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EVALUATION OF THE EFFICIENCY AND THE QUALITY OF ACCOUNTING EDUCATION IN THE UNIVERSITIES: A RESEARCH ON BANKING SECTOR IN TURKEY*

ÜNİVERSİTELERDE VERİLEN MUHASEBE EĞİTİMİNİN ETKİNLİĞİ VE KALİTESİNİN DEĞERLENDİRİLMESİ: TÜRKİYE'DE BANKACILIK SEKTÖRÜ ÜZERİNE BİR ARAŞTIRMA

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Abstract

The purpose of this study is to determine the factors that affect the efficiency and the quality of accounting education by carrying out a research on university graduates employed in the banking sector. Therefore, this study was conducted using structural equation modeling to describe the relations between the latent and observed variables. In this study, simple random sampling method was used to determine the sample size. Cronbach's alpha coefficient was used for measuring the reliability of the questions. Besides, fit indices related to the developed scale and model are determined as good or deemed to have a good value. The results of this study indicate that the current practices in universities and the level of employment, supportive information to accounting education, sufficient number of accounting courses and their credit requirements in the curriculum, sufficiency of the physical infrastructure and the qualifications of teaching staff have a statistically significant effect on the efficiency and quality of accounting education.

Keywords: Accounting, Education, Quality, Efficiency, Banking Sector.

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Muhasebe eğitimi; yönetimsel kararlar için yararlı bilgilerin nasıl belirleneceğini öğretmek, doğruluğunu kontrol etmek, ölçmek, işlemek, kaydetmek, doğrulamak, finansal bilgileri özetlemek ve anlaşılabilir finansal tablolar hazırlamak, analiz etmek ve analiz sonuçlarına dayanarak kararlar vermek ve bu bilgileri etkili bir şekilde kullanabilmek için öğrencilerin becerilerini geliştirme süreci olarak tanımlanabilir. Bu çalışmanın amacı, bankacılık sektöründe çalışan en az lisans düzeyindeki mezunların üniversitede aldıkları muhasebe eğitiminin etkinliği ve kalitesini etkileyen faktörlerin belirlenmesidir. Bu amaçla gizil ve gözlenen değişkenler arasındaki ilişkileri inceleyen yapısal eşitlik modeli kullanılarak araştırma yapılmıştır. Yapılan araştırmada basit tesadüfi örneklem yöntemi kullanılarak örneklem hacminin tespiti yapılmıştır. Analize dahil edilen soruların güvenilirliklerini ölçmek için Cronbach Alpha katsayısı kullanılmıştır. Ayrıca oluşturulan ölçek ve modelle ilgili tüm uyum indekslerinin iyi olduğu veya iyi sayılabilecek bir değere sahip olduğu belirlenmiştir. Bu araştırma sonucunda üniversitelerde uygulama ve istihdam, muhasebe bilgilerini destekleyici bilgiler, yeterli sayıda ve kredide muhasebe derslerinin müfredatta yer alması ve fiziki yapı ile öğretim elemanının yeterliği hususlarının muhasebe eğitiminin etkinliği ve kalitesi üzerinde istatistiksel olarak anlamlı bir etkisinin olduğu belirlenmiştir.

Anahtar Kelimeler: Muhasebe, Eğitim, Kalite, Etkinlik, Bankacılık Sektörü.

I. INTRODUCTION

Mainly because of globalization, via the abolition of the economic and political borders across the countries, the cultural and informational transfers have also affected the education area. As a result of the process of adaptation to Europe, YÖK (Council of Higher Education) has started the Bologna Process to ensure the compatibility of course credits and to improve student mobility within Europe. Before the Bologna Process, the Erasmus Socrates program was implemented in Turkey. By this program, although standardization in terms of course credits was achieved within the union member countries, the progress was not sufficient enough.

In order to improve the quality of accounting education, various institutions have published several regulations and reports. The leading institutions are the American Accounting Association (AAA) and the International Federation of Accountants (IFAC). The common goal of the regulations implemented by AAA and IFAC is to attain a certain level of quality in accounting education. For this purpose, many universities have worked on determining at which level (undergraduate or graduate) this goal can be achieved and reviewed their course programs and outlines to provide standardization (Terzi, Kıymetli Şen and Solak, 2013: 84).

Such developments in the field of higher education have affected the education system of Turkey, and this resulted in both formal and structural changes in accounting education. The

level and quality of accounting education differ from country to country. This is because accounting is not static and is influenced by the environmental factors, level of economic development and cultural factors (Terzi et al., 2013: 84).

Education can be defined as "*a period of forming intended biochemical changes in the brain through physical impulses*" (Sönmez, 1994: 2). For the continuous improvement of education quality, the following conditions should be met;

- Having enthusiasm not only in the education process, but also in questioning the limits of education,
- Democratic and interactive classes where all different voices are welcomed,
- Simplifying the education process and focusing on individual activity projects to strengthen the students' achievement,
- More participation of students in experiential learning (Karasioğlu and Duman, 2011: 168).

