

The Impact of the Double Highland Education Construction Program on Students' Vocational Skills and Workforce Readiness

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Abstract: This study aims to investigate the efficacy of the Double Highland Education Construction Program on students' vocational skills and workforce readiness in vocational colleges in China. This descriptive comparative-correlational study was participated in by both participants and non-participants of the Double Highland Educational Construction Program. Specifically, this study examined the characteristics and evaluations of student participants in relation to their vocational skills and preparation for the job. It compared those participating in a specific program with those who are not enrolled. The findings indicate that the use of adaptable curricular frameworks is recommended in order to update the education system, individualize the learning experience, and synchronize skill development with the needs of various industries.

1. Introduction

As China's higher vocational Education enters the stage of popularization, the number of college students is increasing year by year. According to the official website of China's Ministry of Education, the number of college graduates in 2023 is expected to reach 11.58 million, an increase of 820,000 over the same period last year^[1]. The problem of difficult employment for graduates has become increasingly prominent. Amid fierce competition in the job market, Chinese vocational college students who wish to enter the labor market should have vocational skills and a good workforce readiness, equipped with the knowledge, skills and abilities required by the chosen occupational cluster. In fact, after the end of the COVID-19 pandemic, the employment problem of Chinese enterprises has not been effectively solved, and the number of employees is still lower than the level before 2019^[2]. That means many Chinese companies are cutting jobs, preferring to hire career-ready students with skilled vocational skills, which vocational college graduates have. Lv Jianqiang. Through empirical research, it is pointed out that many outstanding students who graduate from vocational colleges can resist the pressure to get better skilled jobs, and even have better competitiveness than undergraduate students in the labor market^[3].

Consequently, from the perspective of employment phenomenon, the success of the teaching effect of higher vocational colleges is reflected, all of which are attributed to The DOUBLE

HIGHLAND EDUCATION CONSTRUCTION PROGRAM implemented in 2019. This Program advocates that the school should take the initiative to connect with the employers, and cultivate students' vocational skills and workforce readiness according to the requirements of the employees of the enterprises, so that students can obtain better employability in the fierce labor market. What aspects of The Double Highland Education Construction Program affect students' Vocational Skills and Workforce Readiness is the problem to be solved in this study.

2. Methodology

2.1 Research Design

For this study, the questionnaire was designed as a checklist to ensure an appropriate response situation for the respondents. The questionnaire will collect information from the interviewees about gender, age, professional category, and other relevant factors. Researchers will employ language that respondents can understand to formulate questions, organizing them into questionnaires to gather data. Subsequently, the data will be analyzed and compared to test the hypotheses set by the researchers. A comparative-correlation study can provide valuable insights into the distinct impacts and effects of the DOUBLE HIGHLAND EDUCATION CONSTRUCTION PROGRAMS on improving Vocational Skills and Workforce readiness.

2.2 Sampling Technique

Choosing a suitable sample size is critical for both statistical power and practicality. The method of random sampling is adopted in this study, which solves the subjective bias of judging the sampling, greatly reduces the sampling error, and makes the chance of each sampling unit in the population being selected roughly equal. The ideal sample size for each group, researchers should carefully assess the required degree of accuracy and the predicted effect size. The researchers set the margin of error at 5% and randomly sampled 10 higher vocational colleges, five of which participated in the DOUBLE HIGHLAND EDUCATION CONSTRUCTION PROGRAMS. 5 higher vocational colleges did Non-participate in the DOUBLE HIGHLAND EDUCATION CONSTRUCTION PROGRAMS. In order to ensure the scientific and accuracy of the research, each vocational college will select the same proportion of samples (not less than 0.5% of the total number of people) under the premise of verifying the total number of people, a total of 500 samples.

