

## **The Relationship Between Pre-Service Teacher Attitudes Towards Learning and Their Personal Growth Initiatives**

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### **Abstract**

This study discussed the relationship between pre-service teachers' attitudes towards learning and their personal growth initiatives. The study was carried out with the participation of 378 pre-service teachers studying at the MCBU Faculty of Education. According to the descriptive statistics obtained in the study, pre-service teachers' attitudes towards learning and personal growth initiatives are at a high level. In the context of attitudes towards learning and personal development orientations, no significant difference was found according to gender, teaching division, grade level and cumulative grade point averages. The anxiety dimension of the attitude scale towards learning was found to be higher in the context of those with low cumulative grade point averages. There was a positive, close to normal relationship between pre-service teachers' attitudes towards learning and their personal growth initiatives. Since the data of the study did not show a normal distribution, nonparametric tests were used in the analysis to solve the sub-problems. Mann Whitney U analysis was used for gender and cumulative grade point averages and Kruskal Wallis analysis was used for teaching division and grade level to see if there was a significant difference. The relationship between the scales was evaluated with Spearman's Rank Correlation analysis.

**Keywords:** Pre-Service Teachers, Attitudes Towards Learning, Personal Growth Initiatives, Personal Development

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## INTRODUCTION

It is a well – known fact that to progress of being a society and getting stated between the developed countries, education in schools should be provided as expected in today’s world. However, to provide a good education in schools, meant as expected in today's world or having growth successful students, it is necessary to improve the quality of teaching in schools. Qualified teachers have a great role in the success of students and in ensuring the quality of teaching in schools. In other words, good teachers are one of the most important factors of carrying the students to the summit (Seferoğlu, 2004). The qualifications that teachers will have been indispensable for interaction with other factors that bring success. Many studies have concluded that teachers' personal development has an impact on their teaching effectiveness (Yetim & Göktaş, 2004; Ereş, 2010; Altıntaş, 2022). The teacher's way of thinking, personal development and character are indispensable principles in raising individuals with desired qualities. The effectiveness of learning – teaching situations gains meaning only when they are combined with these teacher characteristics. Interest, which is the first key to attitude towards learning, is strongly influenced by the teacher's personality traits and interaction skills (Yetim & Göktaş, 2004). Interest in learning arises from interactions at school and develops within these relationships. The personality model which undertakes the task of teaching and supports learning, is of central importance in these relationships (Özarpınar, 1988). The beginning of ensuring this situation is related to the quality of the pre-service training processes of teachers, teacher training institutions have great responsibilities in this meaning. Education faculties should strive to prepare teachers for the profession at the highest level with the educational processes they offer (Güçlü & Bozgeyikli, 2016). The professional goals of pre-service teachers, their motivation in choosing a profession and their perceptions about the profession are the issues to be considered in teacher training programs. When all these issues considered, it arouses the idea that the relationship between attitudes towards learning and personal growth initiatives of students studying in faculties of education should be investigated.

With this study, it was aimed to determine the relationship between pre-service teachers' attitudes towards learning and personal growth initiatives. In this concept Kara (2010) had pointed out that people should be always open to learning, have positive attitudes towards learning, have positive expectations towards learning, and be away from experiencing a state of anxiety towards learning to solve the situations they encounter. Yalçın and Malkoç (2013) had also highlighted the importance of personal growth initiatives. Because people's approaches in learning a subject also affect learning products and attitudes towards learning triggers personal growth initiatives. In this context, it would be appropriate to address the concept of learning, attitudes towards learning and personal growth initiatives to expand this subject further and provide a theoretical basis.

### **The Concept of Learning**

Although the concept of learning can be handled in many ways, it can generally be explained as the process of accessing the experiences, knowledge, skills, activities, and abilities for surviving vital activities in a healthy way (Fidan, 1986; Karban, 2015; Özden, 2021). Individuals have different characteristics from all other beings on earth due to their reasoning abilities and they need an organized learning process to use these characteristics. For human beings to sustain their lives, they need to use their learning gains, not their instinctive behaviors (De Houwer, Barnes – Holmes & Moors, 2013). Learning is known as "the process of changing behavior that is the product of experience and has relatively permanent traces" (Ertürk, 1975).

