SAKARYA UNIVERSITY JOURNAL OF EDUCATION
Original Research Doi: 10.19126/suje.1050680

Received: 29.12.2021 Accepted: 04.07.2022
Published: 15.08.2022 August 2022• 12(2) • 327-343

Examining the Learning Outcomes of the Teaching Principles and Methods Course in the Context of Student-Centered Learning*

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Abstract. The aim of this research is to examine how student-centered learning is reflected in the learning outcomes of the Teaching Principles and Methods courses in the primary education mathematics curriculum. The research was designed in the context of document scanning model. The web pages of 88 elementary mathematics teaching programs information package created in the context of the Bologna process were scanned. Frequency were used in the analysis of the data. Accordingly, there are no learning outcomes of the Teaching Principles and Methods course in approximately one quarter of the programs. The absence of learning outcomes in accredited programs is very rare compared to non-accredited programs. In the cognitive domain, the outcomes are at the level of knowledge and comprehension. In the affective domain, the outcomes are at the level of receiving and reacting. Accordingly, more attention can be given to learning outcomes at the levels of application and above for the course. Learning outcomes are not the only indicator of student-centered learning, but all elements of the course information package can be addressed with a more holistic perspective.

Keywords: Bologna process, in-service teacher training, learning outcomes, primary school mathematics teaching, student-centered learning.

* This study was presented at VIIIth International Eurasian Educational Research Congress at Aksaray University between 7-10 July 2021 in Turkey

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Uysal, F., & 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. doi: https://doi.org/10.19126/suje.1050680

1. INTRODUCTION

In the teaching-learning process, the degree to which a class is teacher/student-centered can vary. Accordingly, student-centered learning can be mentioned in a process where the learner researches and tries to make sense of the information instead of memorizing it. Moreover, a learner can associate what he has learned with daily life, and apply scientific process skills (Dönmez, 2008). And as a paradigm shift in education, the value given to student-centered learning is increasing. As student-centered learning increases, the quality in higher education creates a quality assurance network, provides mobility and the opportunity to find employment in the international arena (Elmas, 2012; Süngü & Bayrakçı, 2010). Also. it provides uniformization in higher education (Çelik, 2012 as cited in Çınkır & Yıldız, 2018). Moreover, with student-centered learning students have chance to be aware of their own characteristics, have desire to see their own improvement (Kızılca, 2007). Therefore, it has been discussed in the context of being a dimension of the Bologna process, which is on the agenda. Moreover, at the higher education level, it is discussed with its weaknesses (Altınkaynak, Uysal, Akman & Durmuşoğlu, 2016) such as the incomplete execution of the process and the inability to reveal the course load calculations as they should be.

Student-centered learning emerges as both a mindset and a culture in a particular higher education institution. It is a learning approach that is strongly associated with and supported by constructivist learning theories. It encourages learning through interaction with teachers and other students and engages students as active participants in their own learning. It promotes innovative teaching methods that encourage higher order thinking skills such as problem solving, critical thinking, and reflective thinking (ESU, 2015). In this approach, the learning process is not only or primarily about knowledge transfer, but it also about deep understanding and critical thinking. In this approach, teachers are people who share the responsibility of their students' learning and focus on their autonomous learning and enable them to construct their own meanings through independent learning and discovery (Sursock, 2015:70; cited in Hoidn, 2018).

When the declarations prepared for the Bologna process are examined, it can be said that the concept of student-centered learning was first used in the Leuven and Louvain-la-Neuve Declaration (Leuven & Louvain-la-Neuve Declaration, 2009). In student-centered learning, the focus is on the learner rather than the teacher. Students have the opportunity to lead learning activities, participate more actively in discussions, design their own learning projects, explore topics of interest and contribute to the design of their own lessons (e.g. the assessment process). Classrooms have desks arranged in circles or small groups. Learning takes place in traditional classroom environments or outside of school, with the student's own direction and speed and experience (The Glossary of Education Reform, 2014). Among the principles of student-centered learning relying on active learning rather than passive learning, it emphasizes deep learning and understanding, increased responsibility and accountability for students, increased sense of autonomy in students, interdependence between the teacher and the student, and

mutual respect in the learner-teacher relationship can be listed (Lea, Stephenson & Troy, 2003; cited in Hoidn, 2018).

