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Examination of Science Teacher Candidates and Instructors' Opinions Toward Bologna Process

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Abstract
The aim of this study is to determine the opinions of prospective science teachers and instructors on the Bologna process. In the study, case study method was used and qualitative and quantitative data collection tools were used together. A semi-structured interview form was used as a qualitative data collection tool and a 5-point likert type scale developed by researchers was used as a quantitative data collection tool. The developed scale was applied both on the internet environment and by the researchers themselves. It has also been announced for continuous participation in social media environments. When the sample of the worker is determined, the sample method which is easily accessible is selected from the purposeful sampling method. The working group of the study is composed of 42 teaching staff and 211 teacher candidates working in various universities in Turkey. The obtained data were analyzed with SPSS 20.0 and LISREL 8.8 packet programs. When the findings are evaluated; Most of the participants have defined the Bologna process as a process that takes advantage of the students and enhances quality in higher education. The lecturers have emphasized that the Bologna process has not been carried out at the level required to provide adequate preliminary information.

Key words:science, bologna process, scale development, teacher training.

Introduction

In order to increase the quality of service in education, researchers are working in many different fields (Dilci, 2012). Besides, candidate teachers are expected to shape their learning experiences according to the reflections of these researches. Teacher candidates' attitudes towards educational researches have an important place to benefit from these studies (Ilhan, Şekerci, Sözbilir and Yıldırım, 2013). The developments in science and technology in our age also change the structure of society; And as a consequence they also change in the

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goals of education, in methods and techniques, and in the role of the teacher (Dilci, 2012). Teachers no longer leave their classic roles; It is expected that they will be able to change and develop, be able to produce knowledge, perform team work, and assume a different perspective on evaluation processes (Erişen and Çeliköz, 2003). The Bologna process is at the beginning of what the European Union has done for the development of higher education. This process started in 1999 and it is necessary for the member countries to make some legal arrangements in the higher education systems.In this study, it was aimed to determine the opinions of science teachers and instructors about the Bologna process which started in Europe (Appleton, 2009).

Taking the views of the stakeholders will give clues as to whether the process has been adopted. It is also important to determine the stakeholders' views on the sustainability and dissemination of existing applications. The science education teacher training program is often affected by the national and institutional implementation of the structure. Applications at national and institutional level, such as the European Credit Transfer System, ERASMUS and Diploma Supplement, are also reflected in the science teacher training program (Grove, 2012).

It was aimed to establish an accreditation between the studies carried out under the Bologna process and the education system in higher education institutions in Europe. For this purpose, the content of the courses given, ECTS credits and workloads have been tried to be brought to a certain standard. The Bologna process is a reform process aimed at creating a European Higher Education Area by 2010. It is an unusual process established and maintained by 47 member countries in cooperation with many international institutions. As long as the membership is not based on any intergovernmental agreement (Keim & Keim, 2010). The declarations published under the Bologna process are not legally binding. The process is entirely a consensus of each country with its free will and the countries have the right to accept or reject the objectives of the Bologna process.

Citizens of countries in the European Higher Education Area, which the Bologna Process aims to create, will be able to travel easily in Europe for the purpose of studying or studying in higher education. Europe will be made available to people from other parts of the world in terms of higher education and business opportunities (Tekeli, 2010). What is most undesirable in the European Higher Education Area is to make the education systems of member countries a uniform higher education system. The main aim of the European Higher Education Area is to establish a balance between diversity and unity. The aim is to ensure that higher education systems are comparable and harmonious with each other, while maintaining their unique differences. In this way, it is planned to facilitate the transition from one country or higher education system to another, thus increasing the mobility and employment of students and instructors (YÖK, 2010). The basis of the Bologna process was laid by the Sorbonne Declaration, which was published at the end of the 1998 meeting of the Ministers of Education of France, Italy, Germany and England at the Sorbonne. The idea of creating a common higher education area in Europe has emerged for the first time with this statement.

However, the Bologna Process officially began in 1999 with the signing and publication of the Bologna Declaration by the Ministers responsible for higher education in 29 European countries. Six of the main objectives of the Bologna Process have been announced by this declaration.

