The Empirical Study for the Impact on Integration of Industry and Education Values in Higher Vocational Education on Career Planning of Students

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Abstract

Background: This research endeavor delves into the implications of integrating industry and education values within higher vocational education frameworks on students' career planning prowess. It seeks to unravel the complex interplay between institutional support and various integration modalities in shaping vocational education outcomes.

Aims: By examining these dynamics, the study aims to furnish both theoretical underpinnings and practical recommendations for advancing vocational education reforms, with a focus on enhancing students' career readiness and holistic development.

Methodology: Utilizing a survey-based approach coupled with rigorous quantitative analyses, including the Schein Career Values Inventory and Maslow's Hierarchy of Needs Assessment Scale, we amassed data from a representative sample of 1,082 students across five leading higher vocational colleges in Guangdong Province. Comprehensive statistical techniques, encompassing descriptive statistics, correlation and regression analyses, and structural equation modeling, were employed to test our hypotheses and elucidate the intricate mechanisms linking industry-education integration to career planning competencies.

Results: Our findings underscore the profound positive effect of integrating industry and education values on students' career planning abilities. Notably, school support emerges as a pivotal mediator in this relationship, highlighting the crucial role of educational resources and career guidance services in fostering students' career trajectories. Furthermore, the study reveals that the mode of integration significantly moderates this relationship, with the school-enterprise cooperation model notably amplifying the beneficial impacts of industry-education integration on career planning.

Conclusion: These insights underscore how the alignment of vocational training with industry needs fosters skills development and employment prospects, thereby bolstering students' career planning acumen. The pivotal roles played by institutional support and integration modalities in this process are emphasized. Consequently, we advocate for heightened industry-education collaboration, optimized school support systems, and curricula tailored to market demands as essential strategies for advancing students' holistic development and career readiness within higher vocational education settings.

Keywords: The Integration of Industry and Education Values; Vocational Education; Career Planning; School Support; Models of Industry-Education Integrationnt

'Received: August 16 2024; Revised: September 4 2024; Accepted: September 5 2024

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Introduction

In the contemporary educational landscape, higher vocational education is paramount in nurturing highly skilled professionals who are crucial for societal progress and economic development. The paradigm of industry-education integration, with its profound ramifications for shaping students' career trajectories, stands as a cornerstone of pedagogical innovation and reform. Recent advancements in China's vocational education framework, as emphasized by Wang, C. et al. (2020), have underscored the efficacy of this model in fostering career advancement, refining vocational competencies, and enhancing employability. These advancements underscore the pivotal role industry-education integration plays in preparing graduates for the dynamic and competitive job market.

However, despite these positive strides, a significant gap remains in our understanding of the intricate mechanisms underpinning the value imparted by industry-education integration to students' career planning. Fu, W., & Tu, G. (2019) poignantly highlight the scarcity of empirical studies examining how this integration impacts students' career preparedness and the intricate interplay between institutional support and the integration model. This knowledge gap hinders the optimization of educational strategies aimed at fostering holistic student development, necessitating a more meticulous and granular analysis of the dynamic interplay between educational practices and their vocational outcomes.

Furthermore, as Patton, W., & McMahon, M. (2006) underscore, in an era marked by rapid technological advancements and industry shifts, the ability of academic institutions to align their curricula and training initiatives with market demands is paramount. Domestic research, such as that conducted by Qiao, H. (2006), has focused primarily on localized manifestations of school-enterprise collaborations, underscoring their potential to enrich educational relevance and applicability. However, a broader, international perspective is crucial to grasp the full spectrum of innovative approaches and best practices that can inform and enhance industry-education integration efforts globally.

Moreover, the importance of this research transcends the borders of academia, with profound implications for policy formulation and economic development. A deeper understanding of how industry-education integration fosters career readiness and adaptability among future professionals is essential for countries seeking to maintain competitiveness in the global economy. As Kim, S., & Yang, S. (2019) illustrate, the self-identity and career decision-making abilities of students are intricately linked to the quality of their educational experiences. Consequently, the present study aims to contribute to this vital discourse by empirically examining the intricate relationship between industry-education integration, institutional support, and students' career planning competencies, thereby advancing our comprehension of how these factors converge to shape the professional trajectories of higher vocational students.

