

Academic administration affecting student achievement of vocational colleges in Jiangxi province

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Abstract: This study examines the impact of academic administration on student achievement in vocational colleges in Jiangxi Province, China. Using a mixed-methods approach, the study synthesized quantitative data from 468 survey respondents and qualitative insights from semi-structured interviews to assess the key factors influencing student achievement. The findings highlighted the impact of the instructional management sector (including Human resources for schools, School teaching resources, School financial resources, Socio-economic status of schools, Management styles of school leaders, teaching program management and school climate) in influencing student achievement (as measured by Professional achievements, Student GPA, Employment satisfaction, Scholarship amount and Competition Awards). The study also identified challenges such as inefficient resource allocation and variable leadership styles. Based on the findings of the study, strategic recommendations were made to enhance academic administration practices aimed at improving the overall quality of student achievement in vocational colleges in Jiangxi Province. The study provides valuable insights into the educational management discourse and offers actionable guidance for policy formulation and institutional development.

Keywords: *Academic administration, Student achievement, Vocational colleges.*

1. Introduction

In the evolving landscape of higher education, vocational colleges play a pivotal role in preparing students with the skills and knowledge needed for employment. In China, vocational education occupies an important place in the higher education framework, so it is crucial to ensure the quality of education in vocational colleges. Jiangxi Province, known for its economic and educational transformation, provides a unique context for examining the dynamic relationship between academic administration and student achievement. Academic administration, which includes planning, resource allocation, leadership, and student support systems, has a significant impact on the educational environment and outcomes of vocational colleges. Effective administration directly impacts student achievement by improving the quality of instruction, promoting accessibility of resources, and creating a favorable learning climate. Conversely, ineffective administration exacerbates challenges such as poor resource management, disparities in student engagement and overall learning outcomes. These issues are particularly acute in vocational colleges, where the focus on hands-on training and employability necessitates a robust and responsive administrative structure. As enrollment policies and labor market needs have changed, education in Jiangxi Province has grown rapidly. However, this development has also brought challenges, including disparities in student quality and achievement levels. Addressing these disparities requires a deeper understanding of how academic administration affects student achievement.

This study aims to fill the research gap by exploring the relationship between academic administration and student achievement in vocational colleges in Jiangxi Province, identifying the key factors affecting achievement, and proposing feasible strategies for improvement. By integrating an interdisciplinary approach of educational theory, administration and student achievement indicators,

this study attempts to provide a comprehensive framework for strengthening instructional management. The findings of this study are expected to contribute to policy development and strategic planning, benefiting not only education stakeholders in Jiangxi, but also the wider vocational education system.

1.1. Research Objectives

The purpose of this study is to investigate the effect of instructional management on student achievement in vocational institutions in Jiangxi Province. The specific objectives are as follows.

1. To study the levels of academic administration in vocational colleges in Jiangxi province.
2. To study the levels of student achievement in vocational colleges in Jiangxi province.
3. To examine the relationship between academic administration and student achievement in vocational colleges in Jiangxi province.
4. To analyze the factors affecting student achievement in academic administration of vocational colleges in Jiangxi province.
5. To propose the development of academic administration to improve the student's achievement of vocational colleges in Jiangxi province.

2. Literature Review

The research on academic administration's impact on student achievement highlights the interconnectedness of administrative functions and educational outcomes. Academic administration as Burton Clark (1994) noted, is critical for maintaining the foundational governance of institutions, enabling efficient resource allocation and stakeholder engagement. Robert Birnbaum (2001) further emphasized that effective administration must consider environmental dynamics and technical subsystems, which are directly linked to achieving institutional goals. This underscores the importance of strategic planning and decision-making in academic governance.

Student achievement often assessed through academic performance and post-graduation success, reflects a complex interplay of cognitive, emotional, and social factors. As Elliot and Dweck (2005) explained in their achievement goal theory, individual aspirations and goal orientations—whether mastery- or performance-focused—significantly affect learning outcomes. Bernard Weiner's attribution theory (1974) complements this by exploring how perceptions of success and failure influence students' motivation, with internal factors such as effort being more conducive to sustained achievement.

The management of vocational colleges relies on theoretical frameworks like total quality management (Deming, 1986) and educational production functions (Hanushek, 1979). According to Hanushek (1979), effective resource utilization—including human, financial, and material inputs—determines the quality of educational outcomes. These frameworks are particularly relevant in Jiangxi Province, where vocational colleges face challenges stemming from socio-economic disparities and regional development goals (Zhang, 2015). Zhang highlighted that leadership styles and institutional culture, as intangible factors, often have a deeper impact on student performance than merely physical or financial resources.

