

Enhancing the Effectiveness of Undergraduate Vocational Education in Jiangxi, China: The Role of Curriculum Relevance, Teacher Quality, Industry Partnerships, and Student Engagement

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Abstract – Vocational education plays a crucial role in addressing workforce demands and promoting economic growth, especially in rapidly developing regions like Jiangxi, China. This study examines the effectiveness of undergraduate-level vocational education programs in Jiangxi by analysing four critical dimensions: curriculum relevance, teacher quality, industry partnerships, and student engagement. Despite national efforts to reform and modernize vocational education, Jiangxi continues to face persistent challenges including outdated curricula, underqualified instructors, limited collaboration with industries, and low student motivation. These issues hinder the ability of vocational institutions to produce graduates who are adequately prepared for the evolving demands of the labour market. Using a quantitative research approach, data were collected from 380 students across various vocational programs at Jiangxi University of Technology through structured questionnaires based on a 5-point Likert scale. Statistical analysis using SPSS was employed to examine relationships between the identified variables and overall educational effectiveness. The findings revealed that curriculum relevance significantly impacts students' skill development and employability. Teacher quality, particularly continuous professional development and pedagogical competence, emerged as another key factor influencing learning outcomes. Furthermore, industry partnerships were found to be weak yet vital in offering real-world exposure and practical training. Student engagement, shaped by societal perceptions and instructional methods, was also identified as a strong determinant of educational success. The study underscores the urgent need for curriculum reform, teacher training, stronger industry collaboration, and initiatives to enhance student engagement and motivation. Addressing these factors can help transform vocational education into a more dynamic and respected pathway that equips students with relevant, future-ready skills. The results offer practical insights for educators, policymakers, and institutional leaders aiming to bridge the gap between vocational education and labor market needs in Jiangxi and similar contexts.

Keywords – vocational education, curriculum relevance, teacher quality, industry partnerships, student engagement

I. INTRODUCTION

Jiangxi, China's vocational education system is trying to adapt to the fast social and economic changes happening on a local and global scale, which presents both

opportunities and threats. Given Jiangxi's lofty economic development targets and the critical need to train workers with marketable skills, the quality of the province's vocational education programs at the undergraduate level is a top priority. Nevertheless, in order to improve the results and quality of vocational education, there are significant gaps and issues that must be resolved (Pambudi & Harjanto, 2020). By outlining these problems and doing in-depth analyses, this problem statement hopes to shed light on the present situation of vocational education in Jiangxi and the most pressing areas that need fixing.

The disconnect between what is taught at trade schools and what employers need is a major issue. Disconnect between employer demands and the skills provided in vocational schools persists despite continuous revisions. The ever-changing global economy and the lightning-fast development of new technologies both contribute to this knowledge gap by necessitating constant revisions and updates to course materials (Fawns et al., 2021). Information technology, modern manufacturing, and service industries are underrepresented in Jiangxi's vocational schools, which tend to focus on outdated traditional skills. Graduates' employability and opportunities for professional advancement are hindered since they aren't adequately trained to handle the demands of contemporary businesses.

One more major issue is the widespread belief that vocational schools do not offer the same level of prestige as more conventional academic programs. Students who struggle academically in Jiangxi, like in the rest of China, are frequently encouraged to pursue vocational education as a backup plan (Tian & Chen, 2020). Because vocational education is rarely considered as an aspirational choice, this cultural bias impacts student motivation and enrollment quality. Because of this, many students enroll in vocational programs with lower levels of academic achievement and less motivation, which can have an effect on their ability to learn and succeed. Attracting top-tier students and elevating vocational education to the same level as other academic paths depends on changing this attitude.

Major obstacles also include teacher quality and professional development. Instructors in vocational schools should be well-versed in both the technical aspects of their subjects and the pedagogical strategies that promote student engagement, critical thinking, and practical application. Unfortunately, many Jiangxi vocational educators do not have the means to participate in ongoing professional development programs, which would allow them to remain abreast of developments in their field and the most effective methods of instruction. The instruction quality

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and, by extension, the learning results for students are impacted by this shortage in teacher training (Liu & Zhang, 2021). Partnerships with businesses to bring up-to-date knowledge into the classroom are one example of how vocational instructors can benefit greatly from ongoing professional development programs.