Accounting education can be defined as the process of teaching how to determine useful information for managerial decisions, and collecting, measuring, processing, recording, checking the accuracy, summarizing financial information and preparing understandable financial statements, analyzing these statements and making decisions based on the results of analysis, and also it is the process of improving the skills of students in order to use these information effectively (Muğan ve Akman, 2001: 19).

According to this definition which sets the goals of accounting education, the harmony of theory and practice is very important for an efficient accounting education. Accounting is often regarded as the language of business as it plays an essential and effective role in managerial decisions both theoretically and practically (Zaif and Karapınar, 2002: 113). That's why, it is necessary to increase the efficiency and the quality of accounting education through hands-on training besides theoretical knowledge gained through formal learning (Çukacı and Elagöz, 2006: 148). In addition, the quality of accounting information is affected by the academic adequacy and qualifications of instructors, attitudes and perceptions of instructors, instructional materials/resources used, level of instructional strategy and the lecturing format (Yücenurşen et al., 2016: 288).

IFAC, founded with the objective of improving the quality of accountancy profession globally, publishes international standards and guidelines for having an efficient and high-quality implementation (Hacırüstemoğlu, 2008: 4). IFAC has published 8 international education standards (IES) for improving the quality of accounting education. Within these standards, IES 2 determines the scope and the content of the accounting education programs. According to the 14th paragraph of the previous version of IES 2, the accounting education should have the following three components (Terzi et al., 2013: 88):

- Accounting, finance and related knowledge,
- Organizational and business knowledge,
- Information technology knowledge and competences.

IES 2 has been revised in 2014 and the revised version was effective on July 1, 2015. IES 2 (revised) prescribes competence areas instead of focusing on knowledge acquisition. According to the 7th paragraph of revised IES 2, the accounting education should have the following learning outcomes for technical competence* (IFAC IES 2, 2014):

- Financial accounting and reporting,
- Management accounting,
- Finance and financial management,
- Taxation,
- Audit and assurance,
- Governance, risk management and control,
- Business laws and regulations,
- Information technology,
- Business and organizational environment,
- Economics,
- Business strategy and management.

IES 4 emphasizes the importance of professional values and ethics for a high-quality accounting education. In this standard, the ethical principles and attitudes for candidates to function as professional accountants are defined. The objective of the accounting education is to develop a consciousness about the ethical values and to enable students/candidates to acquire the proper ethical behavior when they start working as professional accountants (Daştan, 2009: 287).

In this study, the factors that affect the efficiency and the quality of the accounting education were determined by analyzing the factors affecting the efficiency and the quality of accounting courses previously taken by the graduates in the university who are currently employed in the banking sector.

II. LITERATURE REVIEW

Increasing use of information technology due to globalization accelerated significant educational improvements. Accordingly, accounting education has also been influenced by these changes. For instance, the Enron scandal revealed in America in 2001 led to changes in accounting and auditing practices and led to the issuance of new laws and regulations.

Similar to a living organism, accounting system is also affected by the global changes and as a natural consequence, it has evolved (Terzi et al., 2013: 88). In this respect, there are a lot of factors that have impacts on the efficiency and the quality of accounting education. The variables which can be used in studies in determining the factors affecting the efficiency and the quality of accounting education include the amount of tuition fees paid by the students, the socioeconomic status of students, employee benefits provided to instructors and the number of students registered to the courses. Besides, the studies can be grouped by university, department and individual student groups (Ünal and Doğanay, 2009: 120).

According to Dursun (2006), the factors affecting the quality of accounting education are students, instructors, class environment and equipment. On the other hand, the study by Karasioğlu and Duman (2011) have pointed out that accounting education is affected by the following factors:

- Economic developments,
- Technological developments,
- Management factor,
- Instructor factor,
- Student factor.

In their study, Sayın et al. (2005) classified the factors affecting the quality of accounting education under five groups. These groups are the quality of students, the quality of teaching staff, the quality of physical facilities and technical equipment, adequacy of socio-cultural and academic activities, and the management approach.

There have been numerous studies that focused on accounting education. While some of them only include literature review on the subject (Kaya, 1999; Daştan, 2009; Apostolou et al., 2010; Dönmez et al., 2010; Karasioğlu and Duman, 2011, Yücenurşen et al., 2016), some also include empirical evidence (Korukoğlu, 1998, Sayın et al., 2005; Çukacı and Elagöz, 2006; Hatunoğlu, 2006; Zaif and Ayanoğlu, 2007; Ballantine et al., 2008; Erol and Erkan, 2008; Gençtürk et al., 2008; Ünal and Doğanay, 2009; Kurnaz and Gümüş, 2010; Sakarya and Kara, 2010; Tekşen et al., 2010; Yıldız and Durak, 2011; Terzi et al., 2013; Köroğlu et al., 2015; Serçemeli et al., 2015).

Apostolou et al. (2010) and Dönmez et al. (2010) analyzed the contents of selected articles on accounting education which were published in international journals. The results showed that the selected articles on accounting education focused on the studies about the curriculum, technical equipment and tools, and technology.

