APPLICABILITY OF STRUCTURE KNOWLEDGE COURSE WITHIN THE FRAMEWORK OF BLOOM'S TAXONOMY: THE CASE OF SELÇUK UNIVERSITY

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Abstract

The aim of this study is to investigate the conformity of Structured Knowledge applied course content to the Bologna course information package according to the levels of understanding, remembering, evaluating, analysing, creating and applying in Bloom's Taxonomy. Bibliometric analysis was used in the literature review. The questionnaire was designed using a 5-point Likert-type measurement model. On 95 participants, psychometric measurement technique was used. Data were analysed using independent t-test, frequency analysis, normality test and Cronbach Alpha reliability analysis. It was found that the results of the questionnaire improved the course management method and updated the knowledge transfer in the course contents representing the comprehension, recall and evaluation levels of the Structural Knowledge course. It was also concluded that the level of extra-curricular applications in the application part of the course should be increased and the ECTS value of the course should be increased.

Keywords: Bologna System, Bloom's Taxonomy, Structural Knowledge, Interior Architecture.

STRÜKTÜR BİLGİSİ DERSİNİN BLOOM TAKSONOMİSİ ÇERÇEVESİNDE UYGULANABİLİRLİĞİ: SELÇUK ÜNİVERSİTESİ ÖRNEĞİ

Özet

Bu çalışmanın amacı Strüktür Bilgisi ders içeriğinin Bloom Taksonomisinde yer alan anlama, hatırlama, değerlendirme, analiz etme, yaratma ve uygulama düzeylerine göre Bologna ders bilgi paketine uygunluğunu araştırmaktır. Literatür taramasında bibliyometrik analiz kullanılmıştır. Anket 5'li Likert tipi ölçme modeli kullanılarak tasarlanmıştır. 95 katılımcı üzerinde psikometrik ölçüm tekniği kullanılmıştır. Veriler bağımsız t-testi, frekans analizi, normallik testi ve Cronbach Alpha güvenilirlik analizi kullanılarak analiz edilmiştir. Anket sonuçlarının ders yönetim yöntemini geliştirdiği ve Yapısal Bilgi dersinin anlama, hatırlama ve değerlendirme düzeylerini temsil eden ders içeriklerindeki bilgi aktarımını güncellediği tespit edilmiştir. Ayrıca dersin uygulama kısmındaki müfredat dışı uygulamaların düzeyinin artırılması ve dersin AKTS değerinin yükseltilmesi gerektiği sonucuna ulaşılmıştır.

Anahtar Kelimeler: Bologna Sistemi, Bloom Taksonomisi, Strüktür Bilgisi, İç Mimarlık.

1. INTRODUCTION

The Bologna Process is a radical reform movement in the European higher education area. This process, which started in Bologna in 1999, aims to harmonize higher education systems in Europe, increase quality standards and encourage student mobility. In this context, while the Bologna Process ensures standardization in education, it also includes goals such as the adoption of student-centered learning methods and increasing the quality of education.

Turkey joined the Bologna Process in the early 2000s, and this accession process led to significant changes in the Turkish higher education system. Educational institutions have revised their curricula and restructured their course content and evaluation methods in order to comply with the Bologna criteria. This transformation has brought about radical changes not only at the curriculum level, but also in teaching methods and student assessment processes.

This transformation in higher education is especially evident in areas such as accounting, education, law and child development. The innovations brought about by the Bologna Process have allowed critical elements such as student workload and assessment methods to be reconsidered, as well as increasing the quality of education. However, the difficulties and deficiencies encountered in the implementation of the process may adversely affect the effectiveness of the education system, and this situation requires a review of education policies.

The innovations brought about by the Bologna Process have allowed critical elements such as student workload and assessment methods to be reconsidered, as well as increasing the quality of education. However, the difficulties and deficiencies encountered in the implementation of the process may adversely affect the effectiveness of the education system, and this situation requires a review of education policies. In this context, the efforts of educational institutions to adapt to the Bologna Process aim to increase their competitiveness at both national and international levels. Bloom's Taxonomy is a framework developed for the systematic classification of learning objectives in the field of education. Created in 1956 by Benjamin Bloom and his colleagues, this taxonomy aims to help educators better understand and evaluate students' learning processes. Taxonomy offers a wide range of applications in the process of goal setting and evaluation in education by dividing the cognitive field into six levels as knowledge, comprehension, application, analysis, synthesis and evaluation.