It is expected that student-centered learning will have reflections on learning outcomes, teaching methods, assessment and evaluation, and student workload. While teacher-centered learning is defined based on the teacher's own knowledge, interest and program, in student-centered learning, students contribute to the determination of learning outcomes based on their prior learning, interests and experiences. While memorization and lower-level thinking skills are involved in teacher-centered learning, there are application and higher-level thinking skills in student-centered learning (Hoidn, 2018). In student-centered learning, while formulating learning outcomes for courses or modules in different programs, the instructor focuses on what the student can do rather than what the content is. The focus is on the learning process and competencies rather than the content (ESU & EI, 2010; EUA, 2010; cited in Hoidn, 2018). In today's society, education should give importance competencies that focus on knowledge and skills applicable in different contexts (De Corte, 2013). Learning outcomes also aim to make competencies transparent and support lifelong learning (European Commission, 2008).

In the context of programs, program and course information packages are prepared within the scope of the Bologna process, and some programs are even accredited. Student-centered learning is also an important dimension of the Bologna process that should be taken into account. In this context, the aim of the research is to examine how student-centered learning is reflected in the learning outcomes of the teaching principles and methods courses in the primary education mathematics curriculum of the Faculty of Education. Within the scope of this purpose, the program and the course are the limitation of the study. Since the information packages prepared for the course are the same in all programs, the focus is on the primary education mathematics curriculum. For this purpose, answers to the following sub-questions were sought:

(a) What is the situation regarding the existence of learning outcomes of Teaching Principles and Methods courses in primary school mathematics curriculum in terms of student-centered learning?

(b) What is the situation regarding the learning outcomes of the Teaching Principles and Methods courses in the primary school mathematics curriculum at the levels of cognitive, affective and psychomotor domains in terms of student-centered learning?

2. METHOD

The research was designed in the context of document analysis. The written documents about the phenomenon are analyzed within the scope of document analysis (Karasar, 2014; Yıldırım & Şimşek, 2018). In this research, the learning outcomes of the teaching principles and methods courses in the primary education mathematics curriculum of the Faculty of Education were examined according to student-centered learning. Forster

(1995) proposed the steps for document analysis (cited in Yıldırım & Şimşek, 2018). They were followed in this research. They are seen in Figure 1.

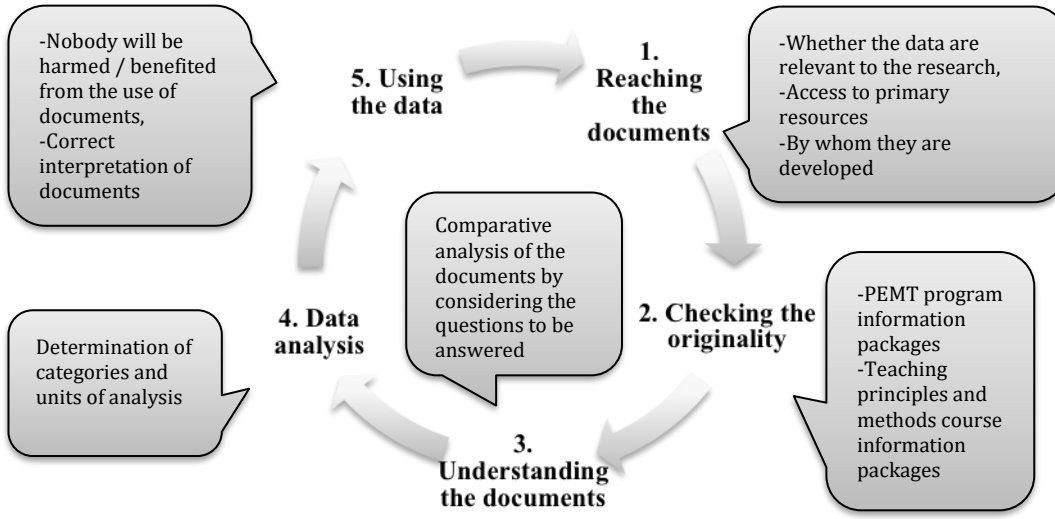

Figure 1. The steps of document analysis

Firstly, it was decided that there is a real need for documents. So, the answer was sought for what kind of documents are needed. In this context, the web pages of the primary education math teaching (PEMT) program information package and teaching principles and methods course information packages were data sources. Within the scope of the study, the web pages of the program information package created in the context of the Bologna process of each faculty where the primary education mathematics curriculum is included were scanned. For checking the originality, PEMT program information package and teaching principles and methods course information packages was related to the research. Also, they were primary sources. Then in terms of understanding the data, the program and course information packages were analyzed comparatively by considering the questions to be answered. The number of primary mathematics teaching programs which were investigated is presented in Table 1.

