

Research on Strategies for Promoting the Education Management of Higher vocational College Students' Sustainable Career Planning Based on the SCCT Theory and SWOT Analysis

Zhang Yanhua^{1,2}, Phatchareeporn Bangkheow^{1*}, Sarayuth Sethakhajorn¹, Phisanu Bangkheow¹ & Chawalit Jujia¹

¹Graduate School, Bansomdejchaopraya Rajabhat University, Bangkok, Thailand

²Heyuan Polytechnic, Heyuan, Guangdong, China

Correspondence author: Phatchareeporn Bangkheow, E-mail: Patchareeporn.ba@bsru.ac.th

ARTICLE INFO

Article history

Received: September 03, 2024

Accepted: December 12, 2024

Published: January 31, 2025

Volume: 13 Issue: 1

Conflicts of interest: None

Funding: None

ABSTRACT

Sustainable career planning among higher vocational college students plays a significant role in personal development, career planning, resource optimization, social harmony, and sustainable development. This study investigates the current status, anticipated scenarios, and influencing factors of sustainable career planning among higher vocational students based on Social Cognitive Theory (SCT) and Social Cognitive Career Theory (SCCT). The findings indicate that the level of sustainable career planning among the surveyed students is moderate and is influenced by multiple factors. The study develops educational management strategies to promote sustainable career planning among higher vocational students, utilizing SWOT analysis and focus group discussions. High-level experts evaluate these strategies for their adaptability and feasibility. Based on the consensus of these experts, it was determined that there is agreement on "Strategies for Promoting the Education Management of Higher Vocational College Students' Sustainable Career Planning Based on the SCCT Theory and SWOT Analysis.

Key words: SCCT, SWOT, Sustainable Career Planning, Higher vocational College Students, Education Management, Strategies

INTRODUCTION

In economic globalization, vocational education in higher vocational colleges faces competitive pressure, with talent as the core focus. Applying the concept of sustainable development to educational management has become a practical necessity.

Industrial Structure Adjustment

The adjustment of industrial structures has profoundly impacted the occupational market. Environmental regulations, technological advancements, and the integration of green finance drive this transformation. Such adjustments have led to changes in occupations and positions, altering the demand for various professional and technical talents. The industrial structure adjustment in resource-based regions post-pandemic has affected the occupational market by altering talent demands and promoting innovation for sustainable development (He et al., 2024).

Unbalanced Regional Development

Guangdong, a significant economic province in China, has ranked first in GDP for 33 consecutive years. The "2021 Guangdong Provincial National Economic and Social

Development Statistical Bulletin" reports that Guangdong's GDP reached 12.4 trillion yuan (approximately US\$1.92 trillion) in 2021, making it the first province in China to exceed this figure. However, it is essential to acknowledge that behind this prosperity lies a seriously unbalanced economic development model.

Grim Employment Situation

In recent years, the number of college graduates in China has increased annually. According to the Ministry of Education, nationwide college graduates are expected to exceed 11 million by 2024. Employment pressure on college graduates has intensified with the rapid advancement of higher education reform and career development, especially in the post-epidemic era. Enhancing technical talent's professional quality and employability in higher vocational colleges is crucial for developing vocational education. The post-pandemic landscape has seen many companies laying off employees, leading to tightened employment demand and limited policy-based job expansion, which hampers job opportunities for higher vocational college graduates. Consequently, employment issues have become increasingly prominent amid industrial structure adjustments and uneven regional development.

Changes in Educational Targets

As society evolves, the educational targets of colleges and universities are shifting towards the post-2000 generation. This generation faces a complex, changeable, and uncertain life environment. Vocational education must focus on depth, precision, skill, and personalization, ushering in the University Vocational Education 2.0 era.

Influence of Sustainable Development Education

The “Special Work Outline on Promoting Education, Public Awareness and Training” emphasizes sustainable development education. Sustainable development must prioritize “people” at its core and encourage widespread participation, focusing on practical application. In the face of global economic competition, higher vocational colleges must adapt their educational management to align with sustainable development principles. The gap between higher education talent training and the actual talent demands in economic and social development poses significant challenges for China’s higher education system, contributing to the mismatch between talent supply and societal needs.

Existing Gaps and Problems

Developed countries already have comprehensive employment guidance and career planning education. Career counseling and teaching are provided throughout the student journey and before finding a job after graduation. Significant differences exist in approach, technology integration, and stakeholder involvement between Chinese and foreign career planning education. Chinese educational institutions face challenges aligning career guidance with market demands, while foreign systems typically emphasize holistic development and parental involvement. In China, universities struggle with insufficient technology integration and limited faculty training, leading to a disconnect between student expectations and the realities of the job market.

Additionally, career planning education lacks systematic enrichment and practical learning opportunities crucial for effective career guidance. In contrast, Western career education emphasizes comprehensive life planning, integrating career information, counseling, and direct workplace engagement. In many foreign contexts, parental involvement is a crucial factor in successful career planning, which contrasts sharply with the hierarchical family dynamics in China (Dai & Pham, 2024).

Figure 1 highlights the background factors influencing vocational education and employment challenges in Guangdong Province. It consists of the following key points:

1. **Industrial Structure Adjustment:** Rapid changes in occupations and positions due to adjustments in industrial structure. Enterprises demand more professional, technical, and managerial talents.
2. **Regional Economic Imbalance:** Guangdong Province’s economic development is severely unbalanced despite its prosperity.
3. **The Employment Situation Continues to Be Grim:** Graduates from higher vocational colleges face significant obstacles in finding jobs, with employment challenges becoming more severe.
4. **The Impact of Sustainable Education Concepts:** Higher vocational education is under pressure to adapt to talent-based competition. There is a need to integrate sustainable development principles into educational management.
5. **Changes in Education Objects:** The post-2000 generation’s life environment is highly complex, dynamic, and uncertain, affecting their education and development.

Purpose and Importance of Research

The purpose of the research on the educational management strategies for promoting sustainable career planning among higher vocational college students is to study the current situation, expected situations, and factors influencing the development of educational management for sustainable career planning of higher vocational college students, develop educational management strategies to promote sustainable career planning among higher vocational college students and evaluate the adaptability and feasibility of educational management strategies that promote sustainable career planning for higher vocational college students were including 3 aspects: personal, environmental, behavioral.

Sustainable career planning education in higher vocational colleges faces several significant challenges that hinder adequate student preparation for the job market. The problems of sustainable career planning education in higher vocational colleges include: no systematic career planning education system has been established; The existing career planning education content is outdated; In China, the popularization of career planning education is limited, and the career planning education in middle school is lacking. The education of career planning in higher vocational colleges does not pay enough attention, and the course content lacks practical links. These issues stem from a disconnect between educational offerings and industry needs, inadequate resources, and insufficient practical training. While these challenges are significant, they also present opportunities for reform. By addressing these issues through enhanced collaboration, resource allocation, and curriculum alignment, higher vocational colleges can better equip students for sustainable career paths.