Research Objectives

1. General Research Objective

The present study aspires to bridge the gap in the existing literature by empirically examining the impact of industry-education integration values on students' career planning within higher vocational education. It delves into the mediating and moderating effects of institutional support and industry-education integration models. Focusing on students from vocational institutions in Guangdong Province, this research aims to provide a scientific foundation for the reform and development of vocational education.

2. Specific Research Objectives

Quantitative Assessment of the Impact of Industry-Education Integration Values. Utilizing survey methodology in conjunction with tools such as Super's Work Values Inventory and Maslow's Hierarchy of Needs Assessment Scale, this study will quantitatively evaluate students' endorsement of industry-education integration values, their fulfillment of needs, expectations for school-enterprise collaboration, and self-efficacy in career decision-making. This objective seeks to directly quantify the tangible effects of industry-education integration on students' career planning.

Unveiling the Positive Influence Mechanism of Industry-Education Integration. Through in-depth analysis, this study anticipates revealing the specific mechanisms by which industry-education integration enhances students' career planning capabilities, thereby exerting a positive influence on their professional development. This discovery will provide a robust theoretical foundation for the curriculum design, pedagogical approaches, and policy formulation in vocational education.

Elucidating the Role of Institutional Support and Industry-Education Integration Models. This research will further explore the mediating role of institutional support between industry-education integration values and students' career planning capabilities, as well as the moderating effects of different industry-education integration models (such as school-enterprise partnerships, work-integrated learning, etc.) on their relationship. Achieving this objective will offer invaluable practical guidance to educational institutions, assisting them in more effectively integrating industry demands, enhancing teaching quality, and providing personalized career planning guidance.

Research Methodology

1. Data Acquisition

The data corpus for this investigation was derived from a comprehensive questionnaire survey administered to student populations across five prominent higher vocational institutions in Guangdong Province, designated as Institutions A through E. To ensure data comprehensiveness and representativeness, a stratified random sampling strategy was adopted, targeting students from diverse majors and academic years. Following rigorous quality control measures, invalid responses and missing values were meticulously excluded, resulting in a final analytical sample of 1,082 valid questionnaires.

2. Variable Delineation

Dependent Variable. The focal dependent variable pertains to students' career planning, encapsulated by their level of awareness and preparedness concerning career goal articulation, pathway selection, and development strategies.

Independent Variable. At the core lies the independent variable, namely, the perceived value of industry-education integration, which mirrors students' evaluations of the congruence between vocational education and industrial demands. This metric was meticulously gauged through responses to pertinent questionnaire items.

Mediating and Moderating Factors. The mediating role is occupied by school support, an amalgamation of educational resources, teacher mentorship, and career guidance services, crucial in fostering students' career progression. Conversely, the moderating variable is the model of industry-education integration, delving into how distinct modalities (e.g., school-

enterprise partnerships, work-integrated learning) influence the relationship between integration values and career planning.

3. Conceptual and Hypothetical Framework

Value of Industry-Education: This is a holistic educational philosophy emphasizing deep integration and interaction between education and industry. It advocates for close collaboration between educational institutions and industry, aligning educational content with occupational demands through joint curriculum development, resource sharing, and faculty exchanges. It also encourages learning in real or simulated work environments to enhance practical skills and professional competencies. Furthermore, this value system fosters comprehensive abilities and innovative thinking to adapt to the rapidly changing workplace, achieving a harmonious unity of individual value and societal development (Väyrynen, 2018).

School Support: Refers to the educational resources, faculty guidance, training, and career planning services provided by schools to assist students in better career planning (Wang, C.et al., 2020. Watt & Richardson, 2007).

Career Planning: The systematic planning of an individual's professional trajectory, including setting career goals, choosing career paths, and accumulating the skills and experience required to achieve these objectives (Patton & McMahon, 2006).

