

Analysis of Relationship between Academic Achievement and Job Satisfaction of Secondary NCS Vocational Education

SooHo Choi*

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Abstract

The purpose of this study is to analyze the relationship between academic achievement and job satisfaction in secondary NCS vocational education. The questionnaires were divided into 5 variables : NCS education understanding, quality of education service, necessity of vocational education, academic achievement, job satisfaction. We used SPSS WIN 18.0, to examine the importance, reliability, validity, and association analysis using questionnaires. The results showed that the quality of education service and the necessity of vocational education were influenced on academic achievement in independent variables. But understanding of NCS education was not adopted. In the parameters and dependent variables, academic achievement was found to affect job satisfaction. So if educational institutions are to pay attention to and improve the quality of vocational education service and the need for vocational education, academic achievement will increase. Academic achievement is expected to positively affect job satisfaction after employment.

Keywords: Vocational Education, Academic Achievement, Job Satisfaction, Quality of Education Service, National Competency Standards

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* First Author, Division of Business Administration, Sogang University, play88sh@naver.com

1. Introduction

Recently the government has been carrying out appropriate vocational education in connection with employment in accordance with the aptitude and ability of students from high school. In addition, various policies are being implemented so that vocational education can help career choice. Through the vocational education revitalization from high school, we are cultivating professional talents and strengthening the field job capacity to expand employment opportunities for students who want to work. To revitalize meister high and expand employment opportunities, the government plans to start a system to work first and then study (KEDI, 2015.).

The government recently announced the following plans to revitalize customized high school education. First, improve the educational environment to OECD level by 2022. Second, the proportion of school students in vocational high schools increased to 30% by 2022 and employment rate reached 65%. Third, selection of high school students based on talent and aptitude at the center of the score. Fourth, the expanding on social/economy, vocational, arts subjects focusing on schools, consignment education. Fifth, teacher class improvement and students' career-customized learning support (MoE, 2016).

The Ministry of Education also announced plans to carry out customized vocational education at the high school level for a student who does not go to college in high school. The government intends to pursue a personalized

career path, such as trial operation of pre-vocational courses and foster future vocational schools with autonomy including credit system. The details are as follows. First, pilot the preliminary work process in Grades 1 and 2. Second, connect with college students and expand foster care courses in the second semester of the second year. Third, expansion of Industrial Information School to future vocational schools (MoE, 2017).

The purpose of this study is to analyze the relationship between academic achievement and job satisfaction in secondary NCS vocational education. This study hopes to increase the proportion of students in vocational high schools and to help with school support in order for vocational education to stabilize. Understanding the practical difficulties experienced by vocational high schools and suggesting appropriate countermeasures to improve student satisfaction in the future. For this purpose, we conducted questionnaires on vocational high school students and college students over two weeks. The questionnaire consisted of "Understanding NCS education, quality of education service, necessity of vocational education, academic achievement, job satisfaction". We used SPSS WIN 18.0 to examine the importance, reliability, validity, association analysis using the questionnaire. The independent variables are NCS education understanding, quality of education service, necessity of vocational education and the parameters and dependent variables consisted of academic achievement and job satisfaction.

2. Precedent Research

2.1 Understanding NCS Training

There are a variety of articles published to emphasize the understanding and necessity of NCS education. In the course of basic vocational abilities of specialized High School NCS Curriculum, it was in the order of writing ability, listening ability, language ability, career development ability, time management ability (Woo, H. J. etc 2, 2016). As a result of analyzing the effect size of NCS-based curriculum, the employment rate was 8.13% higher than the non NCS curriculum and the size of the employment effect was 1.175 times higher than the non NCS curriculum(Jung, S. J., 2016). The curriculum emphasizes the necessity of NCS based curriculum by introducing the NCS job basic ability in culture education curriculum (Oh, S. Y., 2016). It also suggests ways to develop a NCS-based curriculum and implement a skills-based society by supporting learning modules (In, H. Y., 2016).