Sustainable career planning and education management strategies in higher vocational colleges are paramount for aligning educational outcomes with market demands, enhancing employability, and fostering long-term career development for students. This approach addresses current employment challenges and prepares students for future workforce needs. The sustainable career planning education management strategy in higher vocational colleges is crucial in enhancing student competitiveness, aligning with industry standards, and improving employment outcomes. This multifaceted approach effectively addresses the challenges of slow employment and market integration. Sustainable career planning and education management in higher vocational colleges are crucial for cultivating technical skill talents,

enhancing students' choice behaviors, and improving the quality of China's manufacturing industry. It ensures forward-looking innovation and development, aligning education with market demands, promoting lifelong learning, and increasing social economic outcomes.

In light of the above, a deep exploration of the current state of career planning education for college students in higher vocational colleges in Guangdong Province reveals the behavioral patterns of career planning among vocational students. This provides theoretical and practical foundations for colleges to select effective career planning education programs and formulates strategies for career planning education management to promote the sustainable development of career planning education for college students in higher vocational colleges.

Relevant Scholarship

Career planning

Through the comparison of existing studies, it is found that although domestic and foreign scholars have different interpretations of the steps and modes of career planning, they all believe that career planning is a process of

decision-making feedback. On this basis, the modes and steps of career planning are defined. Career planning involves self-awareness, understanding job opportunities, decision-making, and goal setting. Key steps include self-assessment, exploring career options, decision-making, and creating a plan aligned with personal abilities and interests (Panggabean, 2023). On this basis, this research divides college students' career planning into four aspects, including 12 sub-links: Self-awareness, Environmental cognition, Career consciousness, Career planning cognition, Career Preparation, Clear goals, Formulate strategies, Employment readiness, Career exploration support, Career exploration skill, Self-improvement, Professional skills training, Target Tracking, Target Evaluation, Sustainability of Goals, Plan Adjustment.

Figure 2 outlines a framework for career development and planning, divided into four interconnected stages:

1. Cognitive: Focuses on self-awareness, understanding the environment, developing career consciousness, and forming career planning cognition.
2. Preparatory: Involves preparing for a career through setting clear goals, formulating strategies, and ensuring readiness for employment.

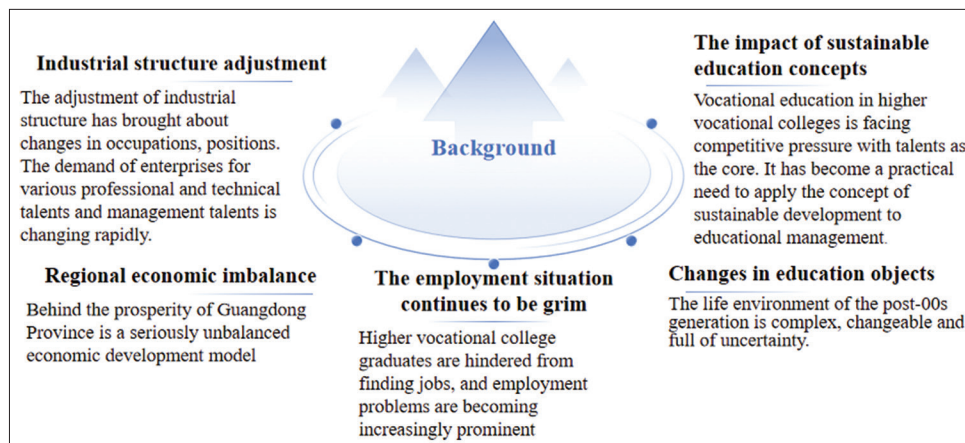


Figure 1. Background of research

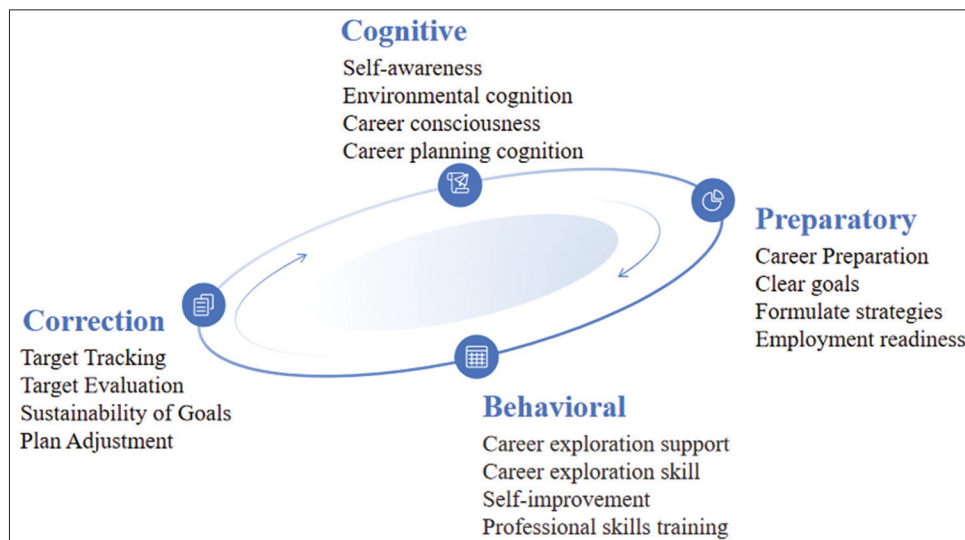


Figure 2. The sustainable career planning model

3. Behavioral: Emphasizes practical actions, including career exploration support, skill development, self-improvement, and professional skills training.
4. Correction: Centers on monitoring progress, evaluating targets, ensuring the sustainability of goals, and making necessary adjustments to plans.

This cyclical process supports individuals in effectively planning and progressing in their career paths.

The SCT & SCCT

The SCCT theory, abbreviated as Social Cognitive Career Theory, is a career development theory proposed by American psychologists Robert L. Lent, Steven D. Brown, and Gail W. Hackett, among others. The theory is developed based on Albert Bandura's social cognitive theory and aims to explain how individuals choose and build their careers through social cognitive processes. The theory is highly inspiring when facing visiting vocational students who lack interest, have low self-efficacy, and have insufficient motivation (Bandura, 1986).

We chose SCCT as the theoretical basis for explaining how and why career planning arises, develops, and translates into action (Lent, 2005). It relies on the interconnections between personal attributes, such as self-efficacy, outcome expectations, goals, and environmental and behavioral themes, influencing a person's career choice.

Personal factors include an individual's self-efficacy, outcome expectations, interests, values, personality traits, skills, and knowledge. These factors influence how individuals perceive career opportunities and their responses. For example, an individual's self-efficacy (the belief in one's ability to complete specific tasks) can affect their attitude towards challenges and coping strategies. If individuals believe they can complete a task, they are more likely to try and succeed, thereby increasing the possibility of career development (Bandura, 1986).

