

# Research on the Differences and Transformation of Students' Learning Motivation in Higher Vocational Colleges under the Background of High-Quality Development

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**Abstract:** Based on the theory of learning engagement, a simulation study was started using the system dynamics model to study the difference and transformation of students' learning motivation in higher vocational colleges. The study found that: the campus physical environment has the greatest impact on the school satisfaction of higher vocational students, but the impact of the physical environment construction on the learning motivation and educational gains of higher vocational students is relatively weak. The campus cultural environment indirectly affects the learning motivation of higher vocational students. Students' learning gains and school satisfaction have a positive effect; the campus interpersonal environment widely affects the study experience and experience of higher vocational students; individual learning motivation is a key factor affecting the growth and development of higher vocational students. Based on this, it is proposed to improve the quality of higher vocational student education. Countermeasure suggestions.

**Keywords:** Vocational College Students; Learning Motivation; Learning Engagement; System Dynamics

## 1. Introduction

In recent years, as the iterative upgrading of global industries has accelerated and the economic structure has continued to be optimized and adjusted, the demand for high-quality technical and skilled talents in all walks of life has become increasingly urgent. There is an urgent need to provide talent and skill support through high-quality higher vocational education<sup>[1]</sup>. To effectively adapt to economic transformation and industrial upgrading. Therefore, how to accelerate the improvement

of the quality of talent training in higher vocational colleges and comprehensively promote the connotative development of domestic vocational education is an important proposition that needs to be answered urgently. The "learning engagement" theory was proposed by American scholar George in 2001. It mainly refers to the time and energy students devote to effective learning activities, and how students view the school's support for their learning. It emphasizes the student-centered educational concept, pays attention to students' real learning experience, and pays attention to students' growth and development<sup>[2]</sup>. It is an important dimension for evaluating students' comprehensive quality. After years of academic accumulation and practical exploration, the number of higher education quality assessment methods and tools developed under the guidance of learning engagement theory is constantly increasing and improving. This study combines the learning characteristics of higher vocational students, comprehensively analyzes the conceptual connotation of learning engagement theory, extracts three key variables: "school environment", "learning motivation" and "education quality", and attempts to explore and construct a model of the impact of higher vocational students' education quality, hoping to provide suggestions for the growth and development of higher vocational students<sup>[3]</sup>.

## 2. Literature Review and Research Hypotheses

### 2.1 The Impact of School Environment on Education Quality

Relevant foreign studies have pointed out that the school environment has a certain impact on the quality of education. For example, research by Carlini and others found that the degree of institutional

environmental support is positively correlated with students' academic performance; for example, Xing Quanchao found through empirical exploration that the campus environment support has a significant impact on students' academic performance<sup>[4]</sup>; Shi Jinghuan and others found that the campus environment support is directly related to students' learning gains and satisfaction. The higher the campus environment support, the better the students' academic performance. The higher the learning gains and satisfaction. From the above research, it can be seen that the school environment has a positive correlation with educational gains and school satisfaction. The campus environment plays a supporting role in the development and growth of students. Therefore, the following research hypothesis is put forward: The campus physical environment, interpersonal environment and cultural environment are positively related to each other. To affect the educational gains and school satisfaction of higher vocational students<sup>[5]</sup>.

## 2.2 The Impact of the School Environment on Learning Motivation

Activity theory believes that learners behavioral performance changes with changes in the external environment<sup>[6]</sup>. The triadic reciprocal determinism proposed by American psychologist Bandura emphasizes the interaction between individual internal factors, behavior and environment, and emphasizes the role of environment in shaping individuals and behaviors. The self-determination theory co-founded by American psychologists Deci and Ryan believes that everyone has an innate, inner, constructive tendency to self-development and seek self-integration. However, Whether an individual's inner growth nature can be successfully realized is also affected by the external environment. There are also relevant domestic studies that have found that the academic environment has a certain impact on students' learning motivation<sup>[7]</sup>. For example, Xu Bing et al.s investigation of students in higher vocational colleges in Jiangsu Province showed that the learning environment greatly affects the learning motivation of higher vocational students;

through the above analysis, it is known that learning motivation is affected by the school environment, and schools create for students The better the environment, the more motivated students will be to learn. Therefore, the following research hypothesis is put forward: Campus physical, interpersonal and cultural environment all positively affect the learning motivation of higher vocational students.

