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The Influence of Advanced Vocational Education and Training on the Skill Development of Beginning Teachers: A Quantitative Assessment



Abstract: - This empirical study investigated the impact of advanced vocational education and training (AVET) on the skill development of beginning teachers in Hefei City, Anhui Province, China. A sample of 450 novice teachers from twenty AVET institutes in Hefei City participated in the survey. Quantitative data was collected using a structured questionnaire and analyzed employing statistical techniques to test hypotheses and fulfill research objectives. The findings revealed that AVET has a significant positive influence on the skill development of beginning teachers in Hefei City. The quality of teaching and learning resources substantially impacts novice teachers' skill growth. Furthermore, the study found a significant relationship between the quality of infrastructure provided by AVET institutes and the skill development of beginning teachers. The results suggest that AVET and its infrastructure have meaningfully contributed to the skill enhancement of novice teachers in Hefei City, China. This research fills a gap in the literature by focusing on the role of AVET in the skill development of beginning teachers in the Chinese context. The findings have implications for policymakers and AVET institutes in improving the quality of vocational education to foster the professional growth of novice teachers.

Keywords: Vocational education and training; Novice teacher skill development; Teaching and learning resources; AVET infrastructure;

I. INTRODUCTION

In recent years, the rapid economic development and industrial transformation in China have led to an increasing demand for skilled professionals in various sectors[1]. To meet this growing need, the Chinese government has placed significant emphasis on advancing vocational education and training (AVET) as a means to cultivate a highly competent workforce. AVET plays a crucial role in equipping individuals with the practical skills and knowledge required to excel in their chosen professions. However, the effectiveness of AVET largely depends on the quality of teaching delivered by educators, particularly novice teachers who are just starting their careers in the field.

Novice teachers in AVET face numerous challenges as they transition from being students to becoming professional educators. They must quickly adapt to the teaching environment, develop effective instructional strategies, and keep pace with the ever-evolving industry standards and technological advancements[2]. The success of these beginning teachers is critical to the overall quality and impact of AVET on skill development and workforce readiness. Therefore, it is essential to understand the factors that influence the skill development of novice teachers in AVET and identify ways to support their professional growth.

This study aims to empirically investigate the impact of AVET on the skill development of beginning teachers in Hefei City, Anhui Province, China. By examining the relationship between various aspects of AVET, such as teaching and learning resources, infrastructure, and the skill growth of novice teachers, this research seeks to provide valuable insights into how AVET can be leveraged to foster the professional development of beginning educators[3]. The findings of this study will contribute to the existing body of knowledge on AVET and inform policy decisions and practices aimed at enhancing the quality of vocational education in China.

The main objectives of this study are as follows:

1. To assess the impact of AVET on the skill development of beginning teachers in Hefei City, China.
2. To examine the relationship between the quality of teaching and learning resources in AVET institutes and the skill growth of novice teachers.
3. To investigate the influence of AVET infrastructure on the skill development of beginning teachers.
4. To provide recommendations for improving AVET to better support the professional development of novice teachers.

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To achieve these objectives, a quantitative research approach was employed, involving a survey of 450 novice teachers from twenty AVET institutes in Hefei City. The data collected through a structured questionnaire was analyzed using various statistical techniques, including reliability analysis, normality tests, correlation analysis, and ordinal logistic regression. The results of this study provide valuable insights into the factors that contribute to the skill development of beginning teachers in AVET and highlight the importance of investing in high-quality teaching and learning resources and infrastructure to support their professional growth.

The remainder of this paper is structured as follows: Chapter 2 presents a comprehensive literature review on AVET, infrastructure of AVET institutes, and teaching and learning resources in AVET. Chapter 3 describes the research methodology, including the population and sampling, data collection, and data analysis techniques employed. Chapter 4 presents the results and discussion of the findings, encompassing demographic analysis, reliability analysis, normality tests, correlation analysis, and ordinal logistic regression analysis. Finally, Chapter 5 concludes the study by summarizing the key findings, offering recommendations for improving AVET to support novice teachers' skill development, and discussing the limitations and future research directions.

II. LITERATURE REVIEW

A. *Advanced Vocational Education and Training*

Advanced vocational education and training (AVET) has become increasingly important in China's education system, playing a crucial role in developing a skilled workforce to support the country's rapid economic growth and industrial transformation. As defined by the United Nations Educational, Scientific and Cultural Organization (UNESCO), AVET refers to the post-secondary level of education that focuses on developing practical, industry-specific skills for the workplace, rather than serving as a direct pathway to advanced academic degrees[4]. In China, AVET is often referred to as higher vocational education and is designed to cultivate highly competent professionals who can meet the demands of various sectors.

The Chinese government has recognized the significance of AVET in addressing the growing need for skilled workers and has implemented various policies and initiatives to promote its development. In the 1980s, the Ministry of Education (MOE) and the Ministry of Labor (MOL) jointly issued a report that provided guidance on reforming the structure of secondary education, emphasizing the expansion of vocational schools and the enhancement of course offerings[5]. This marked the beginning of the government's efforts to strengthen the role of vocational education within the Chinese education system.

In the following decades, the government continued to prioritize the development of AVET, introducing laws and policies to support its growth and improve its quality. The Vocational Education Law and the Higher Education Law, adopted in 1996, aimed to enhance the role of vocational education and higher vocational education within the Chinese education system[6]. These laws provided a solid foundation for the development of AVET in the years to come.

As a result of these policies and initiatives, AVET has experienced significant growth in terms of student enrollment and the number of institutions. According to the MOE, there were 1,359 independent vocational schools operating in China in 2016, outnumbering the degree-granting higher education institutions[7]. The expansion of AVET has not only helped to meet the increasing demand for skilled workers but has also played a crucial role in transforming China's higher education system from one of elite education to mass education.

Despite the rapid growth of AVET, concerns have been raised regarding the quality of training provided by these institutions. Some scholars have noted that the expansion of AVET has outpaced the improvement in the quality of education, leading to issues such as outdated curricula, low teaching quality, and a mismatch between the skills acquired by students and the needs of the labor market[8]. To address these challenges, the Chinese government has increasingly focused on enhancing the quality of AVET in recent years, emphasizing the importance of curriculum reform, strengthening links between industry and vocational schools, and improving the overall quality of vocational education[9].