Environmental factors involve the social, cultural, economic, and educational environments in which individuals are situated. This includes family, school, workplace, community, and broader social structures. Lent presented two types of environment factors: (a) distal contextual factors, which emerge when individuals learn and interact with their own cultural and social expectations, and (b) proximal contextual factors, which are directly related to career choice concerns, e.g., significant role models and job opportunities (Lent, 2005). Environmental factors can affect individuals' opportunities to obtain information and resources and their perception of career opportunities. For example, an educational environment that supports career exploration and provides internship opportunities can offer students more career development opportunities. In addition, economic conditions, industry trends, and the demand and supply of the job market can also influence individuals' career choices and career development paths.

Behavioral factors refer to how individuals utilize personal abilities and environmental resources to achieve career goals. This includes goal setting, decision-making, planning, action, and feedback adjustment. The behavior theme is

expressed in one's career choice and overt behavior, such as seizing opportunities and overcoming barriers that result from self-efficacy and career-related interest (Lent, 2003). Individuals set specific career goals, develop plans to achieve these goals, and take action to overcome obstacles and seize opportunities. For example, a goal-oriented individual might set short-term and long-term career goals and develop detailed action plans to realize these goals. In addition, individuals need to adjust their strategies and actions based on feedback and results to adapt to the ever-changing career environment.

The SCCT theory emphasizes that the three factors of individual, environment, and action interact and influence each other. Individuals promote career development through self-assessment, goal setting, planning, action, and adaptability when facing environmental challenges. Traditional career theories all emphasize that a good career choice should be based on a basic understanding of oneself and the profession. However, higher vocational college students often encounter difficulties such as a lack of interest and goals, as their life experiences and behaviors do not show any intention; low self-efficacy, constantly having negative self-evaluations, or appearing self-deprecating and unwilling to take action; insufficient motivation, feeling that career investigation and career action are not helpful or valuable in solving problems. The analysis of these obstacles points to limiting beliefs. However, the SCCT theory focuses on the learning process and experiences that lead to these beliefs and how learning experiences affect the career choice process and behavior. On this basis, the sustainable career planning influencing factors model of higher vocational college students based on SCCT theory is formed.

Figure 3 illustrates the interaction of three key factors influencing career development and decision-making:

1. Behavioral Factors: Includes career exploration activities, career counseling, decision-making processes, and reflection and adjustment.
2. Personal Factors: Comprises personal ability, interests, character, values, and career goals. These elements shape an individual's approach to career planning.
3. Environmental Factors: Encompasses external influences such as family, school, workplace, and society, which affect career opportunities and decisions.

The Figure emphasizes the interconnection between personal factors, environmental factors, and behavioral factors, highlighting how they collectively influence career development processes.

METHOD

Aiming at the research objective, quantitative research methods are adopted to collect, analyze, and make statistics on relevant data.

Read and organize relevant domestic and foreign literature to become familiar with relevant theories and concepts of educational management, strategy, sustainable development, career planning, etc. Based on the four steps of career planning proposed by scholars: Cognitive, Preparatory, Behavioral, and Correction. To analyze the Current Situation regarding

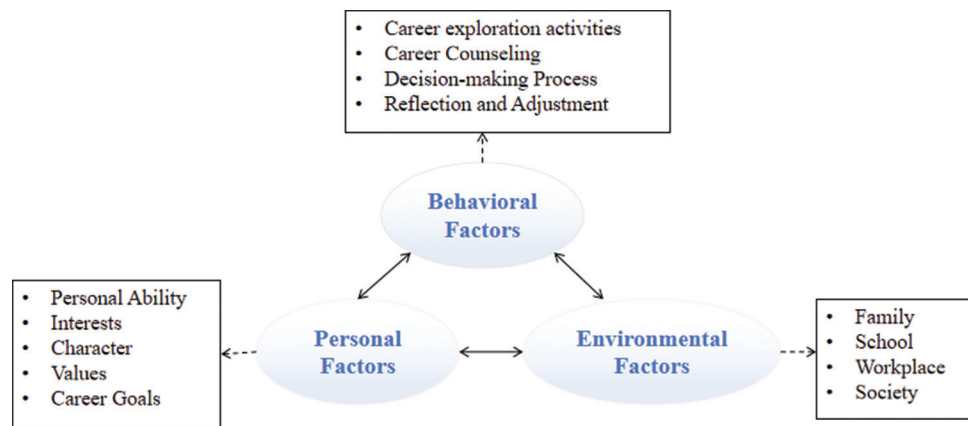


Figure 3. The sustainable career planning influencing factors model

the Sustainable Career Planning of Higher Vocational College Students. Based on the three factors of career planning proposed in the social cognitive career theory: Personal factors, environmental factors, behavioral factors, investigation and analysis influencing factors of Sustainable Career Planning of Higher Vocational College Students, clear research objectives, Develop research plans and ideas.

A questionnaire survey was designed on the current situation, expected situations, and factors influencing the development of educational management for sustainable career planning of higher vocational college students in Guangdong Province, and a survey was conducted among teachers and students of 8 higher vocational colleges in Guangdong Province. This part of the research is divided into 3 steps that can be summarized in Figure 4:

Figure 4 outlines a three-part research process aimed at examining the current situation and influencing factors. The sample group consisted of 400 students and 12 career planning education teachers. Data collection was conducted using questionnaires from the 400 participants and interviews with the 12 teachers. The research instruments included a questionnaire and an interview form, while data analysis employed various methods such as mean, percentage, standard deviation, content analysis, and SWOT and PEST analyses.

Research Population and Sample

For the questionnaire, 400 students from higher vocational colleges from four different regions in Guangdong, East, west, North, and South were randomly selected as a sample group for questionnaire survey research.

For the interview, 12 career planning education teachers in higher vocational colleges from four regions in Guangdong: East, west, North, and South. The qualifications of the interviewees are as follows: 1) Possess a career planning teaching qualification certificate. 2) Have more than 10 years of teaching experience in career planning education.

Questionnaire

To study the current situation and factors influencing the development of educational management for sustainable career planning of higher vocational college students, we compiled

the “Questionnaire of the current situation and influencing factors of sustainable career planning for college students in higher vocational colleges.” The questionnaire was designed for higher vocational college students from different genders, grades, subjects of the major, and regions in Guangdong. It was divided into 3 parts, 33 questions. The survey questionnaire was distributed to internship students via the Internet. In total, 400 questionnaires were recovered, with all 400 being valid. Analysis revealed the questionnaire’s Cronbach’s α coefficient to be 0.865, indicating that the questionnaire has high reliability.

Interview

To study the current situation and factors influencing the development of educational management for sustainable career planning of higher vocational college students, an interview survey was conducted among 12 career planning education teachers. The interview form included 9 questions.

This research invited 12 interviewees, who were career planning teachers from vocational colleges in various regions of Guangdong. By school region, there were 12 interviewees from different genders, different work experiences in career planning education (years), different professional titles, and various areas of Guangdong.

The Focus Group Discussion

The focus group discussion about the draft of the educational management strategies for sustainable career planning of higher vocational college students was analyzed by content analysis. Ten experts were invited to participate in a focus group discussion. In terms of gender, there were 6 male teachers, accounting for 60%, and 4 female teachers, accounting for 40%. Regarding positions, 4 were higher vocational college educational managers, accounting for 40%; 3 were career planning experts, accounting for 30%; 3 were corporate senior managers, accounting for 30%. The discussion topics of the focus group discussion included: “Whether the strategies mentioned in the draft are necessary?” and “How to make the educational management strategies for sustainable career planning of higher vocational college students more sustainable?”.