In contemporary educational approaches, the concept of teaching is replaced by learning to learn. This change has brought the learner to the forefront and put constructivist approaches that give importance to individual differences at the center of curricula. Everyone has different learning styles, comprehension abilities and the way they construct their knowledge (Thrun & Pratt 2012). For the personal development considering individual abilities and skills has an important meaning. Because everyone has different physiological, psychological, and cognitive structures which involve them into

different learning styles (Schmeck, 1988; Gömleksiz & Kan, 2007). It can be said that these differences affect the attitudes towards learning and affect the personal growth initiatives.

### **Attitude towards learning**

Individuals' thoughts, feelings, and behaviors about a psychological object can be formed by their attitudes and these attitudes occur with individual tendencies. At the same time, these tendencies draw attention as learned tendencies that lead individuals to show different behaviors against situations, objects, and other individuals. Attitudes can take shape as positive or negative tendencies according to the situations encountered. In this way, people can attribute meanings to what is happening around them and the different situations they encounter and use each of them as different experiences in the future. The concept of attitude is formed when these experiences shape beliefs and approaches (Gawronski, 2007). Attitudes can be learnt and can change over time. Attitude influences people's self-evaluation and their ability to manage their reflective thinking. However, attitudes acquired in childhood do not change unless serious factors are encountered (Doop, 1947).

While the positive attitudes of individuals in the education process affect success positively, negative attitudes can lead to failure. It is thought that individuals' attitudes towards learning will significantly affect success (Guido, 2018). The success of individuals in educational processes is affected by two factors, psychological and sociological. Sociological variables consist of factors such as the environment and other individuals with whom they interact, while psychological factors consist of individuals' self-values covering both affective and cognitive domains. At the same time, sociological and psychological factors are interrelated (Awang et al., 2013). Attitudes and interests of individuals are very important in the learning process. Affective behaviors will continue to have lasting effects on students' subsequent learning (Kidman, 2009).

### **Personal Growth Initiatives**

Personal growth is all the various activities that can ensure the development of individuals in many subjects that they feel as a need in themselves, their awareness, and their ability to cope with the problems they face (Dovbnia, Melnyk, Shulyhina, et al., 2022). In the most general definition, it can be explained as the self – development of individuals through various activities. This comprehensive process requires a planned training in a professional organization. This education can include many specialized areas such as cognitive, affective, and psychomotor. Individuals need to gain experience with various problems encountered in daily life and gain the ability to reflect these experiences to other problems that may be experienced. At this point, personal growth supports individuals to look at alternative perspectives by using reflective thinking in all situations they encounter (Genç & Fidan, 2019).

Personal growth is effective in guiding pre-service teachers to success by increasing their motivation and attitudes towards learning. The self – confidence of pre-service teachers who are trained for this purpose, their plans, and the tactics they will develop in achieving their goals contribute positively to their academic success (Bohdick et al., 2022). Individuals with advanced personal growth are expected to be more energetic, participatory, and social in learning environments. They can keep their thoughts and emotions under control to increase their motivation for learning (Dunn & Shriner, 1999).

As in many sectors, personal growth in education is the tendency of individuals to realize themselves in every aspect of the whole process and to reveal these potentials (Genç & Fidan, 2019). Based on this definition, individuals deliberate, planned, and voluntary organization of their self-development can be defined as their personal growth initiatives. Personal growth initiatives are individuals' efforts to organize their self-development by being aware of their inner potentials and using these characteristics (Şimşek, 2020). It is known that students with high personal growth initiatives have higher competences regarding their professional development and attitudes towards

learning. Students with these characteristics also can take responsibility for their own learning and focus on their goals (Niles, Gutierrez, Dukes, et al. 2022).

In this meaning, pre-service teacher attitudes towards learning and their personal growth initiatives have been tried to examine with this study. It is thought that personal growth initiatives, pre-service teachers' learning attitudes towards the courses they take in faculties will reflect positive effects on the learning of their students in the schools where they will serve in the future. For this purpose, the relationship between the attitudes and personal growth initiatives has been handled and the problem statement of the study has been decided.

“What is the level of pre-service teacher attitudes towards learning and their personal growth initiatives?”.

According to the problem statement the sub problems of the study have been formed as listed below.

1. What are the descriptive statistics of pre-service teacher attitudes towards learning and their personal growth initiatives?
2. Is there a meaningful difference in the gender of pre-service teachers according to their attitudes towards learning and their personal growth initiatives?
3. Is there a meaningful difference in the teaching divisions of pre-service teachers according to their attitudes towards learning and their personal growth initiatives?
4. Is there a meaningful difference in the grade levels of pre-service teachers according to their attitudes towards learning and their personal growth initiatives?
5. Is there a meaningful difference in the cumulative grade point averages of pre-service teachers according to their attitudes towards learning and their personal growth initiatives?
6. Is there a relationship between the pre-service teacher attitudes towards learning and their personal growth initiatives?

