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EXAMINING THE SELF-EFFICACY LEVELS OF PEDAGOGICAL FORMATION STUDENTS TOWARDS TEACHING PRINCIPLES AND METHODS COURSE

Assoc. Prof. Dr. Alptürk Akçöltekin
Ardahan University, School of Physical Education and Sports
Department of Physical Education and Sports Teaching-Turkey

Abstract
The present study aims to determine the self-efficacy levels of university students who receive pedagogical formation training towards the Teaching Principles and Methods Course. Accordingly, a scale consisting of 34 items and 5 factors was used. The study group of the research consists of 221 university students who receive pedagogical formation training in the academic year of 2019-2020. As a result of the study, it was concluded that the self-efficacy levels of students were low in explaining the difference between education and teaching, explaining the basic concepts included in the regulation of education status in the process of developing education programs, explaining the relationship between teaching models, strategies, methods, and techniques, explaining the factors that affect method selection along with the basic principles of discussion methods, and finally, explaining the education plans, however, students possessed high self-efficacy levels in explaining the basic concepts about education, classifying the cognitive, affective, and psychomotor aims of education, writing appropriate acquisitions about their fields, explaining the benefits of using methods in teaching, using discussion techniques in the teaching process, and finally, designing a plan that is suitable to their fields by paying attention to the steps of the planning process.

Keywords: Pedagogical formation, Self-efficacy, Teaching principles and methods course, Curriculum development.

INTRODUCTION

In all scientific disciplines, practical studies are carried out by considering certain theoretical concepts and principles. In educational activities, this process involving the development of curricula, objectives, strategies, methods and techniques, materials and teaching-learning practices is carried out in accordance with certain theoretical foundations. These foundations are based on social expectations, value judgments and needs, psychological principles and, finally, the fundamentals of educational philosophies. These criteria must be taken into consideration in the planning, organization and implementation of educational activities. For the implementation of these activities in line with their purpose, the main responsibility lies with administrators and teachers (Çeliköz & Çetin, 2004; Şimşek, 2005). Despite sharing the same learning environment, learning takes place at different rates and in different ways for each student (Fry, Ketteridge & Marshall, 2009). Through the use of teaching techniques in the classroom, teachers are required to act correctly in terms of providing students with the opportunity to learn and an environment in which they can acquire the necessary knowledge and skills (Güven-Yıldırım, Köklükaya & Aydoğdu, 2016). With the inclusion of practices that combine real life and school in learning environments, the use of different methods and techniques in the teaching-learning process integrates life and school and enables students to acquire skills that align them with the environment and life (Şahin & Güven, 2016). For the effective implementation of teaching activities, teachers must be knowledgeable on alternative teaching methods and techniques and apply them in the classroom environment by determining the suitable techniques based on the individual differences of the students and the aim of the planned teaching subjects (Ramsden, 1992). Teachers should ensure the active participation of students and establish an interactive learning environment in the classroom by choosing a suitable method for the subject (Taşkaya & Muşta, 2008). Teachers should have knowledge of not only the content, but also the various ways of teaching the concepts related to the content to students (Coffman, 2010). For the process to be carried out effectively, it is also important that teachers are attentive to the points to be considered in the implementation of the

methods and techniques they will use, in addition to having knowledge of their effects on learning (Demir & Özden, 2013). Teachers should be aware of the fact that students differ structurally from each other and while determining the alternative methods and techniques they will use in in-class activities, they should refrain from imposing the uniform structure of the society on students and enable them to have fun while learning (Maryellen, 2009). It is only possible for a teacher to make a decision regarding the selection of suitable methods and techniques by having knowledge of different methods and techniques (Uysal, 2010). Teaching Principles and Methods is one of the pedagogy courses that involve areas towards providing teachers with these qualities (Uyar, 2016). In the literature, there are various definitions based on different features regarding the teaching methods and techniques that are recommended to be used in learning environments with the aim of implementing efficient and effective educational activities. Sünbül (2010, p.243) defines the method of teaching as a set of activities performed in one or several lessons with the aim of providing students with certain behaviors within a unit while Taşpınar (2010, p.64) defines the method as the practices carried out by teachers to establish in-class training. On the other hand, Gömleksiz (2004) defines the teaching technique as the implementation of the shortest, most reliable and most effective methods to enable students to reach the objectives in the process of teaching-learning while Bilen (2010) defines it as the organization and presentation of a planned educational formation that is applied with the aim of carrying out teaching activities and Erdem (2006) defines it as the skills and processes that are required to be implemented with the aim of carrying out teaching activities.

