Kastamonu EducationJournal, 2023, Vol. 31, No:2, 278-291
doi: 10.24106/kefdergi.1273379

|Research Article/ Araştırma Makalesi|

Examining the Information Packages of "Teaching Principles and Methods" and "Intructional Technologies" in the Context of Accreditation

Akreditasyon Bağlamında "Öğretim İlke ve Yöntemleri" ile "Öğretim Teknolojileri" Ders Bilgi Paketlerinin İncelenmesi

Funda Uysal[1]

Keywords

1. Accreditation
2. Course Information Package
3. Curriculum and Instruction
4. Professional Instructional (Pedagogical) Knowledge

Anahtar Kelimeler

1. Akreditasyon
2. Ders Bilgi Paketi
3. Eğitim Programları ve Öğretim
4. Öğretmenlik Meslek Bilgisi

Received/Başvuru Tarihi
24.10.2022

Accepted /Kabul Tarihi
05.02.2023

Abstract

Purpose: This study aims to examine the information packages of compulsory professional pedagogical courses in elementary mathematics programs of the Faculty of Education, for which only the field of curriculum and instruction is responsible within educational sciences, according to accreditation.

Methodology: Content analysis was performed within the study designed in line with the document analysis method. Frequency was used in analysis of the data collected through the packages of "Teaching Principles and Methods" and "Instructional Technologies" courses in 89 programs for training elementary education mathematics teachers. The study also includes categories and citations for reasons for incompatibility with accreditation.

Findings: It is concluded that approximately two-thirds of packages are incompatible. Almost all packages include the necessary parts. The activities and measurement&evaluation methods in private universities or accredited programs precede in terms of compatibility with accreditation. In general, the order of the elements from the most to the least compatible with the accreditation program are; activities, learning outcomes, course objective, and measurement&evaluation methods.

Highlights: It is noted that course packages are still not viewable. In terms of being compatible for certification, while certified programs are likely to have advantages over others, it is also probable that they may face comparable challenges.

Öz

Çalışmanın amacı: Bu araştırmanın amacı Eğitim Fakültesi ilköğretim matematik öğretim programlarında, eğitim bilimleri içerisinde sadece eğitim programları ve öğretim alanının sorumlu olduğu zorunlu öğretmenlik meslek bilgisi dersleri olan "Öğretim İlke ve Yöntemleri" ile "Öğretim Teknolojileri" derslerinin bilgi paketlerinin akreditasyon bağlamında incelenmesidir.

Materyal ve Yöntem: Araştırma belge tarama modelinde desenlenmiştir. İçerik çözümlemesi gerçekleştirilmiştir. 89 ilköğretim matematik öğretmen yetiştirme programında yer alan "Öğretim İlke ve Yöntemleri" ile "Öğretim Teknolojileri" ders bilgi paketleri aracılığıyla toplanan verilerin analizinde frekanstan yararlanılmış, akreditasyona uygun olmama nedenleri için kategorilere ve alıntılara da yer verilmiştir.

Bulgular: Bilgi paketlerinin yaklaşık üçte ikisinin olmadığı anlaşılmaktadır. Gerekli kısımlara bilgi paketlerinin tamamına yakınında rastlanmıştır. Vakıf üniversitelerinde ya da akredite olan programlarda özellikle etkinliklerin ve ölçme-değerlendirme araçları akreditasyona uygunluk bağlamında daha öndedir. Genel olarak, daha fazla uygun olmadan daha az uygun olmaya doğru, sırasıyla etkinlikler, öğrenme çıktıları, dersin amacı ve ölçme-değerlendirme araçlarının program akreditasyonuna uygunluğu söz konusudur.

Önemli Vurgular: Akreditasyona uygun olma bağlamında akredite olan programların, diğerlerine göre daha iyi oldukları kısımların var olmasının beklenen ve gerçekleşen bir durum olmasıyla birlikte, benzer sıkıntıyı yaşıyor olması da söz konusudur.

[1]**Corresponded Author,** Burdur Mehmet Akif Ersoy University, Educational Faculty, Department of Educational Sciences, Burdur, TURKEY; https://orcid.org/0000-0001-9929-9812

Citation/Alıntı: Uysal, F. (2023). Examining the information packages of "teaching principles and methods" and "intructional technologies" in the context of accreditation, *Kastamonu Education Journal, 31*(2), 278-291. doi: 10.24106/kefdergi.1273379

INTRODUCTION

Due to its impact on economic and social growth, the creation and preservation of cultural identity, and the strengthening of peace (UNESCO, 2015: As cited in Mızıkacı, et al., 2019), higher education requires a review of education, research, and community service duties (Mızıkacı et al., 2019). Maintaining quality creates standards, evaluators and a focus on decisions to be made in the context of higher education as well (Brittingham et al., 1999). These concepts lead us to accreditation.

Ensuring and validating the quality assurance (Hamalainen & Jakku-Sihvonen, 2000), which emerges as an effort to improve and maintain the quality of education in the Bologna process and in the initiative to establish a European Higher Education Area, requires referring to accreditation (Staub, 2019). Accreditation involves an evaluation in which the functioning of a profession, discipline, institution or program is formally assessed considering certain standards (Adelman, 1992: As cited in Schwarz & Westerheijden, 2007; Altschuld & Engle, 2015; De Corte, 2014). The accreditation process includes an official review of whether or not an education program meets certain standards (Altschuld & Engle, 2015). In this context, accreditation refers to a process consisting of self-evaluation, followed by peer-review and site visit reports (Van Kemenade & Hardjono 2010), and finally obtaining an official certificate indicating that accreditation has been granted upon a positive decision (McDavid & Huse, 2015). Accreditation in higher education involves activities carried out for the purpose of increasing the quality of and continuously improving education services based on certain standards (Brittingham et al., 1999).

Accreditation can take place at the institutional level or as specific to a program (Haakstad, 2001: As cited in Harvey and Williams, 2010; Schwarz and Westerheijden, 2007). Van Vught and Westerheijden (1994) suggest that although different systems have their own unique features, they can have aspects that may be commonized. The literature (Brittingham et al., 1999; Eaton, 2015; Van Vught & Westerheijden, 1994) shows that there are stages that may be commonized (Uysal, 2022). In this context, the aforementioned stages are as follows; the involvement of the accreditation agency in the process, setting standards, performing self-evaluation, peer review, site visit, reporting and responding, decision-making by the accreditation agency and periodic external review (Uysal, 2022).

