



The Impact of a Conducive Learning Environment on Learning Motivation and Student Achievement in Vocational Schools

Fitria¹(✉), Muhammad Yahya¹, Syahrul^{1,2}, Purnamawati^{1,3}, and Hasanah Nur^{1,3}

¹ Department of Vocational Engineering Education, Universitas Negeri Makassar, Makassar, Indonesia

fitria96@unm.ac.id

² Department of Electrical Engineering Education, Universitas Negeri Makassar, Makassar, Indonesia

³ Department of Electronic Engineering Education, Universitas Negeri Makassar, Makassar, Indonesia

Abstract. The pedagogical process encompasses many elements, such as pupils, educators, educational aims, curriculum, instructional techniques, multimedia, and assessment. One of the learning outcomes is the manifestation of positive behavioral modifications in students after their engagement in educational pursuits, which can be discerned through their verbal communication, physical dexterity, and way of life. This investigation examines the correlation between the educational setting, drive, and achievements. The present research employs a quantitative methodology utilizing an ex post facto design and a survey-based approach. The study is carried out on a population of varying sizes, and the analyzed data originate from a subset of that population, known as a sample. The research employed a sample size of 65 participants and gathered data by administering questionnaires and examining documentation. The findings suggest intricate and interrelated associations exist among the learning atmosphere, learning drive, and learning achievements. Thus, it is imperative to establish a conducive learning milieu and foster students' learning drive to attain maximum learning results. An environment that is conducive to learning has the potential to increase motivation to learn, resulting in improved academic performance. Nevertheless, the attainment of learning outcomes can be impacted by various factors, including but not limited to students' aptitude, pedagogical approaches, and contextual factors.

Keywords: Learning Environment · Learning Motivation · Learning Outcomes

1 Introduction

There is a growing recognition in education of the importance of the learning environment and student motivation for academic achievement [1]. A positive and supportive learning environment can enhance students' cognitive and affective engagement, while strong learning motivation can drive them to achieve their educational goals [2]. In vocational

education, where students acquire practical skills and knowledge for specific careers, creating a conducive learning environment and fostering strong learning motivation is essential for ensuring students' future career success.

Vocational education aims to prepare students for the workforce by providing them with the knowledge, skills, and attitudes necessary to perform specific jobs [3]. However, vocational education can be difficult because students must acquire technical knowledge and develop professional behaviors and attitudes. The learning environment and learning motivation can have a substantial impact on students' capacity to acquire and effectively apply these competencies [4].

Several studies have examined the relationship between vocational education's learning environment, learning motivation, and learning outcomes. A study, for instance, examined the influence of the learning environment and learning motivation on the academic performance of high school students. Positive learning environments and high motivation significantly predicted improved student learning outcomes [5–7]. Furthermore, Huang et al. [8] investigated the effects of a motivational intervention on the learning environment and learning outcomes of Taiwanese vocational college students. The study found that the motivational intervention significantly increased students' motivation to learn, resulting in improved learning outcomes.

The learning environment has a significant impact on the cognitive and affective engagement of students [9]. According to the social learning theory, learning occurs through observation, imitation, and modeling, with the learning environment playing a crucial role in shaping these processes [10]. The learning environment in vocational education includes physical space, instructional methods, instructional materials, and social interactions. The physical space of the learning environment can have a significant impact on the educational experiences of students. A comfortable and well-equipped learning environment can boost students' comfort, motivation, and efficiency [11]. A poorly designed or crowded learning space, on the other hand, can create distractions and hinder student learning. Consequently, vocational schools must provide a conducive learning environment with well-designed classrooms, well-maintained equipment, and appropriate learning materials.

In vocational education, instructional methods and materials are also essential to the learning environment. Students must practice and apply their skills in real-world situations as part of vocational education's emphasis on hands-on learning [12]. Consequently, teaching strategies emphasizing experiential learning, such as project-based learning, apprenticeships, and internships, can improve students' learning outcomes. Manuals, textbooks, and online resources pertinent to instruction can facilitate student learning.

Interactions with one's peers are an additional component that cannot be overlooked as an essential component of the optimal learning environment in vocational education. Students in vocational programs must converse with one another and their teachers and professionals in the field to develop their social and professional skills. Because of this, vocational schools ought to enable students to participate in activities such as group discussions, collaborative projects, and networking events to enrich the educational opportunities available to them. Learning outcomes depend on the learning environment and students' motivation to learn. Learning motivation is the drive to learn and accomplish

educational objectives [13, 14]. In vocational education, students must be motivated to learn practical skills and knowledge and to develop professional behaviors and attitudes. Therefore, vocational institutions must foster.