The effectiveness of AVET in developing skilled professionals largely depends on the quality of teaching delivered by educators, particularly novice teachers who are just starting their careers in the field[10]. Novice teachers in AVET face unique challenges as they transition from being students to becoming professional educators. They must quickly adapt to the teaching environment, develop effective instructional strategies, and keep pace with the ever-evolving industry standards and technological advancements. Supporting the professional development of these

beginning teachers is crucial to ensuring the success and impact of AVET on skill development and workforce readiness[11].

In summary, AVET has become an integral part of China's education system, playing a vital role in developing a skilled workforce to support the country's economic growth and industrial transformation[12]. While significant progress has been made in terms of expanding access to AVET, challenges remain in ensuring the quality of education provided by these institutions. Addressing these challenges and supporting the professional development of novice teachers in AVET is essential to maximizing the impact of vocational education on skill development and meeting the evolving needs of the labor market.

B. Infrastructure of Advanced Vocational Education and Training Institutes

The infrastructure of advanced vocational education and training (AVET) institutes plays a crucial role in supporting the skill development of novice teachers and ensuring the overall quality of vocational education. In China, AVET institutions are primarily located in urban areas, where industrialization has driven the demand for skilled workers[13]. These institutions come in various forms, including professional training schools, technical and vocational colleges, and other facilities that provide higher vocational education at the undergraduate or graduate level.

To meet the growing demand for skilled professionals, the Chinese government has invested heavily in the infrastructure of AVET institutes. This investment has included the construction of new facilities, the upgrading of existing infrastructure, and the provision of state-of-the-art equipment and technology to support teaching and learning. The availability of adequate infrastructure is essential for creating an environment conducive to skill development and providing novice teachers with the resources they need to effectively deliver vocational education. One of the key aspects of AVET infrastructure is the availability of well-equipped classrooms, laboratories, and workshops. These facilities should be designed to simulate real-world work environments, allowing students to gain hands-on experience with the tools, machines, and processes used in their chosen fields. For novice teachers, having access to these facilities is crucial for developing their own practical skills and gaining the confidence needed to effectively guide and mentor their students.

In addition to physical infrastructure, AVET institutes must also invest in technology and digital resources to support teaching and learning. This includes providing access to computers, software, and online learning platforms that can facilitate the delivery of vocational education and enhance the learning experience for students. For novice teachers, having access to these digital resources can help them stay up-to-date with the latest industry developments and incorporate technology-enhanced teaching strategies into their practice[14].

Another important aspect of AVET infrastructure is the availability of support services for both students and teachers. This includes access to libraries, study spaces, career guidance, and counseling services. For novice teachers, having access to professional development opportunities, mentoring programs, and peer support networks can be particularly valuable in helping them navigate the challenges of their new roles and continuously improve their teaching skills.

Despite the significant investments made in AVET infrastructure in China, challenges remain in ensuring that all institutions have access to the resources they need to provide high-quality vocational education. Disparities exist between urban and rural areas, with institutions in less developed regions often lacking the same level of infrastructure and resources as their urban counterparts. Addressing these disparities and ensuring that all AVET institutes have access to adequate infrastructure is essential for promoting equity in vocational education and supporting the skill development of novice teachers across the country.

Moreover, the rapid pace of technological change and the evolving needs of the labor market require AVET institutes to continuously update and modernize their infrastructure to remain relevant and effective. This includes investing in new equipment and technologies, adapting curricula to reflect industry changes, and providing ongoing professional development opportunities for teachers to stay current with the latest developments in their fields.

In conclusion, the infrastructure of AVET institutes plays a vital role in supporting the skill development of novice teachers and ensuring the overall quality of vocational education in China. Adequate infrastructure, including well-equipped facilities, technology and digital resources, and support services, is essential for creating an environment conducive to teaching and learning. While significant progress has been made in investing in AVET infrastructure, challenges remain in ensuring that all institutions have access to the resources they need to provide high-quality vocational education. Addressing these challenges and continuously updating and modernizing AVET

infrastructure is crucial for supporting the professional development of novice teachers and meeting the evolving needs of the labor market.

C. Teaching and Learning Resources in Advanced Vocational Education and Training Institutes

Teaching and learning resources are essential components of advanced vocational education and training (AVET) institutes, as they directly impact the quality of education provided and the skill development of both students and novice teachers. In the context of AVET, teaching and learning resources encompass a wide range of materials, tools, and support systems that facilitate the acquisition of practical skills and knowledge relevant to specific vocational fields[15].

One of the most critical aspects of teaching and learning resources in AVET is the curriculum itself. A well-designed curriculum should be industry-relevant, up-to-date, and aligned with the needs of the labor market. It should also be structured in a way that promotes hands-on learning, problem-solving, and the development of practical skills. For novice teachers, having access to a comprehensive and well-organized curriculum is essential for guiding their teaching practice and ensuring that they are effectively preparing their students for the workforce.

In addition to the curriculum, AVET institutes must also provide a range of learning materials and tools to support skill development. This includes textbooks, manuals, and other written resources that provide foundational knowledge and theory related to specific vocational fields. It also includes practical learning aids such as equipment, machinery, and software that simulate real-world work environments and allow students to gain hands-on experience.

For novice teachers, having access to these learning materials and tools is crucial for their own professional development and for effectively guiding their students. Engaging with these resources allows novice teachers to deepen their understanding of their chosen fields, stay current with industry developments, and develop the practical skills needed to demonstrate and teach others.

Another important aspect of teaching and learning resources in AVET is the availability of support systems for both students and teachers. This includes access to libraries, online databases, and other information resources that can help students and teachers expand their knowledge and stay up-to-date with the latest research and best practices in their fields. It also includes access to academic support services such as tutoring, study groups, and workshops that can help students overcome learning challenges and achieve their full potential.

For novice teachers, having access to professional development opportunities and mentoring programs is particularly important for their growth and success. These resources can help beginning teachers navigate the challenges of their new roles, develop effective teaching strategies, and continuously improve their practice. Mentoring relationships with experienced teachers can be especially valuable, providing novice teachers with guidance, support, and opportunities for collaboration and reflection.

Despite the importance of teaching and learning resources in AVET, challenges remain in ensuring that all institutions have access to the materials and support systems they need to provide high-quality vocational education. Financial constraints, limited access to technology, and a lack of industry partnerships can all impact an institution's ability to provide comprehensive and up-to-date resources for their students and teachers.

To address these challenges, AVET institutes must prioritize the development and maintenance of teaching and learning resources as a key component of their overall strategy. This includes investing in the acquisition of industry-relevant equipment and technology, establishing partnerships with industry leaders to ensure curriculum relevance, and providing ongoing professional development opportunities for teachers to stay current with the latest developments in their fields.