Table 1

Number of Universities, Education Faculties, Primary Mathematics Programs

	Type		Total
	State	Private	
University	129	74	203
Faculty of Education	78	26	104
Primary mathematics teaching program	75	13	88

As seen in Table 1, it is observed that there are 129 state universities and 74 private universities on the higher education website (Council of Higher Education, 2021). A total of 104 of these have education faculties, and 88 of these education faculties have elementary mathematics teaching programs (Student selection and placement center, 2020). In this study, scholarship programs or secondary education programs were not considered separately, only one program was examined if there was more than one program for the relevant faculty regarding the type of education or scholarship status.

In the analysis of the data firstly the categories were determined. Table 2 contains an explanation of the analysis of the documents and data examined for the research question. As seen in Table 2, frequency was used in the analysis of the data. While scanning the teaching principles and methods course, it was first checked whether the learning outcomes of the course were defined or not. Then, it was examined whether the learning outcomes were associated with the program outcomes. Afterwards, it is discussed which of the cognitive, affective or psychomotor domains of the relevant learning outcomes are presented. The level of learning outcomes in the relevant field is also revealed.

Table 2

Sub Questions, Documents, Criteria, Data Analysis

	Sub questions	Documents	Criteria	Data analysis
1.	What is the situation regarding the existence of learning outcomes of Teaching Principles and Methods courses in primary school mathematics curriculum?	Teaching principles and methods course information packages	Presence/Absence of learning outcome	Frequency

2.	What is the situation regarding the learning outcomes of the Teaching Principles and Methods courses in the primary school mathematics curriculum at the levels of cognitive, affective and psychomotor domains?	PEMT program information packages	Levels in cognitive domain, affective domain and psychomotor domain taxonomy	Frequency

As seen in Table 2, the teaching principles and methods course information packages were examined for the first sub-question and the presence/absence of learning output was taken as a criterion. For the second sub-question, the PEMT program information packages were examined, and the levels in the cognitive, affective and psychomotor domain taxonomy were taken. The definitions considered for each level (Bloom, Engelhart, Furst, Hill ve Krathwohl, 1956; Krathwohl, Bloom ve Masia, 1964; Simpson, 1972) are seen in Figure 2.

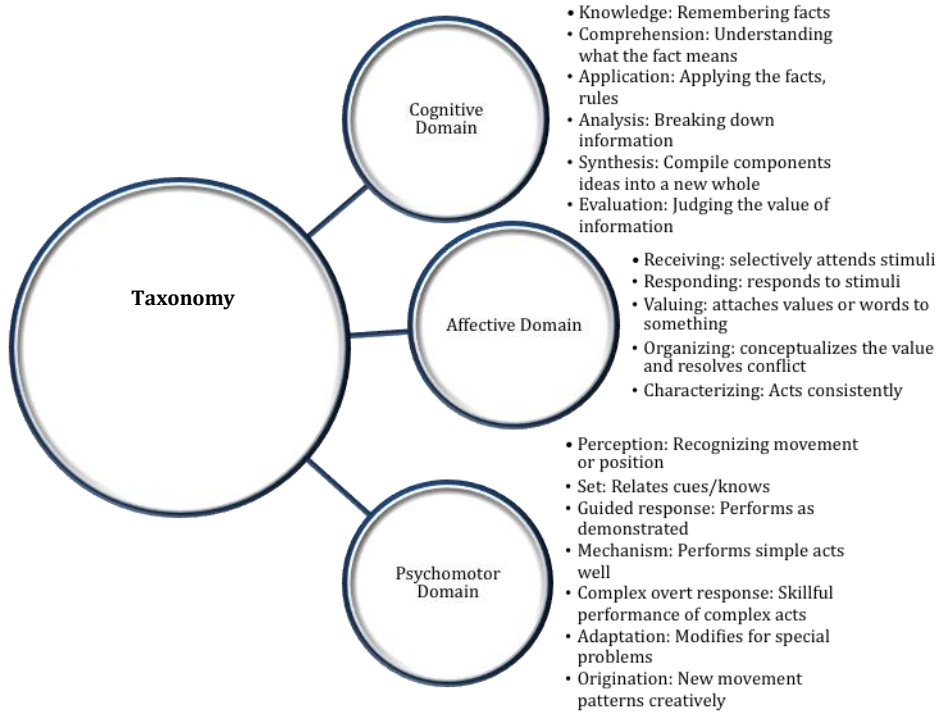

Figure 2. The cognitive, affective and psychomotor domain

To provide realibility two researchers who have a doctorate in curriculum and instruction were checked the data. The reliability was calculated according to Miles and Huberman formula (Miles & Huberman, 1994). It was found .88. In terms of using the data, nobody has been harmed or benefited from using the documents. Also, they were interpreted correctly. In the light of all the steps, how student-centered learning is reflected in the learning outcomes of the teaching principles and methods courses in the primary education mathematics curriculum of the Faculty of Education was examined.

