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A STUDY ON DETERMINANTS OF ACADEMIC PERFORMANCE IN HIGHER VOCATIONAL COLLEGES, YUNNAN PROVINCE, CHINA

Sun Hongyan[1,2], Vincent Wee Eng Kim[1]

[1]Universiti Tun Abdul Razak, Malaysia
[2]Kunming University of Science and Technology, China
sun.hongyan@ur2.unirazak.edu.my

ABSTRACT

Academic achievement in higher vocational colleges is affected by a variety of factors, such as the learning environment, teacher attributes, and students' self-efficacy. This research explores the combined effects of these predictors on the academic success of students in vocational institutions in Yunnan Province, China. Employing a mixed-methods approach, data was gathered through structured questionnaires and interviews with both students and educators. The study investigates how classroom infrastructure, educational resources, teacher-student interactions, and instructional methods influence academic outcomes. It also examines the role of students' self-efficacy, motivation, and goal-setting in their scholastic performance. Results indicate that a supportive learning atmosphere, effective teaching approaches, and strong student self-efficacy are positively associated with improved academic results. However, challenges such as outdated assessment practices, inconsistent evaluation standards, and limited institutional backing impede student achievement. The study highlights the necessity for educational policy reforms and pedagogical advancements to enhance the learning experience. These findings offer valuable insights for the development of vocational education strategies in China.

Keywords: *Academic Performance, Vocational Education, Learning Environment, Teacher Attributes, Self-Efficacy, Yunnan, China*

1. Introduction

Higher vocational education in Yunnan, China, plays a crucial role in preparing students to meet the demands of the modern workforce. As this sector continues to expand, it is essential to gain a thorough understanding of the factors influencing student academic performance in this context. Key contributors include the learning environment, instructor qualities, and students' self-efficacy (Smith & Johnson, 2020).

The learning environment is foundational to students' educational experiences. According to Zhang and Wang (2019), a supportive and resource-rich environment—encompassing classroom infrastructure, availability of instructional materials, technological support, and overall classroom atmosphere—facilitates improved learning outcomes. Biggs and Tang (2011) emphasize that recognizing the role of the learning environment in vocational colleges can assist educators and policymakers in creating optimal educational settings that foster student achievement.

Equally important are the qualities of teachers, which have been widely acknowledged as pivotal to student success. Effective educators employ diverse teaching methods, demonstrate strong communication skills, and use motivational strategies to engage students (Chen & Liu, 2018). These characteristics greatly influence student motivation, participation, and academic results. Therefore, examining teacher attributes and their impact on student performance is vital for enhancing pedagogical practices in vocational education (Smith & Johnson, 2020).

Self-efficacy, defined as an individual's belief in their capability to accomplish tasks and achieve goals, is another critical factor. Students with high self-efficacy tend to set challenging goals, persist through difficulties, and invest effort to attain academic success, whereas those with lower self-efficacy may doubt their abilities and struggle to perform optimally (Biggs & Tang, 2011; Smith & Johnson, 2020). Understanding how self-efficacy influences academic achievement in vocational settings can provide valuable insights for fostering student confidence and resilience.

While previous studies have explored these factors individually, there remains a need for an integrated investigation examining the collective influence of the learning environment, teacher characteristics, and self-efficacy on academic outcomes among vocational students in Yunnan (Chen & Liu, 2018). This research aims to fill that gap by simultaneously analyzing these elements to offer a comprehensive understanding of their interrelationships. Li and Zhang (2020) note that such findings can inform educational policies and practices that promote supportive environments conducive to student success in Yunnan's vocational colleges.

Despite growing scholarly interest, existing literature often addresses these factors in isolation, limiting understanding of their complex interplay (Huang & Li, 2017). Some studies focus on the learning environment (Zhang & Wang, 2019), others on teacher qualities (Chen et al., 2017), or self-efficacy (Li & Zhang, 2020), but few provide a holistic view. Additionally, outdated or inconsistent assessment methods have undermined the validity and applicability of previous research (Li et al., 2018). Zhou and Wang (2019) further argue that poor integration of assessment results into educational practice hinders meaningful improvements in learning settings and teaching.