For these purposes, the Structural Information course in the 2024-2025 Fall semester curriculum of Selçuk University Faculty of Architecture and Design, Department of Interior Architecture was evaluated according to Bloom's Taxonomy. Subjects such as course methods and techniques, learning outcomes, operational processes, and student workload after the course were examined.

2. LITERATURE

When the studies on the Bologna process in the world and in Turkey are examined, it is interested in the results of the higher education system not only during the course but also after the course. The main objective of the Bologna process is to increase the level of in-class and post-class contribution at the student level. The bibliometric analysis graph of the studies on the Bologna process in the world in terms of the relationship between the authors and the countries is given in Figure 1.
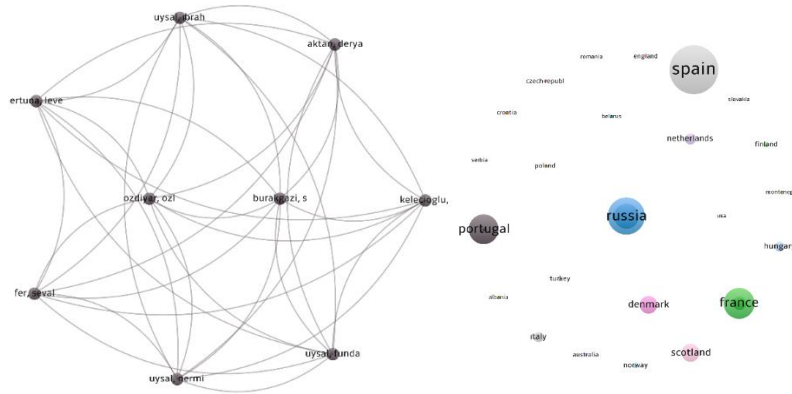
Figure 1. Bloom's taxonomy bibliometric analysis graph (Visualization created by the author with Vosviewer)

When the researches on the Bologna process are examined;

The study by Sağlam et al. aims to examine the effects of the European Union's education policies on the Turkish education system. Using the literature review and analysis method, the relationship between the EU's education policies and Turkey's EU membership process was examined. The EU's education policies have led to various reforms and improvements in the Turkish education system; It is aimed to increase the quality of education (Sağlam, Özüdoğru, Çıray, 2011, s.87).

Terzi, Solak and Şen (2013) examine the effects of the Bologna process on accounting education programs of universities in Turkey. In the study, the curricula of the accounting departments of state and foundation universities were examined; It has been evaluated in terms of national credit and ECTS systems. With the effect of the Bologna Process, standardization has been achieved in accounting education, and course contents and credits have been placed in a certain order (Terzi, Solak, Şen, 2013, s.83).

In his study, Elmas (2012) evaluates the criticisms and suggestions of the Bologna process regarding higher education practices in Turkey. In this study, literature review and practices of various universities related to the Bologna Process were examined. There are some difficulties and bureaucratic obstacles in the implementation of the Bologna Process; It has been emphasized that the applications are not effective enough (Elmas, 2012, s.137).

In their study, Aytekin and Aktı (2015) aimed to update the undergraduate program in the Department of Child Development at Hacettepe University within the scope of the Bologna process. In the study, the opinions of internal and external stakeholders were taken and the programs of similar departments abroad were examined. By giving new course codes and names, the program was updated and harmonized with the Bologna process (Aytekin & Aktı, 2015, s.19).

Üstün (2011) apply the line balancing approach to update and optimize lesson plans within the scope of the Bologna process. In the study, lesson plans were created using the line balancing problem model and solved with WINQSB software. A more balanced distribution has been achieved in lesson planning and efficiency in education has been increased (Üstün,2011, s.77).

Short, Kavak and Uysal, their study (2020) examines the effects of the Bologna process on student-centered learning. In the study, data were collected through analyzes and surveys on the curricula of education faculties. In the study, it was determined that student-centered approaches were reflected in education programs, but there were some deficiencies in practice (Short, Kavak & Uysal, 2020, s.86).

In their study, Şen, Uludağ, Kavak and Seferoğlu (2016) aimed to compare student evaluation methods and student workload within the scope of the Bologna process. Within the scope of the study, the course information packages of Hacettepe University's graduate programs were examined. In the study, it was stated

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that there were inconsistencies between student workload and assessment methods, and this situation may adversely affect the quality of education (Şen, Uludağ, Kavak & Seferoğlu, 2016, s.85).

