Analysis of the Contribution to Professional Knowledge of the Job Training Within the Student Perspective in the 3+1 Education Model - The Example of Honaz Vocational School

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Abstract

A well-educated and qualified workforce is one of the most important outputs in vocational and technical education. Vocational schools constitute the last circle in Turkey for the preparing students about the vocational and technical education in order to meet the need for the intermediate staff needed by the labor market. The educational model which called 3 + 1, allows the period of training to be carried out in enterprises in order to make up for the students lack practice and skills in the vocational schools which criticized for lack of internship period and ineffectiveness. The purpose of this research is the student perspective analysis of the contribution to student's professional knowledge of job training (internship) in the 3 + 1 education model. This research was conducted on 234 students with 6 hypotheses. According to the results of the research, some variables are significant differences in the occupational contribution from the model. These variables are the program being studied, the monthly spending level of the student, the attitude developed against the vocational higher school and the place where the student lives. Gender of the student and academic achievement do not have significant effects on the professional contribution.

Keywords: Job Training, Vocational Training, 3+1 Education Model

Introduction

Vocational training is one of the active labor market policies that provide qualifications for individuals (Karadeniz et al., 2013:11). The development of the countries is possible by educating qualified professionals who have the knowledge and skills and have acquired work habits. One of the institutions that have contributed to the training of qualified professionals

is vocational schools. Today, vocational schools have been established especially for industry, commerce and service sectors in order to train intermediate staff with sufficient knowledge and skills in their fields. Vocational schools constitute the most important component of vocational and technical education system (Alkan et al., 2014). There is a gap between the vocational and technical educational institutions that provide education at undergraduate level and the employment fields targeted by secondary education institutions. Vocational schools also fulfill this gap (Şahin and Fındık, 2008). The main objective of the vocational schools is to train qualified professionals who are competent enough to meet the needs of the business world. However, due to the organized educational system, vocational schools educate and graduate students who are far away from the practice (Gümüş, 2016). This situation creates a dispute about demanded level of skill between vocational school graduates and labor market. This incompatibility causes the rise of unemployment rate by increasing vacant jobs (Aktaş, 2016:61).

To create a student profile with the qualities demanded by the business world, the universities usually have internship applications at the end of the II. and IV. semesters to offer the opportunities for students applying the theoretical knowledge they have educated. The main objective of the internship is explained by YÖK[6] : " … to ensure that the students who are studying at vocational schools reinforce their theoretical knowledge and experience they have gained during their education, to develop their skills and experiences in laboratory and workshop applications, their responsibilities at workplaces where they will work, their relationships, the organization and the production process, and the identification of new technologies" (Yarcı and Alpman, 2015; YÖK, 2002).

3 + 1 Education Model

Description

The 3 + 1 education model brings the students to reach the level of the quality of the labor market after the graduation at four-semester teaching activities in vocational schools. For this purpose, students are educated through both learning and working in the workplace environment, including active occupational practices for one semester of four-semester teaching activities. In this model, the implementation activities in the workplace environment are called as "internship" or "on-the-job training".

In this model, under the name of professional practices course, vocational school students have the opportunity to reinforce their knowledge and experience they have earned during their education with practical

[6] Higher Education Council of Turkey.

training in public / private institutions and organizations (Sarıbıyık, 2013). In this way, it is aimed to establish the education-employment relation more strongly and to adapt the graduates to the qualified intermediate member profile.

Application of 3+1 Model

In practice, students usually take the theoretical training for the three-semester classroom environment, as in the traditional higher education model. In the second year, the students who have completed the first year of education, are separated the two groups and one part's job training/internship opportunities are provided for the third term and the remaining is for the fourth period. Then the students are sent to selected workplaces for on-the-job training. The aim of the job training is to provide both the employees and the students with the knowledge, especially skills and work habits, necessary in the real business environment (Yesil, 2015:38).