The Industry-Education Integration Models: These models encompass various forms of cooperation, such as school-enterprise collaborative training, work-integrated learning projects, customized education based on enterprise needs, dual education systems, and industry-university-research partnerships. School-enterprise collaborative training provides practical operation environments through joint training bases, while work-integrated learning projects closely link theoretical knowledge with enterprise practice to strengthen practical skills. Customized education ensures graduates' rapid adaptation to job positions, and dual education systems involve schools and enterprises in shared teaching responsibilities, cultivating talents proficient in both theory and practice. Industry-university-research partnerships expand the scope of industry-education integration, promoting seamless integration of research, teaching, and industry, and driving technological innovation and industrial upgrading. Together, these models establish a multi-level, comprehensive ecosystem of industry-education integration, effectively enhancing the alignment of education and industry.

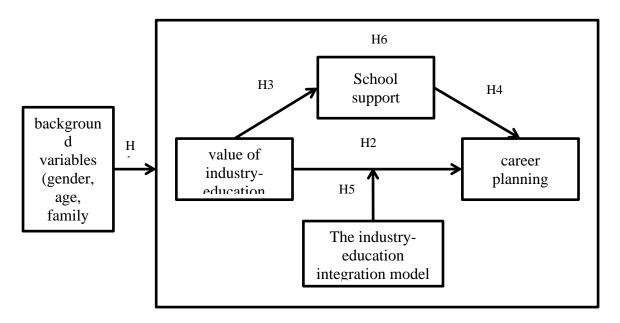


Figure 1 Hypothetical Framework Source: Constructed by the researcher

Drawing upon the scholarship of Liu, F(2020), Liu, Y.(2016), the following hypotheses are posited:

- H1: Students' personal background variables (gender, age, family economic status, etc.) will influence their perceptions of the value of industry-education integration, career planning, and school support.
- H2: The value of industry-education integration positively impacts students' career planning.
- H3: School support mediates the relationship between the value of industry-education integration and career planning.
- H4: The industry-education integration model moderates the relationship between the value of industry-education integration and career planning.
- H5: The industry-education integration model has a moderating effect, influencing the value of industry-education integration and career planning.
- H6: School support mediates the impact of the value of industry-education integration on students' career planning.

4.Methodological Toolkit

The research arsenal comprises a tailored questionnaire and validated scales, including Super's Work Values Inventory, Maslow's Hierarchy of Needs Assessment Scale, Stakeholder Theory Scale, and Career Decision-Making Self-Efficacy Scale. These instruments underwent rigorous pilot testing and reliability/validity assessments to ensure research integrity.

5.Data Compilation Strategy

The questionnaire was disseminated via an online platform, with the invaluable assistance of institutional counselors who orchestrated student participation within the stipulated timeframe.

6. Analytical Approach

Data interrogation was facilitated by SPSS and AMOS software. Initially, descriptive statistics illuminated the demographic profile and variable distributions. Subsequently, correlation and regression analyses were employed to validate the hypotheses. Lastly, structural equation modeling illuminated the mediating and moderating mechanisms underpinning the influence of integration values on career planning.

7. Reliability and Validity Assurance

Reliability Evaluation. To uphold internal consistency, Cronbach's alpha coefficient was leveraged. Adhering to Nunnally's (1978) benchmark, all scales surpassed the 0.7 threshold, attesting to their reliability. Specifically, the integration value, career planning, school support, and integration model scales recorded alphas of 0.89, 0.87, 0.86, and 0.85, respectively, underscoring the questionnaire's robustness.

Validity Verification. Validity testing aims to assess whether the questionnaire accurately measures the research constructs. Exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were employed in this study to evaluate the structural validity of the questionnaire. The EFA results showed that the factor loadings of all items were above 0.5, and each item significantly loaded on only one principal component, indicating good structural validity of the questionnaire. The CFA results confirmed that the structural model of the scales aligned with the theoretical expectations, with all standardized factor loadings being significant. Moreover, the average variance extracted (AVE) values were above 0.5, indicating good convergent validity of the questionnaire.