2.2 Educational Service Quality

The results of the study on the quality and characteristics of educational service affecting the job of secondary vocational education graduates were published (Lee, S. C., 2016). The quality of education service including self-efficacy and satisfaction with university facilities and lectures has a significant influence on university life and job satisfaction, thus

emphasizing the importance of quality of education service (Jung, Y. J. & Han, S. Y., 2015). In order to introduce the NCS-based curriculum and improve the quality of the education service, it is necessary to improve the teaching capacity of the specialized curriculum teacher. For that it is argued that competence including analysis, design, development, operation and evaluation and further capacity building for curriculum design, performance evaluation, needs analysis, instructional design, and learning method selection are necessary (Lee, S. J., 2016). In the NCS based vocational education curriculum, we analyzed the difference in the quality of education service investigating the importance of job performance and educational needs of the specialization high school and meister high school teacher (Ham, S. Y., 2016).

2.3 Necessity for Vocational Education

Based on the results of analyzing the need for vocational education through the achievements of the Meister high school policy, meister high school analyzed that it accomplishes both the competitiveness of vocational education and the human resource training required by the industry efficiently (Lim, S. H., & Hwang, J. S., 2015). As a result of looking at the additional demand of secondary vocational education students, 61.2% of the specialization admission quota, 31.7% of potential student demand, and 29.5% of actual student demand, emphasized the necessity and

expansion of vocational education by 2015 (Kim, J. M., etc 6, 2016). The validity of the NCS based vocational curriculum development model was verified using the Delphi preliminary survey tool and the necessity of vocational education was suggested (Kim, D. Y. & Kim, J. S, 2015). Through a study on the relationship between employment possibility, vocational education services and vocational education satisfaction, as vocational education has a meaningful relationship with employment, it asserted the necessity of vocational education (Woo, B. W., etc 2, 2015). About vocational education of secondary school most parents are aware of vocational education and provided an analysis that they know the importance of vocational education (Hwang, S. Y. etc 2, 2016).

2.4 Academic Achievement

The government provides customized vocational education for students who are not enrolled in universities in general high schools and suggest ways to improve academic achievement (Ministry of Education, 2017). In a Study on the Academic Achievement of Specialized High School and Meister High School Students, it is analyzed that social support, program experience, career barriers, and self-efficacy were statistically significant (Ju, Y. J. etc, 2, 2016). According to the result of the calculation of the support plan for improving the academic achievement by increasing the proportion of secondary vocational education, revising laws, improving

social awareness and securing financial resources were the priorities. Improvement of the working environment, strengthening worker protection and reducing the number of students per class as detailed support measures were the priorities (Kim, J. M. etc 6, 2016). Job relatedness, stress and communication among the contents of education have a significant effect on turnover intention and the higher the academic achievement, the lower the intention to turnover (Bae, S. H. etc, 2016).

2.5 Job Satisfaction

According to the analysis of the relationship between job satisfaction and on-the-job training of high school graduates, in general the higher the job satisfaction, the more tendency to continue employment or to prefer career to similar fields. In addition the study found that the greater the influence of the growth potential, the employment stability, the equality in the enterprise and the geographical position with the company, the higher the job satisfaction (Ahn, J. Y. & Lee, B. W., 2013). The employment rate of vocational trainees was higher as the recognition of their employment possibility was higher and the lower the perception of instructional ability. The higher the perception of teachers, students, and the relationship between grade and grade, the higher the job satisfaction (Jung, S. J., 2016). At work suggesting that the better the communication and the higher the job satisfaction, the lower the turnover intention

(Bae, S. H. etc, 2016). In order to increase job satisfaction, it is necessary to have a way to improve professional professionalism, and it is necessary to continue self-development including wage and welfare (KRIVET, 2015).

This study is to suggest ways to increase the proportion of students in vocational high schools and to improve students' satisfaction in the future so that vocational education can be stabilized by referring to existing research.

3. Data Collection and Research Hypothesis

3.1 Data Collection

This study analyzes the relationship between academic achievement and job satisfaction of secondary NCS vocational education, for this purpose the survey was conducted for about two weeks from September 18, 2017 to September 29, 2017 for 250 high school students and college students preparing to work in Seoul and the metropolitan area. The questionnaires were divided into 5 variables: "first NCS education understanding, second education service quality, third necessity of vocational education, fourth academic achievement, fifth job satisfaction". The questionnaire survey was conducted on a 5 point Likert scale for each item, and we looked at the importance, reliability, validity, and relevance analysis. We used SPSS WIN 18.0 to investigate the reliability analysis and exploratory factor using the questionnaire.

3.2 Research Hypothesis

3.2.1 Research Model

The research model of this paper is [Fig. 3-1].