The Turkish Higher Education Quality Council (THEQC) engages in the authorization and recognition processes of national and international accreditation agencies (THEQC, 2020). One of the accreditation agencies authorized by THEQC is the Association for Evaluation and Accreditation of Teacher Education Programs (EPDAD), which is responsible for the accreditation of Faculties of Education (Turkish Higher Education Quality Council (THEQC), 2022). Programs accredited by EPDAD are published on the website (Association for Evaluation and Accreditation of Teacher Education Programs (EPDAD), 2022). While the evaluators assigned to the accreditation process of the relevant programs generally conduct a field visit; taking into account the EPDAD Guideline for Teacher Education Standards (EPDAD, 2021a), they also answer questions about various documents (EPDAD, 2021b). The publicly available documents among these are the course information packages. Evaluators focus on the objectives, learning outcomes, resources, activities and measurement&evaluation methods of the courses in the course information packages (EPDAD, 2021b).

While the number of programs accredited by EPDAD in the Faculties of Education was three in 2018 (Kavak, Uysal & Kısa, 2019), the number has started to increase since this year. However, the monitoring reports suggest that among the aspects of program accreditation that are open to improvement is raising awareness on accreditation in the relevant field. The implementation of monitoring practices for accredited programs is another important requirement (THEQC, 2020).

Considering all of the abovementioned issues, it is deemed important to identify to what extent the non-accredited programs are ready for accreditation and to monitor the accredited programs. Limiting the scope, this study focuses on the review of course information packages by the EPDAD evaluators based on the guideline for teacher education standards. The study firstly focuses on the examination of the professional instructional (pedagogical) knowledge courses, and then within these courses, only on the ones that are related to the field of curriculum and instruction within educational sciences, which are also among the fields of expertise of the researcher. Since the study also wishes to perform a review for the accredited and non-accredited programs, a specific focus is engaged on the field of elementary education mathematics in order to follow a single program. This study aims to examine the information packages of compulsory professional instructional (pedagogical) knowledge courses named "Teaching Principles and Methods" and "Instructional Technologies" in elementary mathematics education programs of the Faculty of Education, for which only the field of curriculum and instruction is responsible within educational sciences, in the context of the accreditation process. In this context, the study seeks to find answers to the following research questions:

(1) What is the situation regarding the availability of information packages of compulsory professional instructional (pedagogical) knowledge courses named "Teaching Principles and Methods" and "Instructional Technologies" in elementary school mathematics education programs of the Faculty of Education, for which only the field of curriculum and instruction is responsible within educational sciences?

(2) Concerning the following elements of the information packages of compulsory professional instructional (pedagogical) knowledge courses named "Teaching Principles and Methods" and "Instructional Technologies" in elementary school mathematics education programs of the Faculty of Education, for which only the field of curriculum and instruction is responsible within educational sciences:

(a) how compatible are the course objectives with the program accreditation?

(b) how compatible are the learning outcomes with the program accreditation?

(c) how compatible are the resources with the program accreditation?

(d) how compatible are the activities with the program accreditation?

(e) how compatible are the measurement&evaluation methods with the program accreditation?

METHOD/MATERIALS

The study was designed with the document analysis method. In document analysis, data is collected by examining of available documents. Content analysis, which is one of its types, is carried out for the purposes of identifying certain features of a certain document through quantification. The researcher tries to present certain points of view in a document through analyzes in line with certain criteria (Karasar, 2014: 183-184). In this study, quantitative breakdowns are provided in order to evaluate the information packages of compulsory professional instructional (pedagogical) knowledge courses named "Teaching Principles and Methods" and "Instructional Technologies" in elementary school mathematics education programs of the Faculty of Education, for which only the field of curriculum and instruction is responsible within educational sciences in terms of course objectives, learning outcomes, resources, activities and measurement&evaluation within the scope of accreditation, based on which evaluations were made. In this context, the study is qualified as content analysis.

Current data suggest that there are a total of 204 universities, 129 of which are public and 75 of which are private universities. In these universities, there are 94 faculties of education, 78 of which are in public universities and the other 16 are in private universities (Council of Higher Education (CoHE), 2022). In these faculties of education, there are a total of 89 programs for training elementary education mathematics teachers, 76 of which are in public universities and 13 of which are in private universities. Table 1 indicates the number of elementary education mathematics teacher training programs according to their accreditation status.

Table 1. Number of elementary education mathematics teacher training programs

	Accredited		Nonaccredited	
	Public	Private	Public	Private
Elementary education mathematics teacher training programs	13	5	63	8
Total	18		71	

As indicated in Table 1, there are 18 accredited programs, 13 of which are in public and the other 5 are in private universities (EPDAD, 2022). However, there are a total of 71 nonaccredited programs, 63 of which are in public and 8 are in private universities (The Measuring Selection and Placement Center, 2022). Within the scope of the purpose of the study, the web pages of the universities were analyzed for these programs. Program information packages were accessed via the main menu of the university, directly via the interface for the Bologna process or via the interface of the relevant program. In the program information packages and among the professional instructional (pedagogical) knowledge courses, specific focus was given to "Teaching Principles and Methods" and "Instructional Technologies" for which instructors from only the Division of Curriculum and Instruction will be assigned within the department of Educational Sciences. Courses in which instructors from at least two divisions can be assigned, including the Division of Curriculum and Instruction, were not included in the study. For each course, sub-sections that may or may not include course objectives, learning outcomes, resources, activities, and measurement&evaluation methods have been accessed, respectively. Data were transferred to an Excel document from the web pages. Analysis and transfer to the Excel document of the web pages took approximately 5 to 15 minutes for each course.

As shown in Table 2, the course information packages were scanned to answer the research questions. Relevant frequency distributions are provided here in below.