Research Results

1. Influence of Personal Background Variables

The sample for this study consisted of 1082 students from higher vocational institutions. The gender distribution was even, with an equal number of male and female students. The average age of the students was 20.5 years, with a standard deviation of 1.5 years, indicating that the sample's age was primarily concentrated around 20 years old. The grade distribution showed coverage from the first to the third year, with first-year students accounting for 35.12%, second-year students accounting for 34.10%, and third-year students accounting for 30.78%, reflecting a balanced representation of students in different stages of their studies.

In terms of major backgrounds, students in STEM fields had the highest proportion, accounting for 65.16%, while students in social sciences accounted for 34.84%. This indicates that the proportion of students in STEM fields is higher than that of students in social sciences in the sample. The distribution of family economic status showed that the majority of students came from middle-income families, accounting for 59.89%, while students from low-income and high-income families accounted for 20.15% and 19.96%, respectively. This indicates a diverse range of family economic statuses in the sample.

The proportion of only child was 70.33%, indicating that the majority of students do not have siblings. In terms of hometown, students came from both rural and urban areas in almost equal proportions, with rural students accounting for 39.93% and urban students accounting for 60.07%. These characteristics provide a broad representativeness for the study and contribute to a comprehensive analysis of the impact of the values of industry-education integration on career planning.

Table 1 Basic Statistical Characteristics of the Sample

Characteristic	Statistical Data	Description
	Male: 50.00%	The gender distribution in the sample is even,
Gender	Female: 50.00%	with an equal number of male and female students.
	Average Age: 20.5 years	The average age of the students is 20.5 years,
Age	Standard Deviation: 1.5 years	indicating that the sample represents the main student population in higher vocational institutions. The age distribution is relatively concentrated.
Grade	First Year: 35.12% Second Year: 34.10% Third Year: 30.78%	The distribution of students across different grades is relatively even, covering students from the first to the third year.
Major	STEM: 65.16% Social Sciences: 34.84%	There is a diverse range of major backgrounds, with a higher proportion of students in STEM fields compared to social sciences.
Family Economic	Low Income: 20.15% Middle Income: 59.89% High Income: 19.96%	There is a diverse range of family economic statuses, including low, middle, and high-income families.
Only Child	Yes: 70.33% No: 29.67%	The majority of students are only children.
Hometown	Rural: 39.93% Urban: 60.07%	The students come from both rural and urban areas in relatively equal proportions.

2. Variable Description

The study conducted precise quantitative analysis of the central tendencies and dispersion of four key constructs: the value of industry-education integration in higher vocational education, career planning, perceived school support, and adaptability of the industry-education integration model. Table 2 presents the statistical indicators obtained from the questionnaire survey data. The mean value of the value of industry-education integration endorsement is 3.50, with a standard deviation of 0.853, indicating that the majority of students hold a positive attitude towards industry-education integration values, but there are individual differences in the degree of endorsement. The mean value of career planning ability is 3.80, with a standard deviation of 0.754, indicating that students have a high sense of self-efficacy in career planning, but it also reflects fluctuations in their ability development in this area. The mean value of perceived school support is 3.90, with a standard deviation of 0.703, indicating that students generally believe that the school is doing well in supporting their career development, but there are subtle individual differences in the perception of support. The mean value of adaptability of the industry-education integration model is 3.70, with a standard deviation of 0.803, suggesting that students have a generally good adaptation to the industryeducation integration model, but the differences in adaptability indicate the need to pay attention to students' individualized needs.