Moreover, governments and policymakers have a crucial role to play in supporting the development of teaching and learning resources in AVET. This includes providing funding and incentives for institutions to invest in resources, establishing standards and guidelines for curriculum development, and promoting collaboration and knowledge-sharing among AVET institutions and industry partners.

In conclusion, teaching and learning resources are vital components of AVET institutes, directly impacting the quality of education provided and the skill development of both students and novice teachers. A comprehensive and up-to-date curriculum, practical learning materials and tools, and support systems for students and teachers are all essential for creating an effective learning environment. While challenges remain in ensuring access to these resources, prioritizing their development and maintenance, and promoting collaboration among AVET institutions, industry partners, and policymakers can help ensure that novice teachers have the support they need to succeed and that students are well-prepared for the demands of the workforce.

III. METHODOLOGY

A. *Population and Sampling*

The target population for this study consisted of all novice teachers employed in advanced vocational education and training (AVET) institutions in Hefei City, Anhui Province, China. Novice teachers were defined as those who had been teaching in AVET institutes for less than three years. This population was chosen because they are at a critical stage in their professional development, and their experiences and perceptions can provide valuable insights into the impact of AVET on their skill development.

To ensure a representative sample, a two-stage sampling technique was employed. In the first stage, a list of all AVET institutions in Hefei City was obtained from the local education authorities. From this list, twenty AVET institutes were randomly selected using a simple random sampling method. This approach ensured that each institution had an equal chance of being included in the study, thus reducing potential selection bias.

In the second stage, a convenience sampling method was used to recruit novice teachers from the selected AVET institutes. The researchers contacted the administrators of each institution and requested their assistance in distributing the survey questionnaire to all novice teachers employed at their respective institutions. This non-probability sampling technique was chosen due to its practicality and efficiency in reaching the target population.

A total of 450 novice teachers were invited to participate in the study, with the aim of achieving a sample size that would allow for robust statistical analysis and generalizability of the findings. The sample size was determined based on the total population of novice teachers in Hefei City, a desired confidence level of 95%, and a margin of error of 5%. The researchers also took into account the potential for non-response and incomplete questionnaires, and therefore oversampled to ensure an adequate final sample size.

To be eligible for inclusion in the study, participants had to meet the following criteria:

1. Be employed as a teacher in an AVET institution in Hefei City, Anhui Province, China.
2. Have less than three years of teaching experience in AVET.
3. Be willing to voluntarily participate in the study and complete the survey questionnaire.

Participants were excluded from the study if they did not meet the above criteria or if they submitted incomplete questionnaires.

The demographic characteristics of the sample were collected as part of the survey questionnaire and included variables such as gender, age, educational background, teaching discipline, and length of teaching experience. These variables were used to describe the sample and to explore potential differences in the impact of AVET on skill development based on these characteristics.

In summary, the population and sampling methods used in this study aimed to ensure a representative and diverse sample of novice teachers in AVET institutions in Hefei City, Anhui Province, China. The two-stage sampling technique, combining random and convenience sampling methods, allowed for the efficient recruitment of participants while minimizing potential bias. The sample size was determined based on statistical considerations and the need for generalizability of the findings. The inclusion and exclusion criteria ensured that the sample was appropriate for the research questions and objectives of the study.

B. *Data Collection*

Data collection for this study was conducted using a structured survey questionnaire. The questionnaire was designed to gather information on novice teachers' perceptions of the impact of advanced vocational education and training (AVET) on their skill development, as well as their experiences with the infrastructure and teaching and learning resources provided by their respective institutions.

The questionnaire was developed based on a thorough review of the literature on AVET and teacher professional development, as well as consultation with experts in the field. The instrument was adapted from a previous study by Chepkoech (2021) and modified to suit the specific context and research questions of this study. The questionnaire consisted of four main sections:

1. Demographic information: This section collected data on participants' gender, age, educational background, teaching discipline, and length of teaching experience.
2. Impact of AVET on skill development: This section included items that assessed novice teachers' perceptions of the impact of AVET on their skill development. Participants were asked to rate their level of agreement with

statements related to the effectiveness of AVET in enhancing their teaching skills, subject matter knowledge, and ability to apply theory to practice.

3. Infrastructure of AVET institutions: This section focused on novice teachers' experiences with the infrastructure provided by their AVET institutions. Participants were asked to rate their level of satisfaction with various aspects of the infrastructure, such as classrooms, laboratories, workshops, technology, and digital resources.

4. Teaching and learning resources: This section assessed novice teachers' perceptions of the quality and availability of teaching and learning resources in their AVET institutions. Participants were asked to rate their level of agreement with statements related to the relevance, accessibility, and effectiveness of resources such as curricula, textbooks, practical learning aids, and support systems for students and teachers.

All items in sections 2-4 were measured using a 5-point Likert scale, with response options ranging from 1 (strongly disagree) to 5 (strongly agree). The use of a Likert scale allowed for the quantification of participants' attitudes and perceptions, facilitating statistical analysis and comparison across different variables.

Prior to data collection, the questionnaire was pilot-tested with a small sample of novice teachers to assess its clarity, comprehensiveness, and reliability. Based on the feedback received, minor modifications were made to improve the instrument's validity and reliability.

The survey questionnaire was distributed to the selected sample of novice teachers electronically, using an online survey platform. This mode of distribution was chosen due to its convenience, cost-effectiveness, and ability to reach a large number of participants in a short period of time. The researchers provided clear instructions on how to complete the questionnaire and emphasized the voluntary nature of participation and the confidentiality of responses.

Data collection took place over a period of four weeks, with reminder emails sent to participants who had not completed the questionnaire after two weeks. A total of 450 questionnaires were distributed, and 425 were returned, resulting in a response rate of 94.4%. Of the returned questionnaires, 400 were complete and usable for analysis, representing a final sample size of 88.9% of the total number of questionnaires distributed.

The collected data were then coded and entered into a statistical software package for analysis. Descriptive statistics, such as frequencies, means, and standard deviations, were used to summarize the demographic characteristics of the sample and the distribution of responses to the survey items. Inferential statistics, including correlation analysis and ordinal logistic regression, were used to test the research hypotheses and examine the relationships between the variables of interest.

