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ENHANCING THE EMPLOYABILITY OF HIGHER VOCATIONAL STUDENTS IN CHINA THROUGH GENERATIVE AI

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ABSTRACT

This study explores the relationship between generative artificial intelligence (Gen AI) and the employability of students in higher vocational colleges in China, and explores strategies for effectively integrating it into vocational education. The study uses a combination of quantitative and qualitative research methods. The quantitative data is derived from 478 valid questionnaires distributed to third-year students in higher vocational colleges, while the qualitative data is obtained through semi-structured interviews with five participants. This includes human resources representatives from a company, teachers from a higher vocational college, and three students from different grades. The results of the study indicate that students' use of generative AI is at an upper-middle level, with an average score of 9.83 to 10.02 for each dimension, while employability scores range from 12.80 to 13.34, indicating a relatively balanced overall situation. Among the five dimensions of employability, AI literacy scores were the highest (M=13.34, SD=4.44) and career development potential was the lowest (M=12.80, SD=4.53). Correlation analysis showed that there was a significant positive correlation between generative AI use and employability ($r = 0.889$, $p < 0.01$), but no significant differences were found in terms of gender, major, or frequency of AI use. The interview results further showed that generative AI primarily supports information search, resume modification, mock interviews, and study assistants. The study suggests that generative AI should be more systematically integrated into curriculum design, practical training, and career guidance to enhance the employability of Chinese higher vocational students.

KEYWORDS: Generative Artificial Intelligence; Higher Vocational Education; Employability; Vocational College Students; Mixed-Methods Research.

1. INTRODUCTION

Generative artificial intelligence (Gen AI) is in a period of rapid development, and its influence is felt on the job structure, skill requirements, and career boundaries of the labor market. As large language models and other intelligent technologies are increasingly integrated into production, service, and management environments, the expectations in the labor market are no longer limited to traditional professional skills. Instead, they increasingly emphasize digital literacy, the ability to solve complex problems, and the ability to collaborate with intelligent systems (Thida, 2023; Gasco et al., 2025). For vocational education that primarily aims to cultivate technical-skilled talents, this change not only means that the training goals must be adjusted accordingly, but also indicates that the connotation of the employment capabilities of vocational school students is changing. How to improve students' ability to adapt to new positions, new tasks, and new working methods in the context of intelligent transformation has become an important issue that vocational education research and practice must address (Zhang et al., 2024).

In this context, the integration of generative AI into the field of education has become inevitable. GAI affects many aspects such as knowledge acquisition, skills training, and career preparation. Existing research shows that such technologies have obvious advantages in knowledge-based question answering, content generation, task decomposition, scenario simulation, and personalized feedback. It can improve learning efficiency to a certain extent, expand the boundaries of teaching support, and provide new forms of assistance for resume optimization, mock interviews, career information acquisition, job cognition, etc. (Albassami et al., 2025); Especially in vocational education, generative AI can help alleviate practical problems such as limited teaching resources, insufficient practical guidance, and unbalanced employment support. However, existing research mainly focuses on the field of general higher education. There is not enough attention to vocational education. The reason is that the number of participants in vocational education is small. However, vocational education emphasizes practicality, technology, and employment orientation, and needs to be integrated with new technologies. At the same time, there is still a lack of systematic empirical evidence on how generative AI specifically affects the employability of vocational college students, what aspects are affected, and how different stakeholders understand and use this technology.

In response to these gaps, this study takes Chinese vocational college students as the research object to explore the relationship between generative artificial intelligence and students' employability from both quantitative and qualitative perspectives. Specifically, this study has two research objectives: (1) to clarify the core dimensions of students' employability in Chinese vocational colleges, investigate their level in different dimensions, and investigate their use of artificial intelligence generation technology; (2) to understand how vocational colleges currently use artificial intelligence generation technology, comprehensively understand the actual needs of teachers, students and enterprises to use artificial intelligence generation technology, and propose usage strategies to help vocational college students better improve their employability.