The studies of Çukacı and Elagöz (2006), Hatunoğlu (2006) and Ballantine et al. (2008) investigated the efficiency of commonly used teaching techniques and technologies in accounting education. Ballantine et al. (2008) determined that case study was the most efficient method

among all teaching techniques. In addition, these studies pointed out that the effective use of information technology would lead to an increase in the efficiency of accounting education.

Daştan (2009), Sakarya and Kara (2010), and Kurnaz and Gümüş (2010) examined the role and importance of ethics in accounting education. According to the findings of these studies, the number of ethics courses in curricula of programs were inadequate. These studies also showed that ethical perceptions did change according to gender, class, education level of parents and some other factors.

Erol and Erkan (2008) conducted a study on undergraduate students to determine the factors that affect the success of accounting education. As a significant result of the study, it was found that teaching techniques and physical facilities had impacts on the efficiency of accounting education.

Ünal and Doğanay (2009) examined the adequacy and the effectiveness of accounting education at the undergraduate level. For this purpose, a research has been conducted on chief auditors, auditors and junior auditors employed in Sayıştay (Turkish Court of Accounts). The results of this study showed that accounting education offered at undergraduate level in universities were insufficient in terms of meeting the needs of organizations.

Regarding the quality of the accounting education, Zaif and Ayanoğlu (2007) and Terzi et al. (2013) conducted studies on the curricula of business administration departments and the syllabi of the courses. Both studies indicated that the syllabi and content of the courses were not in compliance with the requirements of IFAC. The results of the study by Terzi et al. (2013) suggested that there was insufficient use of case studies in accounting education and the current trends in accounting were rarely taken into account in curriculum development. According to Terzi et al. (2013), for increasing the quality of accounting education, accounting instruction should be improved with case studies, accounting courses should cover the current and modern developments in accounting and the credit hours for ethics education should be increased.

Korukoğlu (1998) stated that there should be cooperation between universities and industry in order to increase the quality of accounting education. Kaya (1999) presented a report on future accounting education prepared by the American Accounting Association (AAA). According to AAA's report, most of the institutions responsible for accounting education failed to evolve and thus a reorientation became necessary for programs offered by these institutions to meet the needs of professional practice. Similarly, in their study, Yıldız and Durak (2011) concluded that accounting education in universities did not meet the expectations and demands of businesses.

Sayın et al. (2005) examined the efficiency of accounting-finance education from the academic staff's point of view. As a result, it was determined that the academic staff should be in

cooperation with their colleagues inside or outside their institutions, should make the necessary efforts for being equipped with the required skills and teaching techniques, and should play an important role in both integrating the professional culture and in increasing the efficiency of accounting education. Furthermore, Sayın et al. (2005) concluded that as well as competency in accounting, accounting education aiming to instill technological competency and a broad business perspective was required. The study by Çankaya and Dinç (2009) demonstrated that using PowerPoint presentations in accounting courses improved student learning and attitudes compared to traditional teaching techniques and it was also determined that lectures supported by proper information technologies could increase the efficiency of accounting education. On the other hand, Serçemeli et al. (2015) found that more effective learning could be achieved by combining traditional teaching methods with innovative teaching practices such as information technologies.

Gençtürk et al. (2008) and Tekşen et al. (2010) evaluated the accounting courses offered in associate degree programs. Tekşen et al. (2010) determined that factors such as course credits and following the current developments in the field had a significant role on the accounting education. Gençtürk et al. (2008) concluded that case studies and practices like internship should be a part of the curriculum and practice-based education should be focused in the preparation of graduates for occupational practice. The study by Köroğlu et al. (2015) conducted on accounting professionals showed that there were discrepancies between theoretical accounting education offered in universities and occupational practices.

III. RESEARCH METHODOLOGY

III.1. Purpose and Method of the Study

The aim of this study is to establish the factors affecting the efficiency and the quality of the accounting education offered by universities to the graduates employed in the banking sector. For this purpose, structural equation model examining the relation between latent and observed variables was used.

The structural equation model is a model that measures the relationship between the latent variables. In this model, the independent latent variables are called external (exogenous) latent variables and the dependent variables are called internal (endogenous) latent variables. In the structural equation model, fit indices are used to determine how well a priori model fits the observed data. The assessment of fit indices results in the model being either acceptable or unacceptable (Yayla and Cengiz, 2006: 180). In other words, the structural equation model verifies the latent variables that are observed in the theoretical model (Usta and Uçma, 2011: 28).

In order to apply the structural equation model techniques, data should be appropriate for multivariate normality and multicollinearity should not exist. For determining whether the data is normally distributed or not, measures of kurtosis and skewness are examined. When these measures are between – 2 and +2, data is assumed to be normally distributed (Ünal and Gürsoy, 2014: 306). The result of analysis indicated that 30 questions involved in the analysis proposed a reference of values considered acceptable in order to prove normal distribution.

