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**Cultivating Student Craftsmanship Through OD. Interventions:
A Case Study of the Student Union at Beijing Polytechnic**

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Abstract

This research aims to determine whether the organization development interventions (ODI) helped cultivate student craftsmanship in the Student Union. Through the new job design of the Student Union, students enhanced their commitment to their work and became more conscientious. The researcher adopted quasi-experimental design by using qualitative and quantitative methods to conduct the BPI case study. Based on the pre-and post-test design, 24 students in the Student Union from College QC participated as the intervention object, while the 28 students of the control group were from College HK. The quantitative part included survey questionnaires in pre-test and post-test stages, while the qualitative method included interviews. First, the researcher applied the Shapiro–Wilk test and found that the data was non-parametric type. Next, the researcher applied the spearman Rank correlation, Wilcoxon signed rank, and Mann-Whitney U tests to test hypotheses based on none parametric situations. After the ODI, all hypotheses' tests confirmed statistically significant improvement in work engagement, students' career commitment, and conscientiousness. The qualitative findings also supported that students' career commitment and conscientiousness significantly improved. In conclusion, the findings showed that students' career commitment and conscientiousness could be improved by enhancing students' work engagement.

Keywords: student craftsmanship, student union, work engagement, career commitment, conscientiousness

Introduction

China has put forward the "Made in China 2025" strategy, which focuses on upgrading and innovating the manufacturing sector and adding new growth drivers to the country's economic development. In 2016, the Chinese government put forward the idea of "cultivating the craftsmanship of excellence." It came into the limelight as core guidance for China to become a manufacturing powerhouse in the new era. It has become the state's will and society's consensus to foster Craftsmanship. In 2020, Craftsmanship meant dedication, striving for perfection, meticulousness, and pursuit of excellence. It is a powerful spiritual force that inspires the party and the nation. Craftsmanship refers to the unremitting pursuit of quality by Craftsmanship with specific skills. In a broad sense, it refers to the attitude and quality of striving for perfection embodied by workers in the process of work (Wang,2018).

Higher vocational colleges are the mainstay of cultivating skilled talents in China, shouldering the mission of cultivating highly skilled people for production, construction, service, and management at the front line and playing an irreplaceable role in accelerating the process of socialist modernization. For higher vocational colleges to fully develop talent and improve the quality of higher education in China, they need to bring back Craftsmanship. The training of Craftsmanship is the mission of vocational education in the present times and the new direction of vocational education development. For students, Craftsmanship can better promote their career development. Students are the leading force in promoting the development of the country and society, so it is imperative to cultivate the Craftsmanship of higher vocational students (Zhou, 2018).

In China, the Student Union is a student organization under the leadership of the school party committee and the guidance of the Youth League Committee. It is one of the leading forces for the school to realize the functions of "self-management, self-education, and self-service" for students (Zhao et al., 2020). The Student Union is open to all students, regardless of major, and selects the best based on individual ability. According to the school requirements, the Student Union comprises four departments: Learning Department, Living Department, Discipline Inspection Department, and Activity Department. Students are responsible for organizing large-scale activities held by the school, monitoring the daily behaviors of students on campus, and preparing documents, which requires communication and coordination skills and a good

command of language expression. The Student Union can be seen as a simulative workplace in which some real-life scenarios in the workplace are simulated. With leaders and colleagues around, they need to complete tasks to gain recognition from the organization. At the same time, members also have the opportunity to be promoted or eliminated.

In the Student Union, students do things that need more persistence. Once students do not do well, they will give up and lose confidence. Students do not strive for excellence at work and strive to get the task done. Students need to learn the importance and meaning of work; They lack conscientiousness. Students do not receive intrinsic rewards for their work and are not engaged in it. Thus, the problem is that there needs to be a systematic method to cultivate Craftsmanship and special courses, activities, or media to cultivate student craftsmanship in higher vocational colleges. As a result, the students needed to demonstrate a higher level of Craftsmanship.

Therefore, the research objectives are (1) cultivating student craftsmanship through the Student Union's jobs (tasks and work, activities and actions). (2) to identify the relationship between work engagement and student craftsmanship. (3) to identify ODI that changes work engagement. (4) to assess the relationship between work engagement and student craftsmanship before and after ODI. Finally, (5) to understand whether work engagement impacts student craftsmanship.