These goals are:

(1) To create easily understandable and comparable higher education diplomas and / or grades (for the purpose of developing Diploma Supplement application),
(2) To move to a two-stage degree system, including undergraduate and graduate degrees in higher education,
(3) To apply the European Credit Transfer System (ECTS)
(4) To ensure and promote the mobility of pupils and instructors,
(5) To establish and expand the network of quality assurance systems in higher education,
(6) To develop the European dimension in higher education (YÖK, 2010).

Bologna is, without doubt, the transition to the three-cycle system of higher education, with the ongoing transformation of the European higher education system. Many of the Bologna process member countries have completed the transition to the three-cycle system. However, countries such as Germany, Spain and Austria have not been able to make full transition to the three-cycle system and the number of students in the new system is low (Rauhvargers, Deane & Pauwels, 2009). To put it more concretely, more than half of the 47 countries that are part of the Bologna process, Bologna has more than 90% of the students into the three-cycle system. About 70-80% of the students are included in this system. However, the old structure continues to be applied in areas such as medicine, dentistry, pharmacy, architecture and veterinary medicine, and in particular engineering, law, theology and teaching, which require more than four years of training. Austria, Germany and Slovakia, and the participation of students is lower than in other countries. In Austria, 47% of students, 36% in Germany and 31% in Slovenia are studying in three cycles.

The reason for low participation is the late start of legislative arrangements for transition to the Bologna structure and the late implementation of the new system. Russia and Macedonia, which are included in the Bologna process in 2008, do not currently implement the Bologna process (Eurydice, 2012). This most controversial practice in European higher education has not been discussed in Turkey since the Turkish higher education system has already been a structure that has already implemented three cycle systems. In addition, although many countries, such as Germany and the UK, did not reduce their undergraduate degrees to three years, there was no debate about lowering undergraduate education in Turkey.

Another important component of the Bologna Process is the establishment of an easily understandable and comparable higher education system. For this, ECTS and diploma application practice process is defined as one of the most important components. Bologna The ECTS system, which was started to be implemented before the process, is applied in all higher education programs of 23 countries in 2012, more than 75% of the higher education programs of 11 countries and 50-75% in Turkey. Germany, Austria and Slovakia apply ECTS in less than 60% of higher education programs. Regarding the programs that ECTS does not apply, it is seen that there are fields related to medicine and pharmacy and fields related to fine arts in general (Eurydice, 2012).

The framework of qualifications has entered the agenda of the Bologna Process since 2001. All Member States are involved in the preparation of the framework of qualifications that will make higher education more clear and understandable and ensure that learning outcomes are seen. Since 2007 the deadline for implementing the framework of national qualifications in higher education has been determined to be 2010, more intensive studies have been carried out since 2007 to implement qualifications framework. However, many countries have started to work on the framework of qualifications in 2009. In 2009, only six

countries completed the self-certification process. Looking at the developments in 2012, it is predicted that qualifications should be defined according to workload, level, learning outcomes, skills and profile. 10 countries such as Germany, England and Portugal have completed their framework studies of qualifications. 13 countries like Turkey have completed most of the studies on qualifications framework (Eurydice, 2012). Another issue that comes to the fore with the framework of qualifications is recognition of previous learning. Few countries have established a good system of recognition of prior learning, flexible learning and the framework of national competencies; Many countries have not made much progress in these matters. In the case reports prepared by Bologna experts, it is stated that there is not a sufficient integration between the framework of competences, learning outcomes and ECTS (Rauhvargers, Deane & Pauwels, 2009).

Methodology

In the study case study method was used and qualitative and quantitative data collection tools were used together. The case study is expressed as a form of interrogation in which the researcher examines a program, the event, and the event in depth (Creswell, 2009; McMillan & Schumacher, 2006).

Study Sample

When the sample of the worker was selected, the sample method which was easily accessible was selected from the purposeful sampling method (Cohen, Manion & Morrison, 2007). Easily accessible case sampling from the purposeful sample method gives speed and practicality to research (Yıldırım & Şimşek, 2006). The study group of the study comprises 42 teaching staff and 211 teacher candidates in various universities in Turkey.