2. LITERATURE REVIEW

2.1 Vocational Education and Employability Theory

In this study, vocational education and employability are two core concepts. Existing research suggests that vocational education has gradually expanded from traditional skills training to broader forms of education related to job readiness, continuing education, and lifelong learning (Kersch & Hulle, 2018). In China, recent policies have further emphasized its role in industry-education integration and school-enterprise collaboration (Jing Wei et al., 2025). At the same time, employability is now widely understood to include not only the ability to obtain a job but also specialized knowledge, practical skills, communication skills, adaptability, and long-term career development (Hakeem, 2026). This broader definition provides a conceptual basis for studying the employability of vocational college students in the context of technological change.

2.2 Pathways for Cultivating Employability in Higher Vocational Education

Research on higher vocational education generally suggests that employability is formed through the combined role of curriculum, practical training, and employment guidance (Kagaari, 2007). Internships, order classes, and school-enterprise collaboration help students connect what they have learned in school to actual job requirements (Liang & Chen, 2024). Additionally, career guidance, job search training, and employment support systems

are often seen as important means of improving students' confidence and job readiness (Alnajjar et al. , 2024) In conclusion, employability is often seen as the result of an ongoing training process rather than a single educational activity.

2.3 Generative AI and Its Application in Education

The rapid development of generative AI has brought new possibilities to education. Compared with earlier digital tools, generative AI can generate content, explain concepts, respond to questions, and assist with complex tasks, which makes it useful in writing support, programming assistance, lesson preparation, and learning feedback (Pesovski et al., 2024). Existing studies generally recognize its value in improving efficiency and expanding access to learning support (Berezi, 2025; Norris et al., 2008; Arendale, 2010). At the same time, they also stress that its effects depend on instructional design and teacher guidance. In other words, generative AI is better understood as a support resource in education than as a substitute for teaching or learning itself.

2.4 Generative AI and the Development of Students' Employability

Current studies suggest that generative AI may contribute to students' employability by supporting information processing, problem solving, digital literacy, résumé writing, interview preparation, and career exploration (Bencsik et al., 2026). These functions are especially relevant to students' employment readiness. However, the literature also points to possible risks, such as overreliance, superficial learning, and weakened critical thinking (Aristovnik et al., 2024; Nartey, 2026). More importantly, most existing studies focus on general higher education, while research on vocational college students remains limited (Saavedra Bautista et al., 2024). There is still insufficient empirical evidence on how generative AI influences vocational students' employability, which dimensions are most affected, and how schools can integrate it more effectively into employability development (Bowles & Kruger, 2023).

2.5 Theoretical Framework

This study is grounded in Human–Machine Collaboration Theory and Career Construction Theory. Human–Machine Collaboration Theory emphasizes that the role of generative AI is not to replace students, but to enhance their learning and job-preparation efficiency through information support, task assistance, and feedback optimization (Li et al., 2023). Career Construction Theory, by contrast, holds that career development is formed through individuals' continuous adaptation to their environment, active exploration of pathways, and construction of career meaning (Rudolph et al., 2019). From this perspective, generative AI can serve as an external support resource in the development of vocational college students' employability, while also influencing their employment preparation and career development by strengthening career adaptability, career exploration, and confidence in future development (Andoniou, 2025)