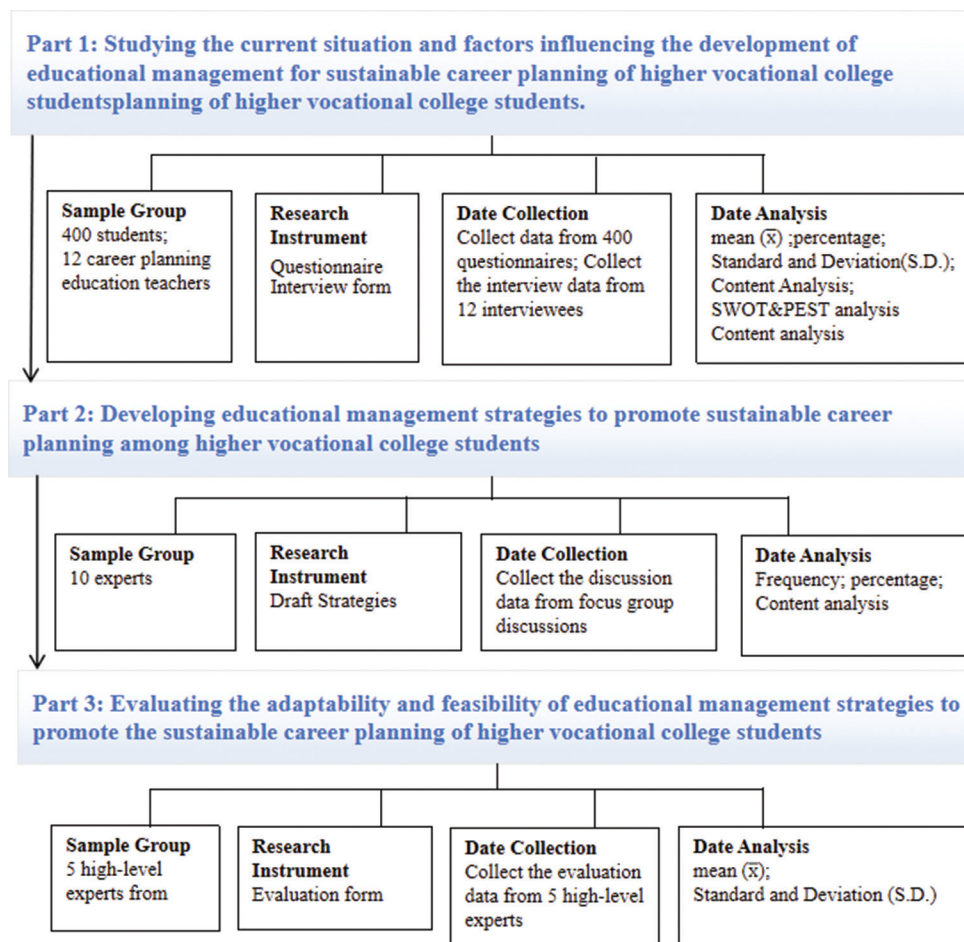


Figure 4. Research methods in 3 parts

The Evaluation of the Adaptability and Feasibility

Invite 5 high-level experts to evaluate the adaptability and feasibility of educational management strategies for promoting the sustainable career planning of higher vocational college students.

RESULTS

The Current Situation

The statistical analysis of the questionnaire data found that the current situation of the sustainable career planning of the surveyed students was generally at a moderate level. From the mean of the four aspects, the surveyed students were at a moderate level in all aspects. According to the results of the analysis, the means of each level, from high to low, were correction, cognitive, behavioral, and preparatory levels.

From the results of the interview word frequency statistics, among the 17 current problems of the sustainable career planning for college students in higher vocational colleges, 1) in terms of personal aspects, the current problems from largest to slightest were “Lack of career planning awareness” (66.67%), “Lack of self-awareness” (66.67%), “Fuzzy goal setting” (58.33%), “Weak ability to resist frustration” (50%), “Lack of motivation to learn” (41.67%), “Unclear career values” (33.33%), “Over-dependence on others”, “lack of independent thinking and problem-solving

ability” (33.33%); 2) in terms of environmental aspects, the current problems from largest to smallest are “Insufficient teachers for career planning education” (66.67%), and “Uneven educational resources and limited internship opportunities” (58.33%), “Traditional family values restrict college students’ exploration and choices” (33.33%), “Fierce competition in the job market” (33.33%), “The resources that families may provide do not match expectations” (33.33%), “Economic and policy changes” (25%); 3) In terms of behavioral aspects, the current problems from largest to smallest were Lack of practical experience and internship opportunities” (66.67%), “Students have a single cognitive path and insufficient information acquisition” (33.33%), “Lack of continuous career development planning” (16.67%), “Weak career decision-making ability” (8.33%).

Result of Influencing Factors from Questionnaire Data

The statistical analysis of the questionnaire data found that factors influencing the sustainable career planning of higher vocational college students were generally of high importance. From the mean of the three aspects, the factors influencing were at a high level. The students surveyed believed that among the factors influencing their sustainable career planning, environmental factors were the most essential, and

Table 1. Mean and standard deviation of the current situation and expected situations about the sustainable career planning of higher vocational college students

Total	Total			Total			Total	Total
	M	SD	Level	M	SD	Level		
Cognitive	3.36	0.91	moderate	4.95	0.20	High	0.47	2
Preparatory	3.20	0.85	moderate	4.95	0.20	High	0.55	1
Behavioral	3.24	0.90	moderate	4.96	0.17	High	0.53	1
Correction	3.45	0.79	moderate	4.88	0.32	High	0.41	3
Total	3.31	0.79	moderate	4.93	0.22	High	0.47	

Table 1 revealed that the Current Situation: $M = 3.31$, $SD = 0.79$, Level = Moderate, Expected Situation was $M = 4.93$, $SD = 0.22$, Level = High and PNI Modified = 0.47

Table 2. Mean and standard deviation of factors influencing the sustainable career planning of higher vocational college students

No.	Factor	M	SD	Level	Rank
1	Personal	3.71	0.80	High	2
2	Environmental	4.12	0.87	High	1
3	Behavioral	3.59	0.83	High	3
	Total	3.80	0.83	High	

Table 2 shows the total M and SD of factors influencing the sustainable career planning of higher vocational college students. The total amount was $M = 3.80$, $SD = 0.83$, Level = High

personal factors were the second most crucial. Behavioral factors were the third most important factor.

Result of Influencing Factors from the Interview

From the results of the interview word frequency statistics, among the 13 influencing factors of sustainable career planning of higher vocational college students, the 3 most frequently appearing influencing factors were 1) personal ability (mentioned 7 times, $P = 58.33\%$); 2) school (mentioned 7 times, $P = 58.33\%$) and society (mentioned 7 times, $P = 58.33\%$); 3) career exploration activities (mentioned 7 times, $P = 58.33\%$).