3. FINDINGS

In this part, the learning outcomes of the course were (a) defined, (b) it has been revealed which of the affective cognitive or psychomotor domains it is intended for (c) at which level it is in the relevant domain.

Table 3 shows whether there are learning outcomes of teaching principles and methods according to primary school mathematics teacher training programs.

Table 3

Status of Learning Outcomes of Teaching Principles and Methods Course

Program		Learning Outcome			Total
		Yes	No	Not available	
State	Accredited	9	1	0	10
	Not accredited	47	17	1	65
	Total	56	18	1	75
Private	Accredited	4	0	0	4
	Not accredited	5	4	0	9
	Total	9	4	0	13
Total		65	22	1	88

According to Table 3, the teaching principles and methods course in the primary education mathematics teacher training programs in 88 universities in total have been examined. It is understood that 65 of them have learning outcomes, 22 of them do not, and one university is not suitable. In this context, it can be said that about three quarters of the programs do not have learning outcomes. When the types of universities are taken into account, 57 out of 75 state universities and 9 out of 13 private universities have learning outcomes for the teaching principles and methods course. It can be said that the

learning outcomes are found in more programs in state universities compared to private universities.

When examining the learning outcomes according to whether they are accredited or not, it is observed that nine of the accredited programs in state universities exist and one does not, while 47 of the non-accredited programs exist, 17 are not and one is not suitable according to Table 3. It can be said that inappropriate learning outcomes consist only of content. In private universities it is observed that it exists in all four accredited programs, while it is present in nine and not in four of the non-accredited programs. It can be said that the absence of learning outcomes is more common in non-accredited programs.

When the existence of learning outcomes related to cognitive, affective or psychomotor domains was examined, it was observed that while there were cognitive and affective learning outcomes, no learning outcomes related to the psychomotor area were found. The cognitive domain distribution of the learning outcomes of the Teaching Principles and Methods course according to the PME teacher training programs is given in Table 4.

Table 4

Cognitive Domain Distribution of Learning Outcomes

Program		Learning outcome					
		Knowledge	Comprehension	Application	Analysis	Evaluation	Cognitive domain
State	Accredited	21	8	21	4	6	60
	Not Accredited	135	64	88	32	15	334
	Total	156	72	109	36	21	394
Private	Accredited	7	3	7	2	1	20
	Not Accredited	6	6	16	3	2	33
	Total	13	9	23	5	3	53
Total		169	81	132	41	24	447

When Table 4 is examined, it is understood that a total of 447 learning outcomes for the teaching principles and methods course belong to the cognitive domain, of which 169 are knowledge, 81 are comprehension, 132 are application, 41 are analysis, and 24 are

evaluation levels. It can be said that the weight is generally at the level of knowledge and comprehension, which is at the lower level of the application. Considering the university types, it was observed that 156 of the 394 learning outcomes in state universities were at the level of knowledge, 72 at the level of comprehension, 109 at the application level, 36 at the analysis level and 21 at the evaluation level. In private universities, 13 of the 53 learning outcomes are at the level of knowledge, 9 at the level of comprehension, 23 at the level of application, 5 at the level of analysis and 3 at the level of evaluation. In this context, it can be said that the weight is at the level of knowledge in state universities and at the level of application in private universities.

When examining the cognitive domain levels of learning outcomes according to whether they are accredited or not, for the accredited programs at state universities, there are 60 learning outcomes which are in cognitive domain. That is, 21 of them at knowledge, eight of them are comprehension, 21 of them are application, four analysis and six of them are evaluation levels according to Table 4. For non-accredited programs in state universities, there are 334 learning outcomes which are in cognitive domain. That is, 135 of which are at the level of knowledge, 64 of comprehension, 88 of application, 32 of analysis and 15 of evaluation level. When a similar examination is made for private universities, a total of 20, seven of them are knowledge, three of them are comprehension, seven of them are application, two of them analysis and one of them is in evaluation level in accredited programs. On the other hand, in non-accredited programs, there are 33 student outcomes in cognitive domain, six of which are knowledge and comprehension, 16 of them are applications, three of them are analysis and two of them are in evaluation level. It can be said that the emphasis is on the level of knowledge and comprehension in both accredited and non-accredited programs.