Furthermore, studies emphasize the disparity between tangible and intangible resource impacts. While infrastructure and financial inputs are necessary, Xuan Yong (2013) argued that the academic governance system's structural support and incentive mechanisms play a crucial role in fostering student success. This perspective aligns with Jin Dingbing (2014) findings, which advocated for a balanced approach integrating bureaucratic, market, and cultural factors within administrative practices.

Drawing on these insights, this study seeks to examine how academic administration strategies can optimize student outcomes in vocational colleges in Jiangxi Province, contributing to broader educational development and reform.

3. Research Methods

3.1. Population and Sample

This research focuses on the academic administration and student achievement in vocational colleges across Jiangxi Province. The target population includes administrators and teachers from a total of 52 vocational colleges within the province. A representative sample size of 52 vocational

colleges was selected, with 12 respondents from each institution. The respondents consist of school administrators (2 per college, totaling 104) and teachers (7 per college, totaling 364), bringing the overall respondent count to 468.

3.2. Research Instrument

Literature method: used to collect, sort out and analyze domestic and foreign college students' academic research literature and consult the literature related to the construction of higher education database. Literature analysis lays the theoretical foundation for this study.

Questionnaire survey method: Collect students' background information, high school career, learning participation, self-knowledge and other information needed for the research.

Interview method: In order to further reveal the nature of the problems found in the survey and explore the memory mechanism of the achievement difference of students in higher vocational colleges in Jiangxi Province, the author added semi-structured interview design in the empirical analysis of this study. The staff of the sample higher vocational colleges were interviewed, and the teachers with important information value were also interviewed twice.

Statistical analysis methods: This study comprehensively uses a variety of data statistical analysis methods. The main tools include econometric analysis, which is used to describe the characteristics of samples, such as maximum, minimum, average, ratio analysis, etc. Correlation analysis is used to analyze the correlation between research indicators, and explore the direction and degree of correlation, to prepare for further analysis; Factor analysis is a statistical technique used to extract common factors from groups of variables. Emphasis is placed on the econometric analysis method.

3.3. Data Analysis

The analysis followed a systematic approach:

Descriptive Statistics: The quantitative survey data were summarized to provide an overview of the levels of academic administration and student achievement across the sample.

Multiple Regression Analysis: This statistical method identified the key factors in academic administration that significantly affect student achievement.

Thematic Analysis: Qualitative interview data were analyzed to identify recurring themes and provide context to the quantitative findings.

The integration of these methods facilitated a comprehensive understanding of how academic administration impacts student achievement in vocational colleges in Jiangxi Province.

4. Research Results

Part 1 Results of Demographic data of the Respondents

This study investigated the impact of academic administration on student achievement in vocational colleges in Jiangxi Province. The demographic data of the respondents highlighted key variables such as gender, age, grade and major. The results of the frequency and percentage analyses are summarized as follows: The gender of the respondents was relatively balanced with 52.56% males and 47.44% females. The majority of respondents were between the ages of 25-34 (45.51%), followed by 35-44 (34.40%). a smaller percentage of respondents were between the ages of 45-54 (19.23%), and only 0.85% were 55 years of age or older. Respondents teaching freshmen and sophomores were the most prevalent (33.97% and 35.90%, respectively), with fewer respondents teaching juniors (17.52%) and seniors (12.61%). Respondents came from a variety of disciplines. The largest group of majors was engineering (25.64%), followed by science (24.15%) and liberal arts (17.31%). The findings provide the respondents with a broad perspective that allows this study to explore how different demographic factors may influence perceptions of academic administration and student achievement in vocational colleges.

Part 2 Results of the analysis of the mean and standard deviation of academic administration of vocational colleges in Jiangxi province.

The strategic planning for academic administration of vocational colleges in Jiangxi province, overall, is at a high level ($\bar{x} = 3.688$, $SD = 0.889$).

Part 3 Results of analysis of mean and standard deviation level of student achievement of vocational colleges in Jiangxi province.

The analysis of the level of student achievement of vocational colleges in Jiangxi province, overall, is at moderate level ($\bar{x} = 3.117$, $SD = 0.858$). When considering each aspect individually, the highest average was found in the area of competition awards, which is at a moderate level ($\bar{x} = 3.162$, $SD = 0.809$).