Table 2. Collection and analysis of data

Research question		Collection of data	Analysis of data
1. What is the situation regarding the availability of information packages of compulsory professional instructional (pedagogical) knowledge courses named "Teaching Principles and Methods" and "Instructional Technologies" in elementary school mathematics education programs of the Faculty of Education, for which only the field of curriculum and instruction is responsible within educational sciences?		- Teaching Principles and Methods & Instructional Technologies course information packages	
2. Concerning the elements of the information packages of compulsory professional instructional (pedagogical) knowledge courses named "Teaching Principles and Methods" and "Instructional Technologies" in elementary school mathematics education programs of	2.1. How compatible are the course objectives with the program accreditation?	- Course objectives in Teaching Principles and Methods & Instructional Technologies course information packages	Frequency
	2.2. How compatible are the learning outcomes with the program accreditation?	- Learning outcomes in Teaching Principles and Methods & Instructional Technologies course information packages	

the Faculty of Education, for which only the field of curriculum and instruction is responsible within educational sciences;	2.3. How compatible are the resources with the program accreditation?	- Resources in Teaching Principles and Methods & Instructional Technologies course information packages
	2.4. How compatible are the activities with the program accreditation?	- Student workload tables in Teaching Principles and Methods & Instructional Technologies course information packages
	2.5. How compatible are the measurement&evaluation methods with the program accreditation?	- Evaluation system tables in Teaching Principles and Methods & Instructional Technologies course information packages

In the context of accessible course information packages; in the accreditation process of the programs, within the scope of the questions to which the evaluators assigned by the EPDAD will seek answers, the sub-sections of “course curriculum, lesson plans, exams” of the documents’ title focus on the course objective, learning outcomes, resources, activities and measurement&evaluation methods (EPDAD, 2021b). In this context, as seen in Table 2 in this study:

- Availability of course information packages was examined (EPDAD, 2021a, 2021b).
- In the context of the course objectives' compatibility with program accreditation, whether the objectives are clearly stated and compatible (EPDAD, 2021a, 2021b) was examined. In the context of their compatibility, whether these were carried out by the instructor and whether these were provided from their point of view (COHE, 2010) were taken into account. Categories and citations for reasons for incompatibility with accreditation were included.
- In the context of compatibility of learning outcomes with program accreditation, whether these are clearly stated in observable and measurable actions, whether these are sufficient in number (EPDAD, 2021a, 2021b) were examined. The number of learning outcomes is expected to be between 5 and 9 (Bingham, 1999). Categories and citations for reasons for incompatibility with accreditation were included.
- In the context of the resources' compatibility with program accreditation, whether these were recommended was examined (EPDAD, 2021a, 2021b).
- In the context of the activities' compatibility with the program accreditation, whether there are activities or projects available that will contribute to the personal development of students (EPDAD, 2021a, 2021b) was examined.
- In the context of the measurement&evaluation methods' compatibility with program accreditation, whether these are compatible with the course objective (EPDAD, 2021a, 2021b) was examined.

Miles & Huberman's (1994) formula was used to determine the agreement between expert opinions for the codings performed. The coding was carried out by two researchers separately. Accordingly, the intercoder reliability percentage was calculated as 0.89, which is deemed as an acceptable value for Miles and Huberman (1994). In the analysis of the data, frequency distributions are provided here in considering both class levels and subject areas, taking into account the coding performed.

FINDINGS

In this study that examines the information packages of compulsory professional instructional (pedagogical) knowledge courses in elementary school mathematics education programs of the Faculty of Education, for which only the field of curriculum and instruction is responsible within educational sciences, in the context of the accreditation process, whether there are available Teaching Principles and Methods & Instructional Technologies course information packages was examined. In this context, answer was sought to the research question of “What is the situation regarding the availability of information packages of compulsory professional instructional (pedagogical) knowledge courses named "Teaching Principles and Methods" and "Instructional Technologies" in elementary school mathematics education programs of the Faculty of Education, for which only the field of curriculum and instruction is responsible within educational sciences?” The situation regarding the availability of course information packages is presented in Table 3.

Table 3. Availability of course information packages

Courses	Course information package							
	Available				Not available			
	Accredited		Nonaccredited		Accredited		Nonaccredited	
	Public	Private	Public	Private	Public	Private	Public	Private
Teaching Principles and Methods	10	3	39	3	3	2	24	5
Instructional Technologies	10	3	39	3	3	2	24	5
Total	20	6	78	6	6	4	48	10
	26		84		10		58	
	110				68			
	178							

As can be seen in Table 3, it was observed that 110 of 178 information packages were accessible, while the other 68 were not available. In the context of the availability of course information packages:

- Taking into account the accreditation status, it has been concluded that 84 of the 142 information packages for non-accredited programs were observable, while 58 were not. For accredited programs, 26 of the 36 information packages are observable, while it is not possible to observe the other 10.
- Taking into the account whether the university is a public or private university, it is observed that 98 of the 152 information packages are available and 54 of them are not available in public universities. It has been concluded that 12 of the 26 information packages are available at private universities, while the other 14 are not available.

In line with the research question of “How compatible are the course objectives in the information packages of compulsory professional instructional (pedagogical) knowledge courses named "Teaching Principles and Methods" and "Instructional Technologies" in elementary school mathematics education programs of the Faculty of Education, for which only the field of curriculum and instruction is responsible within educational sciences, with the program accreditation?”, firstly the availability of course objectives is presented in Table 4 as concluded from the examination performed.

Table 4. Availability of course objectives

Courses	Course Objective							
	Available				Not Available			
	Accredited		Nonaccredited		Accredited		Nonaccredited	
	Public	Private	Public	Private	Public	Private	Public	Private
Teaching Principles and Methods	10	1	38	3	0	2	1	0
Instructional Technologies	10	1	38	2	0	2	1	1
Total	20	2	76	5	0	4	2	1
	22		81		4		3	
	103				7			
	110							

As can be seen in Table 4, 103 of the 110 information packages include the course objective, while course objectives are not available in 7 of the information packages. In the context of the availability of the course objective:

- Taking into account the accreditation status, it is observed that 81 of the 84 information packages for non-accredited programs specify an objective, while the other 3 do not include a course objective. For accredited programs, it has been concluded that while 22 of the 26 information packages include an objective, course objective is not available in the other 4.
- Taking into the account whether the university is a public or private university, it is observed that 96 of the 98 information packages in public universities include a course objective, while 2 of the packages do not. It has been concluded that while 7 of the 12 information packages in private universities include an objective, course objective is not available in the other 5.