However, there is still much to be discovered regarding the relationship between the learning environment, learning motivation, and learning outcomes in vocational education. This study aims to contribute to the literature by examining the relationship between learning environment, learning motivation, and learning outcomes among vocational students in Makassar and how these factors can be improved to enhance students' educational experiences and success.

2 Methods

2.1 Research Design

This study utilized an ex post facto research design. Ex-post facto research is conducted after an event or occurrence, allowing the researcher to observe variables that occurred or existed in the past. After the population of interest (students at a Vocational High School) had been established, the research was conducted. This study then used this population sample to observe certain variables, such as student characteristics and behavior. This study can contribute to a better understanding of the investigated population, although it cannot establish a cause-and-effect relationship because the variables were not controlled.

2.2 Population and Sample

This study surveyed all 512 High School students as a representative student population sample. Due to the impossibility of collecting information from the entire population, random sampling techniques were employed to select a sample of 65 respondents. This is done to represent the population with a particular degree of confidence and error. The characteristics of a population can be deduced with certainty from a sample of sufficient size.

2.3 Research Instrument

This study's instrument was a questionnaire regarding the respondents' perceptions of the learning environment. This survey collects data from a randomly selected sample of research participants. Additionally, researchers utilize documentation techniques to collect data from related documents such as curricula, teaching programs, and other pertinent documents. This documentation method is utilized to obtain additional data and support research results from multiple perspectives. In conjunction with questionnaires, documentation techniques can provide more exhaustive and useful information for analyzing the characteristics of a studied population.

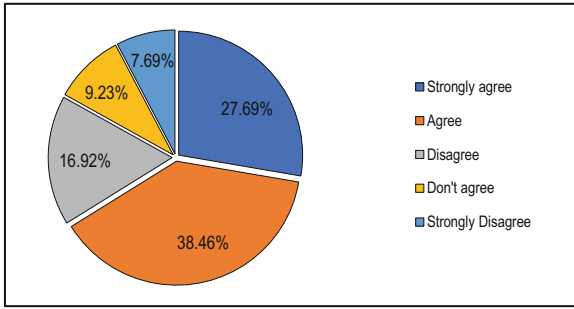


Fig. 1. Distribution of Learning Environments

2.4 Data Collection

Data was collected by distributing questionnaires to the research sample and gathering information from related documents. The researcher ensured respondents provided complete and accurate responses to each questionnaire question. This is done so that the collected data can be utilized effectively for analyzing the characteristics or behavior of the studied population. Careful and exhaustive data collection will aid in reducing research errors and improving the reliability and validity of research findings.

3 Result and Discussion

3.1 Learning Environment

Based on a sample size of 65, the figure depicts the frequency distribution of participants' perceptions of the learning environment. The largest proportion of respondents, approximately 38.46%, agreed with the learning environment, while 27.69% strongly agreed. This indicates that a substantial number of participants viewed the learning environment favorably. In contrast, 16.92% of participants disapproved of the learning environment, and 9.23% disapproved strongly. This indicates that a sizeable percentage of participants had negative perceptions of the learning environment (Fig. 1).

The figure indicates that approximately 66.15 percent of the participants had positive perceptions of the learning environment, while 26.15 percent had negative perceptions. Educators can use this data to identify learning environment strengths and weaknesses. For instance, if many participants had negative perceptions, educators may need to investigate ways to address these negative perceptions' causes to enhance the learning experience. In contrast, if many participants had positive perceptions, educators may need to identify the factors that contributed to these positive perceptions and enhance them to enhance the learning experience.

3.2 Learning Motivation

The frequency distribution of participants' perceptions of learning motivation based on a sample size of 65 is depicted in Fig. 2. Forty percent of respondents strongly agreed

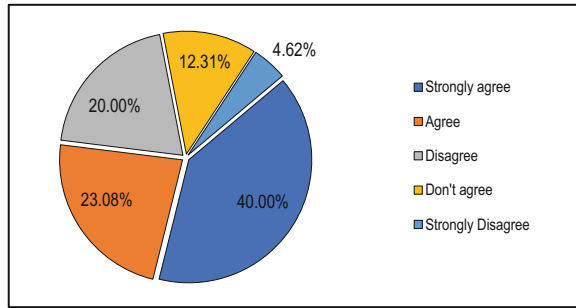


Fig. 2. Distribution of Learning Motivation

with the statement, while 23.08% agreed. In contrast, 20% of respondents disagreed, 12.31% disagreed strongly, and 4.62% disagreed strongly. Most participants viewed their learning motivation positively, while a smaller percentage disagreed or strongly disagreed.