 Table 2 Statistical Indicators of Key Constructs

Construct	Number of Items	Mean (M)	Standard Deviation (SD)
Value of Industry-Education	14	3.50	0.853
Integration Endorsement	1.	3.20	0.022
Career Planning	18	3.80	0.754
Perceived School Support	12	3.90	0.703
Adaptability of the Industry-	12	3.70	0.803
Education Integration Model	12	3.70	0.803

3. Correlation Analysis

Quantitative analysis of the correlation between the key constructs of the value of industry-education integration, career planning, and perceived school support was conducted using a correlation coefficient matrix. The results showed a significant positive correlation between the value of industry-education integration and career planning (r = 0.615, p < 0.001), indicating that strengthening the value of industry-education integration contributes to enhancing students' career planning. Furthermore, the correlation between career planning and perceived school support was even more significant (r = 0.732, p < 0.001), suggesting that the support services provided by the school play a crucial role in promoting students' career planning. It is worth noting that there was also a significant correlation between the value of industry-education integration and perceived school support (r = 0.569, p < 0.001), which may indicate that the positive efforts of the school in industry-education integration enhance students' endorsement of the value of industry-education integration. Overall, these correlation analysis results reveal a positive relationship of mutual promotion among the value of industry-education integration, career planning, and perceived school support.

Table 3 Correlation Coefficient Matrix

Variables	Value of Industry- Education Integration	Career Planning	Perceived School Support	
Value of Industry-Education Integration	1.000	0.615***	0.569***	
Career Planning	0.615***	1.000	0.732***	
Perceived School Support	0.569***	0.732***	1.000	

Note: ***p<0.001

4. Regression Analysis

Regression Model of the Value of Industry-Education Integration and Career Planning. To further explore the impact of the value of industry-education integration on career planning ability, multiple linear regression analysis was conducted. The regression analysis results indicate that the value of industry-education integration is a significant positive predictor and has a significant impact on students' career planning ability. Specifically, the coefficient of the value of industry-education integration is 0.432, with a standard error of 0.067, and is significantly correlated with career planning ability at the 0.001 significance level (t = 6.448).

Furthermore, to control for potential confounding variables, students' personal background variables were included in the model. The results show that the impact of students' personal background variables on career planning ability is not significant. The coefficient is 0.171, with a standard error of 0.054, and is significant at the 0.05 significance level (t = -3.165, p = 0.002). This suggests that even after controlling for personal background variables, the impact of the value of industry-education integration on career planning ability remains robust.

While not directly included in the regression model, school support is expected to mediate the relationship between the value of industry-education integration and career planning ability based on existing literature and theoretical analysis.

Table 4 Regression Analysis of the Value of Industry-Education Integration on Career Planning Ability

Variable	Coeffi cient	Standard Error	t- value	p-value
Value of Industry-Education Integration	0.432	0.067	6.448	< 0.001
School Support (Mediating Variable)	-	-	-	-
Students' Personal Background Variables	-0.171	0.054	-3.165	0.002

Note: ***p<0.001.

Mediation Analysis of School Support.Based on the test results, the direct effect of the value of industry-education integration on career planning ability is significant (coefficient = 0.432), indicating that the value of industry-education integration itself can significantly predict career planning ability.

Further analyzing the mediating effect of school support, we found that the value of industry-education integration significantly predicts school support in a positive direction (coefficient = 0.512). Moreover, controlling for the value of industry-education integration, school support also significantly predicts career planning ability in a positive direction (coefficient = 0.789). This suggests that school support partially mediates the relationship between the value of industry-education integration and career planning ability.

Table 5 Mediation Effect Test Results

Path	Estimated	Standard	95% Confidence Interval		
raui	Coefficient	Error	lower limit	upper limit	
Value of Industry-Education	0.432	0.067			
Integration → Career Planning	0.432	0.007	-	-	
Value of Industry-Education	0.512	0.081	0.352	0.672	
Integration → School Support	0.312	0.061	0.332	0.072	
School Support → Career Planning	0.789	0.092	0.607	0.971	
Mediation Effect of School Support	0.403	-	0.244	0.562	

The estimated coefficient of the mediation effect is 0.403, and the 95% confidence interval does not include zero (ranging from 0.244 to 0.562). This further confirms the statistical significance of the mediation effect of school support. This result suggests that school support not only directly influences students' career planning ability but also serves as one of the pathways through which the value of industry-education integration affects career planning ability.