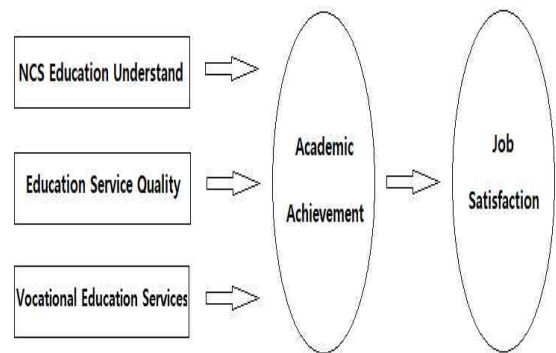


Fig. 3-1 Research Model

3.2.2. Understanding NCS Education & Academic Achievement

We expect that the more the students understand the NCS based education, the higher the academic achievement will be. Looking at the progress of the NCS curriculum in Korea similar to the NOS(National Occupation Standards) in German and meister training course, NCS curriculum is affecting academic achievement (KEDI, 2016). In order to improve academic achievement in the NCS-based high school vocational education curriculum, the recognition of specializing high school teachers should be improved (Kim, S. J. etc 2, 2016), In addition, a teaching competency model was developed and its importance was analyzed to improve the competence of professional subject teachers (Lim, J. H., 2017). To increase

academic achievement, the study proposed the task of modifying and promoting the NCS-based higher vocational education curriculum to be suitable for practice and certification (Jang, M, H., 2015). The study have studied the cost of standard education for the operation of curriculum in vocational education institutions (Lee, Y. M. etc 2, 2016). Through the revision of the NCS based high school vocational education curriculum, it was suggested to improve the academic qualification by improving the qualification of professional teaching staff, recruitment and training system (Ministry of Education, KRIVET, 2014).

Hypothesis 1: Understanding of NCS education will affect academic achievement.

3.2.3. Educational Service Quality and Academic Achievement

The results of the study on the relationship between the quality of education service and academic achievement in secondary vocational education showed that the higher the quality of education service, the higher the academic achievement. Therefore, in order to improve the academic achievement of future students, it is suggested that the quality of education service should be improved in accordance with NCS (Seo, Y. B. & Park, C. K, 2016). The present state of secondary vocational education is focused on Meister High School and Specialized Higher Education Curriculum, and suggests ways to link with the academic achievement in the future (Park, H. K., 2014), The authors have studied the service quality of

work · education training · qualifications for the construction of a sustainable ability based society and studied ways of employment culture after graduating from high school and studied ways of linking with academic achievement (Kim, S. T., 2014). In relation to vocational education of specialization high school students, strengthen our system of getting to work first and going to college later and providing accurate information in the curriculum suggests that students' academic achievement will improve, which will help students decide on their career and strengthen career education after graduation (Hong, S. P., 2016). Focusing on students who have graduated from specialization high school and can not enter university, the authors analyzed the relationship between the characteristics of choosing majors in high school, quality of education service, and achievement in employment (Noh, G. R. & Hur, S. J., 2015).

Hypothesis 2: Quality of education service will affect academic achievement.

3.2.4. Necessity for vocational education and academic achievement

There are various studies on the effect of vocational education need on academic achievement. The effects of vocational education on academic achievement differed between general high school and professional high school, and it was investigated that it affects academic achievement and job search according to the family background and education level (Lee, G. J. & Kwak, S. R.,

2016). In a study of the effects of career education activities of middle school students on career development competence and achievement through questionnaire survey, the results of this study are as follows ; it is shown that career education has a statistically significant effect on career development competence and achievement, thus emphasizing the necessity and importance of career education activities in the future (Song, I. B. & Kang, H. Y., 2016). The results of the analysis of the relationship between the vocational education, the employment ability, the personal characteristics and the academic satisfaction of the vocational high school expected graduates showed statistically significant results (Lee, W. S. & Na, S. I., 2016). The status of vocational education is classified into specialization high school and meister high school and as a result of analyzing the academic achievement, it was analyzed that it would be helpful to improve the maturity of career attitude and related policies (Oh, S. Y., 2015).

Hypothesis 3: The Necessity for vocational education will affect academic achievement.