Advantages and Disadvantages of the 3+1 Model

The model creates advantages for all interested parties. For students, benefits of the model are described below:

- It provides a clear understanding of their working life for students (Karadeniz and Kumaş, 2016:750).
- It eliminates the disadvantages of traditional short-term internships ranging from 3-6 weeks (Çetin, 2005); The internship students are able to recognize the sector, gaining teamwork skills and develop their academic education into a real life experience which are achieved positive gains in internship practices
- Adaptation to work, difficulties communicating, long working hours, working on improper fields, being seen as a cheap workforce, and inadequate training which are disadvantages in their internship practices. Çetin (2005) has specified that students are less motivated to pursue a career in the industry and are not warming up to work in the industry because of the negativities they encountered in the internship.
- The students, who in the program have more professional experience than the ones not covered by this program in terms of professional knowledge.

On the other hand, this model benefits not only for the students and labor market but also for the lecturers and the universities (http://www.pau.edu.tr/hmyo/tr/sayfa/genel-bilgiler-42).

Although internship practice plays an effective role in adapting to business life after graduating, it is not sufficiently in terms of controllability, measurability, and duration. For this reason, universities have expressed at the workshops that it is not enough to transform students' theoretical

knowledge into practical exercise with the course of internship practice in curricula. Universities pointed out in the workshops that a more comprehensive project was needed both in terms of content and duration in internship applications and started to work on the subject. In 2014, on the basis of University-Industry cooperation, Pamukkale University - Honaz Vocational School (HVS) began implementing the 3 + 1 model, which aims to educate their students for their future careers and employment oppurtunities.

Methodology

The Purpose and Importance of the Study

The purpose of this research is to evaluate the effectiveness of the 3+ 1 education model in terms of student perceptions and identifying the differences of perception among programs and to investigate their causes. In the evaluation of this program, the level of contribution to the professional knowledge of the students, the linear relationship between the work in the job and education in schools, the status of establishing healthy communication between students with the contributions provided by the unit responsibilities in the workplace and the level of employees' attitudes and behaviors towards students being friendly and helpful were examined.

The results obtained from this research are important in terms of providing a basis for the inclusion or non-inclusion of other programs not included in the 3 + 1 education model in the Honaz vocational school where the research was conducted. In addition the results of this survey would enlighten the other vocational schools for implementing 3+ model.

Operation Mode and Application

The research was performed at Pamukkale University within the HVS, the only vocational school applying the 3 + 1 education model. In the scope of research, all students in the HVS where the model was being applied for four semesters were accessed and the data was collected via the question form. The questionnaires were distributed to the students and collected back 2 days later. The number of students in this application and participating in the questionnaire is 234.

Method and Analysis

A non-experimental quantitative research design was used in the research. The data, which were collected during the research, were analyzed within descriptive and comparative methodology. Five hypotheses have been developed for analyzing the real the purpose of the research. In the descriptive methodology, frequency analysis and average model were used.In the comparative method, Kruskal-Wallis H test and Mann-Whitney

U test were used for the nonparametric techniques. For data collection; seven questions, which has the demographic variables, added to the 5-questions questionnaire which has five points Likert response component. The encoding of the five points Likert response component was done in the range of 1-5.

Constraints

The questionnaire was made at all semesters between the 6th week and 10_{th} week that include the 16 weeks of on-the-job training. The perceptions of participant students about the 3+1 model's effectiveness may change after the end of the 16-week program. Since it is not possible to take account of this change in our research, hypothesis tests were carried out with the assumption that the perceptions of the students who applied the questionnaire would remain the same at the end of the internship period.

Hypotheses

The six hypotheses tested in the research are given below.

H_1: There is a significant difference between the programs of the students in the on-the-job training system and the contributions to their professional knowledge.

H_2: There is a significant difference between the gender of the students in the on-the-job training system and the contribution made to their professional knowledge.

H_3: There is a significant difference between the monthly spending levels of the students in the on-the-job training system and the contribution made to their professional knowledge.

H_4: There is a significant difference between the academic average of the students in the on-the-job training system and the contribution made to their professional knowledge.

H_5: The attitude (positive/negative) developed by the students in the on-the-job training system towards HVS constitutes a significant difference in the contribution to their professional knowledge.