Moderation Analysis of the Industry-Education Integration Model. The moderating effect of the school-enterprise cooperation model is the most significant, with a coefficient of 0.210 and a p-value of 0.001. This indicates that under the school-enterprise cooperation model, the positive impact of the value of industry-education integration on career planning ability is strengthened. The 95% confidence interval does not include zero, further confirming the statistical significance of the moderation effect. This suggests that the school-enterprise cooperation model can provide students with more opportunities for practical learning combined with actual work, thereby enhancing the promotion of the value of industry-education integration on career planning ability.

The work-study combination model also demonstrates a significant moderating effect, with a coefficient of 0.150 and a p-value of 0.006. The 95% confidence interval is [0.045, 0.255]. This result indicates that the work-study combination model provides strong support for students' career planning by combining theoretical knowledge with practical skills.

In addition, the practice-oriented model has a moderation effect coefficient of 0.130 and a p-value of 0.004. The 95% confidence interval is [0.042, 0.218]. This suggests that the practice-oriented model positively moderates the relationship between the value of industry-education integration and career planning ability by enhancing students' practical skills.

Table 6 Moderation Analysis of the Industry	-Education Integration Model
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Industry-Education	Coeffici	Standard	t-	p-	Moderation Effect 95%
Integration Model Type	ent	Error	value	value	Confidence Interval
School-Enterprise	0.210	0.062	3.380	0.001	[0.087, 0.333]
Cooperation					
Work-Study Combination	0.150	0.054	2.770	0.006	[0.045, 0.255]
Practice-Oriented	0.130	0.045	2.900	0.004	[0.042, 0.218]

5. Hypothesis Validation and Implications

Based on the proposed research hypotheses, statistical methods such as independent samples t-test, one-way ANOVA, and multiple regression analysis were used to explore the relationship between the value of industry-education integration and career planning ability in higher vocational education. The research findings indicate the following:

Number	Hypothesis	Validation Result	
	Students' personal background variables will influence their value		
H1	of industry-education integration, career planning ability, and	Supported	
	perceived school support.		
H2	The value of industry-education integration positively impacts	Supported	
112	students' career planning ability.	Bupported	
НЗ	School support mediates the relationship between the value of	Supported	
113	industry-education integration and career planning ability.	Bupported	
	The industry-education integration model moderates the		
H4	relationship between the value of industry-education integration	Partially supported	
	and career planning ability.		
Н5	The industry-education integration model has a moderating effect	Cupported	
ПЭ	on the value of industry-education integration and career planning.	Supported	
Н6	School support mediates the impact of the value of industry-	Supported	
	education integration on students' career planning.		

Table 7 Summary of Hypothesis Validation Results

Discussion

The findings of this study resonate deeply with the existing literature on industry-education integration and its implications for students' career planning in higher vocational education. By delving into the intricate dynamics of how the ascribed value of industry-education integration influences students' career planning prowess, our research contributes to the theoretical and empirical understanding of this crucial aspect of vocational education.

Firstly, our findings align with previous studies that highlight the positive correlation between industry-education integration and students' career planning capabilities (Wang, Qin, & Hu, 2020). This convergence underscores the significance of aligning vocational training with industry needs, which not only fosters skills development but also enhances employability prospects and career readiness. Our results further emphasize the pivotal role of educational institutions in this process, particularly through the provision of resources, guidance, and tailored career services.

Secondly, the emergence of school support as a potent mediator bolsters previous assertions regarding the importance of institutional environments and infrastructures in nurturing students' professional trajectories (Khan, Shamsudin, & Ismail, 2015). This finding echoes the view that a robust support system, including career planning modules, mentoring, and internship opportunities, is crucial for fostering holistic student development and career preparedness.