In their study, Ömeroğlu (2018) examined the Turkish Language course taught in universities within the framework of the Bologna Process. In the study, the opinions of students and academicians were collected through questionnaires and interviews. The necessity of Turkish Language course was emphasized, and it was concluded that it was not appropriate to provide distance education (Ömeroğlu, 2018, s.1056).

In their study, Mohanty and Mishra (2019) highlight the Bologna Process reforms as an important model for India to consider in its efforts to improve its higher education system, suggesting that adopting similar internationalization frameworks can help India become a leader in the global knowledge economy. The study highlights the importance of aligning India's higher education with the prerequisites of a knowledge economy, noting that the Bologna reforms provide a relevant and effective approach for India to develop its educational strategies and frameworks (Mohanty & Mishra, 2019).

2.1. Bloom Taxonomists

Bloom's Taxonomy is a framework developed for the classification of learning objectives in the field of education. Created in 1956 by Benjamin Bloom and his colleagues, this taxonomy aims to help educators better understand and evaluate students' learning processes. Bloom's Taxonomy is used in instructional design and evaluation processes by classifying learning objectives in cognitive, affective and psycho-motor domains.

Bloom et al.'s taxonomy of cognitive domains consists of six steps: knowledge, comprehension, application, analysis, synthesis and evaluation. It is possible to consider the first three steps of the cognitive field, knowledge, comprehension and application, as learning requirements that form the basis of learning, and the last three steps, analysis, synthesis and evaluation, as higher-order thinking and learning skills (Erginer, 2006, s. 19). In 2001, the original structure of Bloom's Taxonomy was updated and reorganized. This update by Anderson and Krathwohl has led to a more dynamic treatment of cognitive processes. The updated taxonomy has been updated to remember cognitive processes, remembering and recalling information, understanding, understanding and interpreting information, applying information, applying information in new situations, analysis, examining information by breaking it down, evaluating, evaluating and judging information, creating, creating something new (Krathwohl, 2002).

In their study, Stevani and Tarigan (2022) analyzed reading comprehension questions in English textbooks using Bloom's Taxonomy. By adopting a qualitative approach, the content of reading comprehension questions in three different English textbooks was analyzed. The questions were classified according to the cognitive levels defined in Bloom's Taxonomy, and the number of questions at each level was calculated as a percentage. The research findings show that the majority of reading comprehension questions focused on the level of comprehension (26%), followed by the levels of information recall (17%) and application (16%). It has been determined that the number of questions that encourage higher-level thinking is small. This situation reveals that teachers need to review their course materials and assessment methods (Stevani & Tarigan, 2022, s.1).

Momen, Ebrahimi & Hassan in their study of Bloom's Taxonomy (2022) present three hierarchical models developed to classify learning objectives in education. The aim of this study is to examine the importance of Bloom's Taxonomy in cognitive, emotional and psychomotor domains and its applications in various educational fields. In addition, how this theory provides a framework in education and its effects on teaching processes are also discussed. The research shows that this taxonomy improves learning processes in education, guides the creation of teaching materials, and contributes to making assessment methods more effective. In addition, it has been concluded that it allows students to develop higher-level thinking skills (Momen, Ebrahimi & Hassan, 2022, s.515).

In her study, Azizah (2023) examined the role of Bloom's Taxonomy in educational development. In particular, the effects of this taxonomy on educational systems and how it shapes teaching processes are evaluated. The research shows how Bloom's taxonomy creates a structure in cognitive, emotional and psychomotor areas in education and how it helps to develop teaching strategies. In addition, it was emphasized that Bloom's

Taxonomy is an important tool in determining teachers' learning goals and evaluating student achievements (Azizah, 2023, s.110).

The aim of their study by Yunida and Arthur (2023) is to examine the measurement of cognitive domains using Bloom's Taxonomy and the applications of these measurement methods in education. The research shows that Bloom's Taxonomy plays an important role in determining the hierarchical structure of cognitive skills and developing more effective assessment methods in education. In addition, it has been concluded that it contributes to making learning processes more systematic and structured (Yunida & Arthur, 2023, s.95).