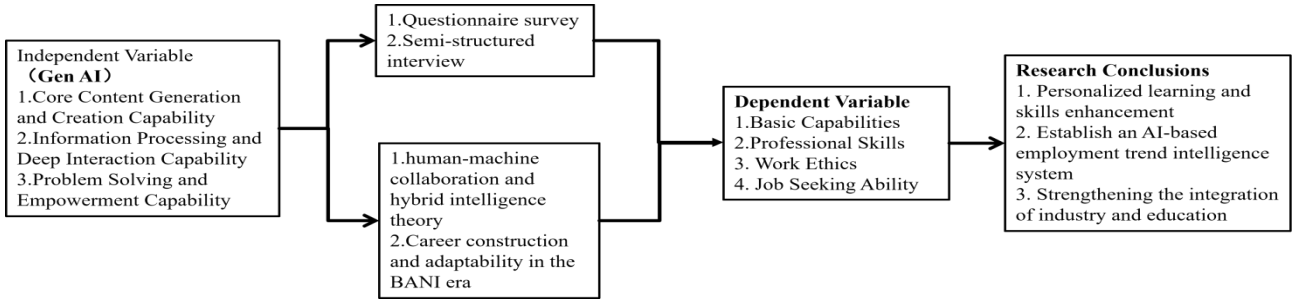

Figure 1: Research framework diagram

3. METHODOLOGY

3.1 Research Design

This study adopts a mixed-methods design based on the mixed research design principles proposed by Creswell and Creswell (2017). This paper aims to explore the mechanism of generative AI affecting the employability of students in vocational colleges and study its practical path in skill training. In order to explore the mechanism of generative AI affecting employability, a stratified sampling questionnaire survey is adopted, and a structured scale is used to measure and analyze the relevant variables. In order to explore the practice mode of artificial intelligence skill training among Chinese higher vocational students, semi-structured interviews were conducted with students from different majors and grades, as well as corporate human resources representatives.

3.2 Participants

The total number of full-time third-year students in three higher vocational schools in Shaanxi Province, China, was 4273. In order to ensure the representativeness of the sample and the validity of statistical inference, the sample size was estimated using the formula proposed by Taro Yamane (1967).

With 4273 students and a 5% error rate, the minimum sample size required is 366. Therefore, at least 366 valid questionnaires are required to ensure the reliability of subsequent data analysis and study results.

3.3 Research Instruments

3.3.1 Questionnaire

This study uses a self-designed questionnaire as the main research tool. The core measurement part uses a five-point Likert scale. Responses range from "strongly disagree" to "strongly agree", with scores ranging from 1 to 5. The questionnaire was developed based on employability theory, research on the employability structure of vocational college students, and relevant literature on the application of generative AI in education (Zhang Ying, 2025; Yu et al., 2026; Nartey, 2024), and was further modified and refined in line with the objectives of this study. Before the formal survey, three experts in related fields conducted a content validity review on the questionnaire and adopted the Item-Objective Concordance Index (IOC). The IOC mean was above 0.80, indicating good content validity (Laosinchai, 2025). In terms of construct validity, the KMO value was 0.977, and Bartlett's sphericity test was statistically significant ($P < 0.001$), indicating that the scale had good construct validity and was suitable for factor analysis. The reliability test showed that Cronbach's alpha coefficient was between 0.857 and 0.985, indicating good internal consistency of the scale.

The questionnaire consists of four parts. The first part collects basic information about respondents, including demographic variables such as gender, grade, and major. The second part focuses on the application of generative AI, mainly examining students' acceptance, frequency of use, and main usage scenarios, such as learning counseling, skills training, and employment readiness. The third part measures the employability of vocational college students, and designs projects around the dimensions of professional skills, comprehensive ability, career development ability, and technological adaptability. The fourth part measures students' cognition and attitude towards the application of generative artificial intelligence, mainly evaluating students' perception of its practicality and ease of use, as well as its overall evaluation of its impact on personal career development.

3.3.2 Interview Guide

This study employs a semi-structured interview guide as a qualitative research tool. The interview guide consists of 13 questions that revolve around five aspects: (1) background information, (2) current employability and employment challenges, (3) understanding and application of generative AI, (4) impact of generative AI on job readiness, and (5) improvement suggestions and strategic ideas. Respondents included corporate human resources personnel, teachers from higher vocational colleges, and juniors. Before the formal interviews, three experts in related fields conducted a content validity review of the guidelines and tested them using IOCs. The results showed that the IOC average was above 0.80, indicating good content validity for the interview guidelines.

