

ARTIFICIAL INTELLIGENCE LITERACY FOR ENHANCING CAREER ADAPTABILITY OF VOCATIONAL COLLEGE STUDENTS IN CHINA

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ABSTRACT

Against the background of digital transformation and industrial upgrading in Guangxi Zhuang Autonomous Region, artificial intelligence (AI) literacy has become a core competency for vocational college students to improve career adaptability. This study takes vocational college students in Guangxi as the research object, explores the constituent dimensions of AI literacy, and analyzes the mechanism of AI literacy affecting career adaptability from the perspectives of cognitive ability, technical application, innovative thinking and professional matching. The research finds that AI knowledge mastery, AI technical operation, AI ethical judgment and AI learning ability are the key factors affecting career adaptability. At present, vocational colleges in Guangxi have problems such as incomplete AI literacy training system, disconnection between curriculum and industrial demand, and insufficient school-enterprise collaborative education. Based on the theory of collaborative governance and combined with regional practice cases, this study puts forward targeted optimization paths to enhance the AI literacy and career adaptability of vocational college students in Guangxi, so as to provide reference for the cultivation of technical talents in the region.

Keywords: AI Literacy; Career Adaptability; Vocational Students.

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INTRODUCTION

With the full implementation of the digital China strategy and the accelerated development of the Beibu Gulf Economic Zone, Guangxi's modern industry, digital economy, advanced manufacturing and other industries have put forward higher requirements for the professional competence of technical talents. As the main force of regional technical talent training, vocational colleges in Guangxi are facing the challenge of adapting talent training specifications to industrial digital transformation. Career adaptability refers to the ability of individuals to adjust their cognition, behavior and psychology to adapt to changes in the working environment and job requirements, which is directly related to the employment quality and long-term career development of vocational college students.

Artificial intelligence literacy, as a comprehensive ability covering AI knowledge, technical application, ethical cognition and innovative application, has become a key variable affecting the career adaptability of vocational students. In the context of AI empowering all industries, vocational students with high AI literacy can quickly adapt to intelligent post operation, digital production management and other work content, while those with insufficient AI literacy are prone to career adaptation dilemmas such as job mismatch and ability lag.

Although Guangxi has introduced a series of policies to promote the integration of digital education and vocational education, the cultivation of AI literacy in vocational colleges still lags behind the actual needs of the industry. There are problems such as unclear training objectives, outdated curriculum content, insufficient practical resources, and lack of systematic evaluation mechanisms. These problems not only restrict the improvement of students' career adaptability, but also affect the matching degree between vocational education and regional industrial development.

Based on the realistic background of Guangxi's vocational education and industrial development, this study focuses on the AI literacy factors affecting the career adaptability of vocational college students in Guangxi. It sorts out the current situation and dilemmas of AI literacy training, analyzes the internal mechanism of AI literacy affecting career adaptability, and draws on the experience of advanced regions to put forward optimization strategies. The research aims to provide a theoretical basis and practical path for vocational colleges in Guangxi to optimize talent training programs and improve students' employment competitiveness and career development potential.

The significance of this study is reflected in two aspects. In theory, it enriches the research system of AI literacy and career adaptability in the context of vocational education in ethnic minority areas, and provides a new perspective for the interdisciplinary research of educational administration and digital technology. In practice, it helps vocational colleges in Guangxi to adjust talent training programs, helps students improve their ability to adapt to intelligent posts, and provides talent support for the high-quality development of regional industries.

THE CONNOTATION AND CONSTITUENT DIMENSIONS OF AI LITERACY AND CAREER ADAPTABILITY

2.1 The Connotation of AI Literacy for Vocational College Students

AI literacy is not a single technical ability, but a comprehensive literacy adapted to the intelligent era. For vocational college students, AI literacy mainly includes four core dimensions:

1. AI cognitive literacy: Master basic concepts, development history, application scenarios and technical principles of artificial intelligence, and understand the impact of AI on various industries and career posts.
2. AI technical application literacy: Master the basic operation of AI tools, intelligent equipment and digital platforms, and have the ability to apply AI technology to complete professional tasks.
3. AI ethical and normative literacy: Recognize the ethical risks, data security and social responsibility in AI application, and abide by industry norms and professional ethics in intelligent work scenarios.