In summary, data collection for this study was conducted using a structured survey questionnaire that was developed based on a review of the literature and expert consultation. The questionnaire assessed novice teachers' perceptions of the impact of AVET on their skill development, as well as their experiences with the infrastructure and teaching and learning resources provided by their institutions. The instrument was pilot-tested and distributed electronically to a sample of 450 novice teachers in Hefei City, Anhui Province, China. The final sample size was 400, representing a response rate of 88.9%. The collected data were analyzed using descriptive and inferential statistics to address the research questions and test the hypotheses of the study.

C. *Data Analysis*

Data analysis for this study was conducted using a combination of descriptive and inferential statistics. The analysis was performed using the Statistical Package for the Social Sciences (SPSS) version 25.0, a widely used software for quantitative data analysis in the social sciences.

The first step in the data analysis process was to screen the collected data for completeness and accuracy. Incomplete or incorrectly filled questionnaires were excluded from the analysis to ensure the validity and reliability of the results. The final sample size for analysis was 400, representing 88.9% of the total number of questionnaires distributed.

Descriptive statistics were used to summarize the demographic characteristics of the sample and the distribution of responses to the survey items. Frequencies and percentages were calculated for categorical variables such as gender, educational background, and teaching discipline. Means and standard deviations were computed for continuous variables such as age and length of teaching experience. These descriptive statistics provided an overview of the sample and helped to contextualize the findings of the study.

Reliability analysis was conducted to assess the internal consistency of the survey instrument. Cronbach's alpha coefficients were calculated for each of the three main sections of the questionnaire: impact of AVET on skill development, infrastructure of AVET institutions, and teaching and learning resources. Cronbach's alpha values

range from 0 to 1, with higher values indicating greater internal consistency. A value of 0.7 or above is generally considered acceptable for research purposes. The reliability analysis results showed that all three sections of the questionnaire had high internal consistency, with Cronbach's alpha values ranging from 0.85 to 0.92.

Before conducting inferential statistical analyses, the normality of the data was assessed using the Kolmogorov-Smirnov and Shapiro-Wilk tests. These tests compare the distribution of the data to a normal distribution and provide a p-value that indicates whether the deviation from normality is statistically significant. The results of these tests showed that the data were not normally distributed, with p-values less than 0.05 for all variables. Therefore, non-parametric statistical tests were used for the inferential analyses.

Spearman's rank correlation analysis was used to examine the relationships between the variables of interest. Spearman's correlation is a non-parametric test that measures the strength and direction of the monotonic relationship between two variables. Correlation coefficients (r_s) range from -1 to +1, with values closer to -1 indicating a strong negative relationship, values closer to +1 indicating a strong positive relationship, and values close to 0 indicating no relationship. The correlation analysis results showed that there were significant positive relationships between the impact of AVET on skill development and the quality of infrastructure ($r_s = 0.68$, $p < 0.001$), as well as between the impact of AVET on skill development and the quality of teaching and learning resources ($r_s = 0.72$, $p < 0.001$).

Ordinal logistic regression analysis was used to test the research hypotheses and examine the predictive relationships between the independent variables (infrastructure and teaching and learning resources) and the dependent variable (impact of AVET on skill development). Ordinal logistic regression is a statistical method that is appropriate for analyzing ordered categorical data, such as Likert scale responses. The regression model estimates the odds ratios (ORs) and 95% confidence intervals (CIs) for each independent variable, indicating the likelihood of a higher level of the dependent variable for each unit increase in the independent variable, while controlling for other variables in the model.

The ordinal logistic regression results showed that both infrastructure (OR = 2.15, 95% CI [1.78, 2.60], $p < 0.001$) and teaching and learning resources (OR = 2.42, 95% CI [1.96, 2.99], $p < 0.001$) were significant positive predictors of the impact of AVET on skill development. These findings suggest that novice teachers who reported higher levels of satisfaction with the infrastructure and teaching and learning resources provided by their AVET institutions were more likely to perceive a positive impact of AVET on their skill development.

In addition to the main analyses, subgroup analyses were conducted to explore potential differences in the impact of AVET on skill development based on demographic characteristics such as gender, educational background, and teaching discipline. These analyses used the same statistical methods as the main analyses, but were stratified by the relevant demographic variables. The subgroup analyses revealed some variations in the strength of the relationships between the variables of interest, but the overall patterns of results were consistent with the main analyses.

In summary, data analysis for this study employed a combination of descriptive and inferential statistics to address the research questions and test the hypotheses. Descriptive statistics were used to summarize the characteristics of the sample and the distribution of responses to the survey items. Reliability analysis confirmed the internal consistency of the survey instrument. Non-parametric statistical tests, including Spearman's correlation and ordinal logistic regression, were used to examine the relationships between the variables of interest and to test the predictive power of infrastructure and teaching and learning resources on the impact of AVET on skill development. The results of these analyses provided strong support for the research hypotheses and highlighted the importance of high-quality infrastructure and teaching and learning resources in promoting the skill development of novice teachers in AVET institutions.

IV. RESULTS AND DISCUSSION

A. Demographic Analysis

The demographic analysis of the novice teachers who participated in this study provides valuable insights into the characteristics of the sample and helps contextualize the findings. A total of 400 novice teachers from 20 advanced vocational education and training (AVET) institutions in Hefei City, Anhui Province, China, completed the survey

questionnaire. The demographic variables analyzed included gender, age, educational background, teaching discipline, and length of teaching experience.

In terms of gender, the sample was relatively evenly distributed, with 55% of the participants being female and 45% being male. This gender distribution is consistent with the overall composition of the teaching workforce in AVET institutions in China, where women have increasingly entered the profession in recent years.

The age distribution of the sample revealed that the majority of the novice teachers were relatively young, with 65% of the participants being under the age of 30. Specifically, 30% of the participants were aged 25 or younger, 35% were aged 26-30, 20% were aged 31-35, and 15% were aged 36 or older. This age distribution reflects the fact that many novice teachers enter the profession shortly after completing their own education and training.

Regarding educational background, 60% of the novice teachers held a bachelor's degree, while 35% had obtained a master's degree, and 5% had a doctoral degree. This distribution suggests that AVET institutions in Hefei City have been successful in attracting highly qualified individuals to the teaching profession, which is essential for ensuring the quality of vocational education and training.

The teaching disciplines represented in the sample were diverse, reflecting the wide range of programs offered by AVET institutions. The most common disciplines were engineering (25%), business and management (20%), information technology (15%), healthcare (15%), and education (10%). Other disciplines, such as arts and design, agriculture, and tourism, were also represented, albeit in smaller proportions.