Data Collection Tools

A semi-structured interview form was used as a qualitative data collection tool and a 5-point likert type scale developed by the researcher was used as a quantitative data collection tool. The developed scale was applied on the internet environment and by the researchers themselves. It has also been announced for continuous participation in social media environments. As a quantitative data collection tool, a 5-point likert type scale named "Bologna Process Evaluation Scale (BPES)" developed by the researchers was used. The appropriateness of the aggregate rating approach, its ease of development and applicability are effective in selecting this scale (Maranell, 2007).

A number of processes were followed during the development of the BPES, a quantitative data collection tool. These; In order to determine the validity and reliability of the system, the number of samples must be determined, the theoretical and conceptual background should be established (Creswell & Plano-Clark, 2007; Karasar, 2006). In addition, item analysis, exploratory factor analysis, confirmatory factor analysis, expert opinion, reliability coefficient (Cronbach's Alpha), and so on are used to examine the developed BPES in terms of validity and reliability. Statistical operations were meticulously carried out by the researchers.

Establishment of Article Pool and Application for Expert Persons

An in-depth field survey was conducted on the research topic and 70 items of scale were written in the first stage. Afterwards, 2 professors and 3 associate professors in the subject field were asked for their opinion in order to ensure coverage. A scale of 45 items was developed by subtracting 25 items from the viewpoints that the subject area is not covered and the use of the subject is inappropriate. A scale of 30 items was developed by subtracting from the scale the items of which the scale had a pilot application over 60 people, the items with overlapping values and the items with low factor loadings. The items in the measurement are arranged taking into consideration the feedback obtained after all the examinations and interviews made. In this way, scope and appearance validity of the scale were tried to be provided (Fraenkel & Wallen, 2003).

Determination of Rating System

It has been determined that 5-point Likert-type scaling systems are frequently used in the literature search for studies on visibility and thinking. A 5-point likert type (very important, very important, partly significant, very little important and insignificant) scaling system was used in this research because it is easy to score and implement, reflects participants' views at a high level, and is easy to fill and code.

Determination of the Number of Suitable Sampling

The sample size is often not estimated based on criteria such as the number of factors and the number of items (variables). In order to determine the appropriate number of samples in scale development studies, it is considered sufficient to have a size between 5 and 10 times the number of items (variable) (Tabachnick & Fidel, 2001; Bryman & Cramer, 1999; Tavşancıl, 2006). For this purpose, it is seen that the size of the sample group of 253 persons determined by the researcher is sufficient.

Theoretical and Conceptual Infrastructure Design

During the design of the theoretical and conceptual infrastructure of the BSBS, a detailed field type search was conducted. In the area type scan; (Cousins and Walker, 2000; Çepni and Küçük, 2003; De Jong, 2004; Erişen, 2001, Turan, 2013) have been examined in relation to standards and processes in teacher training programs.

As a result of examination of the field literature, various dimensions for the bologna process have emerged. These dimensions; Dimensions for accreditation and dimensions of academic change mobility.

In the creation of the theoretical framework; These dimensions have been taken into consideration in determining the factors that can be included in the scale and in naming the factors that will be included in the scale by revealing the factor structure of the scale.

Pilot Application and Scale Arrangement

Pilot implementation was carried out with a group of 253 participants from 2015-2016 working in various parts of Turkey. This study aimed to understand how participants were responded to by the scale. After the pilot implementation, the scale, scale and general structure of the scale were made and the final state was given and a scale of 30 items was created.

Performing Statistical Analyzes to Ensure Validity and Reliability

Determination of the validity and reliability of the structure of your scale; Item analysis, descriptive and confirmatory factor analysis, and Cronbach's Alpha reliability coefficient calculations. The structure of a scale expresses how well the theoretical frame is compatible with the items of the scale (Kane, 2001).

Factor analysis was performed to determine the building validity and to decide on the items to be found on the scale. Factor analysis consists of two parts: the explanatory and confirmatory. In the exploratory factor analysis, it is tried to determine the factors from the relations among the variables, whereas in the confirmatory factor analysis, it is aimed to test a hypothesis formed before the relation between the variables (Büyüköztürk, 2010).