Existence of multicollinearity between the variables employed in the study is determined by examining the Variance Inflation Factor (VIF). If VIF is greater than or equal to 10 (VIF ≥ 10), then it indicates a multicollinearity problem (Albayrak, 2005: 110). The result of the analysis indicated that VIF values of 30 questions employed in the study were lower than 10 and thus a multicollinearity problem did not exist.

This study is conducted among individuals who had completed at least a bachelor's degree. Graduates with an associate's degree, students that have not yet earned a bachelor's degree and the graduates that are not working in any job are outside the scope of the study. Graduates employed in the banking sector has been selected as the target population. Banking sector has been chosen as the number of individuals with at least a bachelor's degree working in this sector is high and there is a relation between accounting education and banking as accounting information is highly used in banking.

A questionnaire is prepared for the purpose of determining the efficiency and the quality of the accounting education. In the first part of the questionnaire, there are questions on demographic and general information about the participants and the second part includes questions about the efficiency and the quality of accounting education that are designed based on reviews of previous literature.

In the questionnaire, 5-point Likert scale (1.Strongly Disagree, 2.Disagree, 3.Neither Agree Nor Disagree, 4.Agree, 5.Strongly Agree) has been used. Initially, 30 Likert scale questions are analyzed using the exploratory factor analysis and 8 factor groups are determined. The total variance explained by these 8 factor groups is 62%. Items with factor loadings lower than 40%, cross-loading items with a difference of less than 10% between the loadings of two factors (Yiğit et al., 2008: 44) and for each factor group, variables less than two (Çokluk et al., 2012: 266) are omitted from the analysis. The questions included in each of the 8 factors, derived from the existing literature, are as follows:

Table 1: Factor Groups

Factor 1	**Efficient use of accounting information**
Q12	Developing specialization areas in the university (such as marketing, management and accounting) will make a significant contribution to the efficiency and quality of accounting education.
Q15	Besides measurement and recognition, explaining how to interpret financial information in accounting courses will increase the efficiency of accounting education.
Q24	Practices like internship should also be deployed in accounting education.
Q26	There is a strong impact of accounting information in the position you are working or wishing to work.
Q27	Level of accounting knowledge is important for getting a promotion or arriving at the desired position.
Q30	Giving assignments and encouraging research in accounting education ensure more efficient use of accounting information.
Factor 2	**Adequacy of the curriculum**
Q1	The credits of accounting courses in the curriculum are adequate.
Q2	The number of accounting courses in the curriculum is adequate.
Q13	The number of elective accounting courses in the curriculum is adequate.
Factor 3	**Supportive information to accounting education**
Q18	In the curriculum, there are courses focusing on the relationship between accounting and law.
Q19	In the curriculum, there are courses related to business ethics.
Q20	Information technologies are effectively used in lecturing.
Q23	In accounting education, students are encouraged to work as groups or teams.
Factor 4	**Practice and employment**
Q8	There is a direct relationship between accounting courses taken in the university and accounting practices.
Q28	Accounting education offered in universities adequately prepares graduates for private sector recruitment exams.
Q29	Accounting education offered in universities adequately prepares graduates for public sector recruitment exams (e.g., KPSS).
Factor 5	**Physical infrastructure and number of students**
Q21	The current number of students do not create a problem for practicing teaching techniques.
Q22	The current physical infrastructure does not create a problem for practicing teaching techniques.
Factor 6	**Teaching tools, equipment and cooperation with the sector**
Q9	Accounting courses and their content should be determined in cooperation with the companies that play an important role in accounting practice.
Q10	Accounting education should be supported with online education.
Q11	Accounting education should be supported with tools such as films and videos.
Factor 7	**Teaching techniques in accounting education**
Q7	Some of the accounting courses should be instructed by practitioners.
Q25	In accounting courses, verbal instruction is generally used.
Factor 8	**Hands-on practice in accounting education and recent developments**
Q3	Hands-on practice in accounting courses is sufficient.
Q4	The recent developments are introduced in accounting courses.
Q6	Accounting instructors are quite far from recent topics/issues and the lectures are instructed theoretically.
Q14	The topics in accounting courses are instructed according to tax applications.

III.2. Sample Selection

In this study, the right sample size is estimated using simple random sampling method in which the sample size is calculated according to the size of the population. In the study, 5% margin of error is chosen, as it is commonly used in social sciences. For a population of 100 million and over, and with a 5% margin of error, a sample size of 323 is determined to be sufficient (Yazıcıoğlu and Erdoğan, 2004: 50). Face-to-face and online surveys have been conducted for a total of 377 participants.

III.3. Conceptual Model and Hypotheses of the Study

The conceptual model of the study has been derived from previous literature explained in the second part of this study. For assessing the efficiency and the quality of accounting education, the model has been constructed as in Figure 1 and based on that conceptual model, 8 hypotheses (H_1, H_2, H_3, H_4, H_5, H_6, H_7 and H_8) have been created. In testing these hypotheses, structural equation modeling is used.