Finally, the length of teaching experience among the novice teachers ranged from less than one year to three years, with a mean of 1.8 years ($SD = 0.9$). Specifically, 40% of the participants had been teaching for less than one year, 30% had been teaching for one to two years, and 30% had been teaching for two to three years. This distribution is consistent with the definition of novice teachers used in this study and highlights the importance of providing support and professional development opportunities for teachers in the early stages of their careers.

Table 1 presents a summary of the demographic characteristics of the sample.

Table 1. Demographic characteristics of the sample (N = 400)

Characteristic	Category	n	%
Gender	Female	220	55.0
	Male	180	45.0
Age	≤ 25	120	30.0
	26-30	140	35.0
	31-35	80	20.0
	≥ 36	60	15.0
Educational background	Bachelor's degree	240	60.0
	Master's degree	140	35.0
	Doctoral degree	20	5.0
Teaching discipline	Engineering	100	25.0
	Business and management	80	20.0
	Information technology	60	15.0

	Healthcare	60	15.0
	Education	40	10.0
	Other	60	15.0
Length of teaching experience	< 1 year	160	40.0
	1-2 years	120	30.0
	2-3 years	120	30.0

In summary, the demographic analysis of the sample of novice teachers in AVET institutions in Hefei City, Anhui Province, China, revealed a relatively even gender distribution, a predominantly young age profile, a high level of educational attainment, a diverse range of teaching disciplines, and a length of teaching experience consistent with the definition of novice teachers. These characteristics provide a rich context for understanding the impact of AVET on the skill development of novice teachers and the role of infrastructure and teaching and learning resources in supporting their professional growth.

B. Reliability Analysis

Reliability analysis is an essential step in assessing the internal consistency and stability of a survey instrument. In this study, the reliability of the survey questionnaire was evaluated using Cronbach's alpha, a widely used measure of internal consistency. Cronbach's alpha values range from 0 to 1, with higher values indicating greater reliability. A value of 0.7 or above is generally considered acceptable for research purposes.

The survey questionnaire used in this study consisted of three main sections: (1) impact of AVET on skill development, (2) infrastructure of AVET institutions, and (3) teaching and learning resources. Each section contained multiple items measuring different aspects of the constructs of interest. The reliability analysis was conducted separately for each section to assess the internal consistency of the items within each construct.

Table 2 presents the results of the reliability analysis for each section of the survey questionnaire.

Table 2. Reliability analysis results

Section	Number of items	Cronbach's alpha
Impact of AVET on skill development	10	0.92
Infrastructure of AVET institutions	12	0.88
Teaching and learning resources	8	0.85

C. Equations

Th

The results of the reliability analysis indicated that all three sections of the survey questionnaire had high internal consistency. The section measuring the impact of AVET on skill development had the highest Cronbach's alpha value of 0.92, suggesting that the items in this section were highly interrelated and measuring the same underlying construct. The section measuring the infrastructure of AVET institutions had a Cronbach's alpha value of 0.88, indicating a strong level of internal consistency among the items. Finally, the section measuring teaching and learning resources had a Cronbach's alpha value of 0.85, which is also considered highly reliable.

These findings provide evidence for the reliability and internal consistency of the survey instrument used in this study. The high Cronbach's alpha values suggest that the items within each section are measuring the same constructs and that the responses to these items are consistent and stable. This is important because it increases confidence in the validity of the findings and the conclusions drawn from the data.

However, it is important to note that while high internal consistency is desirable, it is not the only indicator of a reliable and valid instrument. Other forms of reliability, such as test-retest reliability and inter-rater reliability, were not assessed in this study due to practical constraints. Additionally, the validity of the instrument, which refers to the extent to which it measures what it intends to measure, was not formally evaluated. Future studies may benefit from a more comprehensive assessment of the psychometric properties of the survey instrument.

Despite these limitations, the results of the reliability analysis provide strong support for the internal consistency of the survey questionnaire used in this study. The high Cronbach's alpha values for each section suggest that the items are measuring the intended constructs and that the responses to these items are reliable and stable. This increases confidence in the findings and conclusions of the study and supports the use of this instrument in future research on the impact of AVET on the skill development of novice teachers.

In summary, the reliability analysis conducted in this study demonstrated that the survey questionnaire had high internal consistency, with Cronbach's alpha values ranging from 0.85 to 0.92 for the three main sections. These findings support the reliability of the instrument and increase confidence in the validity of the results. However, future studies may benefit from a more comprehensive assessment of the psychometric properties of the instrument, including other forms of reliability and validity.

C.Normality Test

Normality tests are used to determine whether a dataset follows a normal distribution, which is an important assumption for many statistical analyses. In this study, the normality of the data was assessed using the Kolmogorov-Smirnov and Shapiro-Wilk tests. These tests compare the distribution of the data to a normal distribution and provide a p-value that indicates whether the deviation from normality is statistically significant.

The Kolmogorov-Smirnov test is a non-parametric test that compares the cumulative distribution function of the data to a specified theoretical distribution, in this case, the normal distribution. The test statistic, D, measures the maximum absolute difference between the observed and theoretical cumulative distribution functions. A large value of D indicates a significant deviation from normality.

The Shapiro-Wilk test is another widely used test of normality, particularly for smaller sample sizes ($n < 2000$). This test calculates a test statistic, W, which measures the correlation between the ordered sample values and the corresponding expected values from a normal distribution. A small value of W indicates a significant deviation from normality.

Table 3 presents the results of the Kolmogorov-Smirnov and Shapiro-Wilk tests for the main variables of interest in this study.

Table 3. Normality test results

Variable	Kolmogorov-Smirnov Statistic	Shapiro-Wilk Statistic	After the
Impact of AVET on skill development	0.12	0.95	
Infrastructure of AVET institutions	0.09	0.97	
Teaching and learning resources	0.11	0.96	

The results of both the Kolmogorov-Smirnov and Shapiro-Wilk tests indicated that the data for all three variables deviated significantly from a normal distribution. The p-values for both tests were less than 0.001, suggesting that

the null hypothesis of normality should be rejected. These findings have important implications for the choice of statistical methods used in the subsequent analyses.

When data are not normally distributed, parametric tests that assume normality, such as t-tests and analysis of variance (ANOVA), may not be appropriate. Instead, non-parametric tests, which do not make assumptions about the distribution of the data, are often used. Examples of non-parametric tests include the Mann-Whitney U test, the Kruskal-Wallis test, and Spearman's rank correlation.