H_6: The place of residence of students in the on-the-job training program makes a significant difference in contributing to the professional knowledge of the students.

Analysis and Findings

Reliability Test

Cronbach's Alpha method was used for the reliability test of collected data. The Cronbach's Alpha coefficient was calculated for responses obtained from five questions in the Likert response component of the questionnaire. The Cronbach's Alpha value used to measure reliability was

0.843. When Cronbach's alpha coefficients range from 0.80 to 1.0, then the test have high reliability (Alpar, 2011). Since Cronbach's Alpha coefficient is within the given range, statistical analyzes can be applied to the data obtained from the questionnaire.

Normality Test

The basic criteria in determining the statistical techniques to be used in the studies is determining to use parametric tests or non-parametric tests in the analyses. In order to be able to use parametric tests, some assumptions must be tested at first. One of these assumptions is the assumption of normal distribution. For the parametric tests to be applied, the H_0 hypothesis, which is established as "the data are normally dispersed" must be accepted. If the hypothesis is not accepted, non-parametric tests should be applied instead of parametric tests. Both graphical and analytical methods are used for testing the normality assumption. Looking at the literature, it can be seen that the Single Sample Kolmogorov-Smirnov test statistic is more preferred than methods which we mentioned above. In this research, The Single Sample Kolmogorov-Smirnov test was applied to the answers obtained from the questions which prepared to measure the students' risk tolerance levels in order to determine the normal distribution of the data. The H_0 hypothesis, which was established as "the data are normally dispersed" because of the p values of the test statistic being 0,000, was not accepted because the calculated p values had a lower value than the 0.05 significance level. For this reason, the result is that the non-parametric tests should be applied to the data (Aksit et al., 2016). For this reason, the Kruskal-Wallis H test will be applied in the hypothesis tests.

The Kruskal-Wallis H test is used when the independent variable is categorized more than once. The test, which is the nonparametric shape of one-way analysis of variance, determines that there is a significant difference between the average rank numbers of two or more categories for the variable being studied. Kruskal-Wallis is a test based on the approximate chi-square distribution. For this reason, the decision to reject the hypothesis H_0 is given as the result of comparing the calculated value with the chi-square table value. (Ozdemir, 2013; Aksit et al., 2016).

Hypothesis Test Findings

Hypothesis tests and findings are explained on the basis of the hypothesis in below.

H_1: There is a significant difference between the programs of the students in the on-the-job training system and the contributions to their professional knowledge.

The difference between the level of contribution of the students to the occupational knowledge accumulation of the internship which is measured by the Kruskal-Wallis H test. The difference, which is the level of contribution of the students in the 3 + 1 educational model programs to the occupational knowledge accumulation of the internship was measured by the Kruskal-Wallis H test.

The test results are shown in Table 1.

Table 1: Vocational contribution level perceptions in programs within 3 + 1 model

Programme	N	Mean Rank	Chi-Square	df	p
Foreign Trade	82	136,17	18,729	3	0,000
Logistic	66	94,55			
Marketing	16	143,14			
Business Administration	70	111,24			

Source: Fieldwork-based calculations of authors

According to the table, the highest rank average was obtained in the Marketing Program and the lowest rank average was obtained in the Logistic Program. This difference between the programs is level to reject the hypothesis H_0, in other words, the difference between the sequence averages is statistically significant ($p=0,000<0,05$). The H_1 hypothesis was accepted for this reason.

According to this result, the internship application in the 3 + 1 education model contributes to the professional knowledge of the students, but this difference shows that the application does not provide sufficient contribution in some programs. In the 3 + 1 education model, the contribution of the internship application to the professional knowledge accumulation will be discussed in general, then the differences between the programs will be assessed.

In Table 2, all students, who participating in the 3 + 1 educational program, the perceptions of contribution to professional knowledge are seen with frequencies, mean, standard deviation, mod and median values according to the five-point Likert scale.