Adijaya, Widiana, Agung Parwata and Suwela Antara in their study (2023) examines the development of learning activities based on Bloom's Taxonomy and the impact of these activities on student achievement. The research was carried out with an experimental design. Various learning activities were planned for the students and the effects of these activities on the learning outcomes of the students were measured. Learning activities based on Bloom's Taxonomy have positively affected students' learning processes and helped them improve their cognitive skills. Research reveals that such activities increase students' engagement and improve learning outcomes (Adijaya, Widiana, Agung Parwata & Suwela Antara, 2023, s.261). Akay and Erbil (2023) argue that the theoretical information given within the scope of the course, the application phase, field applications, and student participation in extracurricular applications have positive effects on the learning process (Akay and Erbil, 2023, s.154)

3. METHOD

The experiment and operation process carried out within the scope of the study are given in Table 1. In the first stage, the literature review on the subject was completed and the questions to be answered were determined. In the next step, the design of the questionnaires to be applied according to the application methods of the Structural Knowledge course has been completed and the surveys have been finalized by making the necessary revisions as a result of the preliminary survey studies. With the survey conducted on student groups, it was aimed to reveal whether the Structural Knowledge course is suitable for Bloom's Taxonomy classification.

Table 1. The process of operation of the study

Experiments	Purpose	Subjects	Task	Scales
Evaluation of the Structure Knowledge course application method through Bloom's Taxonomy	Investigation of the positive/negative effect of the Structure Knowledge course application method on the learning action according to Bloom's Taxonomy	Normal and evening education students of the Department of Interior Architecture taking the Structure Information course

24 males, 71 females

A total of 95 people | To examine the effect of the Structural Knowledge course application method on the learning process according to Bloom's Taxonomy and to answer the determined questions. | Normality Test,

Frequency Analysis,

Cronbach Alpha Reliability analysis

Independent T-Test |

3.1. Data Collection

In the study, the current Bloom Taxonomy classification, which is the method of developing an educational model, was used. In the study, Selçuk University Faculty of Architecture and Design Interior Architecture 2. it is limited to the Structural Knowledge course, which is in the category of applied and compulsory courses in the classroom curriculum. In the questionnaire design used in the study, a 5-point Likert type measurement model, which is one of the quantitative measurement methods, was used and 1 negative and 5 positive values were used.

3.2. Data Analysis

The outcomes of the Structural Knowledge course curriculum were analyzed using the Taxonomy Table within the scope of the revised Bloom taxonomy. The Taxonomy Table is used to improve quality in teaching and assessment (Anderson, 2005). Bloom's Taxonomy focuses on the basic areas of thinking (cognitive), doing, skill (psychomotor), feeling, attitude (affective), which are within the scope of learning areas. The algorithm containing the Bloom Taxonomy learning objectives and the methods that can be used to achieve these goals is given in Figure 1. In addition, in line with the statements given, the answers given by the students participating in the survey were tested for normality in the SPSS 29 version database. Independent t-test was used to determine whether there was a statistically significant difference between the statistical analysis methods applied, reliability, frequency, and survey results for independent groups. The Structural Knowledge course, which is prepared within the scope of the Bologna course system, will be compared according to the weekly course topics according to the Bloom Taxonomy levels.