When the literature on teaching principles and methods was examined, it was found that Kayabaşı (2012) conducted a study on the teaching methods and techniques used by teachers in the teaching process and the reasons why they prefer them, Yılmaz (2017) examined the teaching strategies, methods and techniques preferred by science teachers and the opinions of science teacher candidates, Yalçın & Uzun (2018) examined the level of use of teaching methods and techniques by pre-school teachers, Bardak and Karamustafaoğlu (2016) examined the teaching strategies, methods and techniques used by science teachers in the context of pedagogical subject matter knowledge, Bozpolat, Uğurlu, Usta, & Şimşek (2016) examined the opinions of students and instructors on teaching methods and techniques, Demir and Özden (2013) examined the opinions of classroom teachers on educational strategies, methods and techniques, Demirkan & Saraçoğlu (2016) examined the opinions of Anatolian High School teachers on the teaching methods and techniques they used in the classroom, Okur Akçay, Akçay & Kurt (2016) examined the opinions and competencies of middle-school teachers regarding teaching methods and techniques, Kubat (2016) conducted a study to determine the teaching methods and techniques used by science teacher candidates in the learning-teaching process and their purpose of use and, finally, Karasu, Ketenoğlu & Kayabaşı (2019) examined the opinions of classroom teachers on the methods and techniques they used in the classroom.

When the related literature was examined, it was determined that a large majority of the studies conducted on teaching principles and methods were carried out either with teacher candidates or with teachers. However, no studies were found on the self-efficacy levels of students with pedagogical formation certificates towards the teaching principles and methods course. In order to fulfill this deficiency in the literature, the subject was considered to be worth studying.

METHODOLOGY

Since the present study aims to examine the self-efficacy levels of university students who receive Pedagogical Formation training at Ardahan University in the academic year of 2019-2020 towards the Teaching Principles and Methods Course, the relational survey model was used. These are survey models that are administered on the whole population or a sample extracted from the population in order to make a generalization about the population (Karasar, 2007). In these studies, the aim is to describe a situation related to the study subject (Büyüköztürk, Çakmak, Akgün, Karadeniz & Demirel, 2012).

Data Collection Tools

In the present study, the "Teaching Principles and Methods Self-Efficacy Scale" consisting of 33 items and 6 factors, which was developed by Kuzu & Demir (2015) with the aim of determining the self-efficacy levels of teacher candidates towards the Teaching Principles and Methods Course, was used. The first factor of the scale is "Knowledge of the Curriculum Development Process", the second factor is "Knowledge of Learning-Teaching Approaches", the third factor is "Ability to Apply Knowledge of Teaching Principles and Methods", the fourth factor is "Knowledge of Basic Concepts", the fifth factor is "Ability to Explain Knowledge of Teaching Principles and Methods" and the sixth factor is "Planning Knowledge". The Cronbach-Alpha Reliability Coefficient (α) of the scale was calculated as .958. The Cronbach-Alpha Reliability Coefficients (α) of the factors constituting the scale were calculated as α=.919 for the first factor, α =.863 for the second factor, α = .876 for the third factor, α = .906 for the fourth factor, α =.877 for the fifth factor, and α =.850 for the sixth factor. Students' levels of agreement were classified as 1 "never", 2 "partially", 3 "undecided", 4 "usually" and 5 "always".

Data Analysis

In the analysis of the data obtained in the study, evaluations were made based on the arithmetic mean ($\bar{X}$) and standard deviation (Sd) values of the answers given by the pedagogical formation students to the items in the relevant factors of the scale.

Population and Sample

The study group consists of 221 university students who receive pedagogical formation education at Ardahan University in the fall semester of the 2019-2020 Academic Year and voluntarily participate in the study. Table 1 shows information on the demographic variables of the students.

Table 1: Demographic information on the participating students.

	Variable	Frequency (f)	Percentage (%)
Gender	Female	135	61.1
	Male	86	38.9
Total		221	100
Department	Geography	20	9
	History	50	22.6
	Turkish Language and Literature	62	28.1
	Contemporary Turkish Dialects	21	9.5
	Music	21	9.5
	Sport Management	35	15.8
	Painting	12	5.4
Total		221	100

Table 1 shows the frequency and percentage values on the gender and educational department variables of the participating students.