With this research, the relationship between attitudes towards learning and personal growth initiatives of pre-service teachers studying in Faculties of Education in their academic processes have been investigated according to different variables. In this direction, attitudes towards learning and personal growth initiatives of pre-service teachers have been compared according to their gender, departments, grade levels and grade point averages.

By the help of the findings of the sub problems and the results of the study it has been aimed to be given some contributions to the pre-service teachers' developments during their education processes. The findings and the results of the study are limited with the population of the study and to the collected data. Moreover, the evolution of pre-service teacher attitudes towards learning and their personal growth initiatives are limited with the measurement tools and the sub dimensions of these measurement tools used in the study.

## **METHODOLOGY**

With this part, the model of the study, population and sampling of the study, data collection tools of the study, data collection process and the analysis of the data have been tried to explain.

### **Model of the Study**

Quantitative research method has been used in this study. Research methods in social sciences can be generally classified into two groups as named quantitative and qualitative methods. This

classification is made according to nature of the data whether it is quantitative or qualitative (Karakaya, 2014). According to Arslanoğlu (2016) quantitative research method is the research plan includes the population, sample, axiom, and hypotheses. It is a method in which information is collected by observation, interview, questionnaire and tests and this information is analyzed with statistical measurement and evaluation techniques. This study has been designed in quantitative research method and general survey model. General survey model reveals the reality as it is by reaching the whole population or the sample representing the population.

### Population and Sampling of the Study

The researchers have determined Manisa Celal Bayar University Faculty of Education as the population of the study in the meaning of convenience sampling method. In preferring convenience sampling method, researchers' proximity to the population and having advantages for sampling have played role (Gürbüz & Şahin, 2018). In the fall semester of 2022 education year, there were 1349 pre-service teachers getting education from 6 different teaching division in the Faculty of Education as the population of the study. And the number of the sampling should be 300 at least as in the meaning of 95% confidence level and 5% margin of error. The number of samplings was determined according to Şahin's (2012) and Gürbüz & Şahin's (2018) sampling calculation table. In this study 378 pre-service teachers have been reached as the sampling with the stratified sampling and simple random sampling methods. According to Yıldırım and Şimşek (2011) stratified sampling means the subgroups of the population. While collecting data by using the stratified sampling method, number of the subgroups and the number of the subgroup members determines the sampling process. The number of the participants due to stratified sampling method according to teaching divisions, grade level and the genders has been given as a sequential stage with Table 1. And the participants have been reached by simple random sampling method. According to Gürbüz & Şahin (2018) simple random sampling method can be applied by noticing the sampling numbers. In this study the sampling numbers of each group have been determined according to the stratified sampling method and then the participants who had equal chances have been assigned with a draw. (Karakaya, 2014; Şimşek, 2012).

**Table 1. Population and Sampling of the Study**

Teaching Division / Grade Level	Female (N)	Male (N)	Total (N)	Female (n)	Male (n)	Total (n)
Science teaching / Freshman	20	11	31	6	3	9
Science teaching / Sophomore	22	9	31	6	3	9
Science teaching / Junior	23	8	31	6	2	8
Science teaching / Senior	10	4	14	3	1	4
Primary school mathematics teaching / Freshman	30	22	52	8	6	14
Primary school mathematics teaching / Sophomore	32	20	52	9	6	15
Primary school mathematics teaching / Junior	43	19	62	12	5	17
Primary school mathematics teaching / Senior	45	17	62	13	5	18
Guidance and psychological counseling / Freshman	68	25	93	19	7	26
Guidance and psychological counseling / Sophomore	69	24	93	19	7	26
Guidance and psychological counseling / Junior	49	23	72	14	6	20
Guidance and psychological counseling / Senior	53	19	72	15	5	20
Primary school teaching / Freshman	39	13	52	11	4	15
Primary school teaching / Sophomore	39	13	52	11	4	15
Primary school teaching / Junior	44	18	62	12	5	17
Primary school teaching / Senior	44	18	62	12	5	17
Social studies teaching / Freshman	34	18	52	9	5	14
Social studies teaching / Sophomore	35	17	52	10	5	15
Social studies teaching / Junior	40	22	62	12	6	18
Social studies teaching / Senior	42	20	62	12	6	18
Turkish language teaching / Freshman	32	20	52	9	6	15
Turkish language teaching / Sophomore	33	19	52	9	5	14
Turkish language teaching / Junior	40	22	62	11	6	17
Turkish language teaching / Senior	41	21	62	11	6	17
Total	927	422	1349	259	119	378