Notably, thirteen respondents (20%) disagreed with the statement, whereas eight (12.31%) were unsure or had mixed feelings. Only three respondents (4.62%) were vehemently opposed. These results indicate that approximately 24.62% of respondents disagreed or were unsure about the statement. This could be attributed to the ambiguity or vagueness of the statement, which may have led some participants to select the “disagree or agree” option.

This information has academic implications for educators and researchers because it sheds light on how students perceive their learning motivation. It may assist educators in identifying areas in which they need to provide more motivation for students or modify instructional strategies to increase motivation. In addition, researchers could use these data to investigate the factors that contribute to students’ motivation and why some students may feel less motivated than others. The findings indicate that while most participants perceived their learning motivation positively, there is room for improvement. Educators must investigate methods to increase student motivation to improve academic outcomes.

3.3 Learning Outcomes

Figure 3 presents the frequency distribution of participants’ perceptions of learning motivation, with a sample size of 65. Most respondents (63.08%) agreed or strongly agreed with the statement. However, about 32.31% of the respondents had a different view, with 20% disagreeing and 12.31% remaining undecided or choosing not to provide an opinion. These findings suggest significant differences in opinions among the participants regarding the statement.

Of the respondents, 16 (24.62%) disagreed with the statement, whereas only 1 (1.54%) strongly disagreed. Therefore, 17 respondents, or 26.15%, disagreed with the statement. Five respondents (7.69%) selected the “don’t agree” option, indicating their uncertainty or confusion in responding to the statement. The Figure summarizes the

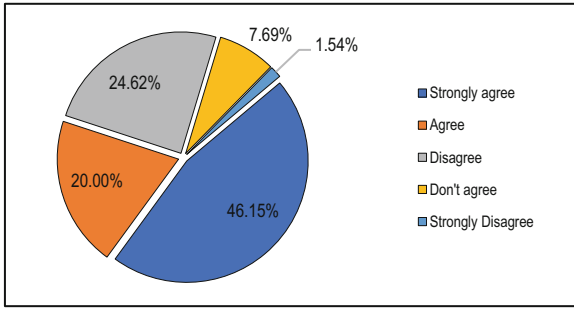


Fig. 3. Distribution of Learning Outcomes

responses to the question or statement, revealing that the majority of the respondents agreed with the statement, while a significant minority disagreed with it.

3.4 Correlation of Learning Environment, Learning Motivation, and Learning Outcomes

This study highlights the complex and interrelated relationship between Learning Environment, Motivation, and Learning Outcomes. The correlation analysis revealed a positive and statistically significant relationship between the Learning Environment and Learning Motivation variables, indicating that participants’ positive perceptions of the learning environment resulted in greater learning motivation. In contrast, a negative perception diminishes motivation for learning. This finding highlights the significance of factors influencing participants’ perceptions of the learning environment, such as learning facilities, social interactions, and teacher support, in enhancing participants’ learning motivation. In addition, the study’s results indicate that high learning motivation can positively affect Learning Outcomes.

Previous studies have explored this relationship. Pintrich and De Groot’s research found that high learning motivation can improve students’ time management skills and produce better work [15]. Tella’s research suggests that academic interests and goals can influence learning motivation, positively impacting student learning outcomes [16]. Fraser and Fisher’s study revealed that students’ perceptions of the psychosocial classroom environment predicted their learning outcomes, with students who felt comfortable and motivated in a conducive learning environment achieving better outcomes [17]. The theory of motivation and self-development, as described in the studies of Ryan and Deci [18] and Wang and Eccles [19], identified factors such as autonomy, competence, relatedness, self-expectation, espoused values, and social environment as key influences on student motivation.

However, it is important to note that other variables, such as student ability and instructional methods, can also influence Learning Outcomes. Despite these complexities, the study highlights the crucial role of educators in creating a positive learning environment and fostering students’ learning motivation to achieve optimal learning outcomes.

