model 7 people (70%). Whereas the learning achievement category passed 4 people (40%), satisfying 3 people (30%), and very satisfying 3 people (30%) [3]. From these results, the relationship between learning styles and learning achievements is obtained. Based on the description above, the author is interested in researching the relationship of learning styles to the cumulative achievement index (GPA) of 4th-year students of the Faculty of Medicine at Baiturrahmah University.

Method

This research is a correlative analytic study with a cross-sectional design. The target population

in this study were students of the Faculty of Medicine at Baiturrahmah University. The affordable Data was collected through an online visual-aural-read/write-kinesthetic (VARK) questionnaire using Google Form, respondents were collected and socialized about how to fill out an online questionnaire. Data obtained from the studied variables will be collected, processed, and analyzed using SPSS (Statistical Product And Service Solution). Data management as a form of bivariate analysis to see the relationship of learning styles to the cumulative performance index (GPA) using the Spearman test. Univariate analysis is carried out to determine the magnitude of proportions according to characteristics, learning styles, and cumulative achievement index (GPA). Bivariate analysis is used to explain the relationship between the independent variable (learning style) and the dependent variable (GPA) using the Spearman statistical method because this study looks for the relationship of learning style (categorical) with cumulative achievement index (categorical).

Results

Characteristics of respondents

Based on the research conducted, obtained a descriptive description of gender and place of residence in students at the Faculty of Medicine, Universitas Baiturrahmah as in the following Table 1:

Table 1: Characteristics of respondents

Characteristics of respondents	f	%
Sex		
Male	23	28.8
Female	57	71.3
Place of residence		
Rent	74	92.5
Living with parents	6	7.5
Total	80	100

Based on Table 1, the results obtained from 80 students were mostly female, consists of 57 female (71.3%), and the most residential rent was 74 people (92.5%) in the 4th-year students of the Faculty of Medicine, Universitas Baiturrahmah.

Learning style

Based on research conducted, obtained distribution of learning styles as in the following Table 2:

Table 2: Distribution of learning styles

Learning style	f	%
Uni-model	3	3.8
Bi-model	2	2.5
Tri-model	11	13.8
Quad-model	64	80.0
Total	80	100

Based on Table 2 the results obtained from 80 respondents, most of them have a quad-model learning style of 64 students in 4th year (80%) of the Faculty of Medicine, Universitas Baiturrahmah.

GPA

Based on research conducted, obtained the distribution of GPA as in the following Table 3:

Table 3: Distribution of GPA

GPA	f	%
Graduated	49	61.3
Satisfying	22	27.5
Very satisfy	9	11.3
Total	80	100

Based on Table 3 the results obtained from 80 respondents, most have a grade achievement index (GPA) which is graduated (61.3%) in the 4th year students of the Faculty of Medicine, Universitas Baiturrahmah.

Correlation of learning style with gpa 4th year student medical faculty

Following are the results of research on the relationship of learning styles with the 4th-year GPA of the Faculty of Medicine at Universitas Baiturrahmah in the Table 4 below:

Table 4: Correlation of learning style with GPA 4th year student medical faculty

GPA	p	r
Learning style	0.024	0.253

Based on Table 4 the statistical test results (spearman) obtained the value of $p = 0.024$ ($p < 0.05$) and $r = 0.253$, it can be concluded that there is a relationship between learning styles and GPA of 4th-year students of the Faculty of Medicine, Universitas Baiturrahmah. The closeness of the relationship between the two variables shows the coefficient (r) = 0.253 means the level of correlation of the variables in the weak category with a positive direction, meaning that the more varied the learning style, the higher the GPA of respondents will increase.

Discussion

Characteristics of respondents

Based on the research, obtained the results of sex was female that is 57 people (71.3%) of 80 4th-year students Faculty of Medicine. The results of research conducted by experts on gender differences, the size of the brain can not affect a person's intelligence, but the habits or behaviors that make it make a difference. In academic abilities that include language, mathematics, and natural sciences, 70% of countries in the world show that women have better grades. This shows that culture and environment influence achievement, environmental influence can bring oneself to success. One of them is the external factor in the learning environment in the form of a place to live (boarding house, house, or rent house) [6].

The results based on residential were rent about 74 students (92.5%) in the 4th year students. Research in Tadulako obtained the most students who did not live with his parents were 94 people (55.29%), followed by students who lived in his parents' home as many as 69 people (40.59%) [6]. However, based on the results of this study, students from outside the city of Padang may have adapted to the culture of Padang well. This is because the average student has lived in Padang for quite a long time since the first semester of college so that the adaptation process has occurred.