2.3 Data Gathering Procedure

The data for this research will be collected through a meticulous selection of schools in China that are engaged in the DOUBLE HIGHLAND EDUCATION CONSTRUCTION PROGRAM. Schools will be chosen using a purposive sampling strategy based on their active participation in the program and alignment with its objectives. The primary data collection method will involve self-administered questionnaires, developed with reference to pertinent literature and theories, focusing on measuring variables related to vocational skills and workforce readiness. Before the actual data collection, a pilot test will be conducted among a small participant sample to assess the clarity and effectiveness of the questionnaires, with necessary adjustments made to enhance their reliability and validity.

3. Analysis and Interpretation of Data

3.1 Profile of the Respondents

Table 1 presents the frequency distribution of the Program participant And Non- Program participant respondents' profile in terms of Age, Gender, Major category and Major category.

Table 1: Frequency Distribution of Student Respondents' Profile

Profile	Program participant		Non- Program participant		Total	
	f	%	f	%	f	%
Age						
Under 19	17	6.72%	17	6.80	34	6.76%
19	102	40.32%	99	39.60	201	39.96%
20	97	38.34%	105	42.00	202	40.16%
Over 20	37	14.62%	29	11.60	66	13.12%
Total	253	100%	250	100%	503	100%
Gender						
Male	124	49.0%	106	42.40%	230	45.73%
Female	129	50.99%	144	57.60%	273	54.27%
Total	253	100%	250	100%	503	100%
Major category						
Liberal arts	149	58.89%	132	52.80%	281	55.86%
Science	104	41.11%	118	47.20%	222	44.14%
Total	253	100%	250	100%	503	100%
Grade level						
First year	95	37.55%	98	39.20%	193	38.37%
Second year	96	37.94%	97	38.80%	193	38.37%
Third year	62	24.51%	55	22.00%	117	23.26%
Total	253	100%	250	100%	503	100%

In this command, the proportion of Program participant is 253 or 51%, and the proportion of Non-Program participant is 250 or 49%.

Age. 34 or 6.76% of the student respondents are Under 19 years old, 201 or 39.96% are within the age group of 19 years old, 202 or 40.16% are 20 years old, and 66 or 13.12% are Over 20 years old. This goes to show that most of the student respondents are 19-20 years old.

Gender. 230 or 45.73% of the student respondents are male while 222 or 54.27% are female. This indicates that majority of the student respondents are female.

Major category. 281 or 55.86% of the Major category of the student respondents is liberal arts, and 222 or 44.14% Of the Major category of the student respondents was science. The result shows that most of the student respondents' Major category was liberal arts.

Grade level. 193 or 38.37 of the student respondents is he first year, 193 or 38.37% for about Second year, 117 or 23.26% for Second year. The result shows that most of the student respondents' Grade level was first year and second year.

3.2 Respondents' Assessment of their Vocational Skills

Table 2 shows the summary of Program student participants and non- Program student participants evaluation of the degree of the effects on students' Vocational Skills from the view of

the 5 aspects under the implementation of the "DOUBLE HEIGHTS EDUCATION CONSTRUCTION PLAN"

Table 2: Summary of Student Respondents' Assessment of their Vocational Skills

Variables	Program Participant				Non- Program Participant				Average			
	Mean	Rank	QD	Int.	Mean	Rank	QD	Int.	Mean	Rank	QD	Int.
1.Technical Competence	2.89	4	A	HE	1.65	5	D	LE	2.28	5	D	LE
2.Practical Application	2.93	1	A	HE	2.00	2	D	LE	2.47	1	D	LE
3.Problem-Solving Capabilities	2.90	3	A	HE	2.02	1	D	LE	2.46	2	D	LE
4.Industry Knowledge	2.92	2	A	HE	1.99	3	D	LE	2.45	3	D	LE
5.Quality Standards	2.81	5	A	HE	1.96	4	D	LE	2.39	4	A	HE
Composite Mean	2.89		A	HE	1.92		D	LE	2.41		D	LE

As shown in Table 2, in a holistic assessment, the Average Composite Mean of respondents' evaluations regarding the extent of effects on students' Vocational Skills within the framework of the "DOUBLE HEIGHTS EDUCATION CONSTRUCTION PLAN" is calculated as 2.41. This score indicates that both program student participants and Non-Program student participants perceive the impacts of the plan across the five aspects to be of Low Extent. Delving into the data, the Composite Mean for program student participants is determined as 2.89, while for Non-Program student participants, it stands at 1.92. This disparity highlights that the effectiveness of the "DOUBLE HEIGHTS EDUCATION CONSTRUCTION PLAN" in enhancing students' Vocational Skills is perceived as more pronounced among program participants than Non-Program participants.