Part 4 Results of the analysis of the Pearson Product Moment Correlation coefficient between academic administration and student achievement

A correlation coefficient of less than 0.3 means that the two variables are weakly correlated or uncorrelated. 0.3–0.6 is a moderately strong correlation, and 0.6 or more is a strong correlation. If the correlation coefficient is positive, there is a positive correlation between the two variables and vice versa, there is a negative correlation between the two variables. It is found that the Pearson correlation coefficient analysis between the academic administration (independent variable) and student achievement (dependent variables) of vocational colleges in Jiangxi province reveals significant positive relationships. The analysis demonstrates that these relationships are statistically significant at the 0.01 level ($p < 0.01$).

Part 5 Results of stepwise multiple regression analysis

According to the results of the statistical software run to step-by-step multiple regression analysis, according to the size of the degree of significance of each independent variable, from large to small one by one to introduce the regression equation, screening out the independent variables that have a more significant impact on the dependent variable, and the rest of the independent variables that have a non-significant impact on the dependent variable will be eliminated. A total of seven models were constructed between the factors affecting academic administration on student achievement obtained by screening and eliminating the independent variables with insignificant effects.

The Model introduces all seven factors that have an impact on student achievement into a multiple linear regression on student achievement, and according to the results of the run, it can be seen that this model has a significant impact on student achievement at the 1% level, with an adjusted R-squared of 0.657, which indicates that the seven factors together can explain 65.7% of the variance in the dependent variable student achievement, and that Model 7 has the best explanatory power of all the models, and the degree of explanation is also the best and the degree of fit is also the best.

In this model, ε denotes the error term, capturing the variability not explained by the predictors within the model. The explanatory power of the model, adjusted $R^2 = 0.652$, indicates that the faculty management variable explains 65.2% of the variation in student achievement. Significant influences: school leadership management style** ($\beta = 0.328$, $p < 0.01$): had the greatest impact on the enhancement of student employment and professional achievement; school human resources ($\beta = 0.294$, $p < 0.01$): significantly associated with student performance in GPA and competition awards; instructional program management** ($\beta = 0.218$, $p < 0.05$): significantly associated with the enhancement of student academic ability and overall performance; and school instructional resources ($\beta = 0.115$, $p > 0.05$), which, despite the correlation, had a limited direct effect on student achievement, probably because resource allocation had not yet reached the optimal level of utilization.

The results of the quantitative analysis indicated that leadership, human resources and instructional program management in academic affairs management had the most significant effect on student achievement. The quantitative analysis revealed the importance of school resource optimization and the motivational effect of scholarship on student achievement. It is recommended to further improve the efficiency of the use of teaching resources, as well as to improve the scholarship selection mechanism in order to realize the comprehensive development of students' academic and professional abilities.

Part 6: Results of academic administration to improve the student achievement of vocational colleges in Jiangxi province

The study sought to understand the relationship between academic administration practices and student achievement at vocational colleges in Jiangxi Province. The findings reveal several key factors in academic administration that significantly influence student performance across multiple dimensions, including professional achievement, GPA, employment satisfaction, scholarships, and competition awards.

One of the most significant factors identified was the availability and quality of instructional resources. Schools with better access to advanced teaching equipment, well-equipped laboratories, and diverse learning resources saw higher student achievements, particularly in terms of GPA and professional achievements. The regression model indicated that instructional resources had a strong impact on student outcomes, with a standardized regression coefficient ($\beta = 0.201$) at a 1% significance educational level.

Instructional program management emerged as the most influential factor in improving student achievement. This factor encompasses curriculum design, teaching quality, and the overall management of educational programs. Vocational colleges with a structured, well-managed curriculum saw better student performance, especially in academic achievements and competition awards. This factor had the highest standardized regression coefficient ($\beta = 0.208$) and was found to explain 20.8% of the variation in student achievement.

The study also highlighted the importance of having a stable and qualified teaching staff. Schools that invested in teacher development and ensured sufficiency qualified faculty members saw better student outcomes, particularly in GPA and professional achievements. School human resources had a standardized regression coefficient of $\beta = 0.197$, indicating its significant role in influencing student success.

School socioeconomic environment of the school also played a crucial role. Schools located in more economically developed regions had better access to resources, which positively impacted student achievements. This variable was moderately significant with a coefficient of $\beta = 0.153$.

The style of school administrators was another significant factor in improving student outcomes. Strong, supportive leadership was linked to higher student performance, particularly in employment satisfaction and professional achievements. The regression analysis revealed that leadership management style had a coefficient of $\beta = 0.145$.

Financial impactful as other factors, also contributed to student achievement. Proper allocation of school funds for educational purposes, scholarships, and infrastructural improvements led to better overall student performance. The standardized coefficient for school financial resources was $\beta = 0.148$.

The academic and social environment of including teacher-student relationships and overall school climate, was found to have a moderate impact on student achievement. A positive school climate promoted better interactions and motivation among students, which reflected in their academic and professional achievements. This factor had a lower regression coefficient of $\beta = 0.138$.