3.4 Data Collection

This study collects data through a combination of questionnaires and semi-structured interviews. The questionnaires are mainly distributed online in the form of anonymous responses. The data collection period is two weeks, and invalid questionnaires are excluded. Based on sample size estimates, at least 366 valid questionnaires are required. Considering that the invalid questionnaire rate is about 10%, no less than 407 questionnaires are planned to be distributed. Meanwhile, interviews are conducted face-to-face or online. After obtaining informed consent from the participants, the interviews are recorded and transcribed. Each interview lasts approximately 20 to 40 minutes to provide supplementary and interpretive evidence for the questionnaire results.

3.5 Data Analysis

Quantitative data were processed using SPSS27.0, including descriptive statistics, reliability and validity testing, correlation analysis, and regression analysis, to study the relationship between generative AI and the employability of Chinese higher vocational students. Qualitative data were analyzed by coding, classifying, and collating interview materials, and thematic analysis was used to analyze the qualitative data and interpret them in combination with quantitative results. To improve the reliability and validity of the research results, we ensured quality control through literature reviews,

expert evaluations, pilot tests, and triangulation of quantitative and qualitative data.

3.6 Ethical approval

This study was approved by the Ethics Committee of Srinakharinwirot University. During the course of the study, all participants voluntarily participated on the basis of informed consent. The questionnaire was filled out anonymously, and the interview materials were used for academic purposes only, and all relevant ethical standards were strictly followed to ensure participant privacy and data confidentiality.

4. RESULTS

4.1 Quantitative Results

4.1.1 Sample Characteristics

A total of 478 valid questionnaires were collected in this study, all of which were from junior colleges in higher vocational colleges in Shaanxi Province, China. Among them, 252 were male (52.7%) and 226 were female (47.3%), with slightly more males than females. In terms of majors, electronics and information technology accounted for the highest proportion (127 students, 26.6%), followed by finance, economics and business (98 students, 20.5%), and manufacturing (78 students, 16.3%).Other fields included Architecture (53 students, 11.1%), Tourism (48 students, 10.0%), Transportation (36 students, 7.5%), and other majors (38 students, 7.9%). Regarding the use of generative AI tools, the largest group consisted of occasional users (1–3 times per month) with 201 students (42.1%), followed by frequent users (1–4 times per week) with 152 students (31.8%) and high-frequency users (once or more per day) with 75 students (15.7%). The smallest group was those who had never used such tools, totaling 50 students (10.5%) (see Table 1 and Figure 1).

Table 1: Sample Characteristics and Descriptive Statistics

ITEM	CATEGORY	FREQUENCY (%)	PERCENTAGE (%)
GENDER	Male	252	52.7
	Female	226	47.3
	Total	478	100
GRADE	Junior	478	100
MAJOR CATEGORY	Manufacturing	78	16.3
	Electronics and Information Technology	127	26.6
	Finance and Business	98	20.5
	Tourism	48	10
	Transportation	36	7.5
	Construction	53	11.1
	Other	38	7.9
	Total	478	100
HAVE YOU EVER USED GENERATIVE AI TOOLS?	Never used	50	10.5
	Occasionally (1–3 times per month)	201	42.1
	Frequent use (1–4 times per week)	152	31.8
	Frequent use (1 time or more per day)	75	15.7
	Total	478	100