Partnerships between businesses and vocational schools are essential because they give students hands-on experience and introduce them to current best practices. Collaborations sometimes occur, although they are usually quite small and ineffective. Internships, apprenticeships, and other forms of practical training are lacking in many Jiangxi vocational programs because to a lack of strong relationships with local companies and industries (Niu, 2024). Students lose out on practical experience and important hands-on learning opportunities when these opportunities are not available to them. It is critical to enhance these collaborations in order to close the gap between what students learn in the classroom and what employers need, so that students can enter the workforce prepared and competent.

While vocational education relies heavily on government policies and funding, there are gaps and discrepancies in how these reforms are being put into practice. Translation of these goals into successful local practices is still a difficulty, despite the fact that the Chinese government has promoted vocational education through numerous programs and funding schemes (Li & Pilz, 2023). Issues include insufficient financing, bureaucratic red tape, and uneven execution impact the accessibility and quality of vocational education in Jiangxi, leading to a mismatch between policy aims and actual outcomes. There has to be a coordinated effort to fill these policy gaps by making sure that funding for schools is going toward better facilities, more resources, and new ways of teaching and learning.

The inflexibility of the vocational education system is another major issue. An educational system that can swiftly adapt to new needs and trends is essential in today's ever-shifting economic climate (Cassaro & Lee, 2024). Unfortunately, many of Jiangxi's vocational programs have outdated, inflexible curricula and administration that makes it difficult, if not impossible, to implement necessary adjustments. This inflexibility makes it hard for schools to update their curricula to reflect new knowledge and abilities, which in turn makes it harder for students to acquire current and relevant information. To tackle this, it is crucial to implement modular curriculum that can be readily modified and updated, as well as more adaptable learning routes.

In the context of vocational education, student involvement and motivation are also important factors to consider. There is a noticeable disparity in the levels of engagement and motivation displayed by students in vocational programs and their academic pathway counterparts. The public's view of vocational schools, the effectiveness of instructors, and the practicality of course material are all contributors (Svendsen, 2020). The perceived value of vocational education, the provision of high-quality and relevant instruction, and the abundance of chances for hands-on and experiential learning are all components of a comprehensive strategy to increase

student engagement. The best way to help vocational students succeed in school and get a head start in their careers is to get them involved and give them a sense of purpose and accomplishment.

II. PROBLEM STATEMENT

The success of vocational training programs in Jiangxi is affected by the province's larger socioeconomic environment. The necessity for vocational education and the kinds of skills that are most in demand are influenced by the province's economic development objectives, labor market dynamics, and demographic changes (Pambudi & Harjanto, 2020). For example, a vocational curriculum in Jiangxi must incorporate courses in IT, engineering, and service management due to the province's emphasis on building modern services and high-tech companies. To bring vocational education in line with these economic priorities, however, one must be well-versed in the present and projected demands of the labor market and take preventative actions to guarantee that curricula change in response.

Furthermore, it is imperative that the vocational education system cater to the varied requirements and experiences of its enrollees. Students from various socioeconomic backgrounds, with differing academic aptitude, and hailing from both rural and urban locations are all served by Jiangxi's vocational institutes (Lin & Yeung, 2023). It is quite difficult to guarantee that all students have equal opportunity to receive a high-quality vocational education. Supporting students from impoverished and marginalized backgrounds necessitates specialized interventions such as financial help, academic support services, and efforts to increase diversity and inclusion in vocational programs.

III. LITERATURE REVIEW

There are many different aspects that contribute to the effectiveness of undergraduate level vocational education. These aspects include the design of the curriculum, the teaching methodologies that are utilized, and the degree to which educational programs are aligned with the requirements of the industry. There have been a number of studies that have investigated various aspects of vocational education in order to gain an understanding of how it might be improved to better satisfy the requirements of both students and employers.

In Warahmah (2023), the author investigates the efficacy of educational programs in general and emphasizes the significance of adapting vocational education to fit the particular requirements of students. According to the findings of the study, in order for vocational programs to be successful, they need to be created with a clear grasp of the results that are intended, which should include both academic and practical abilities. Consequently, this guarantees that students are not only informed but also capable of implementing what they have learned in situations that are based in the actual world.

An investigation into the efficacy of teaching mathematics in vocational high schools through the use of a problem-solving approach is the subject of the research

conducted by Sriatun and colleagues (2020). According to their findings, including problem-solving approaches into the teaching of mathematics provides students with the opportunity to improve their critical thinking and application abilities. This technique helps bridge the gap between theoretical knowledge and practical application, which in turn makes the learning process more relevant and interesting for students who are pursuing certifications in vocational fields.