FINDINGS

Table 2: The arithmetic mean and standard deviation values of the data on the students' knowledge of basic concepts

	Statements	$\bar{X}$	Sd
1.	I can explain the basic concepts of education	3.86	.862
2.	I can use the basic concepts of education accurately and consistently	3.77	.886
3.	I can explain the similarities between the basic concepts of education	3.84	.815

4.	I can explain the differences between the basic concepts of education	3.76	.836

When Table 2 was examined, it was determined that the statement with the lowest arithmetic mean value was "I can explain the differences between the basic concepts of education" while the statement with the highest arithmetic mean value was "I can explain the basic concepts of education".

Table 3: The arithmetic mean and standard deviation values of the data on the students' knowledge of the curriculum development process

	Statement	$\bar{X}$	Sd
5.	I can explain the principles of curriculum development	3.54	.941
6.	I can explain curriculum items	3.55	.997
7.	I can explain the relationship of curriculum items with each other	3.56	.987
8.	I can classify curriculum objectives as cognitive, affective and kinesthetic (psychomotor skills) objectives	4.03	.951
9.	I can explain the key criteria used in content selection in the curriculum development process	3.59	1.017
10.	I can explain the basic principles used in the organization of educational statuses in the curriculum development process	3.48	1.003
11.	I can explain the factors of educational statuses in the curriculum development process	3.49	1.043
12.	I can explain the principles of curriculum evaluation	3.56	1.047
13.	I can explain the importance of curriculum evaluation	3.77	.974

When Table 3 was examined, it was determined that the statement with the lowest arithmetic mean value was "I can explain the basic principles used in the organization of educational statuses in the curriculum development process" while the statement with the highest arithmetic mean value was "I can classify curriculum objectives as cognitive, affective and kinesthetic (psychomotor skills) objectives".

Table 4: The arithmetic mean and standard deviation values of the data on the students' knowledge of learning-teaching approaches

	Statements	$\bar{X}$	Sd
14.	I can write suitable targets and acquisitions related to my field	3.90	.978
15.	I can explain the basic principles used in content organization in the curriculum development process	3.53	1.007
16	I can explain the relationship between teaching models, strategies, methods and techniques.	3.48	1.038
17	I can explain the basic principles of contemporary learning-teaching approaches (Multiple intelligence, constructivism, etc.).	3.78	1.048
18	I can explain the basic principles of traditional learning-teaching approaches.	3.65	1.028
19	I can utilize contemporary learning-teaching approaches in the teaching (course) process.	3.67	1.064

When Table 4 was examined, it was determined that the statement with the lowest arithmetic mean value was "I can explain the relationship between teaching models, strategies, methods and techniques" while the statement with the highest arithmetic mean value was "I can write suitable targets and acquisitions related to my field".

Table 5: The arithmetic mean and standard deviation values of the student data on the "Ability to Explain Knowledge" and the "Ability to Apply Knowledge" sub-dimensions of the teaching principles and methods dimension

	Statements		
	Ability to Explain Knowledge	$\bar{X}$	Sd
21	I can explain the benefits of using methods in teaching	3.64	1.024
22	I can explain the factors that influence method selection	3.50	1.038
23	I can explain the basic principles of method selection	3.52	1.016
24	I can explain the general principles of teaching	3.54	1.046
25	I can explain the basic principles (features) of the direct instruction method	3.57	.995
	Ability to Apply Knowledge	$\bar{X}$	Sd
26	I can utilize the lecture method in the teaching (course) process.	3.72	.969
27	I can explain the basic principles (features) of the discussion method	3.61	1.010
28	I can utilize the discussion method in the teaching (course) process	3.71	1.035
29	I can utilize discussion methods (debates, panel discussions, etc.) in the teaching (course) process	3.90	.997
30	I can explain active learning techniques (Station, Educational games, Metaphor, etc.)	3.71	1.048
31	I can implement active learning techniques (Station, Educational games, Metaphor, etc.)	3.68	1.071

In Table 5, the statements of the students regarding their self-efficacy towards teaching methods and principles were examined in two sections as "Ability to Explain Knowledge" and "Ability to Apply Knowledge". In the "Ability to Explain Knowledge" section, it was determined that the statement with the lowest arithmetic mean value was "I can explain the factors that influence method selection" while the statement with the highest arithmetic mean value was "I can explain the benefits of using methods in teaching". In the "Ability to Apply Knowledge" section, it was determined that the statement with the lowest arithmetic mean value was "I can explain the basic principles (features) of the discussion method" while the statement with the highest arithmetic mean value was "I can utilize discussion methods (debates, panel discussions, etc.) in the teaching (course) process".