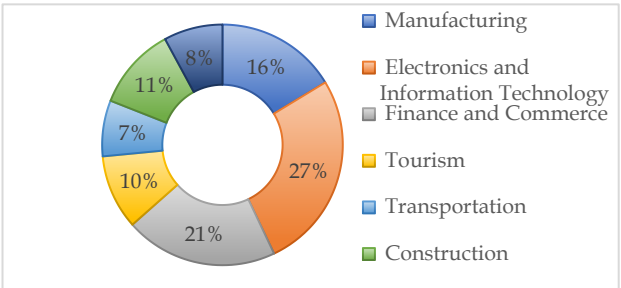

Figure 2: Percentage Distribution of Academic Majors

4.1.2 Descriptive Statistics

As shown in Table 2, this is the use of generative artificial intelligence (Gen AI) by students in higher vocational colleges. The scores on different dimensions are relatively close, with the average range ranging from 9.83 to 10.02. Among them, the application scenario dimension has the highest average score (M = 10.02, SD = 3.51), followed by frequency of use (M = 10.01, SD = 3.42), while the usability dimension has the lowest average score (M = 9.83, SD = 3.31). The degree of data discreteness in each dimension is similar. The median for all dimensions is 10, indicating that the overall level of the sample is slightly higher than the average. At the same time, the standard deviation range is between 3.31 and 3.51, indicating that there are certain differences in the use of generative artificial intelligence (Gen AI) among students. Other descriptive statistics are shown in Table 2.

Table 2: Descriptive Statistics of Generative AI Usage

Variable	Mean	Median	Mode	Standard Deviation	Variance	Minimum	Maximum
Frequency	10.0084	10.0000	15.00	3.42147	11.706	3.00	15.00
Application Scenarios	10.0209	10.0000	15.00	3.50794	12.306	3.00	15.00
Usage	9.8787	10.0000	9.00	3.41072	11.633	3.00	15.00
Availability	9.8264	10.0000	9.00	3.30827	10.945	3.00	15.00

As shown in Table 3, this is the performance of the employability of students in higher vocational colleges. The scores in different dimensions are relatively similar, with the average values of the five indicators ranging from 12.7950 to 13.3431, among which the AI literacy score is the highest (M=13.3431, Md=14.0000, Mo=14.000), and the lowest score is career development (M=12.7950, Md=13.0000, Mo=11.00). The standard deviation of each indicator ranges from 4.42204 to 4.57358, and the variance ranges from 19.554 to 20.918, indicating that the individual differences in students' employability are more obvious. The median was 13.00 and the mode was 14.00, and the values of the three were close and slightly higher than the mean, indicating that the employability of the sample students was above moderate. Other descriptive statistics are shown in Table 3.

Table 3:Descriptive Statistics of Employment Competencies

Variable	Mean	Median	Mode	Standard Deviation	Variance	Minimum	Maximum
Basic Skills	12.9435	13.0000	12.00	4.42204	19.554	4.00	20.00
Professional Skills	13.1611	14.0000	14.00	4.47321	20.010	4.00	20.00
Career Development Potential	12.7950	13.0000	11.00	4.52848	20.507	4.00	20.00
AI Literacy	13.3431	14.0000	14.00	4.44244	19.735	4.00	20.00
Technical Adaptability	13.1234	14.0000	14.00	4.57358	20.918	4.00	20.00

4.1.3 Differences in Employability Across Student Groups

Table 4 presents the differences in employability scores across gender, major category, and frequency of generative AI use. The results indicate that there were no statistically significant differences in employability by gender (t = 0.037, p = 0.970), with male students scoring a mean of 39.75 (SD = 11.88) and female students scoring 39.71 (SD = 12.47). Likewise, no significant differences were found across major categories (F = 0.503, p = 0.806). Although students in Transportation reported the highest mean employability score (M = 41.36, SD = 14.44), followed by students in Other majors (M = 41.00, SD = 10.33) and Electronics and Information Technology (M = 40.17, SD = 11.78), whereas Construction students had the lowest mean score (M = 37.92, SD = 12.21), these variations were not statistically significant. Similarly, employability did not differ significantly by generative AI usage frequency (F = 1.804, p = 0.146). Students who used generative AI frequently (1–4 times a week) obtained the highest mean score (M = 41.28, SD = 11.51), followed by those using it once or more per day (M = 40.56, SD = 12.08), while students who had never used such tools had the lowest mean score (M = 37.84, SD = 13.16).