Moreover, our analysis of the moderating effects of different integration models adds a nuanced dimension to the literature. The observation that school-enterprise collaborations and work-study integrations exert varied influences on students' career planning capabilities aligns with studies that emphasize the strategic selection of integration models that resonate with both student needs and market dynamics (Liu, F., 2020). This insight offers practical guidance for vocational education institutions to optimize their integration strategies for maximum impact.

Furthermore, our study underscores the influence of personal background factors, such as gender, age, and socioeconomic status, on students' perceptions of integration value, career planning abilities, and school support reception. This finding is consistent with Kim and Yang's

(2019) work, emphasizing the importance of addressing individualized student needs and crafting tailored support mechanisms. By recognizing these variations, policymakers and practitioners can develop more inclusive and effective approaches to vocational education.

In contrast to some literature that may overlook the nuanced interplay between integration modalities and institutional support, our study comprehensively examines these factors and their combined influence on students' career planning. This approach provides a more holistic view of industry-education integration, highlighting the importance of strategic partnerships, optimized support systems, and curricula tailored to market demands.

Recommendations

1. Theoretical Suggestions

Elaboration of Theoretical Underpinnings. It is of paramount importance to delve deeper into the theoretical exploration of the intrinsic values of industry-education integration and its mechanisms of influence on students' career planning. This endeavor necessitates the construction of a more robust and holistic theoretical edifice. It is imperative to scrutinize the manifold pathways and mechanisms through which industry-education integration can shape students' career trajectories across diverse contexts, thereby laying a more formidable theoretical groundwork for educational praxis.

Interdisciplinary Synthesis. Fostering interdisciplinary synergy and amalgamating theoretical perspectives and methodologies from a plethora of disciplines, including but not limited to education, psychology, and sociology, is advocated. For instance, psychological theories pertaining to career interests and sociological concepts of social capital could be harnessed to augment the theoretical depth and explanatory vigor of the industry-education integration paradigm.

Refinement of Assessment Mechanisms. The establishment of a rigorous and scientifically sound evaluation apparatus for the assessment of industry-education integration values and career planning competencies is essential. This involves the development or refinement of pertinent scales and questionnaires to ensure the veracity and precision of empirical data collection, thereby furnishing a rich vein of high-caliber data for subsequent scholarly inquiry.

2 Policy Suggestions

Policy Formulation and Reinforcement.It is incumbent upon governmental entities to enact a suite of policy initiatives aimed at bolstering industry-education integration. This could encompass financial incentives, tax relief, and other motivational measures designed to spur corporate engagement in vocational education and to catalyze profound collaboration between academic and corporate spheres. Concurrently, the institution of monitoring and evaluative frameworks for industry-education integration is critical to ensure efficacious policy execution and iterative enhancement.

Optimization of Institutional Support Infrastructures. Educational governance bodies should provide strategic direction for vocational institutions to refine their support infrastructures and augment investment in career planning pedagogy (Khan, Q. I et al,2015). This encompasses the incorporation of career planning modules within the curriculum, the fortification of vocational advisory services, and the provision of internships and training opportunities, thereby holistically amplifying students' capacity for career planning.

Dissemination of Best Practices. The aggregation and dissemination of exemplary instances and experiences of successful industry-education integration are advocated. This could be facilitated through the organization of symposia, workshops, and other collaborative platforms, enabling the exchange of avant-garde concepts and efficacious practices, thereby propelling the nationwide enhancement of industry-education integration endeavors.

3 Future Research Suggestions

Expansion of Research Horizons and Sample Extent. Subsequent research endeavors should aim to broaden the scope of investigation, encompassing a wider array of geographical regions, vocational institutions, and student demographics. By amplifying the sample size, the research's representativeness and generalizability can be enhanced, providing a more extensive empirical foundation for the widespread adoption of industry-education integration practices.

Investigation of Temporal Dynamics and Enduring Influences. Future studies should embrace longitudinal methodologies to monitor and assess the evolution of career planning among the same cohort of students at various junctures. This approach unveils the dynamic progression and enduring ramifications of industry-education integration values on students' career planning, thereby offering a more nuanced understanding of the efficacy and transformative potential of such integrative practices.

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