## **Data Collection Tools of the Study**

This study has been designed by using two data collection tools for the purpose of looking for the pre-service teacher attitudes towards learning and their personal growth initiative levels. Also, the relationship between the attitudes towards learning and personal growth initiative is one of the most important sub problems of the study. Attitudes towards learning has been studied with the help of "Attitudes Towards Learning Scale" which has developed by Kara (2010). And personal growth initiative has been studied with the help of "Personal Growth Initiative Scale – II" which has been adapted into Turkish by Yalçın & Malkoç (2013). These two data collection tools have been introduced in this part.

### **Attitudes Towards Learning Scale**

Kara (2010) has aimed to develop a reliable and valid scale for measuring the learners' attitudes toward learning in this study. At the beginning of the study, the literature has been scanned and 119 draft items have been composed with the help of the compositions had written by the students about the feelings, expectations, and anxieties about learning. Then, those 119 items have been collapsed in four categories as based in the related literature and those four categories categorized as emotions, thoughts, and reactions regarding the nature of learning, expectations from learning, openness to learning and anxiety in a new learning situation. Then with the help of expert views the items have been limited into 77 items. Again, expert views have been consulted and the pre – application form has been prepared. For the pre - application purpose, 285 students have been reached from İnönü University Faculty of education as the participants of the study. 285 participants had been representing the %81,43 of the population in the fall term of 2006 – 2007 education year. Firstly, exploratory factor analysis has been applied for the subject of the study with the help of the data obtained from the participants and high KMO values has been observed and 37 items have been eliminated. With that process the values were like that; KMO= .79, Bartlett test of Sphericity= 3101.363, and Cronbach Alpha= .726. Then for reliability analysis of the scale development process, the test – retest has been applied for correlation coefficients with the help of 120 participants' responses from same sampling. The internal consistency coefficient and test – retest correlation values were calculated for the reliability analysis. After the analysis four sub – dimensions which has 40 items at total has been constructed. The internal consistency of the scale has been found as ".73". Test – retest correlation coefficient has been found as ".87". As seen at the results "Attitude Towards Learning Scale" has been developed as a valid and reliable structure and has been presented for measuring the participants' attitudes towards learning.

### **Personal Growth Initiative Scale – II**

The second data collection tool has been adapted into Turkish Language by Yalçın & Malkoç (2013) from an original scale which belongs to Robitschek et al. (2012). Personal growth initiative scale – II has been adopted into Turkish with a study group from Ankara University Faculty of Education students. 279 students had voluntarily attended the study in 2012 – 2013 education year. First the researchers have contacted to the original scale developers and got permission. Then translation process has been done with four instructors who had good English skills and back translation has also been done with another instructor who had a Ph.D. degree on language from USA. Back translation items have been shared with the original scale authors and got consent about the translation process. After finishing translation process 41 senior class students from Department of English Language Teaching had answered Turkish and English forms of the scale twice in three weeks. A positive and significant correlation had been observed ( $r=.79$ ,  $p < .01$ ). Then factor analysis had been applied with the study group and the items four sub – dimensions had been seen as distributed into four groups which are called as readiness for change, being regular in planning, using resources, and intentional behavior. After that process test – retest analysis had been done and reliability coefficients has been found between .62 and .82. and Cronbach alpha internal consistency coefficients of the sub – dimensions were from .81 to .89. Cronbach alpha internal consistency coefficient of the whole scale was .92. According to confirmatory factor analysis (CFA) results were

acceptable; RMSEA was between .05 and .08, SRMR was lower than .08, CFI, NFI, IFI and RFI values were over .90. With the adaptation process as summarized, the personal growth initiative scale – II has been adapted into Turkish with its four sub -dimensions and 16 items.

### **Data Collection Process and Data Analysis of the Study**

Data collection process has begun with researchers' interest on pre-service teachers' learning attitudes and their personal growth initiatives. For this subject two scale have been chosen and got permission from the authors of the scales. Then the data collection forms have been prepared within three parts which were named as personal information, learning attitudes and personal growth initiatives. The data collection form, which had a personal information part and the items of two scale, has been loaded on Microsoft Forms. And the data has been collected from the participants, who were described in population and sampling part, by having read QR code links with the help of their mobile phones. With the voluntary attendance of answering the data items, the data collection process has been finished.