4 Conclusion

The results of the correlation analysis indicate a significant and favorable correlation between the variables relating to the learning environment and learning motivation. This means that participants' motivation to learn is higher when they perceive the learning environment positively. On the other hand, participants' motivation to learn declines in direct proportion to how poorly they view the learning environment. The variables related to learning outcomes, motivation, and learning environment are intricately intertwined. To achieve the best learning results, fostering an environment conducive to learning and boosting participant motivation is crucial. In this regard, a supportive learning environment can have an impact on high learning motivation, and high learning motivation can have an impact on Learning Outcomes. The participants' abilities, teaching strategies, and other environmental factors all impact learning outcomes.

References

1. K. R. Wentzel and A. Wigfield, "Academic and social motivational influences on students' academic performance," *Educ. Psychol. Rev.*, pp. 155–175, 1998.
2. B. L. McCombs, "The learner-centered psychological principles: A framework for balancing academic achievement and social-emotional learning outcomes," *Build. Acad. success Soc. Emot. Learn—what does Res. say*, vol. 23, 2004.
3. S. Billett, *Vocational education: Purposes, traditions and prospects*. Springer Science & Business Media, 2011.
4. X. Wu, "Intrinsic motivation and young language learners: The impact of the classroom environment," *System*, vol. 31, no. 4, pp. 501–517, 2003.
5. S. Alhadi and W. N. E. Saputra, "The relationship between learning motivation and learning outcome of junior high school students in Yogyakarta," in *1st Yogyakarta International Conference on Educational Management/Administration and Pedagogy (YICEMAP 2017)*, 2017, pp. 138–141.
6. R. Peng and R. Fu, "The effect of Chinese EFL students' learning motivation on learning outcomes within a blended learning environment," *Australas. J. Educ. Technol.*, vol. 37, no. 6, pp. 61–74, 2021.
7. D. H. Lim and M. L. Morris, "Learner and instructional factors influencing learning outcomes within a blended learning environment," *J. Educ. Technol. Soc.*, vol. 12, no. 4, pp. 282–293, 2009.
8. Y.-C. Cheng, L.-C. Huang, C.-H. Yang, and H.-C. Chang, "Experiential learning program to strengthen self-reflection and critical thinking in freshmen nursing students during COVID-19: a quasi-experimental study," *Int. J. Environ. Res. Public Health*, vol. 17, no. 15, p. 5442, 2020.
9. T. L. Rosenthal and B. J. Zimmerman, *Social learning and cognition*. Academic Press, 2014.
10. A. Bandura, "Social-learning theory of identificatory processes," *Handb. Social. theory Res.*, vol. 213, p. 262, 1969.
11. R. M. Ryan and E. L. Deci, "Intrinsic and extrinsic motivations: Classic definitions and new directions," *Contemp. Educ. Psychol.*, vol. 25, no. 1, pp. 54–67, 2000.
12. C. A. Anane, "Competency based training: Quality delivery for technical and vocational education and training (TVET) institutions," *Educ. Res. Int.*, vol. 2, no. 2, pp. 117–127, 2013.
13. L. Anthonysamy, A.-C. Koo, and S.-H. Hew, "Self-regulated learning strategies and non-academic outcomes in higher education blended learning environments: A one decade review," *Educ. Inf. Technol.*, vol. 25, pp. 3677–3704, 2020.

14. R. J. Wlodkowski and M. B. Ginsberg, *Enhancing adult motivation to learn: A comprehensive guide for teaching all adults*. John Wiley & Sons, 2017.
15. P. R. Pintrich and E. V De Groot, "Motivational and self-regulated learning components of classroom academic performance.," *J. Educ. Psychol.*, vol. 82, no. 1, p. 33, 1990.
16. A. Tella, "The impact of motivation on student's academic achievement and learning outcomes in mathematics among secondary school students in Nigeria," *Eurasia J. Math. Sci. Technol. Educ.*, vol. 3, no. 2, pp. 149–156, 2007.
17. B. J. Fraser and D. L. Fisher, "Predicting students' outcomes from their perceptions of classroom psychosocial environment," *Am. Educ. Res. J.*, vol. 19, no. 4, pp. 498–518, 1982.
18. R. M. Ryan and E. L. Deci, "Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being.," *Am. Psychol.*, vol. 55, no. 1, p. 68, 2000.
19. M.-T. Wang and J. S. Eccles, "School context, achievement motivation, and academic engagement: A longitudinal study of school engagement using a multidimensional perspective," *Learn. Instr.*, vol. 28, pp. 12–23, 2013.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