The situation regarding the compatibility of the course objectives with the program accreditation is presented in Table 5.

Table 5. Compatibility of course objectives with the program accreditation

Courses	Course Objective							
	Compatible				Incompatible			
	Accredited		Nonaccredited		Accredited		Nonaccredited	
	Public	Private	Public	Private	Public	Private	Public	Private
Teaching Principles and Methods	3	1	18	1	7	0	20	2
Instructional Technologies	4	1	21	1	6	0	17	1
Total	7	2	39	2	13	0	37	3
	9		41		13		40	
	50				53			
	103							

As indicated in Table 5, it is observed that the course objective is compatible in 50 of the 103 information packages, while it is observed that the course objective is not compatible in 53 of the packages. In the context of the compatibility of the course objective:

- Taking into account the accreditation status, it is observed that the objective in 41 of the 81 information packages for non-accredited programs are compatible, while the objective is not compatible in the other 40. For accredited programs, it has been concluded that the objective is compatible in 9 of the 22 information packages while it is not compatible in the other 13 packages.
- Taking into the account whether the university is a public or private university, it is observed that the objective in 46 of the 96 information packages in public universities are compatible, while it is not compatible in the other 50. It has been concluded that 4 of the 7 information packages at private universities include a compatible objective, while the objective in 3 of the packages is not compatible.

Examples of information packages that are suitable for the course purpose are as follows:

"To gain knowledge, skills and competence related to education, training, curriculum development, teaching models, strategies, methods and techniques."

"The aim of the course is to enable prospective teachers to design and develop materials in accordance with design principles, and to evaluate the course materials they have chosen."

Upon examination for the reasons for incompatibility of the course objectives, it is observed that the objective is written for the student (n=48), there is expressional ambiguity in the objective (n=3) or the objective provides only the content (n=2). The following examples can be provided about the objective being for the student:

"… Ability to comprehend instructional strategies, methods and techniques…"

"…Ability to recognize the concepts related to Instructional Technologies…"

The following examples can be provided about the objective containing only the content:

"Properties of various Instructional Technologies, …"

"Basic concepts of teaching, principles of learning and teaching, …"

The following example can be provided about the expressional ambiguity:

"The objective of this course is to understand the role of Instructional Technologies in the learning process and to gain the b skills of selecting, producing and implementing based on the level of the student."

In line with the research question of "How compatible are the learning outcomes in the information packages of compulsory professional instructional (pedagogical) knowledge courses named "Teaching Principles and Methods" and "Instructional Technologies" in elementary school mathematics education programs of the Faculty of Education, for which only the field of curriculum and instruction is responsible within educational sciences, with the program accreditation?", firstly the availability of learning outcomes is presented in Table 6 as concluded from the examination performed.

Table 6. Availability of learning outcomes

Courses	Learning Outcomes

	Available				Not Available			
	Accredited		Nonaccredited		Accredited		Nonaccredited	
	Public	Private	Public	Private	Public	Private	Public	Private
Teaching Principles and Methods	10	3	38	3	0	0	1	0
Instructional Technologies	10	3	39	3	0	0	0	0
Total	20	6	77	6	0	0	1	0
	26		83		0		1	
	109				1			
	110							

As can be seen in Table 6, 109 of the 110 information packages include the learning outcomes, while learning outcomes are not available in the last 1 package. In the context of the availability of the learning outcomes:

- Taking into account the accreditation status, it has been concluded that while 83 of the 84 information packages for non-accredited programs include learning outcomes, one of them does not include the learning outcomes. It is observed that learning outcomes are available in all 26 information packages for accredited programs.
- Taking into the account whether the university is a public or private university, it has been concluded that 97 of the 98 information packages in public universities include learning outcomes, while one of them does not include the learning outcomes. It is observed that learning outcomes are included in all of the 12 information packages available in private universities.

The situation regarding the compatibility of the learning outcomes with the program accreditation is presented in Table 7.

Table 7. Compatibility of learning outcomes with the program accreditation

Courses	Learning outcomes							
	Compatible				Incompatible			
	Accredited		Nonaccredited		Accredited		Nonaccredited	
	Public	Private	Public	Private	Public	Private	Public	Private
Teaching Principles and Methods	5	1	16	2	5	2	22	1
Instructional Technologies	3	2	20	1	7	1	19	2
Total	8	3	36	3	12	3	41	3
	11		39		15		44	
	50				59			
	109							

As can be seen in Table 7, it is observed that the learning outcomes are compatible in 50 of the 109 information packages, while it is observed that they are not compatible in 59 of the packages. In the context of the compatibility of the learning outcomes:

- Taking into account the accreditation status, it is observed that the learning outcomes in 39 of the 83 information packages for non-accredited programs are compatible, while the learning outcomes are not compatible in the other 44. For accredited programs, it is observed that the learning outcomes are compatible in 11 of the 26 information packages, while they are not compatible in the other 15 packages.
- Taking into the account whether the university is a public or private university, it has been concluded that the learning outcomes in 44 of the 97 information packages in public universities are compatible, while they are not compatible in the other 53. It is observed that 6 of the 12 information packages at private universities include compatible learning outcomes, while the learning outcomes in 6 of the packages are not compatible.

Examples of information packages with appropriate learning outcomes are as follows:

"…Explain the basic concepts of teaching principles and methods..."

"…Knows information and communication technologies used in education..."

Upon examination of the information packages which include learning outcomes that are not compatible:

- It has been observed that there are learning outcomes amounting to 3, 4, 10, 11, 12, 14 or 15 (n=24) even though they were expressed in observable and measurable actions.
- It has been observed that there are learning outcomes that are expressed in more than one action (n=21), with content only (n=1) or for pre-school level (n=1), although their number is 5-9, which is compatible.
- The following phrases can be provided as an example; “To comprehend the principles of designing materials for preschool education”, “Instructional strategies” or “To design, develop and evaluate materials in accordance with design principles.”
- It has been observed that there are learning outcomes that fail to meet the requirement for action by having more than one action and fail to meet the requirement for number by being in numbers of 3, 4, 10, 13, 14, 17 or 18 (n=12).