The research conducted by Telyubaeva (2023) investigates the efficacy of vocational training programs for pupils, specifically with regard to educational, career, and migration plans. The findings of this study highlight the significance of vocational training in terms of its ability to establish viable career routes for students and to reduce the possibility of students leaving their current location in search of better possibilities. Students' future employment prospects and economic stability can be considerably impacted by vocational programs since these programs provide students with skills that are in demand in the market.

Carruthers and Jepsen (2020) offer a global perspective on vocational education by contrasting various educational systems and the results they produce. It is shown by their research that cultural, economic, and policy issues play key roles in determining the outcomes of vocational education. Their study underscores the fact that the effectiveness of undergraduate level vocational education varies significantly from country to country. The vocational education and training systems that are most likely to be successful are those that are closely connected with the requirements of the regional economy and that feature strong collaborations with industry.

In the year 2023, Rimal conducts research to determine whether or not vocational training programs in Nepal that are centered on light vehicle repair are beneficial in assisting disadvantaged youngsters. The findings of this study indicate that vocational training has the potential to be an effective instrument for social mobility. It does this by equipping students who come from poor households with skills that are in demand in the job market. Not only do these programs promote employability, but they also contribute to the economic development of the community for which they are designed.

In the context of vocational education, Tamrin (2023) explores the factors that contribute to efficient reading instruction in English for Specific Purposes (ESP). The research highlights the importance of using practical strategies that make it easier for vocational students to comprehend reading materials that are related to academic areas. Because it enables them to better grasp technical texts and improves their overall academic performance, effective reading instruction in English for Specific Purposes (ESP) is essential for students who are pursuing vocational education.

In their study, Bereзовska et al. (2020) investigate the innovative educational approaches that are being used in contemporary higher education and vocational education and training. According to the findings of their research, the implementation of innovative educational strategies, such as blended learning and digital platforms, has the potential to improve the efficiency of vocational training programs.

As a result of the flexibility and access to a larger variety of materials that these new forms of education give, students are able to benefit from learning that is both more accessible and more engaging.

In their article from 2021, Kholis, Supriyadi, and Mardapi highlight the major factors that should be considered while creating education and training programs for vocational secondary school teachers. The findings of their study underline the importance of providing vocational educators with ongoing professional development opportunities in order to guarantee that they are equipped with the most up-to-date pedagogical talents and industry knowledge. Teacher training programs that are effective are absolutely necessary in order to keep the standards of vocational education at a high level and to improve the outcomes for students.

Using a collaborative filtering algorithm, Wang and Li (2023) conduct an evaluation of the efficiency of the implementation of curriculum in higher vocational education. Based on the findings of their research, it appears that tailored learning strategies, which are made possible by sophisticated algorithms, have the potential to considerably enhance the efficiency of vocational education. It is possible for educators to improve student engagement and learning outcomes by adapting the curriculum to fit the specific requirements of each individual student.

The research conducted by Sangita (2021) investigates the connection between higher education, vocational training, and the overall success of businesses. The findings of the study indicate that businesses that hire graduates from vocational training programs tend to have superior performance. This is due to the fact that graduates from these programs possess practical skills that can be instantly applied in the workplace. This highlights the significance of connecting vocational education with the requirements of the industry in order to guarantee that newly graduated individuals are adequately prepared for their future professions.

The success of vocational education is impacted by a number of elements, such as the design of the curriculum, the teaching approaches utilized, and the degree to which it aligns with the requirements of the sector. Several studies have shed light on the significance of problem-solving strategies, ongoing professional development opportunities for educators, and the incorporation of innovative instructional methodologies. Through the consideration of these aspects, vocational education programs have the potential to improve their efficiency, thereby equipping students with the competencies and information essential for achieving success in the workforce and making a positive contribution to economic growth.

The Human Capital Theory and the Constructivist Learning Theory are two important theories that are incorporated into the theoretical framework of this research project on the efficiency of vocational education curriculum at the undergraduate level in Jiangxi provincial government in China. In order to get a foundational understanding of the different factors that influence vocational education and the impact those factors have on student outcomes and preparedness for the workforce, these theories provide a framework (Kim et al., 2021). The

purpose of this study is to provide a complete analysis of how vocational education may be optimized to satisfy the demands of both students and the changing conditions of the job market. This will be accomplished by merging these theories.