Literature Review

Concept of Craftsmanship

In China, Craftsmanship itself is a multi-disciplinary concept. At the same time, it is influenced by the country's unique cultural background, showing a distinctive nationality and features of the times. Existing research defines Craftsmanship in many categories. For example, Craftsmanship can be both attitudinal and behavioral. It can refer to both will and ability. It can be both stable and changeable. Finally, it can be at the individual or group levels (Wo,2013).

This study sums up the research that has already been done based on the idea of Craftsmanship. It analyzed the research into professionalism, professional attitude, ethics, values, and personal qualities.

Craftsmanship is a kind of professional spirit, a concrete manifestation of professional ethics, professional ability, professional quality, and employees' professional value

orientation and behavior(Huang,2020). Based on research on the concept and measure aspects of Craftsmanship and the main aspects of the Student's ability to the Student Union, this research developed a conceptual model of Craftsmanship, explaining Craftsmanship from two perspectives: professional attitudes and professional behavior. A professional attitude is directly related to a craftsman's outlook on life and values and combines professional attitude and philosophy (Cha,2016). It has a unique history of inheritance. Through the development of a new "mentoring system" type, professional philosophy and work attitude have been formed, featuring dedication to work, the pursuit of excellence, and the responsibility of a craftsman (Zhao,2012). It has a unique inheritance. The development of a new type of "mentoring system" has formed a professional philosophy and work attitude that is dedicated to working, strives for excellence, and has the responsibility of a craftsman (Xiao&Liu,2015). It refers to a craftsman's proficient Craftsmanship and attitude toward producing a product of premium quality (Xiao et al.,2019). It is a down-to-earth working attitude that focuses on quality and pursues perfection (Xi,2017). Personal behavior: It includes the fine qualities of excellence, innovation, creation, dedication, love for work, courage to take responsibility, the pursuit of excellence, and endurance of loneliness (Li,2019). The most important things about Craftsmanship are excellence and persistence (Cao, 2017). It is the fine quality of a craftsman, the attitude and spirit of concentration, innovation, and pursuit of the best (Xiao &Liu, 2015).

The Relationship Between Work Engagement and Conscientiousness

Conscientiousness positively impacts three dimensions of work engagement (Fang et al., 2019). First, the employee's perception of responsibility refers to whether and to what extent employees believe they should work harder to help leaders improve organizational operations, promote organizational development, and realize organizational benefits (Chi, 2021). Second, studies have shown that a sense of responsibility and neuroticism is strongly linked to work engagement (Kim et al., 2009). Extroversion, flexibility, and neuroticism can also be used to predict how engaged an employee will be at work (Langelaan et al., 2006). Third, many studies have demonstrated that conscientiousness can influence task identity directly, indirectly, or non-linearly. Researchers have found that highly conscientious employees receive higher job performance ratings (Witt et al., 2002). People with low conscientiousness have been found to think that things are more challenging than they are and tend to avoid them. In contrast, highly conscientious employees are more active, predicting

better task identity (Jimoh, 2008). Conscientiousness was adopted from the subscale of organizational citizenship behavior (Faith et al., 1997), which is not only highly correlated with employee performance and organizational productivity (Podsakoff et al., 2009) but also is a measure of employee extra-role behavior.

Craftsmanship includes professional attitude and professional behavior (Yang & Du, 2018; Lei, 2020). Craftsmanship refers to career commitment, conscientiousness, excellence, and innovation (Geng, 2020; Zhou, 2018; Zhang, 2021). Student Craftsmanship: includes a professional attitude. This study considers that student craftsmanship refers to career commitment and conscientiousness. W.B. Schaufell (2002) defined work engagement as a state which is positive, satisfying, and work-related and is characterized by vigor, dedication, and absorption (Schaufeli et al., 2002). Conscientiousness is a stable trait in which the subject recognizes the job responsibility at work, internalizes the responsibility as the obligation he should fulfill, and takes the initiative to bear the corresponding consequences of the responsibility (Fang et al., 2019). Career commitment refers to the attitude of employees toward the occupation or profession (Blau, 2003).

The Relationship Between Work Engagement and Career Commitment

According to self-determination, satisfaction will make individuals have positive emotions and love the work they are engaged in, with their work and career, while showing a high level of organizational commitment, professional commitment, and intention to stay (Zhang et al., 2013). These needs can affect the individual's work commitment. Core self-evaluation, work engagement, career commitment, and career success are all positively correlated in a significant way (Chen, 2015). Work engagement is a requirement for career commitment, and employees' work attitude and commitment to the job affect their career commitment (Goulet & Singh, 2002). Employees' sense of organization supports and positively affects work engagement; the career commitment partly mitigates the impact of new employees' sense of organizational support on work engagement and is significantly positively correlated with both sense of organizational support and work engagement (Liu, 2021).