Table 2: Perceptions of Contribution to Vocational Knowledge Accumulation of the Students Covered by the Model (General)

The on-the-job training system contributes to the accumulation of professional knowledge.							
	N	%	%	Mean	S.D.	Mode	Median
I never agree	30	12,8	17,1	3,825	1,352	5	4
I don't agree	10	4,3					
No Idea / Undecided	27	11,5	11,5				
I agree	71	30,3	71,3				
I totally agree	96	41					
TOTAL	234	100	100				

Source: Fieldwork-based calculations of authors

According to the table, the average response of the participants is 3,825. Because of the coding in the 1-5 range from five points Likert scale, a width of 4 points emerges. This width can be divided into five equal parts to facilitate interpretation. According to (Yürekli and Kalfa, 2016), this range is "very low" between 1,00-1,79, "low" between 1,80-2,59, "medium" between 2,60-3,39, "High" between 3,40-4,19 and "very high" between 4,20 and 5,00 (http://www.istatistikanaliz.com/faktor_analizi.asp). According to this, it can be said that the contribution of occupational education in the 3 + 1 education model of the students to the professional knowledge accumulates in high. This situation is supported by the frequency and percentage analysis results.

71.3% of the participant students think that the 3 + 1 model contributes to the knowledge accumulation of the occupational education, 11.5% of the students do not report positive or negative opinions. Only 17.1% of the participants think that the program does not contribute to their knowledge. This data indicates that the 3 + 1 education model is adopted by the students. It is estimated that if the post-graduate employment situation is investigated, these students will have a significant employment advantage compared to the students who are outside the model.

Table 3 summarizes the contributions of the occupational training in the 3 + 1 education program to the occupational knowledge accumulation of the students on a program basis.

Table 3: Perceptions of Contribution to Professional Knowledge Accumulation on Program Basis

PROGRAMME	Foreign Trade		Business Administration		Logistic		Marketing	
	N	%	N	%	N	%	N	%
No contribution	3	3,7	16	22,9	21	31,8	0	0
No Idea	9	11	6	8,6	10	15,2	2	12,5
Contributed	70	85,4	48	68,6	35	53,2	14	87,5
TOTAL	82	100	70	100	66	100	16	100

Source: Fieldwork-based calculations of authors

Table 3 summarizes the contributions of the 3 + 1 model of occupational training in the context of the programs involved in implementation. It is understood that the highest contribution to professional knowledge is obtained in Marketing Program and Foreign Trade Program students. The similar result is supported by the row averages in Table 1. The Marketing Program students are able to find internship opportunities both in the manufacturing industry and in the services sector. On the basis of this, the Marketing Program students are able to find internships in the most suitable enterprises for them, then it may have provided the highest contribution to professional knowledge. In the same way for Foreign Trade Program students, this rate may have come out because all export-import

companies are suitable for an internship. According to the data of Turkish Exporters Assembly, the fact that Denizli is the eighth largest export volume in Turkey supports this prediction (http://tim.org.tr/tr/ihracat-rakamlari.html).

Business Management Program students are also one of the programs with the greatest choice in terms of preference for 3 + 1 internship, due to the suitability of management departments of all enterprises. Nevertheless, the lack of high-level contribution to professional knowledge, because of the students are not adequately employed in departments related to their field. In addition, the teaching and application area of the business management program is quite extensive. This program can be freely assessed by the firms within the scope of all managerial applications such as accounting, administrative assistant, etc. However, in the perceptions of the students, it may be that only managerial activities will contribute to the accumulation of vocational knowledge because it is a "management statement" in the name of the program. A higher contribution to professional knowledge can be obtained if the relevant program students are employed instead of the management program students for accounting, executive assistant, etc.