Data Analysis

Data from qualitative and quantitative data collection tools were analyzed using SPSS 20.0 and LISREL 8.8 packet programs. All data obtained as qualitative data analysis were subjected to descriptive content analysis using the "Bologna Process Classification Form (BPCF)" developed by the researcher.

Findings and Discussion

The findings obtained as a result of the analysis are presented in an easy to understand structure; Item analysis, demographic characteristics of participants, eligibility of data for factor analysis, descriptive factor analysis, nomenclature of factors, confirmatory factor analysis and reliability analysis, and descriptive content analysis.

Item Analysis

Correlation values between each item and scale scores were determined for item analysis (Table 1). When the correlation values are examined, it is seen that these values change between 0,427 and 0,765 and * p <0,01 and ** correlation are significant at 0,01 level. In this method, which is used for item selection of the scale, the difference between the mean scores of the item scores of the scorers in the upper group and the item scores of the respondents in the lower group for each item was determined by t-test for independent groups.

Table 1. Item-scale correlations and group means t-test results

Item no	Item Overall Correlations	t- value of Sub/supergroup mean difference	Item no	Item Overall Correlations	t- value of Sub/supergroup mean difference
1	0,583**	8,785*	**16**	0,558**	9,224*
2	0,556**	8,233*	**17**	0,538**	9,418*
3	0,440**	11,268*	**18**	0,599**	8,564*
4	0,428**	11,716*	**19**	0,579**	10,304*
5	0,735**	11,523*	**20**	0,607**	9,684*
6	0,596**	9,101*	**21**	0,573**	10,412*
7	0,544**	10,472*	**22**	0,638**	13,154*
8	0,599**	11,967*	**23**	0,509**	9,274*
9	0,427**	9,501*	**24**	0,713**	12,952*
10	0,765**	13,122*	**25**	0,667**	12,007*
11	0,647**	11,972*	**26**	0,547**	10,716*
12	0,530**	10,113*	**27**	0,625**	12,195*
13	0,487**	8,874*	**28**	0,599**	11,434*
14	0,496**	10,633*	**29**	0,615**	11,452*
15	0,673**	11,243*	**30**	0,547**	11,006*

Demographic Characteristics of Participants

The sample selected for the reliability and validity analysis was applied to a group of 253 participants, 137 female and 116 male. The demographic characteristics of the participant are presented in Table 2. 45.85% of the participants were male participants and 54.15% were female participants. When the occupational characteristics of the participants were examined, it was determined that 83,40% of them were science teachers and 16,60% of them were teaching members working in the science faculty departments of the education faculties.

Table 2. Demographic characteristics of participants

Gender	Frequancy	Percentage(%)
Male	116	45,85
Female	137	54,15
Total	**253**	**100**
Occupation		
Teacher candidate	211	83,40
Lecturer	42	16,60
Total	**253**	**100**

Suitability of the Data for Factor Analysis

Appropriateness of the results obtained by applying the factor analysis is found by using Kaiser-Meyer-Olkin (KMO) coefficient and Bartlett test (Büyüköztürk, 2010). It is considered sufficient for the BMD value to be greater than 0.50 and for the Bartlett test to be meaningful for the result of the factor analysis (Tabachnick and Fidel, 2007). The Bartlett test results indicate whether there is a desired level of relationship between the scale items and it is expected that there is a meaningful value at 0.05 level. The KMO coefficient value and the Bartlett test result are presented in Table 3. As a result of the application, BMD value was found as 0,81 and Barlett test was found as 0,05 level.

Table 3. Suitability of the data for factor analysis

KMO Coefficient		0,81
Bartlett test	Chi square value	7732,42
	Sd	276
	p (p<0,05)	0,00