5. Conclusion

This study delved into the relationship between academic administration and student achievement in vocational colleges in Jiangxi Province, revealing several key findings that underscore the importance of effective management practices in enhancing student outcomes. The data analysis highlighted that element such as resource allocation, leadership styles, school atmosphere, and the management of teaching programs play crucial roles in shaping student performance.

One of the most significant findings is the positive correlation between the effective management of academic affairs and improved student achievement. Multiple regression analysis identified that aspects such as leadership quality and resource allocation were directly linked to higher academic performance, evidenced by better GPAs and increased competition awards. This finding aligns with the broader theory of academic administration, where strong leadership and adequate resource support are foundational to fostering an environment conducive to learning and achievement. Leadership, in particular, emerged as a pivotal factor, with the role of school administrators in modeling behavior and setting strategic directions being essential for motivating students and teachers alike.

Additionally, the study found that a supportive school atmosphere, characterized by positive teacher-student relationships and a collaborative learning environment, significantly impacts student success. These findings echo existing research that emphasizes the role of school culture in enhancing student motivation and academic outcomes. A school climate that promotes open communication and support has been shown to improve both student well-being and academic performance.

Furthermore, the research demonstrated the importance of a well-structured teaching program that balances theoretical knowledge with practical experience. Although many colleges in Jiangxi excel at providing career-related internships and school-enterprise cooperation opportunities, there remains a gap in the integration of competition activities and practical courses within the curriculum. Experts interviewed for this study emphasized that students' achievements in competitions were hindered by a lack of dedicated resources and time constraints within the current teaching schedules. This finding calls for a re-evaluation of curriculum designs to incorporate more flexible scheduling that accommodates extracurricular activities, which are increasingly critical in developing students' vocational skills.

Another area highlighted by the study is the impact of academic administration on non-academic aspects of student achievement, such as employment satisfaction and scholarship acquisition. The data suggest that a well-organized system for career guidance and competition coaching significantly improves students' employment prospects and enhances their overall satisfaction. The study's findings on the relationship between competition support and student awards further reinforce the need for continued investment in extracurricular activities that foster practical skills and career readiness.

In conclusion, the research emphasizes that a comprehensive approach to academic administration—encompassing resource allocation, leadership, school culture, and curriculum design—can effectively enhance student achievement in vocational colleges. The study suggests that by refining these management practices, vocational colleges in Jiangxi can better meet the evolving needs of students and prepare them for success in their careers. Future studies could explore the longitudinal effects of these management strategies on student outcomes and investigate the specific roles of different administrative practices in shaping the broader educational landscape in vocational institutions.

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References

- [1] Sa-adjid Phetmeesri and Aungkana Nualyonga. (2015). Academic administration network in Military Nursing Colleges. *Procedia Social and Behavioral Sciences*. Retrieved 2015 from <http://creativecommons.org/licenses/by-nc-nd/4.0>.
- [2] Rungchatchadaporn Eckhart. (2010). A model of development for academic administration decentralization of lab schools in the lower southern area. *Procedia Social and Behavioral Sciences*. Retrieved 2010 from CC BY-NC-ND license.
- [3] Kou Siyuan. (2018). Research on the relationship between family environment and children's academic Achievement from the perspective of social capital Theory. *Tianjin University of Technology*.
- [4] Liu Chao & Ma Silai. (2022). Analysis of Influencing Factors of Vocational College Students' Employment Willingness based on Probit model. *Employment and entrepreneurship*.15(3):71-73.
- [5] Mueller, C.W.& Parcel, T.L. (1981). Measures of Socioeconomic Status: Alternatives and Recommendations. *Child Development*, 52:13-30.
- [6] Xue, Y. (2021). Achievement motivation and student performance in vocational colleges: A theoretical perspective. *Journal of Educational Psychology*, 55(4), 77-89.
- [7] Dong, A. (2022). Resource allocation in vocational colleges and its impact on academic outcomes. *International Journal of Vocational Education*, 13(2), 145-157.
- [8] Jian Zou. (2024). The peer effect of persistence on student achievement. *Economics of Education Review*. Retrieved Volume 102, October 2024 from <https://www.sciencedirect.com/science/article/abs/pii/S0272775724000682>.
- [9] Zhou Yan. (2014). Long-term mechanism of college graduates' employment in urban and rural grassroots. *Contemporary youth studies*.2014(03):73:77.
- [10] Mu Liaoyang. (2014). The Training Mechanism of Innovative Talents in Universities from the Perspective of Marx's Humanism. *Educational research*.2014(07).