As can be seen, the suitability of the internship place for Foreign Trade Program, Marketing Program, and Business Management Program is not dependent on any sector. The perceptions of professional knowledge accumulation contribution of the Logistics Program's students are significantly lower than other programs. This may be that students are not employed in firms related to their fields or that they are not employed in departments that will contribute to their professional knowledge even if this requirement is met. On the other hand, A high number of 3 + 1 internship place options that apply to other programs does not apply to this program. Even if the number of firms in the logistics sector is high, the surplus option that applies to other 3 + 1 programs and that arises due to sectoral independence is not possible for this program. For this reason, if the 3 + 1 internship of the students in the Logistics program is meticulously selected or because of the lack of choice, appropriate companies should be selected from other cities. In other words, a national-scale placement should be made by abandoning the local model applied in the provision of students' internships. When doing this, student preferences should be taken into account.

H_2: There is a significant difference between the gender of the students in the on-the-job training system and the contribution made to their professional knowledge.

In Table 4, the contribution of occupational education in the 3 + 1 education program to the professional knowledge of the students is analyzed on the basis of gender variation.

Table 4: Perceptions of Professional Knowledge Accumulation According to Gender

Gender	N	Mean Rank	Sum of Ranks	Mann-Whitney U	Wilcoxon W	Z	p
Man	126	113,9	14352	6351	14352	-0,16	0,873
Woman	102	115,24	11754				

Source: Fieldwork-based calculations of authors

The difference between male and female students' level of contribution to professional knowledge was measured by the Mann-Whitney U test. According to Table 4, male and female students have equal contributions to occupational knowledge accumulation of occupational education. The fact that there is no difference in the professional knowledge according to the gender of the students requires acceptance of the H_0 hypothesis. Accordingly, the H2 hypothesis was rejected and it was concluded that there was no significant difference between the contributions to professional knowledge accumulation by gender (p=0,873>0,05).

Karadeniz and Kumaş (2016:750), in their studies exploring the role of 3 + 1 programs in increasing employability, they stated that female students' perceptions of occupational education were more positive than male students.

H_3: There is a significant difference between the monthly spending levels of the students in the on-the-job training system and the contribution made to their professional knowledge.

The effect of monthly expenditure levels of occupational education program students on their professional knowledge accumulation is shown in Table 5.

Table 5: Perceptions of Professional Knowledge Accumulation by Monthly Expenditure Amounts of Students

Expenditure Amount	N	Mean Rank	Chi-Square	df	p
500 TL and below	77	113,46	8,353	3	0,039
501-750 TL	72	109,58			
751-1000 TL	47	128,26			
1001 TL and above	27	86			

Source: Fieldwork-based calculations of authors

The level of contribution to the accumulation of professional knowledge according to the monthly spending amounts of the students was measured by the Kruskal-Wallis test. According to Table 5, the monthly spending amounts of the students are significantly different on the level of occupational knowledge accumulation (p=0,039<0,05). Accordingly, the hypothesis H_3 was accepted.

The lowest spending group, which is 500 TL or less, do not have a low level of contribution to professional knowledge accumulation.

According to this, as the amount of monthly expenditure of the student decreases, there is no decrease in the contribution level to the professional knowledge accumulation. In fact, there is a small increase in the contribution level to the professional knowledge accumulation. This cause is may be a greater awareness of the difficulties in working conditions or the difficulty of finding a job.

It is understood that the students with monthly expenditure more than 1000 TL contributed less to occupational training than the other groups. Because of the income from the family or other sources, students can have a level of economic strength that avoids working in the field where they are studied the under-graduation. It may be that the students with monthly expenditure more than 1000 TL contributed less to occupational training than the other groups. Another reason for this situation is that the student does not want to establish an employment relationship in the field and/or other areas where the student is taught after graduation.

The contribution to professional knowledge accumulation is the highest in the students who have monthly expenditure in the range of 751-1000 TL, which we can define as middle-income expenditure group. According to this, until the end of the expenditure period, the current budget isn't the reason for anxiety to have a problem for the needs and/or students who do not have the additional budget to make extra expenditures are those who provide the highest professional knowledge accumulation in the program. If income support is provided for low-income students to reach this spending level, then the most benefit can be obtained from the program.

H_4: There is a significant difference between the academic average of the students in the on-the-job training system and the contribution made to their professional knowledge.

According to the academic average of the students, the results of measurement of contribution levels to occupational knowledge accumulation are shown in Table 6.