Program participants, as a whole, hold the view that all five dimensions - Technical Competence (average 2.89), Practical Application (average 2.93), Problem-Solving Capabilities (average 2.90), Industry Knowledge (average 2.92), and Quality Standards (average 2.81) - reach the level of High Extent. The Composite Mean for these dimensions collectively is 2.89. Within this, the dimension of Practical Application garners the highest average value (2.93), whereas Quality Standards receives the comparatively lower average score (2.81).

Conversely, Non-Program participants generally perceive the five dimensions - Technical Competence (average 1.65), Practical Application (average 2.00), Problem-Solving Capabilities (average 2.02), Industry Knowledge (average 1.99), and Quality Standards (average 1.96) - to be at the level of Low Extent. The Composite Mean for these dimensions is 1.92. Among them, Problem-Solving Capabilities records the highest average value (2.02), while Technical Competence attains the lowest average score (1.65).

According to the analysis, the "DOUBLE HEIGHTS EDUCATION CONSTRUCTION PLAN" is perceived to have an impact on Vocational Skills in both participant groups, with program participants assigning higher effectiveness scores compared to their non-program counterparts. These findings align with the current emphasis on practical application and problem-solving capabilities within vocational education, as Cao Lingxuan emphasized by previous studies ^[4]. Furthermore, Li Zheng supports the assertion that industry knowledge plays a pivotal role in enhancing vocational skills—a notion echoed by the observed perceptions of program participants

in this study^[5].

3.3 Respondents' Assessment of their Workforce Readiness

Table 3 shows the summary of Program student participants and non- Program student participants evaluation of the degree of the effects on students' Workforce Readiness from the view of the 6 aspects under the implementation of the "DOUBLE HEIGHTS EDUCATION CONSTRUCTION PLAN".

Table 3: Summary of Student Respondents' Assessment of their Workforce Readiness

Variables	Program Participant				Non- Program Participant				Average			
	Mean	Rank	QD	Int.	Mean	Rank	QD	Int.	Mean	Rank	QD	Int.
1. Job Search Techniques	2.85	5	A	HE	1.93	6	D	LE	2.39	6	D	LE
2. Personal Branding and Self-Presentation	2.89	3	A	HE	1.98	4	D	LE	2.44	3	D	LE
3. Workplace Etiquette	2.85	5	A	HE	1.99	3	D	LE	2.42	4	D	LE
4. Time Organization and Management	2.95	1	A	HE	2.01	2	D	LE	2.48	1	D	LE
5. Entrepreneurial Mindset	2.87	4	A	HE	1.94	5	D	LE	2.41	5	D	LE
6. Professional Networking	2.91	2	A	HE	2.04	1	D	LE	2.48	1	D	LE
Composite Mean	2.89		A	HE	1.98		D	LE	2.44		D	LE

As reflected in Table 3, in general, the average composite mean of the respondents' evaluation of the degree of the effects on students' Workforce Readiness under the "DOUBLE HEIGHTS EDUCATION CONSTRUCTION PLAN" is 2.44, which means that program student participant and Non-Program student participant believe that the effects of the five aspects can reach the level of Low Extent. Separately, the composite mean of program student participant is 2.89, and that of Non-Program student participant is 1.98, which means that Program participant the effectiveness of the "DOUBLE HEIGHTS EDUCATION CONSTRUCTION PLAN" in students' Workforce Readiness effect is higher than that of Non-Program participant.