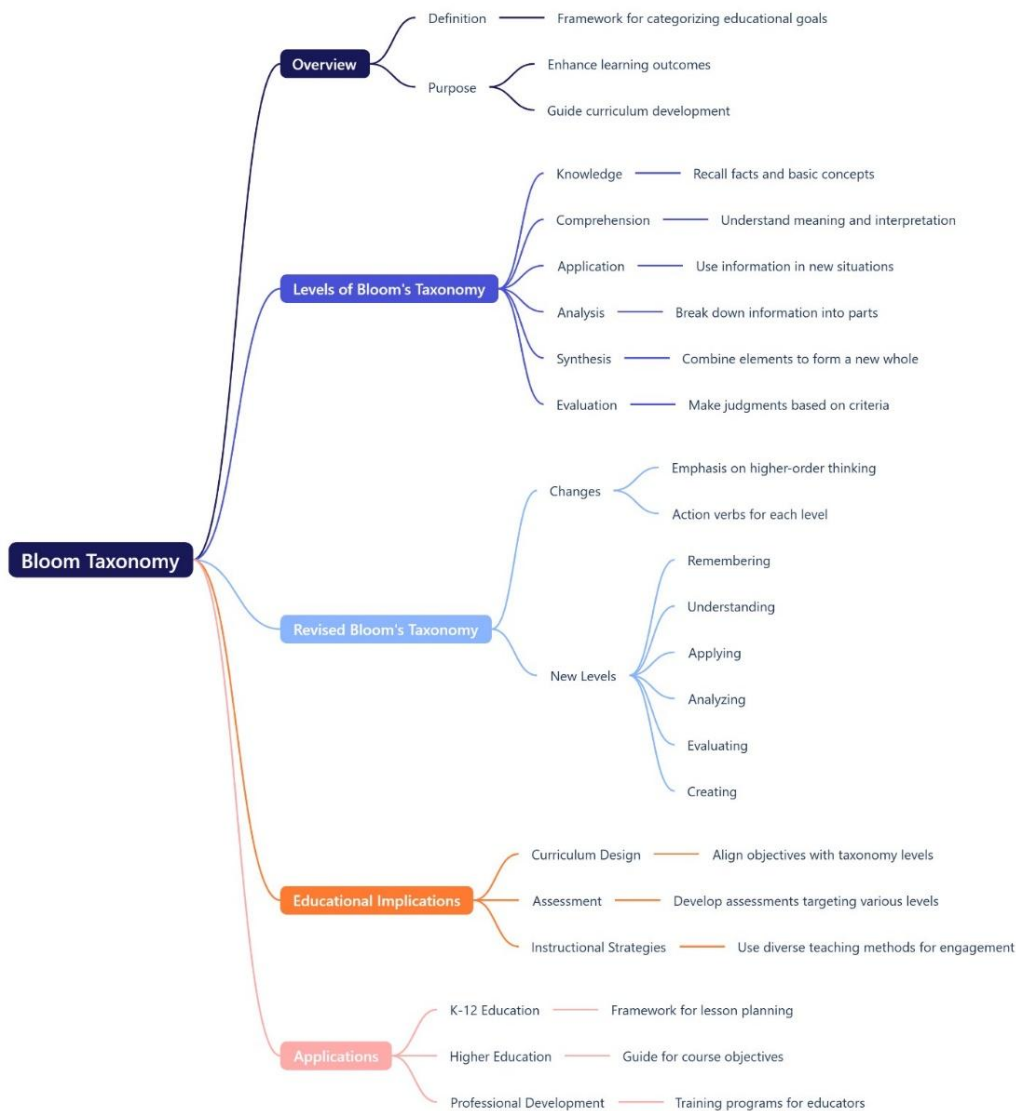**Figure 2.** Bloom's Taxonomy Algorithm (Visualization prepared by the author)

3.2. Survey Design and Sampling

Psychometric measurement method was used in the questionnaire, which was prepared depending on the Structure Information application methods. In the survey design, the Structure Knowledge course was grouped under subheadings within the scope of the Bloom Taxonomy education model. The suitability of the survey

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study was approved by the decision of the Scientific Ethics Evaluation Board of the Faculty of Architecture and Design of Selçuk University dated 11.09.2024 and numbered 07/07. The questionnaire used in the study is given in Table 2.

Table 2. The process of operation of the study

Bloom Taxonometry Level	Expressions	Scale
	1-I have knowledge about the term structure and the carrier system of the building.	1 2 3 4 5
	2-I have knowledge about carcass structures.	
	3-I have knowledge about the load-bearing elements (columns, beams) used in carcass structures.	
	4-I have information about the types of flooring used in the carcass structure.	
Understand	5-I have knowledge about masonry structures.	
Remember	6-I have information about the carrier elements (lintels, beams, etc.) used in masonry structures.	
	7-I have information about the types of flooring used in masonry construction.	
Assessment	8-I have information about the types of foundations used in the building.	
	9-I have information about other circulation element ladder types	
	10-I have knowledge about the elements that make up the ladder.	
	11-I have knowledge about roofs and roof types.	
	12-I have information about the elements that make up the roof.	
Analysis	13-During the interior design project process, I can calculate the stair steps and draw them according to the scale.	
Creation	14-In the process of interior architectural project, the elements that make up the carrier system (columns, beams, etc.) I can make a drawing according to the scale.	
Application	15-I think that the course content increases my professional knowledge.	

4. FINDINGS

Reliability analysis, normality test, frequency analysis and independent sample t-test analyzes were applied to the data sets obtained from the questionnaires conducted at the end of the semester for the Structure Knowledge course. The Cronbach Alpha reliability coefficient of the dependent and independent variables was found to be ,941. This means that the data is reliable. The demographic characteristics of the group participating in the survey are given in Table 3.