In line with the research question of “How compatible are the resources in the information packages of compulsory professional instructional (pedagogical) knowledge courses named "Teaching Principles and Methods" and "Instructional Technologies" in elementary school mathematics education programs of the Faculty of Education, for which only the field of curriculum and instruction is responsible within educational sciences, with the program accreditation?”, firstly the availability of resources is presented in Table 8 as concluded from the examination performed.

Table 8. Availability of resources

Courses	Resources							
	Available				Not available			
	Accredited		Nonaccredited		Accredited		Nonaccredited	
	Public	Private	Public	Private	Public	Private	Public	Private
Teaching Principles and Methods	9	3	36	2	1	0	3	1
Instructional Technologies	9	2	35	2	1	1	4	1
Total	18	5	71	4	2	1	7	2
	23		75		3		9	
	98				12			
	110							

As can be seen in Table 8, 98 of the 110 information packages include the resources, while resources are not available in 12 information packages. In the context of the availability of the resources:

- Taking into account the accreditation status, it has been concluded that while 75 of the 84 information packages for non-accredited programs include resources, 9 of them do not include available resources. It is observed that resources are available in 23 of 26 information packages for accredited programs, while resources are not available in the other 3.
- Taking into the account whether the university is a public or private university, it has been concluded that 89 of the 98 information packages in public universities include resources, while 9 of them do not include the resources. It is observed that resources are available in 9 of 12 information packages, while they are not available in the other 3 in private universities.

In line with the research question of “How compatible are the activities in the information packages of compulsory professional instructional (pedagogical) knowledge courses named "Teaching Principles and Methods" and "Instructional Technologies" in elementary school mathematics education programs of the Faculty of Education, for which only the field of curriculum and instruction is responsible within educational sciences, with the program accreditation?”, firstly the availability of the activities is presented in Table 9 as concluded from the examination performed.

Table 9. Availability of activities

Courses	Activities	
	Available	Not available

	Accredited		Nonaccredited		Accredited		Nonaccredited	
	Public	Private	Public	Private	Public	Private	Public	Private
Teaching Principles and Methods	9	3	37	3	1	0	2	0
Instructional Technologies	8	2	38	3	2	1	1	0
Total	17	5	75	6	3	1	3	0
	22		81		4		3	
	103				7			
	110							

As can be seen in Table 9, 103 of the 110 information packages include activities, while activities are not available in 7 information packages. In the context of the availability of the activities:

- Taking into account the accreditation status, it has been concluded that while 81 of the 84 information packages for non-accredited programs include activities, 3 of them do not include available activities. It is observed that activities are available in 22 of 26 information packages for accredited programs, while activities are not available in the other 4.
- Taking into the account whether the university is a public or private university, it has been concluded that 92 of the 98 information packages in public universities include activities, while 6 of them do not include activities. It is observed that resources are available in 11 of 12 information packages, while they are not available in the other 1 in private universities.

The situation regarding the compatibility of the activities with the program accreditation is presented in Table 10.

Table 10. Compatibility of activities with the program accreditation

Courses	Activities							
	Compatible				Incompatible			
	Accredited		Nonaccredited		Accredited		Nonaccredited	
	Public	Private	Public	Private	Public	Private	Public	Private
Teaching Principles and Methods	7	3	29	2	2	0	8	1
Instructional Technologies	8	2	29	3	0	0	9	0
Total	15	5	58	5	2	0	17	1
	20		63		2		18	
	83				20			
	103							

As can be seen in Table 10, it is observed that the activities are compatible in 83 of the 103 information packages, while it is observed that they are not compatible in 20 of the packages. In the context of the compatibility of the activities:

- Taking into account the accreditation status, it is observed that the activities in 63 of the 81 information packages for non-accredited programs are compatible, while they are not compatible in the other 18. For accredited programs, it is observed that the activities are compatible in 20 of the 22 information packages, while they are not compatible in the other 2 packages.
- Taking into the account whether the university is a public or private university, it is observed that the activities in 73 of the 92 information packages in public universities are compatible, while they are not compatible in the other 19. It is observed that 10 of the 11 information packages at private universities include compatible activities, while the activities in 1 of the packages are not compatible.

It is observed that only midterm and final exams are included in the tables related to student workload in the context of the compatibility of the activities. However, for the activities that are compatible, the majority include only assignments (n=25) in addition to the exams, while it is also observed that one or several of the projects, practices, discussions, Q&A, brainstorming, role playing, team, report, performance, presentation, research and reading are also included.

In line with the research question of "How compatible are the measurement&evaluation methods in the information packages of compulsory professional instructional (pedagogical) knowledge courses named "Teaching Principles and Methods" and "Instructional Technologies" in elementary school mathematics education programs of the Faculty of Education, for which only the field of curriculum and instruction is responsible within educational sciences, with the program accreditation?", firstly the availability of measurement&evaluation methods is presented in Table 11 as concluded from the examination performed.

Table 11. Availability of measurement&evaluation methods

Courses	Measurement&evaluation methods							
	Available				Not available			
	Accredited		Nonaccredited		Accredited		Nonaccredited	
	Public	Private	Public	Private	Public	Private	Public	Private
Teaching Principles and Methods	10	3	32	3	0	0	6	0
Instructional Technologies	9	2	33	3	2	2	5	0
Total	19	5	65	6	2	2	11	0
	24		71		4		11	
	95				15			
	110							

As can be seen in Table 11, 95 of the 110 information packages include measurement&evaluation methods, while measurement&evaluation methods are not available in 15 information packages. In the context of the availability of the measurement&evaluation methods:

- Taking into account the accreditation status, it has been concluded that while 71 of the 82 information packages for non-accredited programs include measurement&evaluation methods, 11 of them do not include available measurement&evaluation methods. It is observed that measurement&evaluation methods are available in 24 of 28 information packages for accredited programs, while measurement&evaluation methods are not available in the other 4.
- Taking into the account whether the university is a public or private university, it has been concluded that 84 of the 97 information packages in public universities include measurement&evaluation methods, while 13 of them do not include measurement & evaluation methods. It is observed that measurement&evaluation methods are available in 11 of 13 information packages, while they are not available in the other 2 in private universities.