In this study, the non-normality of the data was taken into account in the selection of statistical methods. Spearman's rank correlation, a non-parametric test, was used to examine the relationships between the variables of interest. Ordinal logistic regression, which does not assume normality of the dependent variable, was used to test the predictive relationships between the independent variables (infrastructure and teaching and learning resources) and the dependent variable (impact of AVET on skill development).

It is important to note that while non-normality of the data can affect the choice of statistical methods, it does not necessarily invalidate the findings of the study. Non-parametric tests are robust to violations of normality and can provide valid results even when the data are not normally distributed. However, the interpretation of the results may be more limited, as non-parametric tests often have lower statistical power than their parametric counterparts.

In addition to the Kolmogorov-Smirnov and Shapiro-Wilk tests, visual inspection of histograms and normal Q-Q plots can also provide insight into the distribution of the data. These graphical methods can help identify departures from normality, such as skewness and kurtosis, and can supplement the results of formal normality tests.

In summary, the normality tests conducted in this study revealed that the data for the main variables of interest deviated significantly from a normal distribution. This finding informed the selection of non-parametric statistical methods, such as Spearman's rank correlation and ordinal logistic regression, which do not assume normality of the data. While non-normality can affect the choice of statistical methods and the interpretation of the results, it does not necessarily invalidate the findings of the study. The use of appropriate non-parametric tests ensures that the conclusions drawn from the data are valid and reliable, even when the assumption of normality is violated.

D. Correlation Analysis

Correlation analysis is a statistical method used to assess the strength and direction of the relationship between two variables. In this study, Spearman's rank correlation was used to examine the relationships between the impact of AVET on skill development and the quality of infrastructure and teaching and learning resources in AVET institutions. Spearman's correlation is a non-parametric test that measures the monotonic association between two variables, without assuming linearity or normality of the data.

The Spearman's correlation coefficient, denoted as ρ (rho), ranges from -1 to +1. A coefficient of +1 indicates a perfect positive correlation, meaning that as one variable increases, the other variable also increases. A coefficient of -1 indicates a perfect negative correlation, meaning that as one variable increases, the other variable decreases. A coefficient of 0 indicates no correlation between the variables.

Variable	Impact of AVET on skill development	Infrastructure of AVET institutions	Teaching and learning resources
Impact of AVET on skill development	1.00		

Infrastructure of AVET institutions	0.68**	1.00	
Teaching and learning resources	0.72**	0.59**	1.00

Table 4 presents the results of the Spearman's correlation analysis for the main variables of interest in this study.

Table 4. Spearman's correlation analysis results

Note: ** $p < 0.01$

The results of the correlation analysis indicated that there were significant positive relationships between the impact of AVET on skill development and both the quality of infrastructure and teaching and learning resources in AVET institutions. The correlation between the impact of AVET on skill development and the quality of infrastructure was strong and positive ($\rho = 0.68$, $p < 0.01$), suggesting that novice teachers who reported higher levels of satisfaction with the infrastructure of their institutions also tended to perceive a greater impact of AVET on their skill development.

Similarly, the correlation between the impact of AVET on skill development and the quality of teaching and learning resources was also strong and positive ($\rho = 0.72$, $p < 0.01$). This finding suggests that novice teachers who reported higher levels of satisfaction with the teaching and learning resources provided by their institutions also tended to perceive a greater impact of AVET on their skill development.

In addition to the relationships between the main variables of interest, the correlation analysis also revealed a significant positive relationship between the quality of infrastructure and the quality of teaching and learning resources ($\rho = 0.59$, $p < 0.01$). This finding suggests that AVET institutions with better infrastructure also tend to have better teaching and learning resources, highlighting the importance of investing in both aspects of the educational environment to support the skill development of novice teachers.

It is important to note that while correlation analysis can provide valuable insights into the relationships between variables, it does not establish causality. The significant positive correlations found in this study suggest that there are associations between the impact of AVET on skill development and the quality of infrastructure and teaching and learning resources, but they do not prove that one variable causes the other. Other factors, such as the overall quality of the educational program or the individual characteristics of the novice teachers, may also contribute to these relationships.

Despite this limitation, the results of the correlation analysis provide strong support for the importance of high-quality infrastructure and teaching and learning resources in promoting the skill development of novice teachers in AVET institutions. These findings have important implications for policymakers and educational administrators, as they suggest that investing in the physical and educational resources of AVET institutions can have a significant impact on the professional growth and success of novice teachers.

In summary, the Spearman's correlation analysis conducted in this study revealed significant positive relationships between the impact of AVET on skill development and both the quality of infrastructure and teaching and learning resources in AVET institutions. These findings highlight the importance of providing novice teachers with high-quality educational environments and resources to support their professional development and enhance the effectiveness of vocational education and training programs. While correlation analysis does not establish causality, the results of this study provide valuable insights into the factors that contribute to the success of novice teachers in AVET institutions and can inform efforts to improve the quality and impact of vocational education and training.

E. Ordinal Logistic Regression Analysis

Ordinal logistic regression is a statistical method used to examine the predictive relationships between one or more independent variables and an ordinal dependent variable. In this study, ordinal logistic regression was used to test the research hypotheses and assess the impact of infrastructure and teaching and learning resources on the skill

development of novice teachers in AVET institutions. The dependent variable, the impact of AVET on skill development, was measured on a 5-point Likert scale, which is an ordinal scale of measurement.

The ordinal logistic regression model estimates the odds ratios (ORs) and 95% confidence intervals (CIs) for each independent variable, indicating the likelihood of a higher level of the dependent variable for each unit increase in the independent variable, while controlling for other variables in the model. An OR greater than 1 indicates a positive relationship, meaning that higher levels of the independent variable are associated with higher levels of the dependent variable, while an OR less than 1 indicates a negative relationship. A 95% CI that does not include 1 indicates that the relationship is statistically significant at the 0.05 level.

Table 5 presents the results of the ordinal logistic regression analysis, including the ORs, 95% CIs, and p-values for each independent variable.

Table 5. Ordinal logistic regression analysis results

Independent variable	OR	95% CI	p-value
Infrastructure of AVET institutions	2.15	[1.78, 2.60]	< 0.001
Teaching and learning resources	2.42	[1.96, 2.99]	< 0.001

The results of the ordinal logistic regression analysis provided strong support for the research hypotheses. Both infrastructure (OR = 2.15, 95% CI [1.78, 2.60], $p < 0.001$) and teaching and learning resources (OR = 2.42, 95% CI [1.96, 2.99], $p < 0.001$) were significant positive predictors of the impact of AVET on skill development. These findings suggest that novice teachers who reported higher levels of satisfaction with the infrastructure and teaching and learning resources provided by their AVET institutions were more likely to perceive a greater impact of AVET on their skill development.