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Table 3. Demographic characteristics of the participants

		frequency	*percent*	*Cronbach Alpha*	
Demographic Characteristics of the Participants	Woman	71	74,7	0,941	Stronger
	Male	24	25,3		
	Total	95	100		
	Student	95	100		

The frequency distributions of the answers given to the 15-expression questionnaire model prepared according to the weekly course outcomes and content information are given in Table 4 and Figure 3.

Table 4. Course content includes bloom's taxonomy frequency distributions

Bloom Taxonometry Level	*Expressions*	*N*	*Means*	*Std. D.*
	Statement 1	95	4,35	,836
	Statement 2	95	4,02	,999
	Statement 3	95	4,45	,860
Understand	Statement 4	95	3,78	,998
	Statement 5	95	4,15	,960
Remember	Statement 6	95	3,94	1,08
	Statement 7	95	3,81	1,00
Assessment	Statement 8	95	3,90	1,08
	Statement 9	95	4,31	,959
	Statement 10	95	4,14	1,07
	Statement 11	95	4,16	,974
	Statement 12	95	3,89	1,07
Analysis	Statement 13	95	4,20	1,03
Creation	Statement 14	95	4,44	,883
Application	Statement 15	95	4,70	,823

Mean: Mean value Std D.: Standard deviation N: Number of participants
Variable averages are ranked from 1 to 5. A high value indicates positive answers.
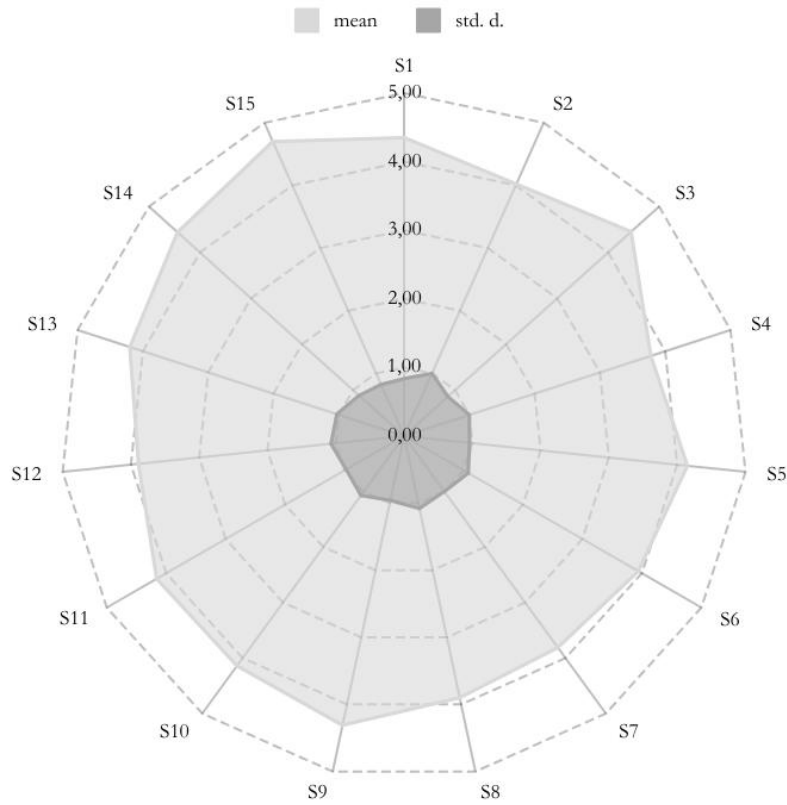
Figure 3. Course content bloom's taxonomy frequency distributions graph

Looking at Table 4 and Figure 3, it is seen that as a result of the classification of the weekly content information and course outcomes of the course according to Bloom's Taxonomy, the expression associated with the application method has the highest value with a ratio of 15, 4.70. The expression within the scope of the analysis and creation classification had a value of 13, 4.20 and expression 14 4.44. Among the expressions from 1 to 12 within the scope of the comprehension, remembering, and evaluation classification, expression 4, expression 7, and expression 12 are the expressions with the lowest value. Independent t-test analysis was performed to find out whether there was any significant difference between regular and evening education students based on weekly course content information and course outcomes. The findings of the analysis are given in Table 5.