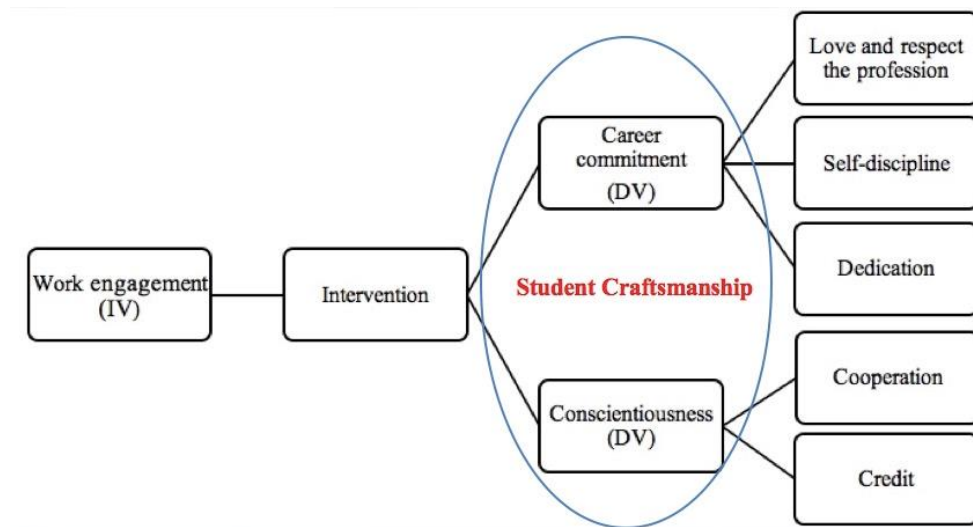
Work engagement is a lasting and positive state of employees. Employees with high work commitment also have higher levels of emotional, normative, and opportunity commitment. Employees with high work commitments show that their current occupations align with their professional ideals and aspirations. They are unwilling to leave their current occupations because of their long-term investment in various aspects

of their careers. There is a positive correlation between work engagement and career commitment. For leaders, work engagement is a critical factor in motivating employees. Increasing work engagement can enable employees to devote themselves to their work, thereby increasing their professional commitment. There is a significant positive correlation between work commitment and emotional commitment, cost commitment and normative commitment, but no correlation between commitment and opportunity (Wo,2013).

The theoretical framework proposed by Randall and Cote (1990) emphasizes that work engagement will directly affect continued commitment, emotional commitment, and professional commitment. Work engagement is a bridge between the other four commitments and is only an intermediary variable (Long et al., 2000). The model in Cohen focuses on the relationship between career commitments and related job variables. Work commitment impacts the three variables of professional commitment, continuing commitment, and emotional commitment. The difference between the above two models is that professional commitment will affect continuing and emotional commitment, respectively, and the impact of these two commitments on employees is the most prominent (Chen, 2015).

Figure 1

Conceptual Framework



Establishment of a conceptual framework. The independent variable of this research is the Student's work behavior, and the dependent variable is the Student's Craftsmanship. Specifically, student craftsmanship refers to career commitment and conscientiousness, and students' work behavior refers to work engagement. Career commitment means that the individual loves and respects the profession and is self-disciplined and dedicated. Conscientiousness means cooperation and credit. Firstly, through questionnaires and interviews, the researcher can understand the problems of Craftsmanship in the student union. On this basis, the researcher can cultivate student craftsmanship by changing students' work behavior through intervention.

Research Hypothesis

H1₀: There is no relationship between students' Work engagement and Career commitment and Work engagement and Conscientiousness.

H1_a: There is a relationship between students' Work engagement and Career commitment and Work engagement and Conscientiousness..

H2₀: There are no statistically significant differences before and after OD intervention in Student's Work engagement, Career commitment, and Conscientiousness

H2_a: There are statistically significant differences before and after OD intervention in students' Work engagement, Career commitment, and Conscientiousness.

H3₀: Students' Work engagement has no statistically significant impact on students' Career commitment.

H3_a: Students' Work engagement has a statistically significant impact on students' Career commitment.