Table 4: Differences in Employability Across Gender, Major, and Generative AI Usage

Variables	Option	Number of Cases	Mean	Standard Deviation	t/F	P
Gender	Male	252	39.754	11.87531	0.037	0.97
	Female	226	39.7124	12.46654		
Industry Category	Manufacturing	78	40.0513	12.26853	0.503	0.806
	Electronics and Information Technology	127	40.1732	11.77574		
	Finance and Business	98	38.7959	12.20019		
	Tourism	48	39.75	12.56049		
	Transportation	36	41.3611	14.44428		
	Construction	53	37.9245	12.20632		
	Other	38	41	10.33493		
Have you ever used generative AI tools?	Never used	50	37.84	13.16359	1.804	0.146
	Occasional use (1–3 times per month)	201	38.7313	12.30599		
	Frequent use (1–4 times a week)	152	41.2763	11.50594		
	Frequent use (1 time or more per day)	75	40.56	12.0822		

4.1.4 Correlation Analysis Between Generative AI Adoption and Employability

Table 5 presents the correlation between generative AI adoption and vocational college students' employability. The results show a strong and positive relationship between the two variables ($r = 0.889$, $p < 0.01$), indicating that higher levels of generative AI adoption were associated with higher levels of employability among vocational college students. This correlation was statistically significant at the 0.01 level (two-tailed), based on 478 cases.

Table 5: Correlation Between Generative AI Adoption and Employability

		Application of Generative AI	Vocational Students' Employment Competence
Generative AI Adoption	Pearson Correlation	1	.889
	Significance (two-tailed)		.000
	Number of cases	478	478
Vocational College Students' Employability	Pearson correlation	.889**	1
	Significance (two-tailed)	.000	
	Number of cases	478	478

**. The correlation is significant at the 0.01 level (two-tailed).

4.2 Qualitative Results

The semi-structured interview results further explore the impact of generative AI on the employability of vocational college students and its practical path. The interviewees included a corporate human resources representative, a vocational college teacher, and three higher vocational students of different grades. The interviews focused on perceptions of employability, current applications of generative AI, potential mechanisms of impact, and suggestions for improvement. The results are presented in Table 6.

Table 6: Interview Results

Category	Interview Summary
Background Information	Corporate HR representative / Vocational college instructor / Third-year student
	Infrastructure construction / Vocational education and curriculum reform / Architecture and Surveying, New Energy Vehicles, Business Logistics Management
The current employability of vocational college students and the challenges they face when looking for jobs	Practical skills, communication, problem-solving, and digital literacy / Professional skills, work ethics, and lifelong learning / Job-ready skills and soft skills
	Unclear career planning, limited experience, weak job awareness / Outdated curriculum, insufficient practice, limited digital understanding / Strong competition, lack of internships, unclear career direction
Understanding and Application of Generative AI	Frequently used in recruitment / Mainly used for lesson preparation / Heard of and tried, but mostly superficial use
	Recruitment writing, resume screening, interview questions, training materials / Lesson planning, course materials, homework support / Assignments, resume improvement, mock interviews, research
	High-frequency and in-depth use / Moderate use for teaching support / Low-frequency and shallow use
	Helpful for optimization but may cause homogenization / Improves efficiency but may reduce independent thinking / Very helpful for improving task efficiency
The Impact of Generative AI on Employment Readiness	Information search, resume optimization, mock interviews, industry analysis / Information synthesis, skill support, career exploration / Resume polishing, interview simulation, reducing information gaps
	Helps improve skills, not replace core competence / Acts as an amplifier rather than a replacement / Should help improve skills rather than replace people
Improvement Suggestions and Strategic Concepts	Major-specific courses, AI-assisted guidance, school-enterprise practice / Curriculum integration, program updates, teacher training / AI-based skill enhancement and project practice
	Absolutely necessary / Very necessary / Absolutely necessary
	Scenario-based training, AI career assessment, enterprise collaboration / Teacher development, curriculum integration, guidance system / Practical skills, AI career planning, AI-assisted internships