## 2.3 The Impact of Learning Motivation on Education Quality

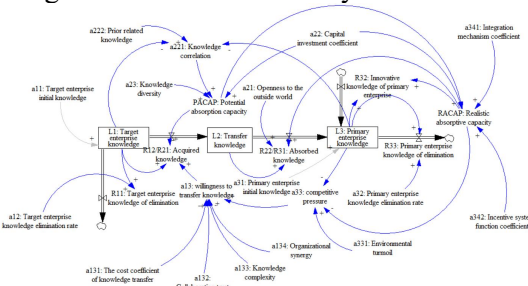
Modern educational psychology believes that learning motivation is the sum of the psychological motivations of the learning subject based on the value judgment of learning behavior<sup>[8]</sup>. It can stimulate learning interest, tap learning potential, and has the functions of orientation, maintenance, adjustment and reinforcement. Taking students from an engineering college as the research subjects, they found that there is a high positive correlation between students learning motivation and educational gains; Yang Lijun and others conducted a four-year follow-up survey on students from an engineering college in Nanjing and found that the index of study-oriented/dislike of study is related to satisfaction in school. Degree has the greatest effect. Based on this, the following research hypothesis is put forward: Learning motivation positively affects the educational gains and school satisfaction of higher vocational students.

Based on the above research hypotheses, this study constructed a preliminary research model, as shown in Figure 1. Two issues are mainly discussed. One is how the physical environment, interpersonal environment and cultural environment of the campus directly affect the educational gains and school satisfaction of higher vocational students; the second is how the physical environment, interpersonal environment and cultural environment of the campus are through the intermediary of learning motivation. Variables indirectly affect the educational gains and school satisfaction of higher vocational students.

## 3. Simulation Analysis

Based on the above assumptions, a system

dynamics model is constructed and data is brought in for simulation analysis.



**Figure 1. System Dynamics Model**

Regarding the reliability and convergence test of the measurement model, the results are shown in Figure 1. In terms of reliability testing, the Cronbachs  $\alpha$  value and combined reliability value of the measurement model are both greater than 0.80, indicating that the model has good internal consistency. In terms of convergent validity, except for the factor loading of measurement item CE1 which is slightly lower than 0.50, the other measurement indicators are all above 0.50, which meets the standard; the AVE values of latent variables are all above 0.50, indicating that the latent variables are The convergent validity is good. The measurement results of discriminant validity are shown in Figure 1. Except for individual factors, the square root of AVE of most factors is overall greater than the correlation coefficient with its related factors, indicating that the discriminant validity between latent variables is acceptable<sup>[9]</sup>.

The direct effects, indirect effects and total effects between the respective variables and the dependent variable are shown in Figure 1. From the analysis of empirical data, the material environment, cultural environment and interpersonal environment all have a significant impact on learning motivation. Among them, the total effect of cultural environment on learning motivation accounts for up to 69.81%, while the sum of material environment and interpersonal environment The proportion of the total effect is only 30.19%, which shows that the cultural environment can improve the learning motivation level of higher vocational students more than the physical environment and interpersonal environment<sup>[10]</sup>.

The physical environment has a direct and indirect significant impact on school satisfaction, with a total effect of 0.528,

accounting for 46.44% of the total effect size. Among them, the direct effect is 0.513 and the indirect effect is 0.015. The interpersonal environment also has a direct and indirect significant impact on school satisfaction, with a total effect of 0.456, accounting for 40.11% of the total effect size. Among them, the direct effect is 0.445 and the indirect effect is 0.011. The cultural environment only has an indirect significant impact on school satisfaction. The indirect effect, the total effect, is 0.061, accounting for only 5.36% of the total effect size. Judging from the proportion of each variable in the total effect, the sum of the impact of the physical environment and the interpersonal environment on school satisfaction accounts for 86.55% of the total effect, while the cultural environment accounts for less than 10% of the total effect<sup>[11]</sup>.

This is It shows that the physical environment and interpersonal environment greatly affect higher vocational students' satisfaction with school. In addition, learning motivation has a positive direct impact on school satisfaction, and the direct effect or total effect is 0.092. From the above verification results of the revised model research hypothesis, it can be seen that the material environment, cultural environment and interpersonal environment all have a significant positive impact on learning motivation, and learning motivation also has a significant positive impact on school satisfaction, which shows that Learning motivation plays a mediating role between the material environment and school satisfaction, between the cultural environment and school satisfaction, and between the interpersonal environment and school satisfaction. The material environment, cultural environment and interpersonal environment respectively influence school satisfaction through learning motivation. Play an indirect positive role<sup>[12]</sup>.