H4₀: Students' Work engagement has no statistically significant impact on students' Conscientiousness.

H4_a: Students' Work engagement has a statistically significant impact on students' Conscientiousness.

Research Methodology

Sample and Procedure

This study selected students of the Student Union in BPI as the research participants. Two hundred and five questionnaires were distributed. BPI has a total of 7 colleges. The Student's Union does not require a major, but it requires workability. Therefore, in this study, a specific major is not considered a factor that influences the Cultivation of student craftsmanship. Two colleges were purposely selected to participate in this

study. Through communication, teachers from the college QiChe(QC) and college Hong Kong (HK) were willing to support this research, and College QC and college HK were purposely selected. Therefore, 24 students from College QC and 28 from College HK became the experimental and control groups. The Student Union usually starts in April. The Union plans and organizes students' activities by semester. Activities include debate contests, reading clubs, basketball matches, art shows, chorus competitions, etc. July marks the end of the semester when students are about to have their final exams, which means they must prepare for the exams. Students also need to prepare for the next semester. Thus, the intervention lasted for three months, from April to June. In addition, specific activities, such as training, group activities, and monthly meetings, are organized.

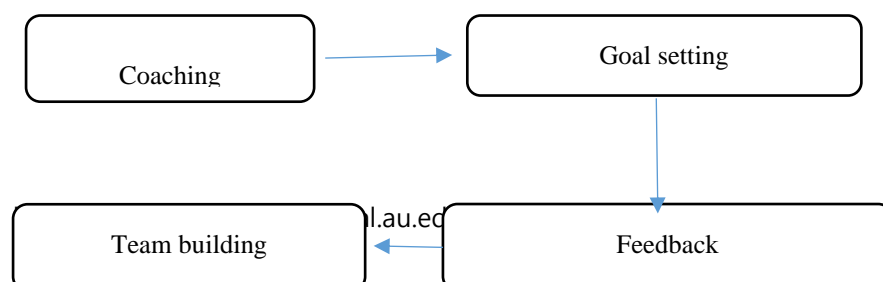
OD. Design Process

Based on the characteristics of the Student Union's work, the students' characteristics, and the actual situation, this study draws on John Kotter's Change Model-8 Steps for intervention design. Figure 2 summarizes the specific steps of the intervention. Firstly, the Student Union establishes a sense of urgency in the Student Union through coaching and follows by creating crisis awareness because students show low levels of career, Career commitment, and conscientiousness. Secondly, the Student Union develops a vision and strategy through goal setting. The overall goal is to enhance students' work engagement, and each department sets departmental objectives through collective discussion, and each Student sets tasks and works accordingly. Thirdly, members of the Student Union communicate the vision through the feedback process.

Furthermore, the acceptance of Feedback mediated the relationship between source credibility and employee creativity (Shuck et al., 2018). Finally, the Student Union empowers students with broad-based action through team building to complete the entire intervention process. These include utilizing adequate resources to create a learning atmosphere within the organization, performing HRM, and focusing on work design.

Figure 2

Intervention procedure



Research Design and Methodology

The researcher adopted qualitative and quantitative research methods to accomplish the research objectives. Quantitative research includes questionnaires, while qualitative research includes interviews with teachers and students. In addition, this study utilized a pre-and post-test design.

Based on the Work Engagement Scale (Schaufeli et al., 2006), Career Commitment Scale (Blau, 2003), and Conscientiousness Scale (Jimoh, 2008), the final questionnaire consisted of three variables and has 22 questions, among which 3 are reverse. The researcher consulted five experts to test the index of item objective congruence (IOC). All five are experts in the field of student work and have extensive practical experience in the Student Union. Y, M, and S are Student Affairs Managers, and P and W are Student Union Managers. The average score per question is more than 0.6. The Cronbach's Alpha of the work engagement scale, career commitment scale, and conscientiousness scale are 0.903, 0.889, and 0.894, respectively, which means that the questionnaire has good reliability and validity.

There are 24 students in the experimental group, and there are 28 students in the control group. All students responded to the same questionnaire before and after OD interventions. The study tested whether the data was parametric according to research hypotheses and a small sample size. The researcher used the Shapiro–Wilk test and found out that The significance level was $p < 0.000$, which proved that the data is non-parametric type.