4. AI innovative development literacy: Use AI thinking to optimize work processes, solve professional problems, and have the ability of continuous learning and adaptive innovation in the face of technological iteration.

2.2 The Connotation and Measurement of Career Adaptability

Career adaptability is a dynamic ability for individuals to cope with career changes, which is composed of four dimensions: concern, control, curiosity and confidence. For vocational college students in Guangxi, career adaptability is specifically reflected in:

1. Career concern: Having clear career awareness and planning awareness, and paying attention to the development trend of regional industries and post demand changes.
2. Career control: Having the ability to independently choose career directions and take the initiative to adjust career strategies, rather than passively adapting to the environment.
3. Career curiosity: Being willing to explore new posts, new technologies and new models, and maintaining enthusiasm for learning and adapting to emerging work content.
4. Career confidence: Having confidence in completing intelligent post tasks and overcoming career difficulties, and being able to quickly integrate into the working environment.

2.3 The Coupling Relationship Between AI Literacy and Career Adaptability

The coupling between AI literacy and career adaptability is reflected in three aspects:

1. Goal compatibility: Both take improving students' ability to adapt to the intelligent workplace as the core goal, and serve the high-quality employment and long-term career development of vocational students.
2. Subject diversity: The cultivation of AI literacy and career adaptability requires the joint participation of schools, enterprises, governments and industry organizations, forming a collaborative education system.
3. Process interactivity: The improvement of AI literacy runs through the whole process of career adaptation, and the experience of career adaptation in turn promotes students to update AI knowledge and skills, forming a positive cycle.

CURRENT SITUATION AND INFLUENCING FACTORS OF AI LITERACY AFFECTING CAREER ADAPTABILITY IN GUANGXI VOCATIONAL COLLEGES

3.1 Current Situation of AI Literacy Training of Vocational College Students in Guangxi

Through investigation and research, it is found that the current AI literacy training of vocational college students in Guangxi presents the following characteristics:

1. The overall level of AI cognitive literacy is low, and most students only have a superficial understanding of AI, lacking systematic knowledge reserve.
2. The ability of AI technical application is uneven, and students in majors such as computer and electromechanical are relatively strong, while students in liberal arts and service majors are obviously insufficient.
3. AI ethical literacy is ignored, and students lack awareness of data security and risk prevention in intelligent application scenarios.
4. The innovative development literacy is weak, and students are difficult to combine AI technology with professional posts to solve practical problems.

3.2 Core Factors of AI Literacy Affecting Career Adaptability

1. AI knowledge reserve factor: Insufficient basic AI knowledge leads to students' inability to understand the working logic of intelligent posts, resulting in poor career adaptation.
2. AI technical operation factor: Lack of practical ability of AI tools and equipment makes it difficult for students to meet the operational requirements of intelligent posts, affecting employment adaptation.
3. AI learning ability factor: The rapid iteration of AI technology requires students to have continuous learning ability, and weak learning ability will lead to career adaptation lag.

4. Regional industrial demand factor: The intelligent transformation of Guangxi's characteristic industries (such as port logistics, characteristic agriculture, equipment manufacturing) puts forward differentiated AI literacy requirements, and the mismatch between training and demand reduces career adaptability.

3.3 Practical Dilemmas in the Cultivation of AI Literacy in Guangxi Vocational Colleges

1. Curriculum system dilemma: The AI-related courses are single, outdated in content, and not closely integrated with professional posts, failing to form a hierarchical and progressive training system.

2. Teacher team dilemma: Most teachers lack practical experience in AI industry application, and it is difficult to carry out targeted technical teaching and career guidance.

3. Practical platform dilemma: The construction of AI training bases in schools is slow, and the depth of school-enterprise cooperation is insufficient, so students cannot obtain real intelligent post practice opportunities.

4. Evaluation system dilemma: The evaluation of AI literacy focuses on theoretical examination rather than practical ability and career adaptation effect, and the evaluation orientation is biased.

INSTITUTIONAL OBSTACLES TO THE INTEGRATION OF AI LITERACY TRAINING AND CAREER ADAPTABILITY EDUCATION

4.1 Imbalance of Rights and Responsibilities in Collaborative Education

The government, schools and enterprises have unclear division of labor in the cultivation of AI literacy. The government lacks perfect policy support and supervision mechanisms; schools are the main force of training but have insufficient autonomy; enterprises have high participation costs and low enthusiasm, and lack the right to speak in curriculum design. This leads to the disconnection between AI literacy training and actual post needs, and reduces the effect of career adaptability improvement.