Exploratory Factor Analysis

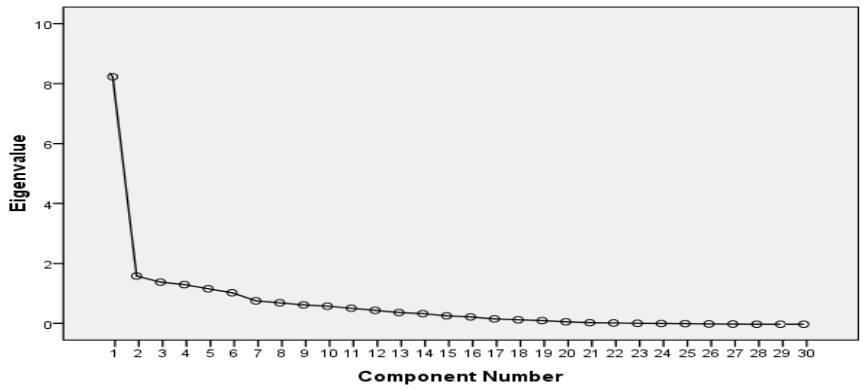
After examining the suitability of the data for factor analysis, it was decided to decide how many different factors would be involved in the scale to be applied. At this stage, eigenvalue statistic and scree plot criteria were used. After this step, the varimax technique was used for the rotation of the factors and the step of naming the factors was passed. When Table 4 is examined, it is seen that the eigenvalue of the first factor is 3,541 and explains 48,662% of the total variance, and the second factor is 1,534 and 26,235% of the total variance. It is seen that the two factorial scale structure generally accounts for 74.897% of the total variance. Scale development studies indicate that 50% and above are acceptable (Tabachnick and Fidel, 2007).

Table 4. Eigenvalue and variance statistics

Factor	Eigenvalue	Variance (%)	Cumulative %
1	3,541	48,662	48,662
2	1,534	26,235	74,897

Scale development studies generally take into consideration the factors 1 and 1, which are self-values 1 and 1, when the number of factors is determined (Büyüköztürk, 2010). In the first analysis of the scale, it is seen that 8 factors with a value greater than 1 are revealed. However, when the slope accumulation graph is examined (Figure 1), it can be seen that the slope break point can be composed of 2 factors.

Figure 1. Scree plot graphic



Naming of the Factors

As a result of explanatory factor analysis of BPES, which measures the attitudes of prospective science teachers and teaching faculty members of education faculties on science education processes of bologna process, it is seen to have a structure consisting of 2 factors.

Factors found in the scale are the result of the field search; Dimensions for accreditation and dimensions for academic change mobility. When the factor load values of the scale developed as 30 items are examined, it is seen that they have values between 0,571 and 0,801 (Table 5).

It is seen that the item factor loads of dimensions for accreditation are between 0,641 and 0,801 and the item factor loads for academic change movement dimension are between 0,571 and 0,740. The fact that the factor loadings above 0.40 are acceptable (Büyüköztürk, 2010).

Table 5. Item factor loads and Cronbach's Alpha coefficient

	Item No	Scale Statements	1	2	C. Alpha
Accreditation	16	All university programs should be accredited	0,801		
	3	Detailed information on accreditation should be provided	0,788		
	19	Authorized accreditation bodies should be established in our country	0,763		
	5	Accreditation should become country policy	0,742		
	12	Accreditation systems appropriate to the training program should be used	0,730		
	1	The framework of international competences should be kept up to date	0,706		
	22	Accreditation units must be established at each university	0,698		
	10	All stakeholders should be informed about accreditation	0,687		**0,82**
	2	Student representatives should also be present on accreditation boards	0,674		
	25	Inter-university accreditation workshops should be held	0,665		
	4	Adequate budget should be allocated for accreditation procedures	0,661		
	13	Counseling services for accreditation procedures should be taken	0,654		
	28	Quality standards and assurance systems should be established	0,652		
	26	National and International qualification frameworks should be established	0,645		
	18	The accreditation systems for the purpose should be used	0,641		
Academic Exchange Mobility	9	Frequent exchange of students in the Bologna process		0,740	
	24	Adequate information and presentation during Bologna		0,728	
	14	Regular exchange of academic staff should be provided every year		0,711	
	8	Funds should be allocated to students within the Bologna process		0,702	
	11	Academic incentives and Erasmus opportunities should be expanded		0,685	
	23	Academic exchange criteria should be kept at a reasonable level		0,674	
	15	All stakeholders should benefit from the academic change movement		0,662	
	27	The importance of academic change should be constantly examined		0,641	**0,89**
	6	Universities should be given quotas according to success ranking		0,634	
	20	Course load during Bologna must be reduced		0,622	
	21	Bologna programs for research should be established		0,599	
	7	Bologna programs must be taught to academics		0,587	
	17	Coordinators should be elected to actively manage the Bologna process		0,581	
	29	Academicians in Bologna should renew themselves		0,576	
	30	The movement of change must be global, not regional.		0,571	
			Total C. Alpha for 30 Items		**0,81**