The interview questions were designed based on the questionnaire designed by the researcher. First, the interview was designed to know students' understanding of work engagement and suggestions on how to improve work engagement. Second, students were asked about their changes in work engagement, career commitment, and conscientiousness before and after the intervention. Third, the researcher asked teachers in charge of the student union in 7 colleges (one teacher per college) to review the questions and came up with 6. Finally, at the end of the intervention, the researchers interviewed all 24 students one on one in the experimental group, recorded and sorted out the data.

Presentation and Analysis of Findings

Demographic Profile of Participants

Table 1

Demographic Profile of Experimental Group(24 students)

Age/number	Gender/ number	Grade/ number	Major/ number	Work Experience/ number
18/4	Male/18	Freshman/6	Automobile manufacturing/10	Less than half a year/6
19/9	Female/6	Sophomore/10	New energy/6	Half a year/8
20/10		Junior/8	Vehicle inspection/8	One year/6
21/1				A year and a half/3
				Two year/1

Table 2

Demographic Profile of Control Group(28 students)

Age/number	Gender/ number	Grade/ number	Major/ number	Work Experience/ number
18/3	Male/23	Freshman/5	Aircraft electronics maintenance/9	Less than half a year/5
19/15	Female/5	Sophomore/17	Aircraft mechanical equipment maintenance/12	Half a year/6
20/7		Junior/6	Electrical automation/7	One year/12
21/3				A year and a half/3
				Two year/2

Quantitative and Qualitative Analysis of Research

First, the researcher defined the recording unit as words, themes, and characters. Secondly, the context unit was defined. Finally, they decided on the methods to make the data expressed in quantity for each category, such as counting the frequency of each category. Finally, through sorting, the results were obtained.

Table 3

Summary of the Qualitative Change Data in the Experimental Group

Variable	Summary of Qualitative Change after ODIs
Work engagement	<ol style="list-style-type: none"> 1. Work with a positive attitude and be able to think carefully about work 2. Proactively face and solve problems at work 3. In addition to daily study life, most of the time and energy is spent on student union, actively looking for things to do 4. Try your best to get things done, and focus on what you are doing without external distractions 5. Full of energy and enthusiasm for work, high efficiency 6. Have confidence in your job and rise to the challenge 7. Immerse yourself in what you are doing and enjoy it. Forget about the passage of time 8. Get your work done more carefully and know precisely what you've done 9. Willing to contribute to work 10. Can complete tasks independently 11. Take assignments seriously and go for what is not assigned to you personally 12. My working ability has been improved significantly 13. Be willing to do the work, to do it intently, and even to sacrifice some personal benefits (such as your spare time) to do the work 14. Diligent can compensate for clumsy, diligent study, learn job-related skills 15. Able to balance work and study and make reasonable arrangements 16. Ensure high-quality work results

	<p>17. Work hard and feel fulfilled</p> <p>18. You'll be happy when your work is done</p> <p>19. Speak less, do more, be diligent, bear hardships, and finish tasks resolutely</p> <p>20. Answer or be available on call, take action as soon as the organization needs, and always put the work of the student union in the first place while considering both study and life.</p>
Career commitment	<p>1. I like and understand the meaning of student union and what I do</p> <p>2. The tasks assigned to each person are tailored to their characteristics, allowing each member to enjoy their work. Through the orderly division of labor, working together to complete tasks, members gradually become a collective</p> <p>3. I have a strong sense of identity with the Student Union and my work</p> <p>4. I feel competent to work.</p> <p>5. I like the students here and get along with them harmoniously. In the Student Union, I found a sense of belonging, got help in life and study, and felt the care of teachers and students. Teachers and members often communicate and understand each other's feelings.</p> <p>6. In terms of work experience, I feel happier and more fulfilled. I have sincere gratitude towards my team, and I am not willing to part with them</p> <p>7. I have learned a lot at work. The frequency of communication between members has increased, mutual affection has been enhanced, many friends have been made, broaden the horizon</p> <p>8. All ideas and skills in the work are trained in the student union. It is the best place to practice my skills, such as communication, coordination, and teamwork</p> <p>9. It is challenging, rather than doing the same thing for a long time, which makes me more interested in my work</p> <p>11. Take more opportunities to communicate with teachers and learn more</p> <p>12. The work of the student union has been part of my study life</p> <p>13. I will not leave the Student Union for personal reasons. Leaving halfway is a kind of escape</p> <p>14. Learned to insist, do things will not give up quickly, and do things to finish what you started</p> <p>15. Care about the student Union, especially its future development, thinking about how to build and improve it</p>