3.2.5. Academic Achievement and Job Satisfaction

In a study on the competence and the performance of job performance according to the achievement of secondary vocational education by country, and in countries where vocational education is completed or vocational

education is carried out, the employment performance of young people represents very high. Economic activity, wage level, and occupation level were statistically significant and the higher the academic achievement and the more work-oriented countries, employment performance is high and argued that it was possible for the company to work early (Choi, S. J., 2015). In order to improve the job satisfaction, the policy of going to work first and going to college later analyzed by division into specialization high school and meister high school (Lee, S. Y. etc 2, 2017). Classify the job value types of graduates into 15, the authors analyzed the relationship between academic achievement and first job satisfaction and turnover (Yoo, H. O. etc 2, 2016). About the academic achievement of the vocational trainee, the more women, the higher the age, the higher the new trainees however about job satisfaction, the more men, the lower the age, the higher the former trainees (Jung, S. J., 2016). The results showed that academic achievement of meister high school graduates had a statistically significant effect on job ability and job satisfaction and job ability had a significant effect on job satisfaction (Min, S. G. etc 2, 2016).

Hypothesis 4: Academic achievement will affect job satisfaction.

3.3 Operational Definition of Variables

Tab. 3-1 Operational definition of variables (Independent variables)

Measurement Concept	Measurement Item	References
NCS Education Understand	NCS education is more advantageous for employment.	Woo Hye Jung etc 2, 2016, Jung Seon Jeon etc 2, 2016, Hur Yeong Joo, 2016, In Hyo Yeon, 2016
	The NCS curriculum requires basic occupational skills	
Education Service Quality	Education and training subjects and time allocation should be operated efficiently.	Lee Ssng Chul, 2016, Joo Yeong Joo, Han Sang Yoon, 2015, Lee Soo Jeong, 2016, Ham Seung Yeon, 2016
	It is necessary to have career advice for each student's aptitude and majors	
	The practical training course for the major must be fully implemented.	
	The school curriculum should be helpful in practice.	
	Overall an educational environment for vocational education is needed.	
Vocational Education Service	Parents have a good understanding of career and vocational education in school.	Im So Hyun, Hwang Joon Sung, 2015, Kim Jin Mo, etc 6, 2016, Kim Dong Yeon, Kim Jin Soo, 2015, Woo Bong Woo etc 2, 2015, Hwang Soon Yeong etc 2, 2016
	Parents are well aware of the importance of career and vocational education in school.	
	Through vocational education, the relationship between the students will be smooth.	
	The relationship between teachers and students is well formed.	

Tab. 3-2 Operational definition of variables (Mediated & dependent variables)

Measurement Concept	Measurement Item	References
Academic Achievement	Vocational education in high school is favorable for employment.	Ministry of Education, 2017, Joo Yeong Joo etc, 2016, Kim Jin Mo etc 6, 2016, Bae Soo Hyun etc, 2016
	A high level of aspirations for education and work will increase academic achievement.	
	A high level of achievement in academic work will make a good job.	
Job Satisfaction	Early entry into the labor market through vocational education will be beneficial for business and national development.	An Jae Yeong, Lee Byung Wook, 2013, Jung Seon Jeong, 2016, Bae Soo Hyun etc, 2016, KRIVET, 2015
	Strengthening linkages NCS education/employment/career development will increase job satisfaction	
	Academic achievement will reduce job stress and turnover and increase job satisfaction.	

4. Empirical Analysis

In this study, we tried to verify the main hy-

pothesis for the analysis of the relationship between academic achievement and job satisfaction of the secondary NCS vocational

education. By priority operational definition and measurement items were derived from previous studies, and the reliability and validity of the measurement tools were analyzed. Reliability analysis is the process of determining how well the characteristics of the sample are being made and this is an internal consistency check process that verifies whether the respondents clearly understood the questionnaire contents and responded consistently (Chung, C. Y. & Choi, Y. K., 2001). In this study, Chronbach's Alpha coefficient, which is a reliability test method used in social science research, is used as a method to confirm the internal consistency. Nunnally(1978) stated that preliminary studies

are reliable when the coefficient value is 0.6 or more, and reliability is 0.7 or more in the actual study. In <Tab. 4-1> Cronbach's Alpha coefficient is greater than 0.6, so the measurement tools used in this study have internal consistency. In order to verify the validity of the measured variables, exploratory factor analysis was performed using Varimax rotation for principal component analysis. In <Tab. 4-1> factor analysis of independent variables and parameters was performed separately for academic achievement and job satisfaction and the factor loadings of the research were calculated to be 0.5 or more. thus, the same variables were found to be tied together.