This study also examines personal teacher attributes—including demographics, education, and professional experience—and their relationship with academic performance. It explores how teachers' self-efficacy beliefs shape educational outcomes and investigates the combined effects of these factors within vocational colleges in Yunnan.

While outcome-based education has been adopted in countries like the USA, UK, and Japan, its theoretical foundations and practical implementation remain underdeveloped in China (Chen & Liu, 2018). Findings from this study have practical implications for vocational educators, enabling them to reflect on and enhance teaching methods, communication, and motivational strategies. Strengthening teacher-student relationships and adopting evidence-based pedagogies can improve student engagement and achievement (Liu & Xu, 2021; Li et al., 2019).

Moreover, this research provides policy and curriculum developers with critical insights to support the design of learning environments and instructional practices that foster student success in Yunnan's vocational colleges. It underscores the importance of investing in infrastructure, educational resources, and teacher training programs, as well as promoting interventions to enhance student self-efficacy (Wang & Li, 2019).

Yunnan's higher vocational institutions offer a rich context due to their diverse student body and broad range of practical, skills-oriented programs tailored to local and national labor market needs

(Chen & Liu, 2018). By focusing on this region, the study aims to deepen understanding of how learning environment, teacher attributes, and self-efficacy interact to influence academic performance.

Given Yunnan's prominence as an educational and economic hub, the results are relevant beyond the province, offering guidance for vocational education policies and reforms across China and in other countries with similar systems (Wang & Li, 2019).

2. Literature Review

The learning environment is a fundamental factor influencing students' academic performance and learning outcomes (Zhang & Wang, 2020). Prior studies have emphasized the importance of various components within the learning environment—including physical infrastructure, instructional resources, and peer interactions—in shaping academic achievement (Lee & Wang, 2020). A positive and supportive learning environment is linked to increased student engagement, motivation, and enriching educational experiences, all of which contribute to enhanced academic success.

In higher vocational colleges, the learning environment plays a pivotal role in determining students' academic outcomes and overall educational experience (Eccles & Roeser, 2011). Elements such as classrooms, laboratories, and libraries form the physical infrastructure, which directly affects academic performance (Smith & Johnson, 2019). Well-equipped and inviting learning spaces foster a conducive atmosphere, encouraging students to participate actively in academic pursuits and improving their learning experience.

Social interactions among peers and the availability of social support also significantly impact academic results in vocational colleges (Li & Zhang, 2020). Positive peer relationships nurture a sense of belonging and motivate students to excel academically. Collaborative learning and group activities further deepen understanding of subjects and promote the sharing of knowledge.

The instructional methods and pedagogical strategies employed by educators in higher vocational settings have substantial effects on students' academic achievements (Zhang & Wang, 2019). Innovative and engaging teaching approaches that promote active participation and critical thinking improve comprehension and retention, leading to better academic performance.

Class size and faculty-to-student ratios are critical dimensions of the learning environment influencing academic outcomes (Lee & Wang, 2020). Smaller classes and lower ratios often enable more personalized attention and interaction, enhancing academic support and tailoring learning experiences to individual needs.

Effective classroom management and discipline, as implemented by teachers, also play a role in academic success (Chen & Liu, 2018). A well-managed classroom minimizes distractions, supports focused learning, and fosters an environment conducive to achievement.

Teacher characteristics and instructional practices are well-recognized contributors to students' academic performance (Chen & Zhang, 2018). Successful teachers demonstrate strong subject knowledge, pedagogical skills, and classroom management abilities, all of which positively influence students' learning experiences. Research indicates that student-centered and innovative teaching methods create a supportive learning atmosphere that boosts academic results.

Teachers' expertise and professional attributes are key factors in shaping student success in higher vocational colleges. A thorough mastery of subject content allows teachers to provide clear, accurate explanations that deepen student understanding and mastery (Chen & Zhang, 2018). Teaching styles that emphasize student engagement and interaction are strongly associated with improved academic outcomes (Lee & Wang, 2020).