Specifically, for each unit increase in the rating of the quality of infrastructure, the odds of a novice teacher reporting a higher level of impact of AVET on skill development increased by a factor of 2.15, while controlling for the quality of teaching and learning resources. Similarly, for each unit increase in the rating of the quality of teaching and learning resources, the odds of a novice teacher reporting a higher level of impact of AVET on skill development increased by a factor of 2.42, while controlling for the quality of infrastructure.

These findings have important implications for policymakers and educational administrators, as they suggest that investing in high-quality infrastructure and teaching and learning resources can have a significant impact on the skill development of novice teachers in AVET institutions. Improving the physical and educational resources available to novice teachers can enhance their ability to acquire and apply new skills, ultimately leading to better student outcomes and more effective vocational education and training programs.

It is important to note that while the ordinal logistic regression analysis provides valuable insights into the predictive relationships between the independent and dependent variables, it does not establish causality. The significant positive associations found in this study suggest that higher levels of satisfaction with infrastructure and teaching and learning resources are associated with greater perceived impact of AVET on skill development, but they do not prove that one variable causes the other. Other factors, such as the overall quality of the educational program or the individual characteristics of the novice teachers, may also contribute to these relationships.

Additionally, the ordinal logistic regression model assumes that the relationship between each pair of outcome groups is the same, known as the proportional odds assumption. This assumption was tested using the test of parallel lines, which compares the fit of the proportional odds model to a model with separate parameters for each outcome group. The results of this test indicated that the proportional odds assumption was not violated ($\chi^2(6) = 8.42, p = 0.21$), suggesting that the ordinal logistic regression model was appropriate for the data.

In summary, the ordinal logistic regression analysis conducted in this study provided strong support for the research hypotheses, demonstrating that high-quality infrastructure and teaching and learning resources are significant positive predictors of the impact of AVET on the skill development of novice teachers. These findings highlight the importance of investing in the physical and educational resources of AVET institutions to support the

professional growth and success of novice teachers. While the ordinal logistic regression analysis does not establish causality, the results of this study provide valuable insights into the factors that contribute to the effectiveness of vocational education and training programs and can inform efforts to improve the quality and impact of these programs.

V. CONCLUSION AND RECOMMENDATIONS

A. Conclusion

This study aimed to empirically investigate the impact of advanced vocational education and training (AVET) on the skill development of novice teachers in Hefei City, Anhui Province, China. The research was motivated by the growing importance of AVET in addressing the demand for skilled professionals in various sectors and the critical role that novice teachers play in ensuring the quality and effectiveness of vocational education and training programs.

A comprehensive literature review was conducted to establish the theoretical foundation for the study, focusing on three key areas: (1) the development and current state of AVET in China, (2) the importance of infrastructure in supporting the skill development of novice teachers, and (3) the role of teaching and learning resources in enhancing the quality of vocational education and training.

The study employed a quantitative research approach, involving a survey of 400 novice teachers from 20 AVET institutions in Hefei City. The survey questionnaire assessed novice teachers' perceptions of the impact of AVET on their skill development, as well as their experiences with the infrastructure and teaching and learning resources provided by their institutions. The collected data were analyzed using a combination of descriptive and inferential statistics, including reliability analysis, normality tests, correlation analysis, and ordinal logistic regression.

The results of the study provided strong support for the research hypotheses and highlighted the significant positive impact of AVET on the skill development of novice teachers. The key findings of the study can be summarized as follows:

1. AVET has a significant positive influence on the skill development of novice teachers in Hefei City, Anhui Province, China. Novice teachers who reported higher levels of satisfaction with their AVET experiences also tended to perceive a greater impact on their skill development.
2. The quality of infrastructure in AVET institutions is a significant positive predictor of the impact of AVET on the skill development of novice teachers. Novice teachers who reported higher levels of satisfaction with the infrastructure of their institutions, such as classrooms, laboratories, workshops, and technology, were more likely to perceive a greater impact of AVET on their skill development.
3. The quality of teaching and learning resources in AVET institutions is also a significant positive predictor of the impact of AVET on the skill development of novice teachers. Novice teachers who reported higher levels of satisfaction with the teaching and learning resources provided by their institutions, such as curricula, textbooks, practical learning aids, and support systems, were more likely to perceive a greater impact of AVET on their skill development.

These findings have important implications for policymakers, educational administrators, and practitioners in the field of vocational education and training. They underscore the critical role that high-quality infrastructure and teaching and learning resources play in supporting the professional development of novice teachers and enhancing the effectiveness of AVET programs. Investing in these areas can lead to better student outcomes, more skilled graduates, and ultimately, a stronger and more competitive workforce.

Moreover, the results of this study contribute to the growing body of literature on AVET and teacher professional development, particularly in the context of developing countries like China. The findings provide empirical evidence for the importance of supporting novice teachers in their early careers and highlight the potential of AVET as a means of promoting skill development and educational quality.

However, it is important to acknowledge the limitations of the study. The research was conducted in a specific geographical context (Hefei City, Anhui Province, China) and focused on a particular population (novice teachers in AVET institutions). Therefore, the generalizability of the findings to other contexts and populations may be limited. Additionally, the study relied on self-reported data from a cross-sectional survey, which may be subject to response bias and does not allow for causal inferences.

Despite these limitations, the study provides valuable insights into the factors that contribute to the skill development of novice teachers in AVET institutions and offers a foundation for future research in this area. Further studies could explore the impact of AVET on teacher skill development in other geographical contexts, examine the long-term effects of AVET on teacher performance and student outcomes, or investigate the specific mechanisms through which infrastructure and teaching and learning resources influence teacher skill development. In conclusion, this study has demonstrated the significant positive impact of AVET on the skill development of novice teachers in Hefei City, Anhui Province, China, and highlighted the critical role of high-quality infrastructure and teaching and learning resources in supporting teacher professional development. The findings have important implications for policy and practice in the field of vocational education and training and underscore the need for continued investment in and support for AVET programs and novice teachers. By prioritizing these areas, policymakers, educational administrators, and practitioners can contribute to the development of a skilled, competent, and competitive workforce, ultimately supporting the social and economic development of China and other countries facing similar challenges.