Table 6: The arithmetic mean and standard deviation values of the data on the students' planning knowledge

	Statements	$\bar{X}$	Sd
32	I can explain teaching plans (lesson plans, yearly plans, etc.)	3.86	1.009
33	I can explain the necessity of planning in the learning-teaching process	3.88	.981
34	I can develop a plan that is suitable for my field by considering the stages of planning	4.01	.941

When Table 6 was examined, it was determined that the statement with the lowest arithmetic mean value was "I can explain teaching plans (lesson plans, yearly plans, etc.)" while the statement with the highest arithmetic mean value was "I can develop a plan that is suitable for my field by considering the stages of planning".

CONCLUSION AND DISCUSSION

When the arithmetic mean values of the statements in the factor including the statements of the pedagogical formation students regarding the basic concepts in the teaching principles and methods course were examined, it was concluded that the students had low self-efficacy in terms of knowledge of the main differences between the basic concepts of education, but had high self-efficacy in terms of explaining the basic concepts of education.

When the answers of the students to the statements in the factor including the items that determine self-efficacy levels towards curriculum development within the scope of the teaching principles and methods course were examined, it was determined that the students had low self-efficacy in terms of their ability to explain the basic principles used to organize curricula within the process of curriculum development, but had high self-efficacy in terms of their ability to classify curriculum objectives as cognitive, affective and kinesthetic.

When the items in the factor measuring the self-efficacy levels of the students towards learning-teaching approaches within the scope of the teaching principles and methods course were examined, it was determined that the students had low self-efficacy in terms of explaining the relationship between teaching models, strategies, methods and techniques, but had high self-efficacy in terms of writing suitable targets and acquisitions related to their field.

When the dimension including the students' self-efficacy towards the ability to explain knowledge of teaching principles and methods was examined, it was concluded that the students had low self-efficacy in terms of their ability to explain the factors that affect method selection, but had high self-efficacy in terms of explaining the benefits of using methods in teaching. When the students' self-efficacy towards their ability to apply knowledge was examined, it was determined that they had low self-efficacy in terms of explaining the basic principles of the discussion method, but had high self-efficacy in terms of their ability to utilize discussion methods such as debates and panel discussions during course activities.

SUGGESTIONS

1. In future in-service training activities to be carried out with pedagogical formation students, more inclusive activities regarding the teaching of the differences between the basic concepts of education should be carried out.
2. In future in-service training activities to be carried out with pedagogical formation students, more inclusive teaching activities regarding the basic concepts used in the organization of education statuses within the curriculum development process should be carried out.
3. In future in-service training activities to be carried out with pedagogical formation students, more inclusive teaching activities regarding the relationship between teaching models, strategies, methods and techniques should be planned and carried out.
4. In future in-service training activities to be carried out with pedagogical formation students, more inclusive teaching activities regarding the factors that affect method selection and especially the basic principles of the discussion method should be carried out.
5. In future in-service training activities to be carried out with pedagogical formation students, more inclusive teaching activities regarding the determination of the purpose of teaching plans such as lesson plans and yearly plans should be planned.

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BIODATA AND CONTACT ADDRESS OF AUTHOR

Alptürk Akçöltekin completed his master's degree at Kafkas University and his doctoral degree at Atatürk University Institute of Educational Sciences. The author, who is an Associate Professor in the field of Curriculum and Instruction in Education, has been serving in the Department of Physical Education and Sports Teaching at Ardahan University School of Physical Education and Sports since 2013. His research interests include curriculum development, teacher training, scientific research methods and techniques, scale adaptation and scale

development. The author has contributed to 27 articles published in national and international journals as the main author

Assoc. Prof. Dr. Alptürk Akçöltekin
Ardahan University, School of Physical Education and Sports
Department of Physical Education and Sports Teaching
E. Mail: alp7501@gmail.com

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