Tab. 4-1 Reliability Analysis and Exploratory Factor Analysis of Independent Variable

Factor	Understanding NCS Training	Educational Service Quality	Necessity for Vocational Education	Academic Achievement	Job Satisfaction	Cronbach's α
Understanding NCS Training	.801	.025	.049	.015	.288	0.689
	.654	.323	.029	.161	-.044	
Educational Service Quality	-.077	.654	.026	.177	-.052	0.832
	-.249	.689	-.043	.095	.314	
	.141	.700	-.097	.099	.260	
	.376	.511	-.120	.260	.003	
	.138	.702	-.110	-.047	.120	
Necessity for Vocational Education	-.087	-.153	.746	-.114	.058	0.669
	-.214	.047	.733	.023	-.062	
	.201	-.004	.609	.110	.297	
	.272	.063	.700	.189	.048	
Academic Achievement	.274	-.009	.044	.651	.235	0.762
	.064	.225	.015	.616	.346	
	-.080	-.066	.096	.752	.190	
Job Satisfaction	-.026	.130	.142	.144	.751	0.739
	.168	.109	.123	.191	.703	
	.375	.145	-.040	.229	.491	

<Tab. 4-2> shows that the AVE and CR values of the measurement items are more than 0.5 or 0.7 and the intuitive validity of the vari-

ables used in this study is largely assured. For the discriminant validity analysis, the correlation between variables was analyzed and the AVE

square root of each variable was compared with the correlation coefficient. As shown in <Tab. 4-2>, the AVE square root of the varia-

bles has a larger value than the other correlation coefficients. Thus the validity of discrimination between variables is secured.

Tab. 4-2 Discriminatory Feasibility Analysis

Factor	AVE	CR	Understanding NCS Training	Educational Service Quality	Necessity for Vocational Education	Academic Achievement	Job Satisfaction
Understanding NCS Training	0.441	0.610	0.664				
Educational Service Quality	0.503	0.757	0.473	0.709			
Necessity for Vocational Education	0.500	0.718	0.182	0.035	0.707		
Academic Achievement	0.487	0.671	0.449	0.401	0.275	0.697	
Job Satisfaction	0.476	0.643	0.490	0.492	0.391	0.636	0.689

Note : The diagonal bold numbers are the AVE square root of the variable, and the other values are the correlation coefficients

This study confirms the relationship between academic achievement and job satisfaction of secondary NCS vocational education through empirical analysis. In order to verify the proposed research model, we use the structural equation model using AMOS 18.0. Prior to the hypothesis testing, the adequacy of the research model was verified through Maximum Likelihood Estimation. The results of the analysis are as follows : $\chi^2=145.187(df=110, p=0.014)$, CFI=0.907(>0.9), IFI=0.913(>0.9),

RMR=0.052 (<0.07), RMSEA=0.056(<0.07), GFI=0.892(>0.9). Since this is above the recommended standard of fitness, this research model was deemed appropriate and hypothesis testing was conducted. <Tab. 4-3> and [Fig. 4-1] show the results of the analysis through structural equations of the causal relationship for the analysis of NCS education and its necessity and its performance.

Tab. 4-3 Hypothesis Test by Structural Equation

Hypothesis	Route	Standardization factor	P	Verification
Hypothesis1	Understanding NCS Education ⇒ Academic Achievement	0.404	0.145	Dismissal
Hypothesis2	Educational Service Quality ⇒ Academic Achievement	0.482	0.032*	Selection
Hypothesis3	Necessity for vocational education ⇒ Academic achievement	0.313	0.027*	Selection
Hypothesis4	Academic achievement ⇒ Job satisfaction	0.633	0.001***	Selection

*, **, *** : Correlation Coefficients are significant at the 0.05, 0.01, 0.001 levels.