Program participant generally believe that the 6 dimensions of Job Search Techniques (average 2.86), Personal Branding and Self-Presentation (average 2.89), Workplace Etiquette (average 2.85), Time Organization and Management (average 2.95), Entrepreneurial Mindset (average 2.87) , Professional Networking (average 2.91) are at the level of High Extent. Its composite mean is 2.89. Among them, the average Value of Time Organization and Management is the highest (2.95), and the average Job Search Techniques and Time Organization and Management is the lowest (2.85).

Non-Program participant generally believe that the 6 dimensions of Job Search Techniques (average 1.93), Personal Branding and Self-Presentation (average 1.98), Workplace Etiquette (average 1.99), Time Organization and Management (average 2.01), Entrepreneurial Mindset

(average 1.94), Professional Networking (average 2.04) are at the level of Low Extent. Its composite mean is 1.92. Among them, the average values of Professional Networking are the highest (2.04), and the average values of Job Search Techniques are the lowest (1.93).

The present results resonate with the earlier research by Jiang L, which emphasized the significance of effective Time Management and Professional Networking in boosting students' Workforce Readiness^[6]. Additionally, Yu & Li, highlighted the role of Entrepreneurial Mindset and Personal Branding in enhancing students' readiness for the workforce^[7]. This current study expands upon these insights by demonstrating that the "DOUBLE HEIGHTS EDUCATION CONSTRUCTION PLAN" may have a more pronounced impact on Workforce Readiness for program participants compared to Non-Program participants.

4. Conclusions

1) Student population is characterized by a diverse composition, with an equal representation of genders. The predominant age group falls within the range of approximately 19 to 20 years. Furthermore, there is a balanced distribution of students across major categories of Liberal Arts and Science. Additionally, the representation across academic years is fairly equal. The aforementioned demographic findings underscore the need for educational practices that effectively address the diverse origins and individual requirements of students.

2) The comparison of Vocational Skills assessments between individuals who have participated in the program and those who have not reveals the program's beneficial influence on improving technical proficiency, practical implementation, problem-solving abilities, industry expertise, and commitment to maintaining high quality standards. The aforementioned results highlight the significance of specialized programs in preparing students with crucial skills necessary for a smooth and effective transition into the labor market.

3) The evaluation of Workforce Readiness aspects highlights the competencies of individuals enrolled in the program across several domains, including job search tactics, self-presentation skills, workplace decorum, time management abilities, entrepreneurial attitude, and professional networking proficiency. On the other hand, those who do not participate in programming activities have comparatively lower scores on these categories, indicating the potential advantages of these programs in fostering comprehensive job readiness.

5. Recommendations

1) Design and implement customized educational programs that address the unique demographic factors found in the research. It is essential that these programs effectively cater to the distinct requirements of various age cohorts, genders, major classifications, and academic tiers, so guaranteeing that every student receives tailored assistance in augmenting their vocational proficiencies and preparedness for the workforce.

2) Integrate occupational skill development into the core curriculum to establish a connection between academic knowledge acquisition and its practical implementation in real-world contexts. Educational institutions have the capacity to provide students with practical skills that are directly applicable to their prospective occupations via the integration of hands-on training, problem-solving exercises, and industry-specific information.

3) Implement mentorship initiatives aimed at facilitating meaningful connections between students and experts within their respective areas of interest. This advice has the potential to provide significant information pertaining to industry trends, successful job search techniques, and workplace etiquette. Both those who participate in programming and those who do not may get advantages from this kind of mentoring, which assists them in navigating their professional

trajectories with more efficacy.

4) Provide seminars and training sessions that center on various aspects of job search tactics, self-presentation techniques, workplace etiquette, time management skills, and professional networking methods. It is recommended that these seminars be included into the curriculum in order to provide comprehensive exposure of all students to fundamental soft skills that augment employability.

5) Advocate for the notion of lifelong learning among students, emphasizing the significance of ongoing skill augmentation and adaptability to ever-changing industrial requisites. It is very advisable to motivate students to actively pursue professional development chances even subsequent to their graduation.

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