H_1: There is a relationship between the efficiency and quality of accounting education and efficient use of accounting information.

H_2: There is a relationship between the efficiency and quality of accounting education and the adequacy of the curriculum.

H_3: There is a relationship between the efficiency and quality of accounting education and the supportive information to accounting education.

H_4: There is a relationship between the efficiency and quality of accounting education and practice and employment.

H_5: There is a relationship between the efficiency and quality of accounting education and the physical infrastructure and number of students.

H_6: There is a relationship between the efficiency and quality of accounting education and teaching tools, equipment and cooperation with the sector.

H_7: There is a relationship between the efficiency and quality of accounting education and teaching techniques in accounting education.

H_8: There is a relationship between the efficiency and quality of accounting education and hands-on practice in accounting education and recent developments.

In this study, SPSS and LISREL statistical software packages are used for exploratory factor analysis, confirmatory factor analysis and structural equation modeling.

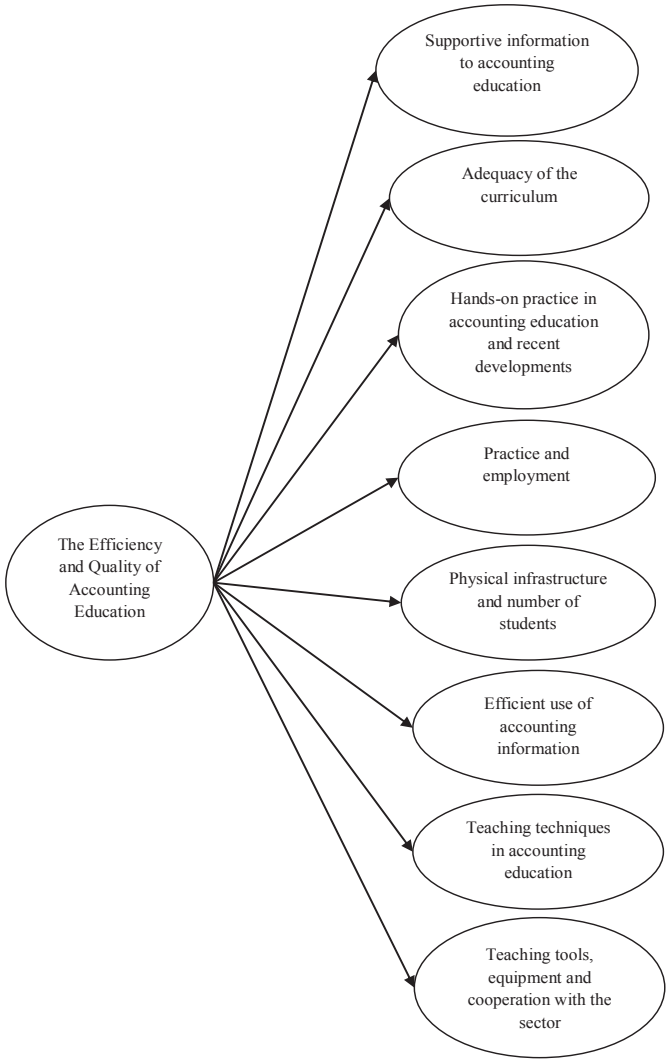

Figure 1: *Conceptual Model of the Study*

IV. FINDINGS

IV.1. Descriptive Findings

The ages of all respondents are between 18 and 45, whereas 52% of the respondents are between 18 and 25, 46% between 26 and 35 and only 2% between 36 and 45. Males and females consist of 57% and 43% respectively. Furthermore, 86% of the respondents have a work experience between 0 and 2 years, 10% of them have a work experience between 2 and

5 years, 2% have a work experience between 5 and 10 years and the remaining 2% of the respondents have a work experience of more than 10 years.

When the highest level of education attained by the participants are analyzed, it is determined that 90% of the survey participants had bachelor's degree and 10% had master's degree or higher. According to the responses, 35% graduated from Business Administration program, 22% graduated from Economics program, 14% graduated from Public Administration program, 10% graduated from Public Finance program and 19% of the respondents graduated from other programs.

An analysis of responses indicates that 9% of the respondents graduated from Marmara University, 8% from Istanbul University, 7% from Anadolu University, 7% from Dokuz Eylül University, 5% from Gazi University, 5% from Karadeniz Technical University, 4% from Hacettepe University, 4% from Uludağ University and the remaining respondents graduated from other universities. The majority of the respondents (80%) stated that the language of instruction at the university was Turkish and 20% of the respondents stated that the language of instruction at the university was English.

The percentages of accounting courses completed at the university by the respondents are: 90% principles of accounting, 83% cost and managerial accounting, 81% financial statement analysis, 43% company accounting, 40% computerized accounting, 40% accounting standards (TAS/IAS) and international accounting, 34% accounting for banks, 33% auditing, 15% accounting of foreign trade transactions and 2% other accounting courses.