Examples of learning outcomes related to cognitive domain levels are presented in Table 5.

Table 5

Examples of Learning Outcomes Related to Cognitive Domain Levels

Cognitive domain levels	Examples of learning outcomes
Knowledge	Knows teaching theory/model/approaches
Comprehension	To be able to interpret the principles of teaching
Application	Prepares a lesson plan by using appropriate teaching strategies, methods and techniques in line with the achievements in the curriculum
Analysis	Analyzes the competencies that teachers should have

Assessment	To be able to evaluate the planned and applied teaching according to the teaching principles

The affective domain distribution of the learning outcomes of the Teaching Principles and Methods course according to the PEMT teacher training programs is given in Table 6.

Table 6

Affective Domain Distribution of Learning Outcomes

Program		Learning outcome				
		Receiving	Responding	Valuing	Organizing	Affective domain
State	Accredited	1	1	1	0	3
	Not accredited	4	6	3	2	15
	Total	5	7	4	2	18
Private	Accredited	0	0	1	0	1
	Not accredited	0	0	0	0	0
Total		0	0	1	0	1

When Table 6 is examined, it is observed that a total of 19 learning outcomes for the teaching principles and methods course belong to the affective domain. That is, five of them are in receiving, seven of them are responding, five of them are valuing, and two of them are organizing level. It can be said that the weight is at the level of taking and reacting. When the types of universities are taken into consideration, within 18 learning outcomes in state universities, five are at the level of receiving, seven at the level of reaction, four at the level of valuing, and two at the level of organization level. In private universities, there is only one learning outcome at the level of valuation. In this context, it can be said that the emphasis is on the level of responding in state universities and only the level of valuing is included in private universities.

When examining the affective domain levels of learning outcomes according to whether they are accredited or not, it is observed that for accredited programs in state universities, there are learning outcomes in three affective domain levels: one receiving, one reaction, and one value-giving levels according to Table 6. For non-accredited

programs at state universities, there are 15 learning outcomes inaffective domain, four of which are at the level of receiving, six at the level of reacting, three at the level of valuing and two at the level of organization. When a similar examination is made for private universities, there is a learning outcome in an affective domain only in accredited programs and at the level of valuation. Although their number is quite low, it can be said that in accredited programs there is more emphasis on valuing, and in non-accredited programs more on receiving and reacting.

Examples of learning outcomes related to affective domain levels are seen in Table 7.

Table 7

Examples of Learning Outcomes Related to Affective Domain Levels

Affective domain levels	Examples of learning outcomes
Receiving	Recognizing the importance of effective teaching for quality education
Reacting	Willingness to use teaching methods and techniques correctly in teaching processes
Valuing	Determination to follow new developments in teaching, planning and implementation
Organization	To have an understanding of education that creates knowledge and teaches the ways of forming knowledge

4. RESULTS, DISCUSSION, AND SUGGESTIONS

In line with the ECTS (European Credit Transfer System) Guide published in 2015, student-centered learning requires the effectiveness of the student, focusing on critical and analytical learning, increasing the responsibility and autonomy of the learner. It is also a reflective approach in which both the learner and the teacher are in the teaching and learning process. The learning process should be defined in terms of learning outcomes that need to be developed and monitored. In this context, it is expected that the reflections of student-centered learning will also be reflected in the learning outcomes. Learning outcomes form the conceptual basis of the student-centered higher education system. It requires being active rather than telling, shaping the activities accordingly, bi-directional evaluation, and the involvement of other education stakeholders in the process while being defined (European Higher Education Area) (EHEA, 2015). In this research, which was carried out to reveal how student-centered learning is reflected on the learning outcomes for the teaching principles and methods course in the primary education mathematics curriculum by making a limitation in the

context of the program and the course, first of all, the existence of learning outcomes, and then which field at what level they were examined. In other words, based on the expression of the learning outcomes, it was examined whether the learning outcomes were written at a higher level such as application, problem solving, analysis or synthesis.