Well-structured classrooms with consistent routines contribute to minimizing disruptions and maximizing learning opportunities, further supporting academic achievement (Zhang & Wang, 2019). Positive relationships between teachers and students, characterized by care, encouragement, and support, motivate students to invest greater effort in their studies (Smith & Johnson, 2019).

Additionally, teacher feedback and assessment practices significantly affect student performance (Li & Zhang, 2020). Constructive feedback that recognizes strengths and identifies areas for growth can enhance student learning and self-confidence.

Self-efficacy, defined as an individual's belief in their capability to successfully perform tasks and achieve goals, is a critical psychological factor affecting academic achievement. For vocational college students in Yunnan, understanding self-efficacy is essential to uncover factors influencing their academic success.

Students with high self-efficacy tend to set ambitious goals, persevere through challenges, and demonstrate increased effort, resulting in better academic outcomes compared to those with lower self-efficacy (Chen & Liu, 2018). Self-efficacy also influences students' persistence and resilience in the face of academic difficulties (Lee & Wang, 2019).

Moreover, self-efficacy is closely linked to self-regulation skills, such as time management, goal-setting, and effective study strategies, which are crucial for academic success (Zhang & Wang, 2019). Students who regulate their learning well are more likely to plan effectively and organize their study materials, thereby improving comprehension and retention (Chen & Liu, 2018; Lee & Wang, 2019).

Humanistic theory, as developed by psychologists like Maslow and Rogers, emphasizes the importance of human dignity, creativity, and the fulfillment of potential (Huang & Li, 2017). This theory underlines a student-centered approach to education, advocating for the development of independent learning and responsibility. Rogers introduced the concept of student-centered education in 1952, emphasizing the importance of mobilizing students' initiative in a supportive learning environment and opposing traditional, teacher-centered methods.

In the 1970s, Bloom's mastery learning theory proposed that all students can learn effectively given sufficient time and appropriate instruction, highlighting that learning differences are about the pace rather than the ability to master content.

Taylor, recognized as the father of modern curriculum theory, emphasized four essential questions guiding curriculum development: educational goals, educational experiences conducive to those goals, organization of these experiences, and evaluation of goal achievement. These principles continue to influence curriculum design.

The rise of competency-based education in the 1960s reflected a global shift toward vocational training that focuses on job-related operational skills (Hattie, 2009). This approach involves collaboration between industry experts and educators to define professional competencies, which then shape curriculum design, teaching methods, and assessment, ensuring alignment with real-world vocational demands.

3. Materials and Method

Outcome-Based Education (OBE) prioritizes the specific competencies internalized by students at the end of a learning period rather than focusing solely on test scores or accumulated prior knowledge (Ma Jinjing, 2012). Specifically, OBE emphasizes clearly defined learning outcomes and the development of graduates' abilities. This educational model represents a paradigm shift, characterized by broad and profound content (Yue Geni, Che Ping, Wang Cuiying, 2016). Generally, it is structured around one core goal, two essential requirements, three foundational premises, four guiding principles, four supporting elements, and five implementation steps.

The core goal of OBE is to ensure that all students achieve the intended learning outcomes. The two key requirements are: (1) precise definition and clear articulation of learning outcomes through an outcome blueprint, enabling students to understand their final goals; and (2) the use of concrete results to guide curriculum design—although the latter is often overlooked (Lee & Wang, 2020). The three premises include: (a) all students are capable of learning and succeeding, but their learning methods and timeframes differ; (b) success builds upon success, where achieving one goal facilitates subsequent achievements; and (c) schools hold full responsibility for student success by expanding learning opportunities and providing adequate resources.

The four principles guiding OBE are clarity of focus, expanded opportunity, higher expectations, and backward design (Chen & Liu, 2018). The four supports emphasize: clearly defining learning needs; basing student progress on demonstrated outcomes; employing diverse teaching and assessment strategies tailored to individual needs; and offering sufficient time and assistance to help every student reach their full potential (Zhang & Wang, 2019).