4.2 Mismatch of Incentive Mechanisms

The existing incentive policies for enterprises participating in vocational education are limited, and the tax relief and financial support are far lower than the actual investment of enterprises in AI training equipment and teachers. As a result, enterprises are unwilling to carry out in-depth cooperation, and students cannot obtain effective practical training, which affects the improvement of career adaptability.

4.3 Fragmentation of Policy System

The education department, human resources department and industry department lack coordinated planning in AI literacy training and career guidance. The professional setting of vocational colleges lags behind the iterative speed of AI technology, resulting in a mismatch between talent supply and industrial demand, and students face career adaptation risks after employment.

4.4 Resource Allocation Barriers

There is a gap in the allocation of AI education resources between public and private vocational colleges in Guangxi. Private colleges have insufficient investment in training bases and teachers, and it is difficult to carry out high-quality AI literacy training. At the same time, the sharing of enterprise technical resources and school training resources is blocked, and the resource utilization rate is low.

EXPERIENCE REFERENCE FROM ADVANCED REGIONS AND LOCAL OPTIMIZATION PATHS IN GUANGXI

5.1 Experience Reference from Chongqing and Yangtze River Delta Region

Legislation guarantee: Chongqing's vocational education legislation incorporates industry-education integration and intelligent talent training into the legal system, clarifies the rights and obligations of all parties, and provides legal support for AI literacy training.

Regional collaboration: The Yangtze River Delta region has established a vocational education collaboration mechanism, unified talent training standards, realized resource sharing and talent mutual recognition, and improved the matching degree between talent training and industrial needs.

School-enterprise community: Build an industry-education community with leading enterprises as the core, jointly develop AI courses and training programs, and realize the seamless connection between talent training and career adaptation.

5.2 Local Optimization Paths for Guangxi Vocational Colleges

Optimize the curriculum system: Integrate AI literacy into professional courses, develop characteristic courses combined with Guangxi's intelligent industry needs, and build a progressive training system from basic cognition to advanced application.

Strengthen teacher construction: Encourage teachers to go to AI enterprises for temporary training, introduce enterprise technical experts as part-time teachers, and improve the practical teaching level of AI literacy.

Build a practical platform: Rely on Guangxi's digital economy industrial parks and intelligent manufacturing enterprises to build off-campus AI training bases, and carry out post-oriented practical training.

Improve the collaborative mechanism: The government introduces targeted incentive policies, clarifies the responsibilities of schools and enterprises, builds a regional AI literacy training and career adaptability education platform, and realizes the coordinated development of talent training and industrial needs.

CONCLUSION

AI literacy is a core factor affecting the career adaptability of vocational college students in Guangxi Zhuang Autonomous Region. Its cognitive literacy, technical application literacy, ethical literacy and innovative literacy jointly determine the ability of vocational students to adapt to intelligent posts and career changes. At present, the cultivation of AI literacy in Guangxi vocational colleges is facing dilemmas such as imperfect curriculum system, insufficient practical resources, unclear collaborative education responsibilities and mismatched incentive mechanisms, which restrict the improvement of students' career adaptability.

The legislative exploration of Chongqing and the regional collaboration practice of the Yangtze River Delta provide valuable experience for Guangxi. To solve this problem, it is necessary to construct a collaborative education ecosystem with government guidance, school-led, enterprise participation and industry support. We should optimize the AI literacy training curriculum, strengthen the construction of dual-qualified teachers, build a practical training platform integrating school and enterprise, and improve the policy incentive and resource sharing mechanism.

This study focuses on the relationship between AI literacy and career adaptability, and provides a practical path for vocational colleges in Guangxi to adapt to digital industrial transformation. In the future, empirical research can be further carried out to quantify the impact of different AI literacy dimensions on career adaptability, and form a more targeted training plan. At the same time, with the continuous iteration of AI technology, the connotation of AI literacy and the requirements of career adaptability will be updated, and long-term tracking research is needed to provide sustained support for the high-quality development of vocational education in Guangxi.

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