Confirmatory Factor Analysis

Confirmatory factor analysis was performed with LISREL 8.8 packet program in order to determine the accuracy level of the factor structure of the BPES. For this purpose, many goodness-of-fit statistics have been used (Şimşek, 2007).

Table 6. Goodness of fit values

Analiz	X^2	X^2/df	RMSEA	RMR	SRMR	GFI	AGFI	NFI	CFI
İlk	903,52	2,96	0,063	0,059	0,066	0,89	0,90	0,88	0,90
Son	899,21	2,34	0,034	0,037	0,040	0,93	0,93	0,92	0,98

The values obtained by Ki-Karen's ratio of degrees of freedom give information about the model's compatibility. When Table 6 is examined it is seen that the ratio of Ki-Karenin to the degree of freedom is 2.34. A value of 3 or below this value indicates that the model is a very good model (Sumer, 2000). In addition, the RMSEA, RMR and SRMR values below 0.08 indicate a good fit for the model (Brown, 2006). According to RMSEA, RMR and SRMR values, we can say that the model has a good fit. GFI and AGFI values of 0.90 and above is a good fit. When NFI and CFI compliance index values are 0.90 and above, there is a good fit (Simsek, 2007). In the light of these values we can say that our scale has a good fit.

Reliability Analysis

The reliability coefficient (Cronbach's Alpha) of the scores obtained with the BPES for the reliability analysis of the final version of our scale was 0.89 for the items in the first group and 0.89 for the items in the second group. For all dimensions of the scale, Cronbach's Alpha coefficient was calculated as 0.81. For reliability, Cronbach's alpha coefficient is greater than 0.80, indicating that our scale is reliable (Ho, 2006; Field, 2009).

Descriptive Content Analysis

In our study, semi-structured interview results were classified into 6 different dimensions using "Bologna Process Classification Form (BPCF)" developed by the researchers. Table 7 lists the dimensions, frequencies and percentages that are categorized.

Table 7. Classification dimensions

Dimensions	f	%
Accreditation inadequacies	17	40,47
Inadequate academic exchange	9	21,42
Problem of qualified teacher training	8	19,04
Bologna process management politics	4	9,52
Bologna process inadequate funds	3	7,14
Bologna process sanction adequacy	1	2,41
Total	**42**	**100**

When the classification dimensions were examined, it was determined that the most interesting question was about the lack of accreditation infor- mation with 40.47%, and the least interest was the ability to sanction the Bologna process with 2.41%.

Conclusions and Recommendations

The fact that the teacher training system is productive and qualified is possible by the fact that the higher education process has a quality, contemporary, constantly renewing and changing structure. For this reason, the educational programs, components and objectives of universities serving in higher education should be accredited, ie, accredited, with certain periods. The number of graduated students, the number of students who can be assigned, the

level of success, etc. The system can be developed with feedback that can be obtained by establishing a link between system products (output) and system process (accreditation process).

Findings from the research show that participants do not have enough knowledge of the Bologna process and need to provide more detailed information about the process. It is also seen that the existing universities in our country do not keep up with the needs of the times and have not completed necessary infrastructure works in this area. For this purpose, both the competencies within the scope of the Bologna process, the activities of the students and the teaching staff towards the international competencies and quality standards should be increased, and further studies on ECTS systems should be made and dissemination of information oriented systems is inevitable. In universities' teacher training programs, quality units should be set up to carry out accreditation studies and all process staff should be provided with the responsibility of working in these units. In this way, strengths and weaknesses will be better identified and solutions proposed during the Bologna process. It should not be forgotten that the Bologna process is a Movement for Internationalization which is validated by many world countries and is aimed at increasing quality in education. In order to achieve the purpose of this study, it is necessary to inform the teacher candidates and instructors more.