5. DISCUSSION

This study shows that the use and ability of generative AI among students in higher vocational colleges are generally at an above-moderate level, with limited differences between different dimensions. Among them, AI literacy, professional skills, and technological adaptability are relatively

strong, while career development potential is relatively weak. Further analysis shows a clear positive correlation between generative AI use and employability, while the difference in employability between different genders, occupational categories, or frequency of use is not statistically significant. The interview results are basically consistent with the above results. Corporate human resources personnel, vocational college teachers, and students generally believe that generative AI has entered multiple stages of career competency construction. For example, learning support, job search preparation, and career exploration, and have played a practical role in information search, resume modification, mock interviews, and task organization. However, some studies have pointed out that the role of generative AI is more to enhance and expand existing competencies rather than replace core vocational competencies (Testa et al., 2026). This suggests that in this study, the impact of generative AI does not bring a particular advantage to any particular student group, but rather serves as a widely available resource condition that works among different student groups.

Looking at the quantitative results, the key question is not group differences, but why generative AI use is significantly associated with employability, while gender, specialization, and frequency of use are not. One possible explanation is that generative AI influences how students complete tasks in the first place, including information searching, content organization, optimizing expression, and preparing job application materials. Due to the strong generalization of these processes, they are more likely to produce positive correlations at the overall sample level rather than rapidly producing significant differences between different groups. This finding is positively correlated with AI literacy and cognitive employability reported by Wut et al., and echoes the conclusion of Portocarrero Ramos et al. that AI skills affect students' job readiness. However, the study found no significant gender or occupational differences, which is not entirely consistent with studies highlighting demographic differences such as generative AI readiness, perceived benefits, or user experience. One possible reason for this difference is the difference in measurement focus. Existing research often focuses on students' attitudes, acceptance, or use of generative artificial intelligence (Gen AI). This study believes that Gen AI can be integrated into every aspect of teaching in higher vocational schools. For employability, it not only focuses on the AI-assisted job finding process, but also on the lifelong promotion assistance ability. In addition, for higher vocational students, the impact of generative AI may first manifest as support for learning and employment readiness, rather than directly leading to obvious group stratification or a significant technological gap.

The results of the qualitative study further elucidated the role of this positive impact. In the interviews, both corporate recruiters and teachers in higher vocational colleges acknowledged that generative artificial intelligence (Gen AI) can improve information processing efficiency, expand access to resources, reduce the burden of partial preparation, and provide direct support in resume optimization, mock interviews, career exploration, and ease of promotion. At the same time, they clearly point out that generative AI cannot replace human judgment, responsibility, communication skills, or career reflection. This view is broadly consistent with recent research. Some studies suggest that students tend to recognize the advantages of generative AI in terms of efficiency and convenience, while teachers and educators are more concerned with issues related to accuracy, dependency, and depth of learning (Almassaad et al., 2024; The issues mentioned in the interviews, including content homogeneity, inaccurate information, and weakened independent thinking ability, are also similar to the findings of Yeung et al. (2025) and Wainaina and Sun (2025). This shows that generative AI is positively correlated with employability, on the one hand, it improves the conditions for students to complete tasks and lowers the threshold for obtaining information and preparing materials; on the other hand, it does not automatically translate into employability in a substantive sense. Because those abilities that are closely related to career judgment, problem solving, and situational response still need to be gradually cultivated through real-world learning and practice.