Similarly, the physical environment has a significant direct and indirect impact on educational gains, with a total effect of 0.243, accounting for 19.82% of the total effect size. Among them, the direct effect is 0.171 and the indirect effect is 0.072. The interpersonal environment also has a significant direct and indirect impact on educational gains, with a total effect of 0.263, accounting for 21.45% of the total effect size. Among them, the direct effect is 0.211 and the indirect effect is 0.052. The cultural environment only has an indirect

significant impact on school satisfaction. The indirect effect, the total effect, is 0.288, accounting for 23.49% of the total effect size. Learning motivation also has a positive direct impact on educational gains<sup>[13]</sup>. The direct effect, that is, the total effect is 0.432, accounting for 35.24% of the total effect size, and has the greatest impact on educational gains. This shows that learning motivation greatly affects the educational gains of higher vocational students. In addition, from the above verification results of the revised model research hypothesis, it can be seen that the material environment, cultural environment and interpersonal environment all have a significant positive impact on learning motivation, and learning motivation also has a significant positive impact on educational gains, which shows that Learning motivation plays a mediating role between the material environment and educational gains, between the cultural environment and educational gains, and between the interpersonal environment and educational gains<sup>[14]</sup>. The material environment, cultural environment, and interpersonal environment can play an indirect positive role in educational gains through learning motivation.

## 5. Conclusion

The physical environment of the campus has the greatest impact on the school satisfaction of higher vocational students, but the impact of physical environment construction on the learning motivation and educational gains of higher vocational students is only moderate.

Judging from the empirical analysis results, the campus physical environment can positively predict the school satisfaction of higher vocational students, and its influence ranks first among various factors. This enlightens us that we should pay attention to improving the satisfaction of higher vocational students with their school experience. The construction of the physical environment of the campus is the key, and we strive to provide a high-quality environment for students to study and live. On the other hand, empirical evidence shows that although the material environment can explain the learning motivation and educational gains of higher vocational students, the impact is relatively

small. This may be because simply emphasizing material conditions without the constraints of other auxiliary systems is not effective. It will definitely improve students' learning motivation and educational gains. For example, schools providing high-quality campus networks can facilitate students' learning, but it may also cause students to become addicted to online games.

Therefore, for higher vocational students who relatively lack self-control, higher vocational colleges must not only create good conditions for students' study and life, but also establish corresponding management systems, strengthen guidance and restraint, and promote the true transformation of high-quality campus physical environment. Motivate students to learn and help them achieve their development and growth goals.

The campus cultural environment indirectly has a positive effect on students' learning gains and school satisfaction by affecting the learning motivation of higher vocational students. From the aforementioned research results, the campus cultural environment has no significant impact on the educational gains of higher vocational students. It can only have an effect on the quality of students education through the intermediary factor of learning motivation. Previous studies have also reached similar conclusions. Research by Liu Hongzhe and others pointed out that "the investment in cultural environment factors cannot have a direct and strong impact on students' own growth and gains. It must go through the process of improving students' participation. Indirectly achieve the purpose of cultivating students' quality and ability. In short, higher vocational students' cognition and evaluation of the campus cultural environment affects the adjustment of their learning attitude. If the cultural environment is not supportive enough, it may cause their negative emotions in the learning process. Leading to poor learning attitudes, which in turn affects learning results. On the other hand, from the empirical data of this study, the campus cultural environment cannot directly predict the school satisfaction of higher vocational students. This may be due to the fact that

compared with undergraduate students, college students are less likely to be satisfied with school. Some higher vocational students have a relatively weak learning foundation and lack of learning awareness, learning methods, learning abilities and learning interests. The current score of this study on the learning motivation of higher vocational students also reflects this. To this end, the construction of campus cultural environment should be strengthened. It will not directly improve their school satisfaction, but only after stimulating the enthusiasm of higher vocational students to learn, can they improve their school satisfaction.

Therefore, for higher vocational colleges, strengthening the construction of campus cultural environment will provide the fundamental significance of providing students with targeted learning guidance, psychological counseling, employment guidance, and financial aid is to stimulate their interest and desire in learning, thereby improving students' educational gains and school satisfaction.

Individual learning motivation is a key factor affecting the growth and development of higher vocational students. Through empirical data analysis, this study verified the research hypothesis that the learning motivation of higher vocational students can positively predict their educational gains and school satisfaction, while the campus physical environment, culture, the environment and interpersonal environment significantly affect learning motivation, and the campus cultural environment can play a greater role in promoting the learning motivation of higher vocational students. Based on motivation theory and combined with the characteristics of higher vocational students, in addition to strengthening the construction of campus environment at the macro level, we can also specifically focus on the following three aspects. The first is to strengthen the application and practicality of professional courses.