The situation regarding the compatibility of the measurement&evaluation methods with the program accreditation is presented in Table 12.

Table 12. Compatibility of measurement&evaluation methods with the program accreditation

Courses	Measurement&evaluation methods							
	Compatible				Incompatible			
	Accredited		Nonaccredited		Accredited		Nonaccredited	
	Public	Private	Public	Private	Public	Private	Public	Private
Teaching Principles and Methods	7	2	13	2	3	1	19	1
Instructional Technologies	5	2	15	3	4	0	18	0
Total	12	4	28	5	7	1	37	1
	16		33		8		38	
	49				46			
	95							

As can be seen in Table 12, it is observed that measurement&evaluation methods are compatible in 49 of the 95 information packages, while it is observed that they are not compatible in 46 of the packages. In the context of the compatibility of measurement&evaluation methods:

- Taking into account the accreditation status, it has been concluded that the measurement&evaluation methods in 33 of the 71 information packages for non-accredited programs are compatible, while they are not compatible in the other 38. For accredited programs, it is observed that the measurement&evaluation methods are compatible in 16 of the 24 information packages, while they are not compatible in the other 8 packages.
- Taking into the account whether the university is a public or private university, it has been concluded that the measurement&evaluation methods in 40 of the 84 information packages in public universities are compatible, while they are not compatible in the other 44. It is observed that 9 of the 11 information packages at private universities include compatible measurement&evaluation methods, while the measurement&evaluation methods in 2 of the packages are not compatible.

It is observed that only midterm and final exams are included in the tables related to the evaluation system in the context of the compatibility of measurement&evaluation methods. However, for compatible measurement&evaluation methods, it is also observed that one or several of the assignments, presentations, project, report, performances and presentation are also included in addition to the midterm and final exams.

DISCUSSION

According to Harvey and Green (1993), several viewpoints on the concept of quality are considered in terms of the stakeholders' relative importance. However, the fact that there are several interpretations shouldn't stop it from preserving and advancing it. On the other hand, Newton (2013) highlights that national organizations and institutions of higher education should put this on their agenda and that they should be monitored, enhanced, and developed. Here, the accreditation process follows the evaluation steps, which results in a report submitted by the external review committee (Van Vught & Westerheijden, 1994). In this study, the focus is on examining the course information packages realized in this process. In accordance with the transparency principle of the Bologna process, making available the relevant course information package on the web pages qualifies as a document for international recognition (Timurcanday Özmen et al., 2015). While this study suggests that approximately two-thirds of the information packages are not available. Considering both accredited and non-accredited programs, it is possible to convey that approximately two-thirds of the information packages are not accessible. This is an unexpected situation, particularly for accredited programs. It once again emphasizes the importance of the monitoring accredited programs (THEQC, 2020) and the continuous follow-up of the process (Kısa, Uysal & Kavak, 2020).

Based on the types of universities, it is noted that while two-thirds of the information packages are inaccessible at public universities, approximately half of them are inaccessible at private universities. Although the frequency is very low, among the reasons for unavailability of course information packages are the failure to access the related interface and the error given by the relevant web page. This may also indicate that there are still problems regarding the preparation of the information packages. For example, Fer et al. (2019) stated that among the problems regarding the preparation of the information packages are the lack of information flow, the lack of understanding of the quality of the process and not believing in its significance, the unfair division of tasks, and the incompatibility of the program qualification with the course. Erkuş (2009) also stated in their research that more than half of the instructors do not have adequate knowledge about the accreditation of the program in the faculty of education.

In the context of the objective of the course; it has been concluded that almost all of the course information packages include an objective, both in general and according to their accreditation status. Taking into account the types of universities, it is possible to convey that almost all of the information packages include an objective in public universities, while almost half of the information packages in private universities lack a course objective. As for the compatibility of the course objective, and both in general terms and based on their accreditation status and the type of university approximately half of the information packages were incompatible. This situation emerges from the fact that the objective is for the student, that the objective provides only the content – although the frequency is low, and that there is expressional ambiguity in the objective. In particular, the fact that the phrases are aimed at the student indicates that the learning outcomes are mistaken with the objective of the course. However, while the course objective should be directed toward the instructor, the learning outcomes should be for the student (CoHE, 2010).

In the context of learning outcomes: it has been concluded that there are outcomes for all courses except for one course at a non-accredited public university. Although this is an expected situation in accredited programs, it is also a favorable situation in terms of non-accredited programs in particular. Learning outcomes are the focus in ensuring that the instruction is carried out duly (Morrison, Ross, Morrison & Kemp, 2019). In terms of compatibility of learning outcomes, slightly more than half of the information packages were deemed incompatible both in general and according to their accreditation status and in public universities. This is the case for exactly half of the information packages in private universities. Among the ones that are incompatible, the majority consist of those that fail to meet the requirements of both being specified with an observable and measurable action and being at a number between 5 and 9. This is followed by including more than one action and then being in more or fewer than the required number. Learning outcomes are expected to include what students are expected to do and know, namely the action/activity (EHEA, 2015). While surely being required in all fields, proper statement of learning outcomes is at the top of the list of points to take into consideration especially for the field of curriculum and instruction considering the expertise.

In the context of resources: it has been concluded that resources are available in almost all of the course information packages, both in general and according to their accreditation status, and also based on the types of universities. It is possible to convey that this is a positive development in terms of the requirements to be fulfilled. In the context of activities: similar to the resources, it has been concluded that activities are available in almost all of the course information packages, both in general and according to their accreditation status, and also based on the types of universities. While this is expected in accredited programs, it is also a favorable situation especially for non-accredited programs. In terms of compatibility of the activities, it can be stated that four-fifths of the information packages are compatible in general. Based on the accreditation status and the type of universities, it is possible to convey that approximately three-quarters of those in non-accredited programs or at public universities, and almost all of those in accredited programs or at private universities are compatible. While the study of Uysal & Özkan Elgün (2022) suggests that more learning outcomes should be included at the levels of practice and above for the Teaching Principles & Methods course, "Teaching Principles and Methods" and "Instructional Technologies" courses require different activities due to their objectives and learning outcomes. On the other hand, there are course information packages deemed incompatible due to the fact that they only include midterm and final exams. Among those that are compatible, the majority include only homework in addition to the midterm and final exams, while there are also information packages that include one or several of the projects, practices, discussions, Q&A, brainstorming, role playing, team, report, performance, presentation, research and reading.

