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To cite this article: H Sumual and D M Ombuh 2018 IOP Conf. Ser.: Mater. Sci. Eng. 306 012049

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How to Improve Interest, IQ, and Motivation of Vocational Students?

H Sumual and D M Ombuh*
Mechanical Engineering Education Departement, Universitas Negeri Manado, Kampus Tondano 95618, Indonesia

*deivy.ombuh@yahoo.com

Abstract. The aim of this research was to study the effect of interest, motivation and IQ of students on the learning result. The survey method with quantitative approach was used in this study. The data were then analysed using path paradigm. Data were collected by questionnaire technique, special tests for IQ and documentation for learning outcomes. The results showed that the interest, IQ and the motivation influence significantly and positively on learning result as well as interest to learning motivation. However, no significant influence of IQ on Learning Motivation was detected in this research.

1. Introduction
Basically, learning result is a change behavior process from unknown to be known, from bad attitude to be better and unskilled to be skilled. The learning result which has not completed yet will become a barrier for the learning process [1]. There are several factors which affect to the learning result, such as interest, motivation and IQ. Interest is the attitude of someone including the three functions of his soul (cognition, conation and emotion), which is fixed on something and related to a strong element of feeling. Ahmadi is more concerned with the condition of interest that arises from the students [2]. The intelligence Questions (IQ) is one of the ways to measure the person ability in understanding something [3]. The motivation and the learning are two things that affect each other. Learning is a relatively permanent change in behavior and potentially occurs as a result of a practice or reinforced practice based on a goal to achieve a particular goal. Nowadays, poor of the learning result become a major problem in educational field. Many previous researchers have tried to investigate the effect of those factors, but still partially [4,5,6]. Therefore, in this research, a combination of some factors (i.e interest, IQ and motivation) was examined to distinguish their influences to the learning result where was applied to some students at Mechanical Engineering Education Department of Manado State University.

2. Research Methods
The method used in this research is survey method with quantitative approach which then analysed by path analysis to determine the direct and indirect effects of learning result. Relationships among all variables can be described in the constellation of the problem can see in figure 1.
Research was held at Department of Mechanical Engineering Education Faculty of Engineering Manado State University. The data were collected using questionnaire for interest and motivation variable, the special test (physiological test) for IQ and the transcript in each semester for learning results. The samples of this study were 63 respondents. The research variables are Interest (X1), Intelligent Questions (X2), Motivation (X3) and Learning results (X4). To analyse the data in this study used path analysis. The statistics data was calculated by Statistical Product and Service Solutions (SPSS) version 21.

3. Results and Discussion

3.1. The effect of interest on learning results
As shown, the value of \( t_{\text{count}} \) for learning interest variables to the learning results is greater than \( t_{\text{table}} \) where \( t_{\text{count}} = 5.508 > t_{\text{table}} = 1.296 \) at \( \alpha = 0.05 \). It means that the interest distributes the positive and significant influence on learning results. This result is agreed to the statement about the interest in learning process will encourages the student to achieve a good learning result [7].

3.2. The effect of intelligent questions on learning results
From the statistical, it can be seen that the value of learning intelligent questions variables to the results of learning is greater than table where \( t_{\text{count}} = 4.318 > t_{\text{table}} = 1.296 \) at \( \alpha = 0.05 \). It can be concluded that the influence of intelligent questions on learning result was positive and significant. This emphasizes in the theory of the influence of intelligent questions on learning results is evident that interest in learning encourages the students to have good learning results [8].

3.3. The effect of motivation on learning results
The value of \( t_{\text{count}} \) for learning motivation variables to the results of learning is greater than \( t_{\text{table}} \) where \( t_{\text{count}} = 1.763 > t_{\text{table}} = 1.296 \) at \( \alpha = 0.05 \) as displayed. Therefore, the motivation in learning influences positively and significantly on learning results. It corresponds to theory about interest in learning encourages the students to get a good learning results [9].

3.4. The effect of interest to motivation in learning
As shown, the value of \( t_{\text{count}} \) for learning interest variables to the motivation of learning is greater than \( t_{\text{table}} \). Where \( t_{\text{count}} = 2.547 > t_{\text{table}} = 1.296 \) at \( \alpha = 0.05 \). It means that the interest contributes the positive and significant influence on learning motivation.

This emphasizes the theory of the influence of interest to motivation is evident that interest in learning encourages the students to have good motivation [10].
3.5. The effect of intelligent questions to motivation in learning

In this study Intelligent Questions (IQ) have no direct effect on Learning Motivation. This is proved by the value of \( t_{\text{count}} \) for Intelligent Questions (IQ) variables on learning outcomes are smaller than \( t_{\text{table}} \) where \( t_{\text{count}} = 0.843 < t_{\text{table}} = 1.296 \) at \( \alpha = 0.05 \). It can be said that the no significant influence of the Intelligent Questions on Learning Motivation.

Unexpected thing was happened to the Intelligent Questions variable on Learning Motivation. This is possible because not all students who have Superior IQ or IQ have high learning motivation is good, due to over confidence in Intelligent ability which make the students have less motivation to learn. It can be seen in the previous report which describe that the students who have an IQ above average but lacked a strong learning motivation and good enough [11]. It is basically they have good learning result but it is a direct influence of IQ and does not necessarily describe good motivation as well.

Based on the findings, learning results can be influenced by several factors, such as interest, motivation and intelligent questions. From the perspective of data analysis, this paper conducts a research on student learning based on self. It is aimed at putting forward a rule-discovery approach suitable for the student learning result evaluation and applying it into practice so as to improve learning practice skills and finally better serve learning practicing [12].

4. Conclusion

From the above results, it can be concluded that the interest has a direct impact on the student learning result and the motivation of students at Department of Mechanical Engineering Education in Manado State University. Besides, the motivation contributes a direct impact on the learning result. On the other hand, the intelligent question offer a direct impact on the student learning result, but no significant effect on the motivation in learning of students at Department of Mechanical Engineering Education in Manado State University.

Acknowledgments

This research was supported by Technology and Vocational Education Department in Post Graduated Program at Manado State University.

References

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