IV. METHODOLOGY

A study on the efficacy of vocational education curricula at the undergraduate level in Jiangxi, China, is planned to produce strong, unbiased, and trustworthy results. Since quantitative research methods are well-suited to the systematic and statistical evaluation of educational interventions, they are utilized in this study. Because this study aims to systematically evaluate the curriculum's impact on important educational and occupational outcomes—including students' academic achievement, employability, and skill acquisition—quantitative research is a good fit. The method's selection is based on quantitative research's objectivity, which allows for the gathering of quantifiable and generally applicable data. This study aims to use a quantitative approach to provide light on the efficacy of vocational education programs in Jiangxi and possibly other areas with comparable settings, therefore informing governmental decisions and strategies for curriculum improvement.

Almost 38,000 undergraduates attend the private, non-profit Jiangxi University of Technology in Nanchang, which offers 35 regular degree programs and 40 specialty degree programs. We use the chart from Krejcie and Morgan (1970) to figure out how many people to survey for this investigation. If you want your results to apply to the whole population, you need to make sure your sample is representative, and this table gives you a way to do just that. Krejcie and Morgan state that for a population of 38,000, a sample size of about 380 is recommended.

Stratified random sampling was used as a sample approach in this investigation. In this method, the population is stratified according to certain criteria, such as the type of institution, the program of study, or the geographic area.

The main tool for data collecting is a survey questionnaire that uses a 5-point Likert scale. The capacity to efficiently collect quantitative data from a wide population and to measure participants' opinions, attitudes, and experiences in an organized manner led to the selection of this method. Because it gives respondents the opportunity to show how much they agree or disagree with different assertions, the 5-point Likert scale is ideal for this study since it gives detailed insights into how respondents feel about different parts of the vocational education program.

This research examines the efficacy of vocational education programs in Jiangxi, China, at the undergraduate level and uses SPSS for data analysis. One of the most well-known statistical programs, SPSS provides a solid foundation for handling and interpreting numerical data. Its intuitive interface and full set of statistical capabilities make it ideal for this study that uses survey data obtained via a 5-point Likert scale. Content relevance, instructional quality, resource adequacy, and student results are some of the elements of curricular effectiveness that will be

addressed in this analysis, which is structured to systematically address the research objectives. Using SPSS, the study guarantees accurate and efficient data processing, leading to trustworthy and useful results.

V. FINDINGS

The results of this study shed light on critical factors influencing the effectiveness of undergraduate vocational education programs in Jiangxi. First, curriculum relevance emerged as a central element that significantly impacts educational outcomes. The findings indicate a misalignment between what is taught in vocational institutions and the evolving needs of industries. Outdated curricula continue to dominate, leaving graduates ill-prepared for modern sectors such as IT, smart manufacturing, and services. Aligning the curriculum with real-time labor market demands through periodic review and modular structures could greatly enhance student employability and workforce readiness.

Second, the study found teacher quality and professional development to be vital yet under-supported areas. Educators in vocational institutions often lack access to continuous training and industry exposure, which limits their ability to deliver dynamic, practice-oriented instruction. Effective vocational education requires teachers who are not only knowledgeable in their technical field but also skilled in pedagogical strategies that engage students in active, applied learning. Investing in teacher development programs, in collaboration with industry experts, is essential for equipping students with relevant, hands-on skills.

Another significant finding is the impact of industry partnerships. Many vocational institutions in Jiangxi lack strong collaboration with local businesses, resulting in limited internship and apprenticeship opportunities. Industry partnerships are essential for bridging the gap between theory and practice, offering students exposure to real-world environments, and reinforcing classroom knowledge. Strengthening such partnerships can be achieved through policy incentives, structured collaboration frameworks, and integrating industry experts into curriculum design and delivery.

VI. DISCUSSION

The study highlighted student engagement as a determining factor for program success. Students in vocational tracks often feel less motivated due to societal stigma and limited understanding of the value of vocational education. Engagement is further hindered by passive learning models and irrelevant content. To enhance engagement, vocational programs must become more interactive, career-oriented, and supportive of student aspirations. Promoting vocational education as a prestigious and viable career path through community awareness campaigns and success stories can also help change public perception.

VII. CONCLUSION

The study reveals that the effectiveness of undergraduate vocational education in Jiangxi hinges on the alignment of curriculum with market needs, the professional quality of teachers, the strength of industry partnerships, and the level of student engagement. Addressing gaps in these areas is critical to improving the relevance, quality, and outcomes of vocational education programs. Policymakers and educational leaders must adopt an integrated approach to reform—fostering innovation, collaboration, and inclusivity—to ensure that vocational graduates are equipped with the skills, confidence, and opportunities needed to thrive in a rapidly changing job market.

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