Quality and accreditation studies which started with the Bologna Process in 1999 and continued on the European Qualification Framework progressed rapidly in our country until 2010. The quality systems that are stagnant between 2010 and 2015 have started to come back to the market after 2015 and the Higher Education Quality Organization was established by YÖK in 2015 in our country. The aims of this organization are to ensure that higher education institutions are accredited and become acclaimed throughout the world and that their validity is increased. Accreditation both nationally and internationally should be considered not only as a means of ensuring quality assurance but also as a tool for determining the necessary changes to achieve a contemporary level of education by adopting an innovative and changeable structure. In this context, our work has also been undertaken to develop a scale for the Bologna process.

It is thought that this study will benefit the higher education accreditation issues in the long term. Developed by researchers, the scale can be used by new researchers to illuminate work done later. It is recommended that researchers who are in higher education and who have not studied in depth about accreditation make new studies about accreditation.

References

Appleton, J. (2009, 28 Nisan). Academic rebellion against Bolognese bureaucracy justified Erişim: http://euobserver. com/7/28023

Brown, T. A. (2006). Confirmatory factor analysis: For applied research. New York: Guilford.

Bryman, A. ve Cramer, D. (1999). Quantitative data analysis with SPSS release 8 for Windows. A guide for social scientists. London: Routledge.

Büyüköztürk, Ş. (2010). Sosyal bilimler için veri analizi el kitabı: İstatistik, araştırma deseni SPSS uygulamaları ve yorum, 11.Baskı. Ankara: PegemA.

Cohen, L., Manion, L. ve Morrison, K. (2007). Research methods in education. London: Routhledge.

Creswell, J. W., ve Plano-Clark, V. L. (2007). Designing and conducting mixed methods research. Thousand Oaks, CA: Sage.

Cousins, J. ve Walker, C. (2000). Predictors of educators' valuing of systematic inquiry in schools. Canadian Journal of Program Evaluation, 15(Special issue), 25-52.

Çepni, S. ve Küçük, M. (2003). Eğitim araştırmalarının fen bilgisi öğretmenlerinin uygulamaları üzerindeki etkilerinin belirlenmesi: Bir örnek olay çalışması. Eğitim Araştırmaları, 4(2), 75-84.

De Jong, O. (2004). Mind your step: Bridging the research-practice gap. Australian Journal of Education in Chemistry, 64, 5-9.

Dilci, T. (2012). Sınıf öğretmenlerinin öğrenme ve öğretme sürecine ilişkin yeterlilik algıları. Milli Eğitim Dergisi, 41(194), 166-183.

Ekiz, D. (2009). Bilimsel araştırma yöntemleri, 2.Baskı, Ankara: Anı Yayıncılık.

Erişen, Y. (2001). Öğretmen yetiştirme programlarına ilişkin kalite standartlarının belirlenmesi ve fakültelerin standartlara uygunluğunun değerlendirilmesi, Doktora Tezi, Ankara Üniversitesi, Eğitim Bilimleri Enstitüsü, Ankara.

Erişen, Y. ve Çeliköz, N. (2003). Öğretmen adaylarının genel öğretmenlik davranışları açısından kendilerine yönelik yeterlilik algıları. Türk Eğitim Bilimleri Dergisi, 1(4), 1-12.

Eurydice. (2012). The European Higher Education Area in 2012: Bologna Process Implementation Report. Erişim: http://eacea.ec.europa.eu/education/Eurydice/documents/thematic_ reports/138EN.pdf

Field, A. (2009). Discovering statistics using SPSS (Third Ed.). London: SAGE

Fraenkel, J. R., ve Wallen, N. E. (2003). How to design and evaluate research in education, Fifth Edition. New York: McGraw-Hill.

Francis, M. (2002). Perceptions of superintendents relating to state standards for accrediting schools (Virginia). Doctoral Thesis. Washington: The George Washington University.

Grove, J. (2012, 6 Mayıs). Bologna not to taste of German critics. Times Higher Education. Erişim: http://www. timeshighereducation.co.uk/story.asp?storycode=419845

Ho, R. (2006). Handbook of univariate and multivariate data analysis and interpretation with SPSS. Florida: Chapman ve Hall/CRC.