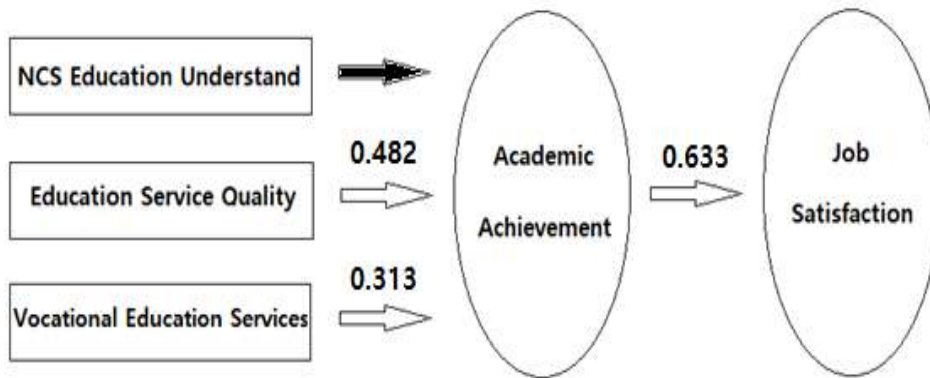


Fig. 4-1 Research Model Result

5. Conclusion

Prior to this study, we examined the understanding of NCS education, quality of education service, necessity of vocational education, academic achievement and job satisfaction. As a result of the study, the quality of education service and the necessity of vocational education as an independent variable were adopted to affect the academic

achievement, but the understanding of NCS education was not adopted. In the parameters, academic achievement was found to affect job satisfaction.

In order to improve the quality of education service, First, the subjects and time allocation of education and training should be operated efficiently. Second, it is necessary to provide career guidance for students' individual aptitude and majors. Third, the practical training course for the major must be fully implemented.

Fourth, the curriculum to be taught at the school should be helpful in practice. Fifth, education environment for vocational education is needed as a whole.

To increase the need for vocational education First, parents should have a good understanding of career and vocational education in schools. Second, parents should be aware of the importance of career and vocational education in schools. Third, through vocational education, the relationship between the students should be smooth.

Fourth, the relationship between teachers and students should be smoothly formed.

In order to improve academic achievement, the following points should be considered. First, vocational education in high school is favorable for employment. Second, higher levels of aspirations for education and work will lead to higher academic achievement. Third, I think that the higher the achievement in the study, the better the job.

To improve job satisfaction, the following items should be considered. First, entry into the labor market early through vocational education will be beneficial to the development of enterprises and countries. Second, strengthening the linkages between NCS education, employment, and career development will increase job satisfaction. Third, academic achievement will reduce job stress and turnover and increase job satisfaction.

In conclusion, academic achievement will increase if we pay attention to and improve the quality of vocational education services and the need for vocational education in secondary

schools and college education. Academic achievement is expected to positively affect job satisfaction after employment.

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Choi, Soo Ho (play88sh@naver.com)



Choi, Soo Ho is studying logistics at Sogang University graduate school business administration. He is a researcher at the Korea Research Institute for Vocational Education & Training. He has outstanding talent in statistical analysis.

중등 NCS 직업교육의 학업성취도와 취업만족도 관계 분석

최 수 호*

요 약

본 연구의 목적은 중등 NCS 직업교육의 학업성취도와 취업만족도 관계를 분석하는 것으로 이를 위해 서울과 수도권에 있는 실업계 고등학생과 취업준비를 하는 대학생 250여명을 대상으로 약 2주간에 걸쳐 설문 조사를 실시하였다. 설문내용은 연구가설을 5개로 구분하여 “첫째 NCS 교육 이해, 둘째 교육서비스 품질, 셋째 직업교육 필요성, 넷째 학업성취도, 다섯째 직업만족도”로 구성하였다. 설문조사를 이용하여 중요도와 신뢰도, 타당성, 연관성 분석 등을 살펴보기 위해 SPSS WIN 18.0 등을 이용하였다. 연구결과 독립변수에서는 교육서비스 품질과 직업교육의 필요성이 학업성취도에 영향을 주는 것으로 채택되었으나 NCS 교육 이해는 채택되지 못하였다. 매개변수에서 학업성취도는 직업만족도에 영향을 미치는 것으로 조사되었다. 따라서 교육 기관에서 직업교육 서비스품질과 직업교육의 필요성에 대한 관심을 기울이고 향상시켜 나간다면 학업성취도는 높아질 것이고 학업성취도는 취업 후 직업만족도에 긍정적으로 영향을 미칠 것으로 기대된다.

표제어 : 직업교육, 학업성취도, 취업만족도, 교육서비스 품질, 국가직무능력표준

* 제1저자, 서강대학교 대학원 경영학부 박사과정수료, play88sh@naver.com