In almost one fourth of the primary education mathematics teacher training programs of the education faculties, the learning outcomes of the teaching principles and methods course are not available. It is also possible that private universities have less learning outcomes than state universities. Learning outcome is about why learners learn and it is an element that must be applied when deciding what to learn, how to learn, and how much has been learned. For Morrison, Ross, Morrison, and Kemp (2019), it serves as a focal point to ensure that the instruction, methods, and assessment are appropriate. The existence of learning outcomes beyond student-centered learning is of great importance in the context of the development, implementation and evaluation of a program (Demirel, 2012). Klemencic (2019), who defines student-centered learning as a phenomenon in which many basic components interact, states that the formation of expected outcomes for the courses in the program and learning-centered practices in which learning is deepened take place on the basis of student-centered learning. In this context, its presence is very important. In this study, it is noteworthy that there are still programs that do not include learning outcomes and that this rate is higher private universities. However, for Simonson, Smaldino and Zvacek (2015), setting goals is a useful starting point for matching students' needs with the subject area. Every instructor should consider that their focus is on their students (Simonson, Smaldino & Zvacek, 2015). Of course, course syllabus may be created by the instructors of the relevant courses and shared with the students. However, due to the transparency principle of the Bologna process, the relevant learning outcomes should be shared on the web pages. The information packages in which the sharing takes place are a document for international recognition (Timurcanday Özmen et al., 2015).

One of the main themes of the Bologna process is higher education quality assurance, and one of the main tools of quality assurance is program accreditation (Kavak, Uysal and Kısa, 2019). Accreditation in higher education is the arrangement and maintenance of education and training services in a way that will increase the quality of education and ensure it systematically (Brittingham et al., 1999). One of the external evaluation and accreditation criteria of the Higher Education Quality Board is student-centered teaching and evaluation (YÖKAK, 2021). In this context, student-centered learning is expected to be reflected in accredited programs. In this study, the absence of learning outcomes in accredited programs is very rare compared to non-accredited programs.

While most of the learning outcomes belong to the cognitive domain, it can be said that there are very few outcomes in the affective domain and none in the psychomotor domain. When the distributions for each area are examined, the weight according to the distribution of learning outcomes in the cognitive domain is generally at the level of

knowledge and comprehension, which is at the lower level of the application. While this situation is the same in state universities

It is also noteworthy that the weight in private universities is at the level of application. Considering the expression of learning outcomes, it can be said thats there is a weakness in reflecting student-centered learning in state universities, and private universities tend to learn more in a student-centered manner than state universities. On the other hand, when accreditation is taken into account, it can be said that the weight is at the level of knowledge and comprehension, which is at the lower levels. Considering that learning outcomes have an important place in the selection of teaching methods, techniques and strategies to be used in shaping the teaching-learning process, it is thought that especially the higher level of knowledge may be an important obstacle in the formation of experiences related to student-centered learning. Because the level of knowledge is a level where the related concept, term, phenomenon, principle is taken ready (Bloom et al., 1956). However, in student-centered learning, while expressing the learning outcomes, in line with the facilitation of the teacher, the student is not the one who tells, but the one who is active in the process. It is aimed to give more responsibility to the student by allowing the student to practice, solve problems, analyze and synthesize or criticize (ESU, 2015). Supporting this, Hoidn (2018) states that teacher-centered learning focuses on memorization and lower-level skills, while student-centered learning focuses on application and higher-level thinking skills. Of course, it is necessary to refer to the level of knowledge in a content encountered for the first time. However, the heavy weight of this gives a clue that it is possible to move away from student-centered learning, which requires the learner to be more active and take responsibility in the process. However, the fact that the outcomes are at higher levels of the taxonomy does not guarantee that the process will be student-centered. The features of the learner, the features of the teacher, the environment, the opportunities, etc. are also included. In addition, consultation with other education stakeholders in the creation of learning outcomes and evaluating whether these outcomes have been achieved are among the other criteria to be fulfilled (ESU, 2015). The outcomes form a part of the whole in the teaching-learning process to progress in such a way that student-centered learning, which requires the learner to be more active in the process, can be used.

The distribution of learning outcomes in the affective domain is quite low compared to the cognitive domain, and the weight in the affective domain is generally at the level of receiving and reacting. Although their number is quite low, it can be said that while the weight is at the level of reaction in state universities, it is only at the level of valuation in private universities. It can also be noted that in accredited programs there is a little more emphasis on valuing, while in non-accredited programs there is more on receiving and responding. Similar to the cognitive domain, it is expected to have a high level of learning outcomes for student-centered learning (ESU, 2015; Hoidn, 2018, 2016). In this context, considering the expression of learning outcomes, it can be said that it is weak in the context of reflecting student-centered learning in general. Similar to the discussion

in the cognitive field, although learning outcomes are not the only and sufficient condition of student-centered learning, they provide an important clue regarding the process.