Learning style

Based on the research obtained from 80 respondents, most of them have a quad-model learning style of 64 students (80%). Students who choose a unimodal learning style only learn by focusing on one type of learning method. Those who choose visual focus on learners who use media images, diagrams, graphs and who choose auditory will focus on hearing, so attending class lectures and discussions is very important for this learning style model. Likewise, with other learning styles, all have their learning focus.

The most student learning style models in this study are quad-model. VARK learning style is a division of learning style models based on sensory perception, namely the sense of acceptance. Students who have an auditory model of learning style will love learning with lectures, lectures, discussions, listening and answering questions. Students with a model of learning to read/write prefer to read, write, make diagrams, graphs, and others [3].

Learning styles can form because of habits and can change over some time. Nuzhat found that the learning styles of medical students in Saudi Arabia using the VARK questionnaire, the results of the study found that the most learning styles of students were quad-model 72.6%, while for the most unimodal was auditory 11.6% [5].

In the opinion of De Poter and Hernacki that auditory learning styles are more dominant in using the sense of hearing to conduct learning activities. Therefore, 4th-year students of the Faculty of Medicine Universitas Baiturrahmah who have an auditory learning style will have difficulty when reading material when their friends are busy in class, they can not concentrate if there is a commotion, cannot even focus on learning if there is music playing with volume the big one. This is because students with auditory learning styles are more likely to use their ears as learning media so that if other sounds are coming from outside they will not be able to concentrate on learning [7], [8].

While the kinesthetic learning style possessed by 4th-year students is in line with verbal activities. This is consistent with the opinion of De Poter and Hernacki which states that people with this learning style are

easier to grasp lessons when they move, feel, or take action. This is what makes the 4th-year students with kinesthetic learning style tend to not be able to memorize the material by memorizing, preferring physical contact with others, even speaking very slowly when making presentations in class [3], [9], [10]. Following the student-centered learning that is applied at the Faculty of Medicine, Universitas Baiturrahmah and requires facilities that can support the learning process of students with these learning styles.

Obligations of instructors in managing teaching methods to create a learning environment that is suitable for all models of student learning styles Activities that can be carried out to suit all models of learning styles are varying ways or methods of teaching such as group learning (Tutorial) interactive lectures, projects, to the field (for medical students can go to hospitals, health centers, communities, etc.), and team-based learning [11].

Grade performance index (GPA)

Based on this study the results obtained from 80 respondents, most of them have a GPA which is graduated (61.3%). In addition, the student's approach to the task determines the extent to which students are involved with the subject and influences learning outcomes. A deep approach to learning is characterized by a desire to understand and search for meaning, which encourages students to try to connect concepts with existing understanding and with one another, distinguish between new ideas and existing knowledge, and critically evaluate and determine themes and concepts. A surface approach to learning is characterized by a desire to complete tasks, memorize information, not discriminate between new ideas and existing knowledge, and treat assignments as forced from the outside [6], [7], [11].

Correlation of learning style with GPA 4th year student medical faculty

Based on the research, the results of the statistical test (correlation) obtained the value of $r = 0.253$ with a value of $p = 0.024$ ($p < 0.05$), it can be concluded that there is a relationship of learning styles with the GPA of the 4th-year students. The closeness of the relationship between the two variables shows the correlation coefficient ($r = 0.024$) is the level of variables in the weak category with a positive direction, meaning that the more varied the learning style, the GPA will increase the respondents.

In line with the research conducted by Demak, results obtained there is a relationship between learning styles and anatomical testament in Tadulako University medical students and Rahmayani research, the results of the influence of learning styles on student achievement in medical education at Hasanuddin University [7], [8].

In the learning process, no way of learning is considered right or wrong because everyone has different learning styles that give the advantages and disadvantages of each. When students can understand their learning styles, the student learning process will be more effective and efficient. To find out the training sorts of each individual, further discussion is required regarding more detailed learning styles and what steps students can fancy choose learning strategies that are in line with the training styles they need [7], [8], [9], [11].

The results of this study, the contribution is given learning styles to the value of GPA is weak, this is due to students not yet aware of the learning styles they have so that in doing the learning process not yet getting maximum results. The difference in influence between each learning style on a student's GPA is reasonable, but it must be realized by the individual concerned so that it can be used as an advantage to be developed in achieving a satisfactory GPA. Therefore every individual needs to know the tendency of his learning style.

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