Educational Management Strategies for Sustainable Career Planning from Interview

From the interview word frequency statistics results, among the 34 educational management strategies for sustainable career planning of higher vocational college students proposed by the interviewees, there are 14 strategies whose Percentage of frequency statistics exceed 50%,

SWOT & PEST Analysis

Based on the data obtained from the questionnaire and interview, a SWOT analysis of the current situation and factors influencing the development of educational management for sustainable career planning of higher vocational college students was conducted. Through PEST analysis (Political, Economic, Social, and Technological), an in-depth exploration of the O (Opportunities) and T

(Threats) sections of the SWOT analysis for the current situation and influencing factors of sustainable career planning for college students in higher vocational colleges can be carried out. A SWOT & PEST analysis matrix for sustainable career planning has been established. Based on the above SWOT analysis results, conduct a strategy analysis and formulate corresponding strategies for the following: Strengths and Opportunities (SO), Weaknesses and Opportunities (WO), Strengths and Threats (ST), and Weaknesses and Threats (WT).

Table 3 presented a SWOT analysis for career planning strategies. SO strategies leverage strengths with opportunities (e.g., student innovation, flexible models). WO strategies address weaknesses by enhancing career awareness and resources. ST strategies mitigate threats via enterprise collaboration and social responsibility. WT strategies tackle weaknesses and threats through skill updates and education reforms.

Result of the Focus Group Discussion

From the results of the focus group discussion, the discussion topic about "Whether the strategies mentioned in the draft are necessary?", 10 experts said yes, the percentage of frequency statistics exceeds 100.00% during the focus group discussion on the topic "How to make the educational management strategies for sustainable career planning of higher vocational college students more sustainable?" experts from three perspectives - educational management, career planning, and enterprises supplementary strategic suggestions. The higher vocational college educational manager proposed eight strategies, a career planning expert proposed 6, and the Corporate senior manager proposed 4.

Combining the SWOT strategic analysis with the focus group discussion results, the draft strategy was adjusted and improved to derive the final strategy.

Figure 5 presented the educational management strategies for sustainable career planning of higher vocational college students. It focuses on promoting behavior and personal factors, optimizing environmental factors (family, school, society, workplace), enhancing career resources, cooperation mechanisms, market alignment, skill updates, corporate collaboration, and personalized, sustainable career guidance and development.

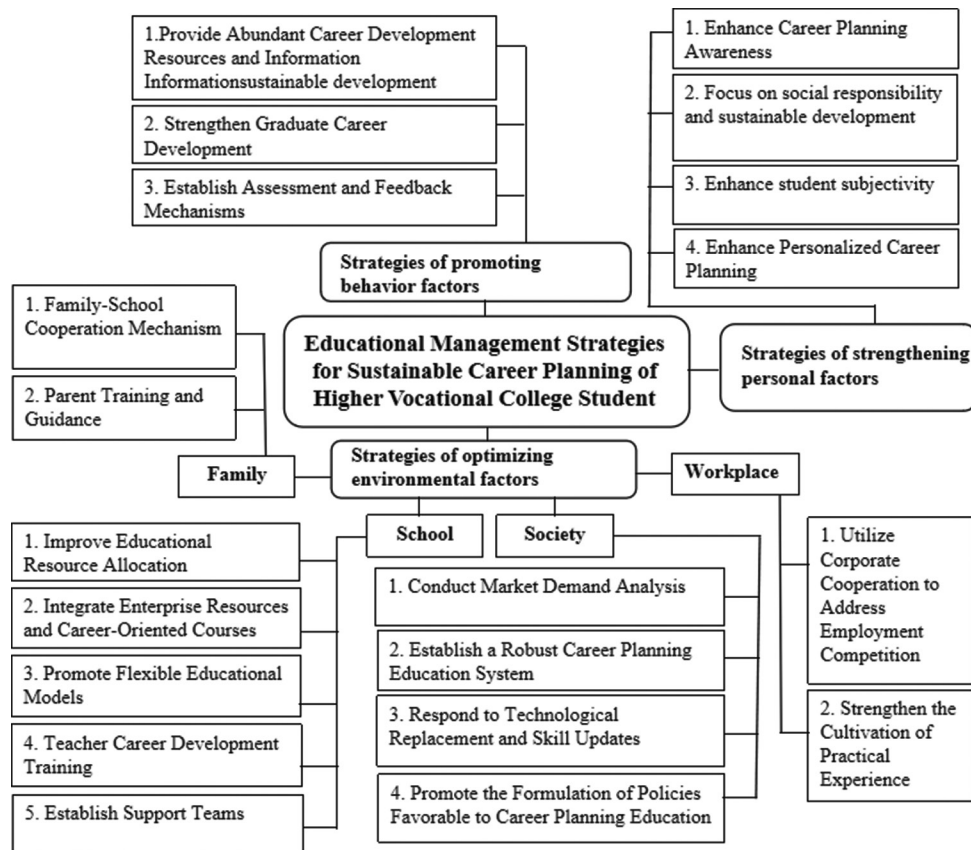


Figure 5. The educational management strategies for sustainable career planning of higher vocational college students

Table 3. SWOT analysis &TOWS Strategy Matrix

Strategic Analysis	Internal factors	Strengths	Weaknesses
	External factors	SO Strategy	WO Strategy
Opportunities	<ul style="list-style-type: none"> SO.1. Utilize students' challenge spirit and innovation ability SO.2. Integrate enterprise resources with career-oriented courses SO.3. Promote flexible education models 	<ul style="list-style-type: none"> WO.1. Enhance career planning awareness WO.2. Improve educational resource allocation WO.3. Enrich course offerings 	
Threats	<ul style="list-style-type: none"> ST.1. Utilize enterprise cooperation to address employment competition ST.2. Strengthen practical experience training ST.3. Focus on social responsibility and sustainable development 	<ul style="list-style-type: none"> WT.1. Strengthen career planning education to address policy uncertainty WT.2. Enhance students' information acquisition skills WT.3. Respond to technological replacement and skill updates 	

Result of Evaluation

After the evaluation by five high-level experts, the experts' overall evaluation of the adaptability of the strategies is at the highest level, and the data showed that the experts' overall evaluation of the feasibility of the strategies is at a high level, indicating that the strategies have high adaptability and feasibility. Among the three sub-dimensions, the adaptability evaluation of the strategies of strengthening personal factors, strategies of optimizing environmental factors, and strategies of promoting behavior factors are at the highest

level, the feasibility evaluation of the strategies of strengthening personal factors, strategies of optimizing environmental factors, strategies of promoting behavior factors are at a high level.

DISCUSSION

According to the research objectives of developing educational management strategies for sustainable career planning of higher vocational college students: 1) To study the current situation, expected situations, and factors influencing

the development of educational management for sustainable career planning of higher vocational college students. 2) To develop educational management strategies to promote sustainable career planning among higher vocational college students. 3) To evaluate the adaptability and feasibility of educational management strategies that promote sustainable career planning for higher vocational college students. The researcher distributed questionnaires to the sample group of this research, conducted interviews with career planning education interviewees, performed a SWOT & PEST analysis, held focus group discussions, and sent evaluation forms to high-level experts.