B. Recommendations

Based on the findings of this study, several recommendations can be made to improve the impact of advanced vocational education and training (AVET) on the skill development of novice teachers and enhance the overall quality and effectiveness of vocational education and training programs.

1. **Invest in high-quality infrastructure:** The study found that the quality of infrastructure in AVET institutions is a significant positive predictor of the impact of AVET on the skill development of novice teachers. Therefore, policymakers and educational administrators should prioritize investments in the physical infrastructure of AVET institutions, including classrooms, laboratories, workshops, and technology. Ensuring that novice teachers have access to modern, well-equipped facilities can enhance their ability to acquire and apply new skills and ultimately lead to better student outcomes.
2. **Provide comprehensive and up-to-date teaching and learning resources:** The quality of teaching and learning resources in AVET institutions was also found to be a significant positive predictor of the impact of AVET on the skill development of novice teachers. To support the professional development of novice teachers, AVET institutions should provide comprehensive and up-to-date teaching and learning resources, such as curricula, textbooks, practical learning aids, and support systems. These resources should be regularly reviewed and updated to ensure they remain relevant and aligned with industry standards and best practices.
3. **Offer targeted professional development opportunities for novice teachers:** Novice teachers face unique challenges as they transition from being students to becoming professional educators. To support their skill development and help them navigate these challenges, AVET institutions should offer targeted professional development opportunities specifically designed for novice teachers. These opportunities could include mentoring programs, workshops, seminars, and peer support networks that focus on topics such as instructional strategies, classroom management, and industry-specific skills.
4. **Foster collaboration between AVET institutions and industry partners:** Collaboration between AVET institutions and industry partners is essential for ensuring that vocational education and training programs remain relevant and responsive to the needs of the labor market. AVET institutions should actively seek out partnerships with industry leaders to inform curriculum development, provide internship and apprenticeship opportunities for students, and offer professional development opportunities for teachers. These collaborations can help bridge the gap between theory and practice and ensure that novice teachers are equipped with the skills and knowledge needed to prepare their students for success in the workforce.
5. **Conduct regular assessments and evaluations of AVET programs and teacher performance:** To ensure the continuous improvement of AVET programs and support the ongoing skill development of novice teachers, regular assessments and evaluations should be conducted. These assessments could include student feedback, teacher self-evaluations, peer observations, and data on student outcomes and employment rates. The results of these assessments should be used to identify areas for improvement and inform decision-making related to resource allocation, professional development, and program design.
6. **Promote research and knowledge-sharing on AVET and teacher professional development:** Finally, to advance the field of vocational education and training and support evidence-based decision-making, it is important to promote research and knowledge-sharing on AVET and teacher professional development. Policymakers, educational administrators, and researchers should collaborate to conduct studies that investigate the factors that

contribute to the effectiveness of AVET programs and the skill development of novice teachers, and disseminate the findings through conferences, publications, and other knowledge-sharing platforms. This can help build a strong evidence base for best practices in AVET and inform policy and practice at the local, regional, and national levels. By implementing these recommendations, policymakers, educational administrators, and practitioners can create a supportive environment for the skill development of novice teachers in AVET institutions, ultimately contributing to the quality and effectiveness of vocational education and training programs. Investing in the professional development of novice teachers and providing them with the resources and support they need to succeed can have far-reaching benefits for students, employers, and society as a whole, as it helps to build a skilled, competent, and competitive workforce that can drive economic growth and social progress.

C. Limitations and Future Research Directions

While this study provides valuable insights into the impact of advanced vocational education and training (AVET) on the skill development of novice teachers in Hefei City, Anhui Province, China, it is important to acknowledge its limitations and identify potential avenues for future research.

One of the main limitations of the study is its cross-sectional design, which relies on data collected at a single point in time. This approach does not allow for the examination of causal relationships or the tracking of changes in novice teachers' skill development over time. Future research could employ longitudinal designs to investigate the long-term effects of AVET on teacher performance and student outcomes, and to explore how the impact of AVET may evolve as novice teachers gain more experience and expertise.

Another limitation of the study is its reliance on self-reported data from a survey questionnaire. While self-reported data can provide valuable insights into participants' perceptions and experiences, it may be subject to response bias, such as social desirability bias or acquiescence bias. Future research could incorporate additional data sources, such as observations, interviews, or performance assessments, to triangulate the findings and provide a more comprehensive understanding of the impact of AVET on novice teachers' skill development.

The generalizability of the findings may also be limited by the specific geographical context (Hefei City, Anhui Province, China) and the focus on novice teachers in AVET institutions. Further research could explore the impact of AVET on teacher skill development in other regions of China or in other countries facing similar challenges related to vocational education and training. Additionally, future studies could investigate the experiences of more experienced teachers in AVET institutions to provide a more comprehensive understanding of the factors that contribute to teacher professional development across different career stages.

The study also focused on the impact of two specific factors – infrastructure and teaching and learning resources – on novice teachers' skill development. While these factors were found to be significant predictors, there may be other important factors that were not examined in this study. Future research could explore additional variables, such as organizational culture, leadership support, or teacher motivation, to gain a more nuanced understanding of the complex interplay of factors that influence teacher skill development in AVET institutions.

Moreover, the study did not delve into the specific mechanisms through which infrastructure and teaching and learning resources influence novice teachers' skill development. Future research could employ qualitative or mixed-methods approaches to investigate the processes and pathways through which these factors operate, and to identify best practices for designing and implementing AVET programs that effectively support teacher professional development.

Finally, the study highlights the need for more research on the impact of AVET on student outcomes and the broader social and economic benefits of vocational education and training. While the study provides evidence for the positive impact of AVET on novice teachers' skill development, further research is needed to examine how these benefits translate into improved student learning, employability, and workforce competitiveness. This could involve longitudinal studies that track the educational and employment trajectories of AVET graduates, as well as economic analyses that assess the return on investment of AVET programs for individuals, employers, and society as a whole.

In conclusion, while this study makes a valuable contribution to the literature on AVET and teacher professional development, it also highlights the need for continued research in this area. By addressing the limitations of the current study and exploring new avenues for inquiry, future research can help to build a stronger evidence base for best practices in AVET and inform policy and practice decisions that support the skill development of novice teachers and the effectiveness of vocational education and training programs. Ultimately, investing in research on

AVET and teacher professional development can contribute to the development of a skilled, competent, and competitive workforce that can drive economic growth and social progress in China and beyond.

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