In line with the results obtained, suggestions for practitioners and researchers are as follows:

- For the teaching principles and methods course, more learning outcomes can be given at the levels of application and above. Needs analysis can be done to reveal them. For Kaufman (1986: cited in Rothwell, Bebscoter, King & King, 2016) need analysis expresses the effort to close the gaps between what is and what should be.
- More affective learning outcomes can be added in different levels.
- The level of learning outcomes in taxonomy is not the only indicator of whether the outcomes are for learning-centered learning. For example, whether or not the requirements of student-centered learning are fulfilled while creating these outcomes can be demonstrated through a questionnaire or interview.
- Teaching methods and techniques or measurement and evaluation methods, which are other indicators of student-centered learning, can also be addressed through course information packages. In addition, their situation in application can be investigated.

References

Altınkaynak, Ş., Uysal, H., Akman, B., & Durmuşoğlu, M. (2016). Öğretmen adayları ve öğretim elemanlarının Türk eğitim sistemindeki Bologna sürecine ilişkin görüşlerinin incelenmesi: Hacettepe Üniversitesi örneği [Examining the views of prospective teachers and lecturers on the Bologna process in the Turkish education system: The case of Hacettepe University]. *Marmara Üniversitesi Atatürk Eğitim Fakültesi Eğitim Bilimleri Dergisi, 43*(43), 1-20.

Bloom, B.S., Engelhart, M.D., Furst, E.J., Hill, W.H., & Krathwohl, D.R. (1956). *Taxonomy of educational objectives, the classification of educational goals, handbook Cognitive domain.* New York: David McKay Company.

Brittingham, B., Sands, M., Erbaş, S., Kavak, Y., Tarhan, L., Ayas, A. et. al. (1999). *Türkiye'de öğretmen eğitiminde standartlar ve akreditasyon [Standards and accreditation in teacher education in Turkey]*. YÖK /Dünya Bankası Milli Eğitimi Geliştirme Projesi Hizmet Öncesi Öğretmen Eğitimi, Ankara, ISBN 975-7912 – 29 – 8. Retrieved from http://www.yok.gov.tr/web/guest/yayinlarimiz

Çınkır, Ş., & Yıldız, S. (2018). Bir Bologna değerlendirme çalışması: eğitim yönetimi lisansüstü program yeterliliklerine ilişkin kazanımların incelenmesi [A Bologna

assessment study: examining the achievements of educational administration graduate program qualifications]. *Yükseköğretim Dergisi, 8*(1), 55-67.

Council of Higher Education (YÖK) (2021). *Üniversiteler [Universities].* Retrieved from https://www.yok.gov.tr/universiteler/universitelerimiz on 05.06.2021.

De Corte, E. (2013). Constructive, self-regulated, situated, and collaborative learning: An approach for the acquisition of adaptive competence. *Journal of Education,* 192(2/3), pp. 33-47.

Demirel, Ö. (2012). *Eğitimde program geliştirme kuramdan uygulamaya [Curriculum development in education from theory to practice]* (18th edition). Ankara: PegemA Yayıncılık.

Dönmez, İ. (2008). *İlköğretim fen ve teknoloji dersi öğrenme ortamlarının öğrenci merkezli eğitim açısından değerlendirilmesi [Evaluation of primary school science and technology lesson learning environments in terms of student-centered education]* (Unpublished Master's Thesis). Eskişehir Osmangazi University. Institute of Science, Eskişehir.

Elmas, M. (2012). Bologna süreci: Uygulama veya uygulayamama [Bologna process: Implementation or failure to implement]. *Yükseköğretim ve Bilim Dergisi, 2*(3), 137-141.

European Commission (2008). The European qualifications framework for lifelong learning. Retrieved from http://relaunch.ecompetences.eu/wp-content/uploads/2013/11/EQF_broch_2008_en.pdf on 23.06.2022.

European Higher Education Area, Bologna Follow-UpGroup. (2015). *ECTS users' guide 2015.* Retrieved from https://ec.europa.eu/education/sites/default/files/document-library-docs/ects-users-guide_en.pdf on 30.08.2021

ESU (2015). *Overview on student-centred learning in higher education in Europe research study.* Retrieved from https://www.esu-online.org/wp-content/uploads/2016/07/Overview-on-Student-Centred-Learning-in-Higher-Education-in-Europe.pdf on 05.06.2021

Hoidn, S. (2018). *Student-Centred Learning and the Bologna Process*. Retrieved from https://www.researchgate.net/publication/323783701 on 05.06.2021

Hoidn, S. (2016). The pedagogical concept of student-centred learningin the context of European higher education reforms. *European Scientific Journal (ESJ*), 12(28), 439-458.