Table 5. Course outline bloom's taxonomy ındependent t-test table

		Levene's Test for Equality of Variances		t-test for Equality of Means							95% Confidence Interval of the Difference	
							Significance					
		f	Mr.	t	df	One Sided p	Two Sided p	Mean D.	Std. Error D.	Lower	Upper
Expression1	E.v.a.	5,868	,017	-1,34	93	,091	,182	-,23026	,17107	-,56997	,10945
	E.v.not a.			-1,32	73,268	,094	,189	-,23026	,17361	-,57624	,11573
Expression2	E.v.a.	5,412	,022	-1,43	93	,077	,153	-,29370	,20409	-,69899	,11159
	E.v.not a.			-1,42	83,540	,079	,157	-,29370	,20589	-,70317	,11577

		F	Sig.	t	df	Sig.(1)	Sig.(2)	Mean Diff	Std Err Diff	Lower	Upper
Expression3	E.v.a.	4,518	,036	-,911	93	,182	,365	-,16105	,17673	-,51201	,18991
	E.v.not a.			-,899	74,535	,186	,372	-,16105	,17923	-,51814	,19604
Expression4	E.v.a.	,004	,951	,345	93	,366	,731	,07098	,20604	-,33816	,48013
	E.v.not a.			,345	92,781	,366	,731	,07098	,20594	-,33798	,47994
Expression5	E.v.a.	3,506	,064	-2,47	93	,008	,015	-,47471	,19193	-,85585	-,09357
	E.v.not a.			-2,44	79,691	,008	,017	-,47471	,19408	-,86097	-,08845
Statement6	E.v.a.	4,098	,046	-2,23	93	,014	,028	-,48802	,21823	-,92138	-,05466
	E.v.not a.			-2,22	86,744	,014	,029	-,48802	,21967	-,92466	-,05138
Emotion7	E.v.a.	,211	,647	,146	93	,442	,884	,03017	,20702	-,38093	,44127
	E.v.not a.			,146	92,855	,442	,884	,03017	,20686	-,38062	,44096
Expression8	E.v.a.	,674	,414	,256	93	,399	,798	,05723	,22335	-,38629	,50075
	E.v.not a.			,257	92,726	,399	,798	,05723	,22251	-,38464	,49910
Emotion9	E.v.a.	3,124	,080	-1,18	93	,120	,239	-,23292	,19655	-,62322	,15738
	E.v.not a.			-1,17	85,553	,121	,243	-,23292	,19801	-,62658	,16075
Emotion10	E.v.a.	,323	,571	,233	93	,408	,816	,05146	,22111	-,38761	,49054
	E.v.not a.			,232	91,078	,408	,817	,05146	,22168	-,38888	,49181
Emotion11	E.v.a.	,131	,718	,053	93	,479	,958	,01065	,20118	-,38885	,41014
	E.v.not a.			,053	92,166	,479	,958	,01065	,20138	-,38929	,41059
Statement12	E.v.a.	1,056	,307	1,116	93	,134	,268	,24623	,22073	-,19210	,68456
	E.v.not a.			1,111	89,683	,135	,270	,24623	,22164	-,19413	,68658
Emotion13	E.v.a.	1,533	,219	-,433	93	,333	,666	-,09272	,21394	-,51757	,33212
	E.v.not a.			-,431	89,332	,334	,667	-,09272	,21490	-,51970	,33425
Emotion14	E.v.a.	,148	,701	-,309	93	,379	,758	-,05634	,18233	-,41842	,30573
	E.v.not a.			-,310	93,000	,379	,758	-,05634	,18196	-,41768	,30499
Emotion15	E.v.a.	2,442	,122	-,857	93	,197	,394	-,14508	,16930	-,48128	,19113
	E.v.not a.			-,848	81,403	,199	,399	-,14508	,17103	-,48534	,19519

Independent sample t-test was used to reveal the differences in attitudes of weekly course content and learning outcomes against the Bloom Taxonomy scale on regular and evening education students taking Structural Knowledge courses. As a result of the analysis, normal education, ((expression1=4.23, SD=.615),(expression2=3.86, SD=1.128), (expression3=4.36, SD=1.040), (expression4=3.82, SD=.995), (expression5=3.91, SD=1.091), (expression6=3.69, SD=1.171), (expression7=3.82, SD=.995), (expression8=3.93, SD=1.010), (expression9=4.19, SD=1.067), (expression10=4.17, SD=1.021), (expression11=4.17, SD=.995), (expression12=4.02, SD=1.144), (expression13=4.15, SD=1.114), (expression14=4.41, SD=.852), (expression15=4.63, SD=.951)), secondary education ((expression1=4.46, SD=.615),(expression2=4.16, SD=.850), (expression3=4.53, SD=.648), (expression4=3.75, SD=1.010), (expression5=4.38 SD=.758), (expression6=4.18, SD=.950),(expression7=3.79, SD=1.020),