The five implementation steps include: (1) Defining outcomes at multiple levels—including key outcomes, specific outcomes, evaluation, and performance indicators; (2) Designing curricula aligned with final outcomes and societal needs, promoting interdisciplinary integration; (3) Delivering instruction where teachers have autonomy to employ methods best suited to achieving desired outcomes; (4) Reviewing results using multiple assessments, including self- and standard-referenced evaluations; and (5) Emphasizing that success is achievable for all students, with opportunities for multiple points of achievement throughout their learning journey (Zhang & Wang, 2019).

This study adopts a mixed-methods approach, combining semi-structured interviews with quantitative research to explore the relationships among learning environment, teacher characteristics, self-efficacy, and academic performance among Higher Vocational College students in Yunnan, China. The target population consists of students enrolled in Higher Vocational Colleges across Yunnan. Stratified random sampling will be used to ensure representation across various programs and academic levels. Sample size will be determined based on statistical power analyses to guarantee the robustness of the findings.

For the qualitative component, the researcher served as the primary data collector. According to Ho (2012), the researcher is the main instrument in qualitative data collection. Interviews are the primary means of gathering rich, in-depth, and individualized data (Oye, Sorensen, & Glasdam, 2016). This method allows direct interaction between interviewer and participants, enabling them to share experiences and insights. Interviews were conducted primarily as one-on-one sessions or through field notes. Technological advancements have also expanded interview formats to include telephone, email, and online platforms such as Skype (Leedy & Ormrod, 2015).

Individual interviews involve direct, personal interactions where structured, semi-structured, or unstructured questions are posed to collect detailed personal data (Oye et al., 2016). Participant selection was driven by the study's objectives and research questions, ensuring confidentiality and independent data collection. Data collection methods also included observational field notes and document reviews.

Structured survey questionnaires will be distributed to students, targeting variables related to the learning environment, teacher characteristics, self-efficacy, and academic performance. Responses will be quantified using Likert scales and multiple-choice questions. With participant consent, official academic records—such as grades and performance evaluations—will be accessed to provide objective measures of academic outcomes. Survey items will assess perceptions of infrastructure, institutional support, and resource availability. Key variables measured include: learning environment (IV1), teacher characteristics (IV2), self-efficacy (IV3), and academic performance (DV). Teacher characteristics will be evaluated based on student perceptions of teaching methods, communication skills, and motivational strategies. Self-efficacy will be assessed through validated scales measuring beliefs, motivation, and goal-setting. Academic performance data will include grades and course completion rates. Multiple regression analysis will be applied to examine the unique contributions of these variables to academic success.

This research also addresses existing issues in the implementation of provincial-level courses through the lens of OBE. A tailored questionnaire was developed and tested for reliability and validity (Smith & Johnson, 2020). Sample selection focused on representativeness, data collection feasibility, and practical operability, involving multiple provincial undergraduate institutions for both questionnaires and interviews. Collected data will be analyzed using SPSS to explore the status and influencing factors of provincial courses, providing empirical support for course standardization efforts (Li & Zhang, 2020).

To complement survey data, qualitative interviews were conducted with selected undergraduate teachers to gather insights unattainable via questionnaires. These included open-ended interviews to obtain foundational information about courses at selected institutions, aiding subsequent in-depth interviews and questionnaire design (Smith & Johnson, 2020).

Interview protocols were guided by the conceptual framework and literature review. Field notes served as an essential qualitative data collection tool, enabling observations within the context of participants' activities and environments (Leedy & Ormrod, 2015; Ravitch & Carl, 2016). Groenewald (2004) outlines that field notes typically include: (a) real-time records of events during interviews, (b) initial reflections and interpretations, (c) procedural notes and reminders for the researcher, and (d) memos summarizing each interview session. Yin (2013) describes the case study process as involving: (a) data compilation, (b) data disassembly, (c) data reassembly, (d) data interpretation, and (e) drawing conclusions and meanings.