A considerable number of higher vocational students believe that current classroom teaching is out of touch with social needs and cannot apply what they have learned, so learning cannot be sufficiently attractive to

them. In this regard, higher vocational colleges should emphasize the cultivation of job skills as the center, and always insist on basing the design of professional settings and syllabus content on the knowledge, skills and values required for economic and social development. Through the analysis of professional job capabilities, determine training goals and talent specifications and organize teaching, organically combine talent training goals with students' career goals, and allow students to experience the fun and success of learning bit by bit. The second is to persist in taking students as the center and carry out changes in teaching models. One of the important reasons for the low interest in learning among higher vocational students is the rigid way teachers teach, and the traditional classroom-filling teaching method is common. To this end, teachers should actively promote the reform of teaching methods, increase the proportion of experiential, interactive, and heuristic teaching methods in the teaching process, arouse students' curiosity, give full play to students' enthusiasm and main role in learning, and promote and stimulate students' enthusiasm for learning.

Desire for knowledge and exploratory behavior. The third is to reform the academic evaluation method of higher vocational students. Instead of using examinations as the main evaluation method for students' learning, evaluation methods should be adopted flexibly. According to the learning requirements and course characteristics, a combination of formative assessment and summative assessment should be used, and the overall assessment should be paid attention to. Process evaluation continuously stimulates students' desire for advancement and awareness of competition.

## References

- [1] Zhang X, Meng L, Cai G. Exploration of Innovation Points of Cultivating High-Quality Talents under the Background of New Engineering:--Taking Tangshan Colleges and Universities as an Example[J]. *Journal of Education and Educational Research*, 2024, 7(1): 16-22.
- [2] Ma L. Analysis of the teaching reform of

- computer courses in higher vocational education under the new background[J]. *Journal of Theory and Practice of Social Science*, 2023, 3(8): 1-6.
- [3] Meiyang Z. English Teaching in Higher Vocational Colleges under the Background of the[J]. *Advances in Vocational and Technical Education*, 2023, 5(11): 1-9.
- [4] Wang X, Li A, Li T. Research on Strategies and Methods of Improving Teachers Digital Literacy in Classroom Teaching in Higher Vocational Colleges[C]//SHS Web of Conferences. *EDP Sciences*, 2023, 179: 02016.
- [5] Wang X, Wang X, Huang T, Relationship between the Latent Profile of Online Socially Regulated Learning and Collaborative Learning Motivation[J]. *Sustainability*, 2023, 16(1): 181.
- [6] Vaara, E. and R. Sarala. The impact of organizational and national cultural differences on social conflict and knowledge transfer in international acquisitions. *Journal of Management Studies*, Vol. 49 No.1, pp. 1-27.
- [7] Roliak A, Humeniuk I. University education standards in the postmodern context of sustainable growth[J]. *Revista Romaneasca pentru Educatie Multidimensionala*, 2023, 15(3): 217-231.
- [8] Wang X, Wang X, Huang T. Relationship between the Latent Profile of Online Socially Regulated Learning and Collaborative Learning Motivation[J]. *Sustainability*, 2023, 16(1): 181.
- [9] Sarala, R. M. and P. Junni. A Sociocultural Perspective on Knowledge Transfer in Mergers and Acquisitions. *Journal of Management*, Vol. 42 No. 5, pp. 1230-1249.
- [10] Ai, Q. and H. Tan. Acquirers prior related knowledge and post-acquisition integration: evidences from four Chinese firms. *Journal of Organizational Change Management*, Vol. 30 No. 4, pp. 647-662.
- [11] Junni, P. and R. M. Sarala. The role of absorptive capacity in acquisition knowledge transfer. *Thunderbird International Business Review*, Vol. 55 No. 4, pp. 419-438.
- [12] Zou, B. and F. Guo. The formation mechanism and effectiveness of firms' breadth and depth of absorptive capacity: An empirical study based on 264 firms' data." *Studies in Science of Science*, Vol. 33 No. 3, pp. 432-439.
- [13] Stahl, G. and A. Rouziès. Sociocultural Integration in Mergers and Acquisitions: Unresolved Paradoxes and Directions for Future Research. *Thunderbird International Business Review*, Vol. 55 No. 4, pp. 333-356.
- [14] Lyles, M. A. Formulating strategic problems: Empirical analysis and model development. *Strategic Management Journal*, Vol. 2 No. 1, pp. 61-75.