İlhan, N., Şekerci, A.R., Sözbilir, M., & Yıldırım, A. (2013). Eğitim araştırmalarına yönelik öğretmen tutum ölçeğinin geliştirilmesi: geçerlik ve güvenirlik çalışması. Batı Anadolu Eğitim Bilimleri Dergisi, 4(8), 31-56.

Kane, M. T. (2001). Current concerns in validity theory. Journal of Educational Measurement, 38(4), 319-342.

Karasar, N. (2006). Bilimsel araştırma yöntemi, 16. Baskı, Ankara: Nobel.

Keim, W. & Keim, E.J. (2010). On the crisis of German University. http://www.isa-sociology.org/universities-in-crisis/?p=550

McMillan, J. H. and Schumacher, S. (2006). Research in education: Evidence-based inquiry (sixth Ed.). Boston: Pearson.

Maranell, G. M. (2007). Scaling: A sourcebook for behavioral scientists. Piscataway, NJ: Aldine Transaction.

Rauhvargers, A., Deane, C., & Pauwels, W. (2009). Bologna Process Stocktaking Report. Erişim: http://www.ond.vlaanderen. be/hogeronderwijs/bologna/conference/documents/ Stocktaking_report_2009_FINAl.pdf

Smith, M. (2010, 19 Eylül). As Europe's higher-education systems try to work in concert, notes of discord remain. The Chronicle of Higher Education. Erişim: http://chronicle.com/article/ As-Europes-Higher-Education/124547/

Sönmez, S. ve Taşgın, A. (2013). Öğretmenlik mesleği genel yeterliklerinin sınıf öğretmenleri ve sınıf öğretmeni adaylarının görüşlerine göre değerlendirilmesi. Middle Eastern & African Journal of Educational Research, 3, 80-90.

Sümer, N. (2000). Yapısal eşitlik modelleri: Temel kavramlar ve örnek uygulamalar. Türk Psikoloji Yazıları, 3(6), 49-74.

Şimşek, Ö. F. (2007). Yapısal eşitlik modellemesine giriş: Temel ilkeler ve LISREL uygulamaları. Ankara: Ekinoks

Şişman, M. (2005). Eğitim bilimlerine giriş, Ankara: PegemA Yayıncılık.

Şişman, M. (2009). Öğretmen yeterliklerini yeniden düşünmek. Ankara: Türk Ocakları Genel Merkezi Aylık yayın organı.

Tabachnick, B. G. ve Fidel, L.S. (2001). Using multivarite statistics, Fourth Edition, MA: Allyn ve Bacon, Inc.

Tabachnick, B. G. ve Fidell, L. S. (2007). Using multivariate statistics, (5th Ed.). Boston: Allyn ve Bacon.

Tavşancıl, E. (2006). Tutumların ölçülmesi ve SPSS ile veri analizi, 3.Baskı. Ankara: Nobel.

Tekeli, İ. (2010). Tarihsel bağlamı içinde Türkiye'de yükseköğretim ve YÖK'ün tarihi. Ankara: Tarih Vakfı Yurt Yayınları.

Turan, E. Z. (2013). Din Kültürü ve Ahlak Bilgisi Öğretmen Yetiştirme Programlarına İlişkin Kalite Standartlarının Belirlenmesi, Doktora Tezi, Necmettin Erbakan Üniversitesi / Sosyal Bilimler Enstitüsü, Konya.

Vanderlinde, R., ve Van Braak, J. (2010). The gap between educational research and practice: Views of teachers, school leaders, intermediaries and researchers. British Educational Research Journal, 36(2), 299-316.

Walker, D. A. (2010). The attitudes toward research scale. Multiple Linear Regression Viewpoints, 36(1), 18-26.

YükseköğretimKurulu.(2010).Yükseköğretimdeyenidenyapılanma: 66 soruda Bologna Süreci uygulamaları. Erişim: http://bologna.yok.gov.tr/files/ce63c4b383ae852dce0a9b17bac57c6e.pdf