IV.2. Structural Model Findings

Descriptive factor analysis is conducted for 30 questions employed in the study. Two questions are determined to be unsuitable for inclusion in the analysis. That's why, the remaining 28 questions are included in the model. Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity are used to examine the appropriateness of variables for factor analysis. The result of KMO measure is 0.778 and Bartlett's test is 3377 ($p<0.000$) which indicates good sampling adequacy.

The analysis shows that 23 variables selected using descriptive factor analysis have eigenvalues greater than one. 8 factors are extracted by combining the variables and 62% of the total variance has been explained. In social sciences, explained variance values between 40% through 60% are considered acceptable (Yiğit et al., 2008: 42).

In order to evaluate the efficiency and quality of accounting education, structural equation modeling is used. The reliability of 23 questions employed in the model is tested by the Cronbach's Alpha coefficient. Alpha (α) coefficient is measured as 0.77 and according to this result, the questions to be used in the analysis are considered acceptable in terms of reliability.

According to the type of social sciences research, acceptable level of reliability coefficient varies, but the widely-accepted cut-offs are that alpha should either be 0.60 or higher or 0.70 or higher. In most of the studies in the literature, a coefficient of 0.70 or higher is considered acceptable (Yiğit et al., 2008: 45). In Table 2, Alpha (α) coefficients for each factor group are presented.

Table 2: *Factor Loadings and Reliability Coefficients*

	Factor Loadings	**Cumulative Variance Explained**	**Reliability (Cronbach's Alpha Coefficients)**
Factor 1			
Q12	0.57	0.18	0.78
Q15	0.59		
Q24	0.42		
Q26	0.79		
Q27	0.85		
Q30	0.61		
Factor 2			
Q1	0.87	0.15	0.76
Q2	0.87		
Q13	0.57		
Factor 3			
Q18	0.64	0.08	0.71
Q19	0.79		
Q20	0.68		
Q23	0.57		
Factor 4			
Q8	0.56	0.05	0.74
Q28	0.82		
Q29	0.84		
Factor 5			
Q21	0.86	0.05	0.85
Q22	0.89		
Factor 6			
Q10	0.84	0.04	0.64
Q11	0.72		
Q9	0.40		
Factor 7			
Q7	0.69	0.04	0.30
Q25	0.62		
Factor 8			
Q3	0.46	0.04	0.28
Q4	0.59		
Q6	0.60		
Q14	0.40		

According to the reliability analysis conducted, alpha coefficients of factor 6, factor 7 and factor 8 are lower than 0.70. That's why, these factors are excluded from the study and the remaining 5 factor groups are included in confirmative factor analysis.

For assessing the overall fit of the model and confirmative factor analysis, in literature Root Mean Square Residual (RMR), Adjusted Goodness-of-Fit Index (AGFI), Normed Fit Index (NFI), Comparative Fit Index (CFI), Relative Fit Index (RFI), Incremental Fit Index (IFI), Goodness-of-Fit Index (GFI), Root Mean Square Error of Approximation (RMSEA) indices have been used. Values for AGFI, NFI, CFI, RFI, IFI and GFI indices being greater than 0.90 indicate a good fit whereas values between 0.80 and 0.90 indicate an acceptable fit. Values for RMR ranges from 0 to 1 and a value less than 0.05 indicates a good fit. For RMSEA index, a value less than 0.05 indicates a good fit, but it should not exceed 0.10. A value of less than 3 for X^2/df ratio is considered to be good fit (Çokluk et al., 2012; Çakır Zeytinoğlu, 2012; Çankaya and Dinç, 2012; Çankaya et al., 2012).

Confirmatory factor analysis is used for testing the hypothesis that a relationship between observed variables and latent variables exists. Thus, it is used to confirm that the hypothesized model provides a good fit to the data. With the help of this technique, the relationship between observed and latent variables and the relationship between only latent variables are determined (Çokluk et al., 2012: 275).