From a theoretical and practical perspective, the significance of this study is mainly reflected in two aspects. First, it suggests that employability is not an isolated outcome variable, but a structured competency that is constantly formed and adjusted through learning experiences, technical abilities, career readiness processes, and lifelong career planning.Zhang (2024)'s discussion on graduate employability emphasizes that employability includes not only professional knowledge and skills, but also higher-order dimensions such as adaptation, migration, and development. In this study, AI literacy scores are relatively high, while career development potential scores are relatively low,

indicating that generative AI is more likely to have an impact at more direct levels such as information processing, technological adaptation, and expression optimization, while its contribution to dimensions that rely on long-term experience, self-awareness, and career planning is still relatively limited. Secondly, this study provides a clearer direction for the teaching practice of vocational colleges. If generative AI only occasionally appears in students' extracurricular learning and job preparation, its effects may only stay at the level of data search and task completion. Only by more systematically integrating it into professional courses, career guidance, project training, school-enterprise cooperation, industry-education integration, etc. We can more effectively promote the sustainable development of students' professional abilities, adaptability, and job readiness. In this sense, this study does not just ask students whether they can use generative AI. Instead, it focuses on how to integrate its use into the vocational education environment. And transform it into more stable development support through educational organization and curriculum design.

However, this research also has certain limitations. First of all, the participants are mainly junior students of Shaanxi Provincial Higher Vocational College, so the sample is relatively concentrated. The cross-sectional design makes this study more suitable for explaining the relationship between variables, rather than completely revealing the causal mechanism. Future research can adopt a vertical research design to examine the dynamic relationship between students' use of generative artificial intelligence and employability at different learning stages. Secondly, this study mainly relies on self-filling questionnaires and a small number of interviews. Although this method helps to capture overall trends and typical experiences, there are still limitations in terms of behavioral authenticity, situational details and long-term impact. Future research can be combined with platform data, job search behavior records and follow-up interviews to enrich the evidence base and strengthen interpretation. Third, the lack of significant differences between groups does not necessarily mean that there are no differences. On the contrary, this may indicate that current measurement methods fail to fully capture more sensitive factors, such as the digital divide between students, the clarity of career goals, school support and family resources. Finally, the interview revealed problems such as content homogeneity, information bias and cognitive dependence. Therefore, future research should not only focus on whether generative artificial intelligence promotes employability. The conditions under which this effect occurs, how it works, and the educational risks that may accompany it should also be discussed.

6. CONCLUSION

This study explores the relationship between generative artificial intelligence and the employability of high-level vocational students in China. The results show that students' artificial intelligence utilization rate and employability are above the average level, and the use of artificial intelligence is positively correlated with employability. The interview results further show that generative artificial intelligence can support learning, resume improvement, simulated interviews and career preparation, but cannot replace human core competencies such as judgment and problem-solving. In a word, research shows that the employability training of generative artificial intelligence in vocational education is of practical value. In order to give full play to this potential, vocational colleges should more systematically integrate generative artificial intelligence into curriculum design, skill training and employment guidance.

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Appendix A Interview Outline

Category	Questions
Background Information	Are you currently a college junior, a teacher, or a corporate human resources (HR) professional?
	What is your academic (or professional) focus?
Current employability and challenges in finding employment	What skills do you think companies value most when hiring graduates from vocational colleges?
	In today's job market, what do you think is the biggest challenge vocational college students face when looking for work?
Understanding and Application of Generative AI	Are you familiar with or have you used generative AI tools?
	In which scenarios do you primarily use these AI tools?
	How would you rate the frequency and depth of your use of generative AI?
	How would you evaluate the role of generative AI in job search preparation?
The Impact of Generative AI on Employment Readiness	In which areas do you think generative AI is most helpful for your job search preparation?
	Do you think AI is more like "replacing you in tasks" or "helping you improve your skills"? Why?
Improvement Suggestions and Strategic Concepts	In what areas do you think schools should strengthen the integration of generative AI with career guidance?
	Do you think it is necessary to offer courses or boot camps related to "AI + Employment Skills"?
	If you were to design a program titled "AI-Powered Employment Support for Vocational Students," which aspects would you prioritize?