	<p>16. I am very grateful to the Student Union for giving me a platform to realize my value and show my ability, so I work hard</p> <p>17. Before I joined the Student Union, I needed to figure out what I was supposed to do. After I started working, I gradually got direction and ideas and made significant progress</p> <p>18. As a member of the Student Union, I always remind myself to make progress because what I represent is not only an individual but a team and the image of the whole student union</p>
Conscientiousness	<p>1. Do not be late for work, do not leave early, and do things from beginning to end</p> <p>2. There will be no unexcused absence from work</p> <p>3. Take the initiative and timely Feedback on the completion of assigned tasks, do things without delay and be responsible to the end</p> <p>4. Try your best to do everything well and fulfill your duties</p> <p>5. Rise to the challenge</p> <p>6. Do not complain</p> <p>7. The relationship between members should be maintained regularly. Each member should know what to do and have a sense of participation, responsibility</p> <p>8. Take responsibility for the student union as if it were your own business</p> <p>9. Be strict with yourself and learn from others with an open mind</p> <p>10. Have a clear working direction, work in a planned and orderly way</p> <p>11. Abide by the promise, will not break the appointment, encounter problems will, assume responsibility, can timely correct mistakes, accept others' good advice</p> <p>12. Honor the team and the collective first</p> <p>13. Happy to help other members</p> <p>14.No opportunistic, no lazy, serious attitude</p> <p>15. Constantly improve themselves to obtain the recognition of students, teachers</p> <p>16. To play an exemplary role in various activities</p> <p>17. Pursue excellence in work, and do not compromise in work execution</p> <p>18. Be organized and disciplined</p>

Table 3 reflects the students' changes in work engagement, career commitment, and conscientiousness and how to practice them in work after ODI. It does not seem very easy, but students keep trying and breaking through themselves. When encountering

difficulties, they would persist. If they failed, they would do it again. Through continuous practice, students gradually formed their own "logic of doing things." Finally, they had proven through practical actions that they could become qualified student union members.

Table 4

Mean Result in Pre-ODI and Post-ODI of the Experimental Group

Variable	Descriptive Statistics Result		Improvement
	Pre-ODI Mean	Post-ODI Mean	
Work engagement	3.1	3.8	23%
Career commitment	3.2	3.7	16%
Conscientiousness	3.4	3.9	15%

The researcher calculated the mean of each variable of the pre and post-ODI scores. As seen in table 4, the mean of the work engagement increased by 23% in the post-ODI stage compared with the pre-ODI stage. The mean of the career commitment increased by 16% in the post-ODI stage compared with the pre-ODI stage. The mean of conscientiousness increased by 15% in the post-ODI stage compared with the pre-ODI stage. The mean scores of work engagement, career commitment, and conscientiousness in the post-ODI stage were improved.

Table 5*Pre and Post-ODI Median Scores of the Experimental Group*

Variable	Descriptive Result		Improvement
	Pre-ODI Median	Post-ODI Median	
Work engagement	3.25	4	23%
Career commitment	3	3.5	17%
Conscientiousness	3	3.5	17%

As seen in table 5, the median score of the work engagement increased by 23% in the post-ODI stage compared with the pre-ODI stage. The median score of the career commitment increased by 17% in the post-ODI stage compared with the pre-ODI stage. The median conscientiousness score increased by 17% in the post-ODI stage compared to pre-ODI. The median scores of work engagement, career commitment, and conscientiousness in the post-ODI stage were improved.

From Table 4 and Table 5, the experimental group's mean and median of variables changed and increased positively after the intervention. The students became more engaged in their work, improved their level of career commitment, and became more conscientious.

Table 6*Pre and Post-ODI Mean Scores of the Control Group*

Variable	Descriptive Result		Improvement
	Pre-ODI Mean	Post-ODI Mean	
Work engagement	3.3	3.4	3%
Career commitment	3.2	3.2	0%
Conscientiousness	3.6	3.4	-5%

Mean results showed that only work engagement improved in the control group. The mean of career commitment has not changed, and conscientiousness has decreased by 5%, as shown in Table 6.

Table 7*Pre and Post-ODI Median Scores of the Control Group*

Variable	Descriptive Result		Improvement
	Pre-ODI Median	Post-ODI Median	
Work engagement	3	3.25	8%
Career commitment	3	3	0%
Conscientiousness	3	3	0%

Table 7 shows that only the control group's median scores of work engagement improved. The median scores of career commitment and conscientiousness are not improved.