A survey study has found that the level of sustainable career planning among higher vocational students is not high, and students have high expectations for improving their career planning level. Multiple factors influence the educational management of sustainable career planning in higher vocational colleges. Based on the Social Cognitive Career Theory, the main influences are manifested in three aspects: individual, environment, and behavior, among which the school factor in the environmental factors has the greatest impact. The "Educational Management Strategies for Sustainable Career Planning of Higher Vocational College Students" has been proposed through SWOT analysis and focus group discussions. The strategies include three aspects: Strategies for Strengthening Personal Factors, including 4 measures; Strategies for Optimizing Environmental Factors, including 13 measures; and Strategies for Promoting Behavior Factors, including 4 measures, totaling 20. These strategies have undergone feasibility and applicability evaluations by high-level experts and have been unanimously recognized.

Strategies for Strengthening Personal Factors

Enhance career planning awareness

Many students still have limited career awareness, highlighting the need for educational institutions to prioritize this aspect to improve students' job readiness and motivation (Tuan, 2022). Promote career planning awareness by fostering students' self-assessment, goal setting, and problem-solving skills and utilizing e-recruiting tools to enhance employability awareness among tertiary students. (Chou et al., 2017).

Focus on social responsibility and sustainable development

By understanding how career choices impact society and the environment, students are inspired to pursue paths that contribute to sustainability. A fresh perspective on careers, which acknowledges their complexity and incorporates sustainability, highlights the interconnectedness of individuals, contexts, and career outcomes. This approach motivates students to make thoughtful decisions that positively affect societal and environmental well-being. Embedding sustainability principles into curricula, especially in subjects like social studies, enhances students' awareness of

their role in addressing global challenges. Research demonstrates that such integration fosters a strong sense of global citizenship, empowering students to actively contribute to a sustainable future. By linking career development with sustainability, education prepares students to be responsible leaders who are equipped to tackle pressing global issues and create a more equitable and sustainable world for future generations.

Enhance student subjectivity

Encouraging students to actively engage in all aspects of career planning helps cultivate their self-management and self-planning abilities. Several effective strategies can be used to foster active participation in career planning. This approach involves nurturing proactive personalities, emphasizing the importance of core self-evaluation, and promoting diligent job search behaviors to lay the foundation for early career success (Ali Khan, 2022).

Enhance personalized career planning

Individualized development plans should be created based on students' characteristics to help them design career plans that align with their interests, abilities, and market demands. An effective approach is to implement tailored online career planning modules within the university curriculum, which can greatly enhance students' career adaptability, including skills such as planning, decision-making, and exploration. Experiential assignments designed to assess organizational fit can also engage students in all aspects of career planning (Snyder & Hartwell, 2024). Actively encouraging students to engage in career planning can be achieved through personalized guidance, interactive workshops, mentorship programs, and exposure to real-world experiences (Ayu et al., 2022).

Strategies for Optimizing Environmental Factors

Family

Family-school cooperation mechanism

Regular parent-teacher meetings and career planning seminars can promote active participation by fostering open communication, setting clear goals, and involving parents and teachers in decision-making processes. Also, it can enhance engagement by discussing pupil progress, setting goals, understanding home environments, planning to address academic challenges, and fostering collaboration and support between parents and teachers (Islam, 2019).

Parent training and guidance

Parents play a crucial role in supporting adolescents' career development by providing career-related support and positively influencing identity formation. Educators can complement this by guiding career planning awareness (Zammitti et al., 2020). They were focused on a parent-based utility-value intervention to enhance parents' support for adolescents' career orientation (Piesch et al., 2019).

School

Improve educational resource allocation

Improving faculty strength and equipment conditions is crucial. This aligns with the focus on talent training quality outlined in the vocational education plan. Optimizing the allocation of university resources to improve the efficiency of inputs and outputs is an important issue for the high-quality development of universities (B. Chen et al., 2023).

Integrate enterprise resources and career-oriented courses

Local enterprises can significantly contribute to developing vocational courses that align with industry demands under the new Vocational Education Law by fostering collaboration and integrating practical experiences into educational frameworks. The law emphasizes the need for a coordinated approach between educational institutions and enterprises, promoting the “Integration of the general and occupation” to cultivate skilled personnel with a “craftsman spirit” (Dang, 2022). This approach improves the quality of education and strengthens the ties between local businesses and vocational schools, creating a more responsive educational ecosystem (Persson & Hermelin, 2022). By leveraging these collaborative efforts, local enterprises can play a pivotal role in shaping vocational education that meets the evolving demands of the workforce.

Promote flexible educational models

To adapt career planning education to the diverse talent needs of emerging industries in a rapidly changing job market, it is essential to incorporate flexible, interdisciplinary approaches that align with industry demands. Integrate Enterprise Resources and Career-Oriented Courses (Li & Cui, 2023). Career planning education should focus on improving knowledge, skills, and talents to meet the evolving needs of emerging industries. Career planning education can adapt by emphasizing cooperation, inclusion, and flexibility to meet diverse talent needs in emerging industries, ensuring adaptability to rapid job market changes (Green et al., 2020).

Teacher career development training

To enhance educational quality in vocational colleges, improving faculty strength involves enhancing teacher leadership through professional knowledge, innovation, teamwork, and communication skills (Qin, 2023). Teachers’ career planning skills significantly influence students’ career choices and outcomes. Studies show that when teachers possess strong career planning skills, they can better tailor their advice to meet the diverse needs of students, thereby increasing the likelihood of students pursuing careers aligned with their aspirations (Manuel et al., 2024).

Establish support teams

Establishing support teams that include career planners, psychological counselors, and industry experts is essential

for providing comprehensive career development guidance to students. Research indicates that coordinated support teams can significantly enhance students’ social, emotional, and behavioral health, which is crucial for their overall well-being and academic engagement (Berta et al., 2022). Integrating diverse expertise within support teams fosters a holistic approach to career development, ultimately enhancing students’ readiness for post-educational opportunities (Owen et al., 2017).

Workplace

Utilize corporate cooperation to address employment competition

The multidisciplinary and practice-based approach to educating corporate sustainability can enhance students’ learning, preparing them for sustainable career development in a competitive job market (Schulz et al., 2018). Corporate cooperation, universities, and governments can collaborate in a Triple Helix framework to enhance sustainable business practices, offering students opportunities for sustainable career development in a competitive job market (Nunhes et al., 2021).

Strengthen the cultivation of practical experience

Incorporating practical components in educational courses significantly enhances students’ employability by bridging the gap between theoretical knowledge and real-world application. Incorporating practical components in courses aligned with real-world job requirements enhances students’ awareness of employability skills, strengths, and weaknesses, effectively preparing them for future careers (El-Sakran, 2023).