Table 6: Perceptions of Contribution to Professional Knowledge Accumulation by Academic Average

Average	N	Mean Rank	Chi-Square	df	p
1,80-1,99	17	119,29	1,192	3	0,755
2,00-2,29	73	109,25			
2,30-2,79	65	102,72			
2,80 and above	60	109			

Source: Fieldwork-based calculations of authors

According to the academic average of the students, the level of contribution to professional knowledge was measured by the Kruskal-Wallis test. The academic average of the students is assessed as 4 points and it is

expected to reach the average grade of 2.30 so that they can get graduation right (PAU-Associate Degree, Undergraduate Education and Training Regulation, Article 35/2). According to the table, the group that maximizes the level of contribution to professional knowledge accumulation is the group with the lowest achievement level. According to this, it is understood that the students who are not able to contribute professionally enough for their education during the classroom education are closed during the on-the-job training. Students with an average of 2.80 and above have more intense theoretical knowledge than other groups before the on-the-job training. This theoretical capacity is related to and reinforced by the student's knowledge and practice, the contribution to the accumulation of professional knowledge in this group may be increased.

This difference between the groups is not statistically significant ($p=0,755>0,05$). For this reason, rejection of the hypothesis H_4 is necessary. According to this, it is reached that the students who are on-the-job training, regardless of the level of their academic achievements, have obtained a contribution close to their professional knowledge.

H_5: The attitude (positive/negative) developed by the students in the on-the-job training system towards HVS constitutes a significant difference in the contribution to their professional knowledge.

The positive or negative attitudes of the students towards HVS are measured by the yes / no responses they answer to the question whether they recommend their school after the on-the-job training program. In this way, the level of expectation of HVS, including the student's on-the-job training and other teaching processes, is considered, then contribution perceptions to professional knowledge accumulation are predicted. The results of the measurement are shown in Table 7.

Table 7: Occupational Knowledge Accumulation Perceptions According to Students' Attitudes Towards HVS

	N	%	Mean Rank	Sum of Ranks	Mann-Whitney U	Wilcoxon W	Z	p
Yes	169	73,2	133,10	22494	2349	4302	-6,769	0,000
No	62	26,8	69,39	4302				

Source: Fieldwork-based calculations of authors

The attitudes of the students towards HVS have been measured by the Mann-Whitney U test on the contribution to professional knowledge accumulation. According to the measurement results, three of every four students against the HVS develop positive attitudes (%73,2). The averages of the contributions of the students who develop positive attitudes to their professional knowledge are significantly higher than those of the other students. The difference between the two groups is statistically significant and the adoption of the hypothesis H_5 is necessary ($p=0,000<0,05$).

In vocational schools, when the rate of meeting increase for the student's needs and expectations, then the student satisfaction will increase. Students, who are satisfied, can develop positive attitudes towards the educational institution which they are studying. According to the accepted hypothesis, it is expected that the activities carried out by the students to develop positive attitudes towards the educational institutions will also increase the professional contribution they receive from the occupational training. According to this result, it can be expected that the studies for establishing quality systems in higher education institutions will make a positive contribution to the 3 + 1 education model.

H_6: The place of residence of students in the on-the-job training program makes a significant difference in contributing to the professional knowledge of the students.

HVS is 22 km away from Denizli's city center. HVS students usually prefer Denizli city center and Honaz town center for residence. The internships of HVS students are generally located in the Denizli Organized Industrial Zone (DOIZ). This area is about 20 km away from Denizli center and 11 km away from HVS. Workplaces in DOIZ provide service to employees in Denizli center.

Table 8 shows the test results of differences in occupational knowledge accumulation according to the centers where the students reside (Denizli, Honaz or other districts).