In the context of measurement&evaluation methods, similar to activities and resources, it has been concluded that almost all of the course information packages include measurement&evaluation methods, both in general, according to their accreditation status, and based on the type of university. Although this is expected in accredited programs, it is also a favorable situation in terms of non-accredited programs in particular. In the evaluation of learning outcomes, it is envisaged to use an evaluation method that is compatible with the principles of transparency and reliability, consistency, flexibility and that is diversified as much as possible (EHEA, 2015). According to Gelbal and Kelecioğlu (2007), some of the evaluation methods that can be used in the evaluation of students are projects, performance assignments, peer assessment, self-assessment, short answer tests, multiple choice tests, written probes, oral exams, observation and interview. In terms of the suitability of assessment-evaluation methods for program accreditation, whether they are suitable for the purpose of the course is examined (EPDAD, 2021a, 2021b). As for the measurement&evaluation methods, it can be stated that half of the information packages do not include compatible methods. It has been concluded that slightly more than half of the programs that are accredited or in a public university include incompatible tools. It is possible to convey that two thirds of accredited programs and almost all of private universities have compatible tools. Similar to the explanations for the activities, the "Teaching Principles and Methods" and "Instructional Technologies" courses require the availability of different tools based on their objectives and learning outcomes. On the other hand, there are incompatible course information packages due to the fact that they only include midterm and final exams. There are also information packages that include one or several of the assignments, presentations, project, report, performances and presentation in addition to the midterm and final exams. In general, it is a favorable development that no problem is encountered in terms of the availability of course objectives, learning outcomes, resources, activities and of measurement-evaluation methods. It is also noted that particularly the activities and measurement&evaluation methods in private universities or accredited programs precede in terms of compatibility with accreditation.

CONCLUSION AND RECOMMENDATIONS

Within the scope of the study, the information packages of "Teaching Principles & Methods" and "Instructional Technologies" courses that are compulsory professional instructional (pedagogical) knowledge courses in elementary school mathematics education programs of the Faculty of Education, for which only the field of curriculum and instruction is responsible within educational sciences, were reviewed in the context of program accreditation. It is concluded that approximately two-thirds of packages are incompatible. Almost all packages include the course objective, learning outcome, resources, activities and measurement&evaluation tools. Particularly the activities and measurement&evaluation methods in private universities or accredited programs precede in terms of compatibility with accreditation. Policies of the university or faculty of education or supervision is very important. However, generally in packages, the order of the elements from the most to the least compatible with the accreditation program is as follows; activities, learning outcomes, course objective, and measurement&evaluation methods. Furthermore, it is noted that course packages are still not viewable. In terms of being compatible for certification, while certified programs are likely to have advantages over others, it is also probable that they may face comparable challenges. All of the abovementioned issues contribute to the emphasis on the importance of monitoring and improvement (THEQC, 2020).

In line with the results obtained, the following suggestions can be provided to implementers and researchers:

- The university and faculty administrations could initiate practices in cooperation in line with the policies they have developed or currently developing for quality assurance and accreditation. Of course, academic staff should not be overwhelmed with bureaucracy. In-service training, seminars or workshops can be organized for instructors for the preparation of course information packages, which are also important in the context of accreditation. To allow accredited programs progress taking into account the fact that monitoring activities will be carried out later on, it is considered important to support them.
- The focus of the study was on one field only. Studies could be carried out based on other professional instructional knowledge courses or any other type of teaching.

- Research can be done by considering not only the preparation of course information packages, but also other stages. In addition, the accreditation process as a whole can be viewed as program evaluation.
- Through a SWOT analysis for the accreditation process, the strengths, weaknesses, opportunities of, and threats from the accreditation can be identified for both instructors and students. This may ensure a needs analysis is performed both specifically for the preparation of course information packages and for the process in general.

Declaration of Conflicting Interests

The author declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

There is no funding support.

Statements of publication ethics

I hereby declare that the study has not unethical issues and that research and publication ethics have been observed carefully.

Researchers' contribution rate

The study was conducted by one author.

Ethics Committee Approval Information

"Ethics Committee Approval Document" is not necessary in this study.

REFERENCES

Altschuld, J. W., & Engle, M. (2015). The inexorable historical press of the developing evaluation profession. In J. W. Altschuld & M. Engle (Eds.), *Accreditation, certification, and credentialing: Relevant concerns for U.S. evaluators* (pp.5-19). New Directions for Evaluation.

Association for Evaluation and Accreditation of Teacher Education Programs (EPDAD) (2022). *Akredite edilen programlar*. Retrieved from https://epdad.org.tr/icerik/akredite-edilen-programlar

Bingham, J. (1999). *Guide to developing learning outcomes*. The Learning and Teaching Institute, Sheffield Hallam University.

Brittingham, B., Sands, M., Erbaş, S., Kavak, Y., Tarhan, L., & Ayas, A. (1999). *Türkiye'de öğretmen eğitiminde standartlar ve akreditasyon* [Lexical characteristics of Turkish language]. YÖK. Retrieved from https://www.yok.gov.tr/Documents/Yayinlar/Yayinlarimiz/turkiyede_ogretmen_egitiminde_standartlar_ve_akreditasyon.pdf

Council of Higher Education (CoHE) (2022). *Yükseköğretim bilgi yönetim sistemi.* Retrieved from https://istatistik.yok.gov.tr/

CoHE (2010). *Yükseköğretimde yeniden yapılanma: 66 soruda Bologna süreci uygulamaları.* Retrieved from https://uluslararasi.yok.gov.tr/Documents/yayinlar/yuksekogretimde_yeniden_yapilanma_66_soruda_bologna_2010.pdf

De Corte, E. (2014). Evaluation of universities in Western Europe: From quality assessment to accreditation. *Educational Studies, 4*, 1-17.