Society

Conduct market demand analysis

Aligning career planning with market needs offers several benefits, including enhanced employability and job satisfaction. Research indicates that individuals who tailor their skills and experiences to meet current market demands are more likely to secure positions in competitive fields, thereby increasing their career stability and growth potential. Furthermore, understanding market trends allows individuals to identify emerging opportunities, which can lead to more strategic career decisions (Chen et al., 2020).

Establish a robust career planning education system

A robust career planning education system can effectively mitigate policy uncertainties and enhance students’ adaptability to evolving job market demands by integrating comprehensive skill development and real-time labor market insights. Research indicates that such systems should foster critical thinking and problem-solving skills, essential for navigating unpredictable job landscapes (Omar et al., 2023). A robust career planning education system can mitigate policy uncertainties by fostering career adaptability through

tailored skills programs, effective guidance, and lifelong learning, enhancing students' readiness for evolving job market demands.

Respond to technological replacement and skill updates

Regularly organize skill training and update courses to help students master new technologies in response to career changes brought about by automation and artificial intelligence.

To effectively prepare students for technological replacement and career changes, educators should focus on integrating skill training with continuous course updates. Mitchem et al. highlight the need for interdisciplinary approaches that combine technical and soft skills, ensuring students are well-rounded and adaptable (Mitchem et al., 2003). By fostering a dynamic learning environment that prioritizes both skill acquisition and curriculum relevance, educators can better equip students for the uncertainties of the future workforce.

Promote the formulation of policies favorable to career planning education

Career planning education policies significantly influence the employability of graduates by equipping them with essential skills and knowledge tailored to labor market demands. Sodi's research indicates that effective career education improves employability rates and reduces the skills gap between graduates and industry requirements (Sodi, 2024).

At the national level, clear guidelines and policies need to be formulated to support the career development plans of college students and create an environment conducive to their growth (Weijia, 2023).

Strategies for Promoting Behavior Factors

Provide abundant career development resources and information

Conduct information literacy training to help students access more career information and keep abreast of the latest trends and research in sustainable career development, enabling them to independently explore career development paths and enhance their employability and market competitiveness.

Information literacy training significantly enhances students' ability to access and utilize career information by equipping them with essential skills for navigating complex information landscapes. Rachman et al. discuss how information literacy empowers students to synthesize information from diverse sources, leading to more informed career decisions (Rachman et al., 2022). Information literacy training improves students' skills to access, evaluate, and utilize information effectively, aiding in accessing and utilizing career information for better decision-making and opportunities (Sa'id et al., 2022).

Strengthen graduate career development

Maintain regular contact with graduates and continuously optimize career planning and educational management

strategies based on tracking results and market changes to ensure long-term effectiveness.

Institutions maintain regular contact with graduates to assess the effectiveness of career planning initiatives through various structured approaches. One effective method is the implementation of career planning courses, which have been shown to enhance career readiness and awareness among participants, fostering ongoing engagement with career services post-graduation (Layton et al., 2020). Institutions maintain contact with graduates through an Alumni Tracking System, enabling them to assess career planning initiatives by tracking alumni's employment status and essential skills for improvement (Luciano et al., 2020)

Establish assessment and feedback mechanisms

Develop assessment and feedback mechanisms to regularly evaluate the effectiveness of career planning education and dynamically adjust based on assessment results and feedback information.

Governments can establish a three-level enterprise college system to support sustainable educational initiatives in vocational colleges, implement an operating and evaluation mechanism, and engage professional teachers in school-enterprise cooperation (Shao, 2023). Ongoing evaluation of career education programs is necessary to adapt to changing job markets and student needs, ensuring that resources remain relevant and effective (Wang, 2023).

Establishing a feedback culture that emphasizes stable relationships and student agency can further enhance the effectiveness of feedback mechanisms; developing students' feedback literacy and proactive engagement skills is essential, as it empowers them to act on the feedback received, thereby increasing their involvement in the career planning process (Winstone & Nash, 2019). In summary, a multifaceted approach that combines structured feedback processes, peer collaboration, and skill development can significantly enhance student engagement in career planning.

REFERENCES

- Ali Khan, H. G. (2022). Assessing the Impact of a Proactive Personality on Early Employment Status and Job Search Behavior: The Role of Career Planning and the Moderating Effect of Core Self-Evaluation. *Lahore Journal of Business*, 10(2). <https://doi.org/10.35536/ljb.2022.v10.i2.a3>
- Ayu, M. N. K., Widarnandana, I. G. D., & Retnoningtias, D. W. (2022). Pentingnya Perencanaan Karier Terhadap Pengambilan Keputusan Karier. *Psikostudia : Jurnal Psikologi*, 11(3). <https://doi.org/10.30872/psikostudia.v11i3.7021>
- Bandura, A. (1986). The Explanatory and Predictive Scope of Self-Efficacy Theory. *Journal of Social and Clinical Psychology*, 4(3). <https://doi.org/10.1521/jsep.1986.4.3.359>
- Berta, S., Blonsky, H., & Wogan, J. (2022). Developing Your School's Student Support Teams: A Practical Guide for K-12 Leaders, Student Services Personnel,