Tables 6 and 7 show that in the control group, neither the mean nor the median of variables significantly changed in the post-ODI stage. Instead, after OD interventions, students improved their work involvement, career commitment, and sense of responsibility.

In order to further verify the relationship between IV and DV and whether the changes in variables before and after ODI are statistically significant, researchers used different statistical methods to test the research hypothesis. First, to test H_{10} and H_{1a} , the researcher used Spearman rank correlation. They were based on the non-normal distribution of data. The result is shown in Table 8.

Table 8

Summary of results (Correlation)

		Post-Career commitment	Post-Conscientiousness
Post-Work engagement	Correlation Coefficient	.723**	.746**
	Sig. (2-tailed)	.000	.000
	N	24	24

Table 8 shows the summary of the correlation's result. From the correlation result, it is clear that checking the significant value in the correlation table, $p < 0.05$ indicates a considerable correlation between students' Work Engagement, Career Commitment, between students' work Engagement, and Conscientiousness. After that, the correlation value ranged from 0.5-0.8, showing a moderate positive correlation between Student work engagement and Career commitment, between Student Work Engagement and Conscientiousness. So, the researcher rejected the null hypothesis(H_{10}) and accepted the alternative hypothesis(H_{1a}).

The researcher chose Wilcoxon signed rank and Mann-Whitney U Test. Then, in order to test H_{20} and H_{2a} , the researcher compared and analyzed the experimental and control groups' data before and after ODI, respectively.

Table 9

Summary of results (Wilcoxon Signed Rank Test)

Variable		N	Mean Rank	Sum of Ranks	Test Statistics	
					Z	Sig. (2-tailed)
Post-Pre Work engagement	Negative rank	0 ^a	.00	.00	-4.035 ^b	0.000055
	Positive rank	20 ^b	10.50	210.00		
	Ties	4 ^c				
	Total	24				
Post-Pre Career commitment	Negative rank	0 ^a	.00	.00	-3.000 ^b	.003
	Positive rank	9 ^b	5.00	45.00		
	Ties	15 ^c				
	Total	24				
Post-Pre Conscientiousness	Negative rank	2 ^a	6.00	12.00	-2.324 ^b	0.020
	Positive rank	10 ^b	6.60	66.00		
	Ties	12 ^c				
	Total	24				

Table 9 summarizes the result of the Wilcoxon signed rank test in the experimental group. The Wilcoxon signed rank test of Pre- and Post-ODI of work engagement is shown in the Table. The P value of less than 0.05 indicates a statistically significant difference between Pre and Post ODI in students' Work Engagement, Career Commitment, and Conscientiousness in the experimental group.

Table 10

Summary of results (Mann-Whitney U Test in pre-ODI)

Variable	Group	N	Mean Rank	Sum of Ranks	Test Statistics			
					Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
Pre Work engagement	Experimental group	24	28.50	684.00	288.000	694.000	-.942	0.346
	Control group	28	24.79	694.00				
	Total	52						
Pre Career commitment	Experimental group	24	27.81	667.50	304.500	710.500	-.633	0.527
	Control group	28	25.38	710.50				
	Total	52						
Pre Conscientiousness	Experimental group	24	25.96	623.00	323.000	623.000	-.272	0.785
	Control group	28	26.96	755.00				
	Total	52						

Table 10 summarizes the result of the Mann-Whitney U test in pre ODI stage.

The Mann-Whitney U tested pre-work engagement between the experimental group and control group, the p-value of the independent samples' t-test score is 0.346, which is higher than 0.05. In the Mann-Whitney U test of post-career commitment in the experimental and control groups, the p-value is 0.527, higher than 0.05. Finally, the Mann-Whitney U test of post-conscientiousness in the experimental and control groups indicated that the p-value is 0.785, which is higher than .05. in conclusion, there are no statistically significant differences between the experimental group and the control group in pre ODI stage.