EPDAD (2021a). *EPDAD öğretmen eğitimi standartları kılavuzu.* Retrieved from https://epdad.org.tr/data/genel/pdf/EPDAD_Standartlar_Surum_1.1_Kilavuz.pdf

EPDAD (2021b). *Değerlendiricilerin yanıt arayacakları sorular.* Retrieved from https://bulut.epdad.org.tr/index.php/s/ayPrzRwocOUvI1A

Erkuş, L. (2009). Eğitim fakültelerinin akreditasyon sürecine hazır olma durumuna ilişkin öğretim elemanlarının görüşlerinin değerlendirilmesi (Yayımlanmamış Yüksek Lisans Tezi). Kırıkkala Üniversitesi, Sosyal Bilimler Enstitüsü.

European Higher Education Area, Bologna Follow-UpGroup (EHEA) (2015). "ECTS users' guide 2015. Draft Version End or sed by the Bologna Follow-Up Group in November 2014. Subject to Approval by the Ministerial Conference in May 2015". Brussels.

Fer, S., Kelecioğlu, H., Çobanoğlu Aktan, D., Gelmez Burakgazi, S., Özdiyar, Ö., Uysal, F., Kıbrıslıoğlu Uysal, N., Uysal, İ., & Ertuna, L. (2019). A phenomenological study on the effectiveness of curriculum and course information packages in the Bologna process. *Yükseköğretim Dergisi, 9*(2), 234-246.

Gelbal, S., & Kelecioğlu, H. (2007). Öğretmenlerin ölçme ve değerlendirme yöntemleri hakkındaki yeterlik algıları ve karşılaştıkları sorunlar. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, 33, 135-145.

Hamalainen, K., & Jakku-Sihvonen, R. (2000). *More quality to the quality policy of education*. National Board of Education.

Harvey, L., & Green, D. (1993). Defining quality. *Assessment and Evaluation in Higher Education, 18*(1), 9-34.

Harvey, L., & Williams, J. (2010). Fifteen years of quality in higher education. *Quality in Higher Education, 16*(1), 3-36.

Karasar, N. (2014). *Bilimsel araştırma yöntemi kavramlar, ilkeler, teknikler*. Nobel Yayın Dağıtım.

Kısa, N., Uysal, F., & Kavak, Y. (2019). Bologna sürecinin öğrenci merkezli öğrenme boyutu: Eğitim fakültesi öğretim programlarına yansımalar. *Yükseköğretim Dergisi, 10*(1), 85-95.

McDavid, J. C., & Huse, I. (2015). How does accreditation fit into the picture? In J. W. Altschuld & M. Engle (Eds.), *Accreditation, certification, and credentialing: Relevant concerns for U.S. evaluators* (pp.53-69). New Directions for Evaluation.

Measuring, Selection and Placement Center (2022). 2022 yükseköğretim programları ve kontenjanları kılavuzu. Retrieved from https://www.osym.gov.tr/TR,23885/2022-yuksekogretim-kurumlari-sinavi-yks-yuksekogretim-programlari-ve-kontenjanlari-kilavuzu.html

Mızıkacı, F., Göktunalı, E., Aktaş, A.K., Görür, D.Z., Kızıl, F., & Çınar, S. (2019). Üniversite lisans programlarının süreç ve sonuç odaklı program geliştirme yaklaşımlarına göre öğrenci görüşleri açısından incelenmesi [Lexical characteristics of Turkish language]. *Hacettepe Üniversite Eğitim Fakültesi Dergisi, 34*(4), 943-957.

Morrison, G.R., Ross, S.J., Morrison, J.R., & Kemp, H.K. (2019). *Designing effective instruction*, Wiley.

Newton, J. (2013). Is quality assurance leading to enhancement? In F. Crozier, M. Kelo, T. Loukkola, B. Michalk, A. Päll, F. M. G. Palomares, N. Ryan, B. Stensaker, & L. Van de Velde (Eds.). *How does quality assurance makes a difference?* European University Association.

Schwarz, S., & Westerheijden, D. F. (2007). Accreditation in the framework of evaluation activities: a comparative study in the European higher education area. In S. Schwarz, S., & D. F. Westerheijden (Eds.), *Accreditation and evaluation in the European higher education area* (pp.1-42). Springer.

Staub, D. F. (2019). The Increasing Need for Quality Assurance and Accreditation in Foreign Language Education. In D. F. Staub (Ed.), *Quality assurance and accreditation in foreign language education global issues, models, and best practices from the Middle East and Turkey* (pp.1-8). Springer.

THEQC (2020). *2019 yılı akreditasyon kuruluşları genel değerlendirme raporu.* Retrieved from https://yokak.gov.tr/Common/Docs/AkreditasyonKilavuz1.0/2019GenelDegerlendirme.pdf

Timurcanday Özmen, Ö. N., Özdağoğlu, G., Damar, M., Akdeniz, E., Süral Özer, P., Duygulu, E., Durukan Salı, M. B., & Topoyan, M. (2015). Bologna süreci kapsamında Dokuz Eylül Üniversitesi bilgi paketi tasarım sürecine makro bakış. *Yükseköğretim Dergisi, 5* (3), 162-169.

Turkish Higher Education Quality Council (THEQC) (2022). Tescil süresi devam edenler. Retrieved from https://yokak.gov.tr/akreditasyon-kuruluslari/tescil-suresi-devam-edenler

Uysal, F. (2022). *Accreditation through the eyes of program evaluation*. E. Hysa & R. Foote (Editors). In New Perspectives on Using Accreditation to Improve Higher Education (pp.1-25). IGI Global.

Uysal, F., & Özkan Elgün, İ. (2022). Examining the learning outcomes of the teaching principles and methods course in the context of student-centered learning. *Sakarya University Journal of Education, 12*(2), 327-343.

Van Kemenade, E., & Hardjono, T. W. (2010). A critique of the use of self-evaluation in a compulsory accreditation system. *Quality in Higher Education, 16*(3), 257-268.

Van Vught, F. A., & Westerheijden, D. F. (1994). Towards a general model of quality assessment in higher education. *Higher Education, 28,* 355-371.