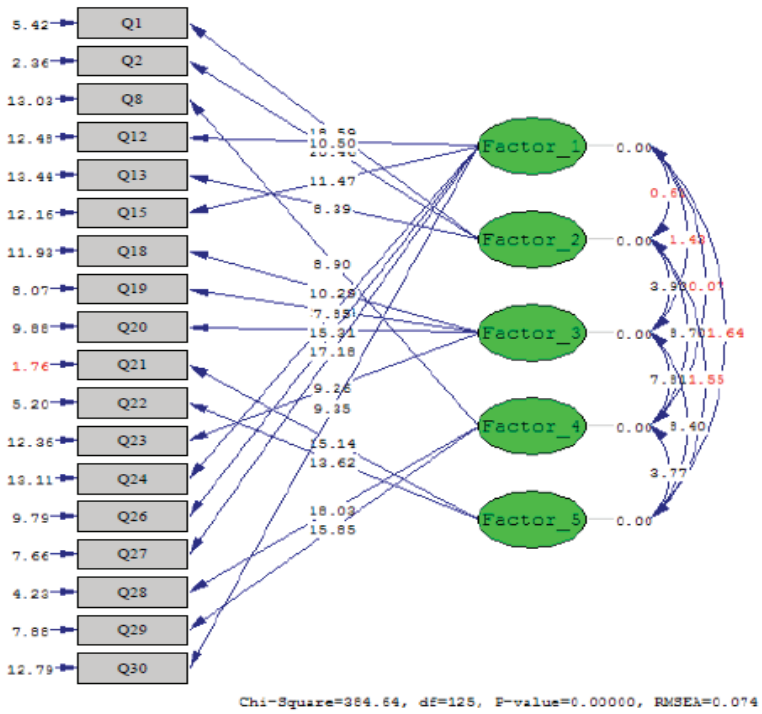

Figure 2: *Confirmatory Factor Analysis*

In Figure 2, the t-values for each factor group and the related questions are presented. A t-value higher than 1.96 is statistically significant at 5% significance level and a t-value higher than 2.56 is statistically significant at 1% significance level (Çokluk et al., 2012: 304). The t-value for question 21 is determined not to be statistically significant at 5% significance level, as it is lower than 1.96. That's why, the error variance of the question has been calculated and a low variance (0.24) is exhibited. In addition, the factor loading of the question is high and because of these reasons, although the t-value is not significant, the question is not excluded from the analysis.

The fit indices in confirmatory factor analysis indicate a reasonable level of good fit of the model. The results of goodness-of-fit indices are presented in Table 3.

Table 3: *Fit Indices in Confirmatory Factor Analysis*

Fit Measures	Recommended Values	Measured Values	Goodness-of-fit
X^2/df	≤3.00	3.07	acceptable fit
RMSEA	0.05-0.08	0.07	good fit
RMR	0-0.05	0.08	acceptable fit
NFI	≥0.90	0.88	acceptable fit
IFI	≥0.90	0.91	good fit
RFI	≥0.90	0.85	acceptable fit
CFI	≥0.90	0.91	good fit
GFI	≥0.90	0.90	good fit
AGFI	≥0.90	0.85	acceptable fit

Due to the favorable results of fit indices, the structural model has been constructed without making any modifications. At this stage, predetermined conceptual model has been analyzed to determine how well it explains the data and for this purpose, fit indices of the model have been computed. Fit indices and their measured values used in the determination of goodness-of-fit for the model are presented in Table 4.

Table 4: *Fit Indices of the Model*

Fit Measures	Recommended Values	Measured Values	Goodness-of-fit
X^2/df	≤3.00	3.21	acceptable fit
RMSEA	0.05-0.08	0.07	good fit
RMR	0-0.05	0.09	acceptable fit
NFI	≥0.90	0.87	acceptable fit
IFI	≥0.90	0.91	good fit
RFI	≥0.90	0.84	acceptable fit
CFI	≥0.90	0.90	good fit
GFI	≥0.90	0.88	acceptable fit
AGFI	≥0.90	0.85	acceptable fit

A value of less than 3 for X^2/df ratio is generally considered a good fit and a value between 3 and 5 is considered to be acceptable (Çokluk et al., 2012: 324). The measured values for all of the fit indices of the model are either indicative of a good fit or an acceptable fit. These values provide evidence for the acceptance of this structural model constructed for the evaluation of the efficiency and quality of accounting education.

In Table 5, the relation between the hypotheses of the research and 5 factors together with the coefficients and t-values are presented. According to the threshold, H_1 hypothesis has been rejected and H_2, H_3, H_4 and H_5 hypotheses have been accepted at 1% significance level.

Table 5: *The Results of the Relation between Factors and Results of Hypothesis Testing*

Hypotheses	Relation between Factors	Coefficients	t-values	Sig.	Assessment
H_1	QUALITY → FACTOR_1	0.091	1.26	<0.207	Reject
H_2	QUALITY → FACTOR_2	0.449	6.38	<0.000	Accept
H_3	QUALITY → FACTOR_3	0.700	7.22	<0.000	Accept
H_4	QUALITY → FACTOR_4	0.668	6.51	<0.000	Accept
H_5	QUALITY → FACTOR_5	0.442	6.27	<0.000	Accept

When Table 5 is examined, a positive relationship between all factor groups and efficiency and quality of accounting education is observed. The result from the model states that a one-unit increase in the factors will create a corresponding increase in QUALITY factor. In Figure 3, structural equation model of 5 factors and their t-values are presented.