4. Results and Discussion

This chapter presents the anticipated findings of the study based on the research objectives, conceptual framework, and literature review. The study aims to examine the determinants of academic performance among students in higher vocational colleges in Yunnan Province, China. Specifically, the research investigates how the learning environment, teacher characteristics, and student self-efficacy influence students' academic outcomes. Using a mixed-methods approach, data

collected through questionnaires and interviews are expected to reveal several important relationships among these variables.

One anticipated finding is that the learning environment will have a significant influence on students' academic performance. A supportive and well-equipped learning environment is expected to enhance students' motivation and engagement in academic activities. Factors such as classroom infrastructure, access to learning materials, availability of educational technology, and institutional resources may positively influence students' ability to concentrate and perform well in their studies. Conversely, limited educational resources or inadequate facilities may negatively affect students' academic performance.

Another anticipated result relates to the role of teacher characteristics in shaping academic outcomes**.** Teacher attributes such as teaching methods, communication skills, subject expertise, and the ability to motivate students are expected to significantly influence student learning. Effective instructional strategies, including interactive teaching approaches and clear explanations of course content, may improve students' understanding of vocational subjects. Positive teacher–student relationships may also contribute to a supportive learning atmosphere, encouraging students to participate more actively in classroom activities and academic tasks.

The study is also expected to highlight the importance of student self-efficacy as a key determinant of academic performance. Students with higher levels of self-confidence in their academic abilities may demonstrate stronger motivation, persistence, and commitment to achieving their educational goals. Self-efficacy may influence how students approach challenges, manage their learning tasks, and respond to academic difficulties. Students who believe in their ability to succeed are more likely to engage actively in learning activities and achieve better academic results.

In addition, the anticipated findings may reveal the combined effect of learning environment, teacher characteristics, and self-efficacy on academic performance. These factors may interact with one another to influence students' overall learning experience. For example, a supportive learning environment and effective teaching practices may strengthen students' self-efficacy, which in turn may enhance academic performance. This interaction aligns with the principles of Outcome-Based Education (OBE), which emphasizes clear learning outcomes, supportive teaching methods, and student-centered learning approaches.

Despite these expected positive relationships, the study may also identify several challenges affecting academic performance in higher vocational colleges. These challenges may include outdated assessment methods, inconsistent evaluation standards, and limited institutional support for students and educators. Such issues may hinder the effectiveness of teaching and learning processes, thereby affecting student achievement.

Overall, the anticipated findings suggest that improving academic performance in vocational colleges requires a comprehensive approach that addresses multiple factors. Enhancing the learning environment, strengthening teacher capabilities, and promoting student self-efficacy are expected to play critical roles in improving students' academic success.

5. Conclusion

This study aims to examine the determinants of academic performance among students in higher vocational colleges in Yunnan Province, China. Understanding the factors that influence students'

academic success is essential for improving educational quality and supporting the development of skilled graduates in vocational education.

Based on the anticipated findings, the learning environment, teacher characteristics, and student self-efficacy are expected to significantly influence academic performance. A supportive learning environment with adequate educational resources may help students engage more effectively in their studies. At the same time, teachers who employ effective instructional strategies and maintain positive interactions with students may enhance the overall learning experience.

Student self-efficacy is also expected to play an important role in determining academic outcomes. Students who possess higher levels of confidence in their abilities may demonstrate stronger motivation and persistence in completing academic tasks. Encouraging students to develop positive learning attitudes and clear academic goals may therefore contribute to improved performance.

The anticipated results also suggest that successful implementation of Outcome-Based Education principles may help improve the quality of vocational education. By clearly defining learning outcomes, providing supportive teaching methods, and offering sufficient learning opportunities, educational institutions may enhance student achievement and skill development.

In conclusion, this study is expected to provide valuable insights into the key determinants of academic performance in higher vocational colleges. The findings may assist educators, administrators, and policymakers in developing strategies to improve teaching practices, strengthen institutional support systems, and promote student success in vocational education programs.

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