Table 8: Perceptions of Contribution to Occupational Knowledge Accumulation According to Occupied Students

Place of Residence	N	Mean Rank	Chi-Square	df	p
Honaz District	122	99,84	19,094	2	0,000
Denizli Province	91	137,3			
Others	16	103,72			

Source: Fieldwork-based calculations of authors

The level of contribution to occupational knowledge accumulation by the resident center was measured by the Kruskal-Wallis H test. According to the measurement results, the highest contribution to occupational knowledge from occupational training constitutes the residents of Denizli city center. The level of contribution of the students who reside in Honaz district to their professional knowledge is the lowest. The difference between the 3 groups was statistically significant ($p=0,000<0,05$). The H_6 hypothesis proposed for this reason is accepted. Despite their geographical proximity, the contribution of the residents of the Honaz district center to their professional knowledge has been low. This may be that no service is provided to the Honaz district for workplaces. There is a public transport line between Honaz district center and DOIZ. Due to long periods of travel and long arrival times, job training has low satisfaction. Low satisfaction from on-the-

job training has resulted in lower professional contributions. According to this result, it is understood that for the students, the distance between the place of residence and the place of work is not the first problem, but the transportation is prioritized. The transportation has to be faster travel between these two places.

Conclusion

At vocational schools, occupational training programs are designed to ensure that students are trained as graduates with the qualifications demanded by the labor market. It is a model that is implemented as internship practice in essence. It is one of the most important expectations of the model that students can make the maximum contribution to their professional knowledge in this application. The thought that the contribution is high from the student's perspective, then it can give the student a high degree of self-confidence. In this way, it is possible for both the student to find jobs in what is called smooth work and to meet the high performance/efficiency expectation of the employers.

The score that students, who participating in the on-the-job training program, give for the contribution to the professional knowledge of this program is determined as 3,825 on the five-point Likert scale. This score corresponds to a high/good score. According to this, it is possible to say that the 3 + 1 model has the qualified graduate that will meet the expectation of the labor market.

The contribution that the on-the-job training program provides to professional knowledge accumulates different results on different programs in HVS. Levels of participation in Marketing program and Foreign Trade program are quite high from Logistics program and Business Management program. In terms of the Business Management program, it is thought that there is a multidisciplinary structure in reality, but it is thought that the students' perceptions are a program thought to contain only managerial activities. On the other hand, the multidisciplinary structure provides great advantages in that the program can find suitable workplaces. The reason for the low contribution to the Logistics program is that the program students only need to do an internship in these sectors unlike the other programs, but there is an inappropriate workplace-student match because of the lack of workplaces.

The gender of the students does not make a significant difference on the contribution to professional knowledge accumulation. This may be that students continue their vocational education in vocational high schools in the same area or this can result from a conscious professional preference for students who do not come from a professional program.

Monthly spending levels of the students are also significant variables in contributing to professional knowledge accumulation. The level of contribution is the lowest for students with a spending level above 1000 TL. This may be that students may not plan to work in this area after graduation or that they do not have the right professional preference. The students, who are in the 751-1000 TL expenditure group, have the highest professional contribution. These people in the medium spending level group reach the highest contribution and if the economic support is provided to the students in the low-income group, the outputs of the program can reach a further level.

The academic averages of students do not play a decisive role in contributing to professional knowledge. It is important for the students with the low theoretical capacity to obtain high contributions in order to demonstrate the usefulness of the model.

The attitude developed against HVS plays an important role in contributing to the accumulation of professional knowledge. Students who develop a positive attitude towards HVS provide greater benefits from on-the-job training. Accordingly, policies, that will increase students' commitment to the school, will play an important role in contributing to their professional knowledge.

The place where the students reside plays an important role for the professional accumulation. The contribution of residents in the Honaz district is lower. The Honaz district is closer to the industrial area where the on-the-job training is conducted than the Denizli province center. This indicates that geographical proximity is not an important factor in occupational contribution. The transportation which is from home to work provided by the workplace is more important than the geographical proximity for contributing to the accumulation of professional knowledge.

In the future research, it is proposed to compare the level of qualification and practical knowledge and skill acquisition to the students who are the main aim of the model. This comparison can be done in several ways which are contribution capacity of the model, duration of employment opportunities with non-model students and evaluation of the performance of graduates in the working environment.

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