Karasar, N. (2014). *Bilimsel araştırma yöntemi kavramlar, ilkeler, teknikler [Scientific research method concepts, principles, techniques]*. Ankara: Nobel Yayın Dağıtım.

Kızılca, M. (2007). *Lise 3. sınıflarda Türk dili ve edebiyatı dersinde "Cumhuriyet dönemi Türk edebiyatı"nın öğrenci merkezli öğretim modeliyle işlenmesi [Studying "Republican Turkish Literature" in Turkish language and literature course in high school 3rd grade students with a student-centered teaching model]* (Unpublished Master's Thesis). Ankara: Gazi University, Institute of Educational Sciences.

Krathwohl, D.R., Bloom, B.S., & Masia, B.B. (1964). *Taxonomy of educational objectives: The classification of educational goals. Hand book II: Affective domain*. New York: David Mckay Company.

Leuven & Louvain-la-Neuve Declaration (2009). *The Bologna process 2020 – the European Higher Education Area in the new decade*. Retrieved from http://www.ehea.info/Upload/document/ministerial_declarations/Leuven_Louvain_la_Neuve_Communique_April_2009_595061.pdf on 05.06.2021

Miles, M.B., & Huberman, A.M. (1994). *An expanded sourcebook qualitative data analysis*. London: Sage Publications.

Morrison, G.R., Ross, S.J., Morrison, J.R., & Kemp, H.K. (2019). *Designing effective instruction*, (8. Baskı), USA: Wiley.

Rothwell, W.J., Bebscoter, G.M., King, M., & King, S.B. (2016). *Mastering the instructional design process: A systematic approach*, (4. Baskı), USA: Wiley.

Simonson, M., Smaldino, S., & Zvacek, S. (2015). *Teaching and learning at a distance, foundations of distance education*, (6. edition), Charlotte, North Carolina: Information Age Publishing.

Simpson, E.J. (1972). *The classification of educational objectives: Physcomotor domain*. Washington, D.C.: Gryphon House.

Students Selection and Placement Center (ÖSYM) (2020). 2020 *Yükseköğretim kurumları ve ontenjanları kılavuzu [2020 Higher education institutions and tenures guide].* Retrieved from https://www.osym.gov.tr/TR,19431/2020-yuksekogretim-kurumlari-sinavi-yks-yuksekogretim-programlari-ve-kontenjanlari-kilavuzu.html on 05.06.2021

Süngü, H., & Bayrakcı, M. (2010). Bolonya süreci sonrası yükseköğretimde akreditasyon çalışmaları [Accreditation studies in higher education after the Bologna process]. *Türk Eğitim Bilimleri Dergisi, 8*(4), 895-912.

The Glossary of Education Reform (2014). *Student-centered learning*. Retrieved from https://www.edglossary.org/student-centered-learning/ on 05.06.2021

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 [A macro view of the Dokuz Eylül University information package design process within the scope of the Bologna process]. *Yükseköğretim Dergisi, 5*(3), 162-169.

Yıldırım, A., & Şimşek, H. (2018). *Sosyal bilimlerde nitel araştırma [Qualitative research in social sciences] (11th edition).* Ankara: Seçkin Yayıncılık.

Yükseköğretim Kalite Kurulu (YÖKAK) (2021). *Kurumsal dış değerlendirme ve akreditasyon ölçütleri [Institutional external evaluation and accreditation criteria] (SÜRÜM 2.0).* Retrieved from https://api.yokak.gov.tr/Storage/AnnouncementFiles/09-12-2019/87/Kurumsal_Dis_Degerlendirme_ve_Akreditasyon_Olcutleri_09122019.pdf on 30.08.2021.

Scientific, ethical and citation rules were followed during the writing process of the study titled "Examining the Learning Outcomes of the Teaching Principles and Methods Course in the Context of Student-Centered Learning". It has been committed by the authors of this study that no falsification has been made on the collected data and the "Sakarya University Journal of Education Journal and its editor" has no responsibility for all ethical violations. All responsibility belongs to the authors, and that the study has not been sent to any other academic publication medium for evaluation.

Statement of Contribution of Researchers to the Article:
The authors contributed equally to the article.
Conflict of Interest Statement
There is no conflict of interest
Statement of Financial Support or Acknowledgment:
No financial support was received from any institution for this study. No Acknowledgment.