Table 11

Summary of result (Mann-Whitney U Test in post ODI)

Variable	Group	N	Mean Rank	Sum of Ranks	Test Statistics			
					Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
Post Work engagement	Experimental group	24	34.33	824.00	148.000	554.000	-3.572	0.000354
	Control group	28	19.79	554.00				
	Total	52						
Post Career commitment	Experimental group	24	33.25	798.00	174.000	580.000	-3.196	0.001
	Control group	28	20.71	580.00				
	Total	52						

Post	Experimental group	24	32.33	776.00	196.000	602.000	-2.775	0.006
Conscientiousness	Control group	28	21.5	602.00				
	Total	52						

Table 11 summarizes the result of the Mann-Whitney U test in the post-ODI stage.

In the Mann-Whitney U test of post-work engagement in the experimental group and control group, the p-value of the independent samples' t-test score is 0.000354, less than 0.05. In the Mann-Whitney U test of post-career commitment in the experimental and control groups, the p-value is 0.001, less than 0.05. Finally, in the Mann-Whitney U test of post-conscientiousness in the experimental group and control group, the p-value is 0.006, less than .05. It proved there are statistically significant differences between the experimental group and the control group in the post-ODI stage.

Taking the above results together, the Wilcoxon signed rank test and Mann-Whitney U test result indicates that the null hypothesis(H_{20}) is rejected, and the alternative hypothesis(H_{2a}) is chosen.

In order to test H_{30} and H_{3a} , H_{40} and H_{4a} , Simple linear regression is adopted.

Table 12

Summary of result (Unary linear regression)

			Post-Career commitment	Post-Conscientiousness
Model Summary	Durbin-Watson	Post-Work engagement	1.526	1.609
ANOVA	Sig.		.000 ^b	.000 ^b

Table 12 is the summary of the result of Simple linear regression. The Simple linear regression of post-work engagement and post-career commitment in the experimental group indicates that DW is equal to 1.526, which is less than 2. The p-value is 0.00, less

than .05. The Unary linear regression of post-work engagement and post-conscientiousness in the experimental group indicates that DW is equal to 1.609, which is less than 2, and the p-value is 0.00. DW is also less than 2.0, indicating that the model fitting could be further analyzed, p-value less than .05 is obtained. Thus, the null hypothesis($H_{30}H_{40}$) is rejected, and the alternative hypothesis($H_{3a}H_{4a}$) is accepted.

Conclusion

Compared with the control group, there are significant changes in the data after ODI in the experimental group. The median scores of the experimental group's Work Engagement, Career Commitment, and Conscientiousness increased. Using the Wilcoxon Signed Rank Test and Mann-Whitney U Test, the result shows a statistically significant difference between Pre and Post-ODI in Work Engagement, Career Commitment, and Conscientiousness. According to the Simple linear regression, students' Work Engagement has a statistically significant impact on students' Career Commitment and Conscientiousness. In conclusion, the intervention was effective. After analyzing both quantitative and qualitative data, results show that all variables improved after ODI. Through the comparative analysis of qualitative and quantitative data, the study further proves that ODI is effective.

The findings indicate that after organization development interventions (ODI), work engagement, career commitment, and conscientiousness in student unions have improved. The study has several findings:

1. There are differences in students' Work Engagement, Career Commitment, and Conscientiousness before and after the OD intervention, that is, before and after the implementation of goal setting, Feedback, coaching, and team building.
2. The intervention increased students' Work engagement and Career Commitment.
3. The intervention increased students' Work Engagement, further increasing conscientiousness.

Quantitative and qualitative data support these findings. This study further confirms that work engagement impacts Career Commitment and Conscientiousness.

Both traditional student union work experience and ODI can improve students' Work Engagement, but comparing the two ways, ODI has a more significant effect on improving students' Work Engagement. When the ODI was performed, the intervention positively changed the students. Goal setting, Feedback, team building, and coaching as intervention measures are suitable and adequate for changing students' Work Engagement.

Limitations and Need for Future Research

This study's focus on the college's student union, the research design was based on the student union's tasks and works. Further research should consider to foster craftsmanship to the entire students in the school and gain broader and deeper understanding of the nature of Craftsmanship of students. However, students by and large need resources to get more working experience at jobs. Cultivating student craftsmanship must take broader viewpoints, such as taking advantage of resources through collaboration with enterprises in the society. Future research needs to continue to study the influencing factors of Craftsmanship. Personal characteristics also have a particular impact on work engagement, the four aspects of Craftsmanship include different people's outstanding performance in different dimensions.

Therefore, developing students' skills should be broader than in a closed student union context. The school should work with enterprises to build a craftsmanship training platform specifically develop Craftsmanship and a training system for students while they are studying in the school.

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