- and Mental Health Staff (1st ed.). Routledge. <https://doi.org/10.4324/9781003240266>
- Chen, B., Chen, Y., Qu, X., Huang, W., & Wang, P. (2023). Do Financial Investment, Disciplinary Differences, and Level of Development Impact on the Efficiency of Resource Allocation in Higher Education: Evidence from China. *Sustainability*, 15(9). <https://doi.org/10.3390/su15097418>
- Chen, H., Fang, T., Liu, F., Pang, L., Wen, Y., Chen, S., & Gu, X. (2020). Career adaptability research: A literature review with scientific knowledge mapping in the web of science. *International Journal of Environmental Research and Public Health*, 17(16). <https://doi.org/10.3390/ijerph17165986>
- Chou, C. M., Shen, C. H., Hsiao, H. C., & Shen, T. C. (2017). Influence Factor of Tertiary Students' Employability Awareness Adjust Industry 4.0. *International Journal of Psychology and Educational Studies*, 4(3). <https://doi.org/10.17220/ijpes.2017.03.007>
- Dai, K., & Pham, T. (2024). Graduate employability and international education: an exploration of foreign students' experiences in China. *Higher Education Research and Development*, 43(6). <https://doi.org/10.1080/07294360.2024.2325155>
- Dang, J. (2022). Analysis of the construction path of ideological and political course in secondary vocational schools from the new Vocational Education Law perspective. *Advances in Education, Humanities and Social Science Research*, 3(1). <https://doi.org/10.56028/aehtsr.3.1.1>
- El-Sakran, T. M. (2023). Enhancing business students' employability skills awareness. *Journal of Teaching English for Specific and Academic Purposes*, 11(3). <https://doi.org/10.22190/JTESAP230916052E>
- Green, C., Mynhier, L., Banfill, J., Edwards, P., Kim, J., & Desjardins, R. (2020). Preparing education for the crises of tomorrow: A framework for adaptability. *International Review of Education*, 66(5-6). <https://doi.org/10.1007/s11159-020-09878-3>
- He, Z., Zhang, R., Qiu, Q., & Chen, Z. (2024). Research on industrial structure adjustment and spillover effect in resource-based regions in the post-pandemic era. *PLoS ONE*, 19(1 January). <https://doi.org/10.1371/journal.pone.0296772>
- Islam, A. (2019). Parent-teacher meetings and student outcomes: Evidence from a developing country. *European Economic Review*, 111, 273-304. <https://doi.org/10.1016/j.euroecorev.2018.09.008>
- Layton, R. L., Solberg, V. S. H., Jahangir, A. E., Hall, J. D., Ponder, C. A., Micoli, K. J., & Vanderford, N. L. (2020). *Career planning courses increase the career readiness of graduate and postdoctoral trainees*. F1000Research, 9. <https://doi.org/10.12688/f1000research.26025.1>
- Lent, R. W. (2005). A Social Cognitive View of Career Development and Counseling. In S. D. Brown & R. W. Lent (Eds.), *Career Development and Counseling: Putting Theory and Research to Work* (pp. 101-127). Wiley.
- Lent, R. W., B. S. D., S. J., B. B., L. H., & T. D. (2003). Relation of contextual supports and barriers to choose behavior in engineering majors: Test of alternative social cognitive models. *Journal of Counseling Psychology*, 50(4)-458
- Li, J., & Cui, X. (2023). Exploration and Analysis of the Improvement Path of College Students' Employment Ability Under the Concept of Career Planning. *Journal of Contemporary Educational Research*, 7(11). <https://doi.org/10.26689/jcer.v7i11.5520>
- Luciano, R. G., Alcantara, G. M., & Bauat, R. (2020). Design and Development of Alumni Tracking System for Public and Private HEIs. *International Journal of Scientific & Technology Research*, 9(06).
- Manuel P. J. E., Mempin J. R., & Alde M. A. C. (2024). Unveiling the Strategic Planning of Teachers, Performance Task Outcome, and Learning Style of Students. *International Journal of Research and Innovation in Social Science*, 8(1), 565-581. <https://doi.org/10.47772>
- Mitchem, K., Wells, D. L., & Wells, J. G. (2003). Effective Integration of Instructional Technologies (IT): Evaluating Professional Development and Instructional Change. *Journal of Technology and Teacher Education*, 11(3).
- Nunhes, T. V., Garcia, E. V., Espuny, M., Santos, V. H. de M., Isaksson, R., & de Oliveira, O. J. (2021). Where to go with corporate sustainability? Collaboration between universities, governments, and organizations opens paths for sustainable businesses. *Sustainability*, 13(3). <https://doi.org/10.3390/su13031429>
- Omar, M. K., Romli, A. H., Azeem, N., & Zakaria, A. (2023). Relationship between Career Adaptability and Employability Skills: Towards Engineering Graduates Career Development. *International Journal of Academic Research in Business and Social Sciences*, 13(12). <https://doi.org/10.6007/ijarbss/v13-i12/20351>
- Owen, R., Bowers, A., Heller, T., Hsieh, K., & Gould, R. (2017). The Impact of Support Services Teams: Community-Based Behavioral Health Support Interventions. *Journal of Policy and Practice in Intellectual Disabilities*, 14(3). <https://doi.org/10.1111/jppi.12186>
- Panggabean, K. (2023). Future career planning. *International Journal of Curriculum Development, Teaching and Learning Innovation*, 2(1). <https://doi.org/10.35335/curriculum.v2i1.143>
- Persson, B., & Hermelin, B. (2022). Decentralized cooperation between industries and local governments in a statist skill-formation system: an analysis of industrial schools in Sweden. *Journal of Vocational Education and Training*, 74(4). <https://doi.org/10.1080/13636820.2020.1829007>
- Piesch, H., Häfner, I., Gaspard, H., Flunger, B., Nagengast, B., & Harackiewicz, J. M. (2019). Helping parents support adolescents' career orientation: Effects of a parent-based utility-value intervention. *Unterrichtswissenschaft*, 47(3). <https://doi.org/10.1007/s42010-018-0024-x>
- Qin, N. (2023). Research on the Connotation, Characteristics, and Promotion Path of Teacher Leadership in Higher Vocational Colleges. *Journal of Contemporary Educational Research*, 7(4). <https://doi.org/10.26689/jcer.v7i4.4895>

- Rachman, R. S., Damaianti, V. S., Mulyati, Y., & Sastromiharjo, A. (2022). Effectiveness of instruction-based information literacy training on the readiness of lifelong learning and the student's information literacy ability. *Cypriot Journal of Educational Sciences*, 17(9). <https://doi.org/10.18844/cjes.v17i9.7726>
- Sa'id, M., Arsad, R. A. R. A., Umaroh, R. F., Noorrizki, R. D., & Mantara, A. Y. (2022). Information literacy training for teenager-students of Islamic boarding schools in the digital era. *Abdimas: Jurnal Pengabdian Masyarakat Universitas Merdeka Malang*, 7(2). <https://doi.org/10.26905/abdimas.v7i2.6507>
- Schulz, K. P., Finstad-Milion, K., & Janczak, S. (2018). Educating corporate sustainability – A multidisciplinary and practice-based approach to facilitate students' learning. *Journal of Cleaner Production*, 198, 996-1006. <https://doi.org/10.1016/j.jclepro.2018.06.104>
- Shao, L. (2023). Exploration and Practice of Sustainable Development in Enterprise College. *International Journal of Education and Humanities*, 10(2). <https://doi.org/10.54097/ijeh.v10i2.11495>
- Snyder, A. M., & Hartwell, J. R. (2024). Development and Evaluation of an Experiential Career Planning Assignment to Train Students to Assess Organizational Fit. *Journal of Veterinary Medical Education*, 51(1). <https://doi.org/10.3138/jvme-2022-0095>
- Sodi, J. K. (2024). Assessing the Effectiveness of Education Policy in Addressing Skill Gaps and Enhancing Employability. *International Journal of Scientific Research in Engineering and Management*, 08(03). <https://doi.org/10.55041/ijsem29088>
- Tuan, P. V. (2022). Career awareness and career preparations of psychology students in the south of Vietnam. *International Journal of Social Science and Human Research*, 5(07). <https://doi.org/10.47191/ijsshr/v5-i7-49>
- Wang, Y. (2023). Research on Career Planning Education for College Students. *Journal of Contemporary Educational Research*, 7(12). <https://doi.org/10.26689/jcer.v7i12.5789>
- Weijia, C. ; X. A. (2023). The Improvement of College Students' Career Development Planning Skills. *Advances in Vocational and Technical Education*, 5(11). <https://doi.org/10.23977/avte.2023.051108>
- Winstone, N. E., & Nash, R. A. (2019). *Developing students' proactive engagement with feedback. In Innovative Assessment in Higher Education: A Handbook for Academic Practitioners*. Routledge. <https://doi.org/10.4324/9780429506857-12>
- Zammiti, A., Scuderi, V., & Russo, A. (2020). Perceived career parental support and identity development: a study on adolescents. *Interdisciplinary Journal of Family Studies*, 25(1).