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(expression8=3.87, SD=1.148), (expression9=4.42, SD=.841), (expression10=4.12, SD=1.033), (expression11=4.16, SD=.964), (expression12=3.77, There was no statistically significant difference between SD=1.005), (express13=4.24, SD=.968), (express14=4.46, SD=.915), (express15=4.77, SD=.685)) groups. According to these results, the effects of the weekly content of the course and the learning outcomes did not differ between the regular education and evening education student groups. This shows that the learning outcomes of the course are at an equal level on both groups. The course content, including changes regarding the ECTS and operational process of the course in line with the findings obtained within the scope of the study, is given in Table 6.

Table 6. Course content ECTS table

Course ECTS workload	Before Bloom's Taxonomy			After Bloom's Taxonomy		
	Number	Duratıon	Total Workload	Number	Duratıon	Total Workload
Lesson duration	14	2	28	14	2	28
Non-exam study time	3	3		10	2	20
Presentation and seminar preparation	1	2		1	2	2
Course-specific internship	0	0		0	0	0
Workshop/laboratory applications	0	0		0	0	0
Field studies	0	0		0	0	0
Case studies	0	0		0	0	0
Projects	2	4		1	10	10
Homework	4	10		10	12	120
Quizzes	0	0		0	0	0
Midterm Exam	1	1		1	1	1
Final	1	1		1	1	1
Total	26,00	23,00	89,00	38.00	30.00	182,00
			2,97			6,07

5. CONCLUSION

This study aims to evaluate the effects of the Bologna Process on higher education practices in Turkey and the Structural Knowledge course within the framework of Bloom's Taxonomy. Educational institutions have revised their curricula and restructured their course content and evaluation methods in order to comply with the Bologna criteria.

The standardization and quality improvement goals brought by the Bologna Process have encouraged the adoption of student-centered approaches in education. However, the difficulties and deficiencies encountered in the implementation of the process may adversely affect the effectiveness of the education system, and this situation requires a review of education policies. In line with this scope, it is an important part of the education

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process to examine, compare and update the courses given in depth according to the Bologna process and Bloom Taxonomy levels. Bloom's Taxonomy is an important tool in the field of education and has a wide range of applications in the setting of learning objectives, instructional design and evaluation processes. Both the original and updated versions help educators better understand and guide students' learning processes. This taxonomy provides an effective method to improve the quality of education and support students' cognitive development.

According to the data obtained from the findings part of the study conducted in line with these requirements, it shows the necessity of revising the weekly content of the course, reviewing the course outcomes, and sharing different student-oriented presentation techniques and information about the types of flooring in carcass structures and masonry structures in expression 4 and expression 7, especially in the classified expressions. Statement 15 shows that the intensity of the practice-based course in the Bologna education system, non-exam study time, workshop applications, and projects sections within the scope of the course ECTS workload is not sufficient to reflect the ECTS load of the course. In addition, according to the frequency distributions of expression 13 and expression 14, it can be concluded that the professional knowledge and skills related to the carrier system are at a good level in the interior design project processes.

In line with these requirements, the evaluations made on the Structural Knowledge course revealed that the comprehension, recall and evaluation levels of the course were sufficient within the scope of Bloom's Taxonomy, but the level of application should be increased. According to the results of the survey, students' perceptions of the course content are positive; however, it is emphasized that the effectiveness in the application part of the course should be increased and the ECTS value should be increased. Learning activities prepared according to Bloom's Taxonomy positively affected students' learning activities and contributed to the development of their cognitive skills This situation has similar results to the studies of Adijaya et al. (2023), Yunida et al. (2023), Azizah (2023), Momen et al. (2022).

As a result, the reforms provided by the Bologna Process in Turkish higher education allow important steps to be taken to increase the quality of education. However, overcoming the difficulties in this process and maintaining continuous improvement efforts are critical for the education system to reach international standards. Future studies are expected to contribute to the development of education policies by examining the effects of the Bologna Process more comprehensively. As a result of these studies, it will play an important role in bringing the professional knowledge levels of students who continue their education in different schools in Turkey or abroad to the same level. In addition, there should be a relationship between the 15-week course contents and the learning outcomes of the course. The question groups of the midterm and final exams held throughout the semester should be compared with which learning outcomes of the course they match.

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