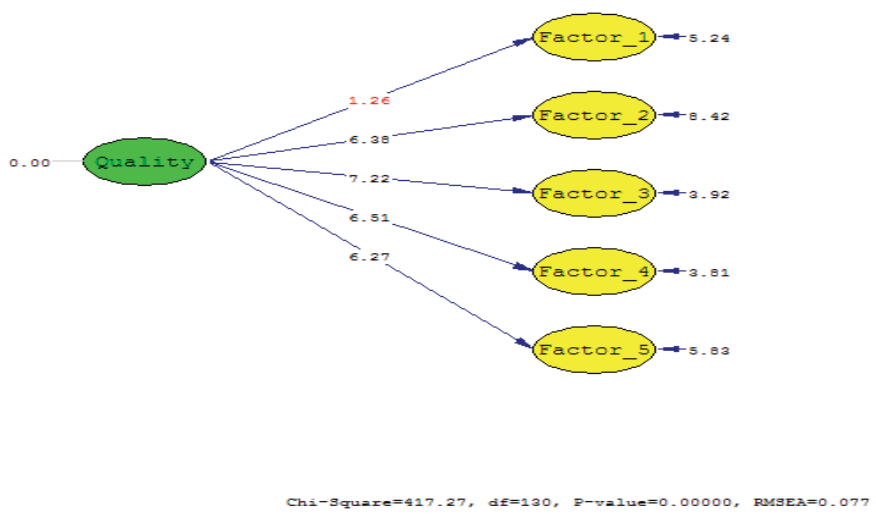

Figure 3: *Structural Equation Modeling*

V. DISCUSSION AND CONCLUSION

Accounting education is influenced by several factors such as environmental, socio-cultural, technological, political factors, etc. Accounting education in Turkish universities has been mostly affected by European Union and Bologna Process. Format and structure of accounting education has evolved due to the developments in the historical process.

Factors affecting the efficiency and quality of accounting education are determined by a research conducted on university graduates employed in banking sector. The survey questions are based on factors used in previous literature to determine the factors influencing the efficiency and quality of accounting education. The data obtained from the questionnaire has been analyzed by structural equation model. By this model, the factors that have a statistically significant effect on the efficiency and quality of accounting education are determined.

The reliability of the data and sampling adequacy are tested by Cronbach's Alpha coefficient and KMO measure. The result of the analysis indicates that data collected is reliable enough to construct the model. Five hypotheses of the study have been tested using structural equation model and the results have been summarized as follows:

- The relationship between courses in university and practice and as a result the employment opportunities for students affect the efficiency and quality of accounting education. These findings are consistent with the studies of Kaya (1999), Gençtürk et al. (2008) and Tekşen et al. (2010). If up-to-date information is provided in accounting education and if more employment-oriented education is offered in universities, the efficiency and quality of accounting education will increase. And for this purpose, accounting information needed for practice should be determined in cooperation with practitioners.

- Supportive information to accounting education in universities (information technologies, ethics, law, etc.) affect the efficiency and quality of accounting education. The results are consistent with the findings of previous studies by Zaif and Ayanoğlu (2007) and Terzi et al. (2013). In order to increase the efficiency and quality of accounting education, it is important to include in the curriculum supportive topics such as mathematics, management, statistics and law. Another important factor is the efficient use of information technologies in accounting education. Accordingly, in their studies, Çukacı and Elagöz (2006), Hatunoğlu (2006), Ballantine et al. (2008) and Serçemeli et al. (2015) stated that using information technologies had a positive impact on the efficiency and quality of accounting education. Similarly, Daştan (2009), Sakarya and Kara (2010) and Kurnaz and Gümüş (2010) concluded that inclusion of courses on ethics in accounting education was very important, but currently the number of such courses were not sufficient. Therefore, employing more courses on information technologies, ethics and law in the curriculum will increase the quality of accounting education.

- The adequacy of number of accounting courses and their credits in the curriculum also affect the efficiency and quality of accounting education. These findings are consistent with the findings of studies by Zaif and Ayanoğlu (2007) and Terzi et al. (2013). According to this evaluation, increasing the number and credits of accounting courses in the curriculum will have a positive impact on the efficiency and quality of accounting education. That's why, the sufficiency of the number of accounting courses included or to be included in the curriculum and the adequacy of the workload for students (ECTS) are very important.

- The physical infrastructure of the university (campus, social opportunities, sports halls, etc.) and number of students per faculty member have an impact on the efficiency and quality of accounting education. These findings are consistent with the results of previous studies by Erol and Erkan (2008) and Yücenurşen et al. (2016). The reports prepared by YÖK (Council of Higher Education) indicated that number of students per faculty member had been increasing steadily. The number of students per faculty member in Turkey are between 45-48 students whereas they are between 15-17 students on average in OECD countries (Çetinsaya, 2014: 96). Because this ratio is high in Turkey, it increases the workload of instructors and affects the quality of education. On the other hand, the existence of facilities such as libraries, information technology rooms and reading rooms in a campus will also make a positive contribution to accounting education.

One of the limitations of this study is that it is conducted on individuals who had completed at least a bachelor's degree. So, graduates with an associate's degree are not included. Furthermore, the graduates employed only in the banking sector are taken into account. A suggestion for future research could be designing a questionnaire for individuals with a bachelor's or associate degree or for graduates of vocational high schools working in different sectors. By this way, a wider range of individuals may be reached and it may be useful to arrive at results that provide a more in-depth understanding of how different factors affect the efficiency and quality of accounting education in Turkey.

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* According to IES 2, technical competence is defined as "the ability to apply professional knowledge to perform a role to a defined standard".