After finishing the data collection, the analysis process has been started with SPSS25 packet program by taking significance level as .05 and it has seen that 378 participants had given answers to the online forms. Kolmogorov Smirnov Test results has showed that; while the data has been distributing normally for the whole of attitudes towards learning scale ( $p > .05$ ), the data, which belongs to whole personal growth initiative scale and all sub – dimensions of the scales, hasn't distributed normally ( $p < .05$ ). So, the nonparametric tests have been decided to apply in the analysis process.

Before applying nonparametric tests, descriptive statistics have been analyzed for the first sub – problem of the study by using minimum, maximum, arithmetic mean, and standard deviation values.

Then for the purpose of looking if there is a differ according to the gender, Mann Whitney U Analysis has been used for the second sub – problem of the study. Following test have been orderly used for the other sub – problems; teaching division differ has been checked with Kruskal Wallis Analysis, grade level differ has been checked with Kruskal Wallis Analysis, cumulative grade point average differ has been checked with Whitney U Analysis. The relationship between the pre-service teacher attitudes towards learning and their personal growth initiatives has been checked with Spearman's Rank Correlation Coefficient Analysis. When differs have been found in the results of Kruskal Wallis Analysis, the direction of the differ has been analyzed with Dunn Analysis. The direction of differ in Mann Whitney U Analysis have been observed with the average of the ranks of each group.

### **Ethical Procedures of the Study**

First the permissions have been taken for the usage of the data collection tools from their authors with an e – mail request. Then the permission has been taken for collecting the data from MCBU Faculty of Education (28.04.2022 - E-57363641-199-296113). At the end the ethic permission has been taken from MCBU Ethics Committee (23.06.2022 – E-050.01.04-328641). All ethical procedures have been completed in this way for beginning the implementation of the study.

## **FINDINGS**

With this part the findings of the analysis, which were obtained from the direction of the sub – problems about evaluating pre-service teachers' learning attitudes and their personal growth initiatives, have been presented.

### 1st Sub – Problem

“What are the descriptive statistics of pre-service teacher attitudes towards learning and their personal growth initiatives?” has been asked as the question of the first sub – problem and the findings have been shown in Table 2.

**Table 2. Descriptive Statistics of pre-service Teacher Attitudes Towards Learning and Their Personal Growth Initiatives**

Dimensions / Scales	<i>n</i>	<i>Minimum</i>	<i>Maximum</i>	$\bar{x}$	<i>sd</i>
Expectation about learning	378	13	45	38,48	5,594
Nature of learning	378	11	35	28,87	3,906
Openness to learning	378	24	55	46,52	6,236
Anxiety about learning	378	13	59	33,10	8,267
Readiness for change	378	4	20	15,33	3,252
Being regular in planning	378	5	25	18,74	4,227
Using resources	378	3	15	10,84	2,531
Intentional behaviors	378	4	20	15,28	3,406
Attitudes towards learning	378	84	179	146,96	12,035
Personal growth initiative	378	16	80	60,18	11,950

The descriptive statistics show that pre-service teacher attitudes towards learning and their personal growth initiatives are in high scores with both sub-dimensions and the whole of the scales.

### Attitudes Towards Learning Scale

The pre-service teachers have got 146.96 (often) points as the arithmetic mean from the whole scale which is about the attitudes towards learning. It can be said that they have strong habits in towards learning. The item “*Learning continues lifelong*” has the highest point ( $\bar{x}=4.84$ ) which means “*always*” as the importance degree. The item “*I feel uncomfortable when new topics are studied*” has the lowest point ( $\bar{x}=1.85$ ) which means “*rarely*” as the importance degree.

**“Expectation about learning” Dimension.** The first dimension of the attitudes towards learning scale is “*Expectation about learning*”. The pre-service teachers have got 38.48 (always) points as the arithmetic mean from the dimension which is about the expectation about learning. It can be said that they have very strong habits in expectation about learning. The item “*What I have learned changes my perspective on life*” has the highest point ( $\bar{x}=4.39$ ) which means “*always*” as the importance degree. The item “*As I learn, the number of my wrong decisions decreases*” has the lowest point ( $\bar{x}=3.97$ ) which means “*often*” as the importance degree.

**“Nature of learning” Dimension.** The second dimension of the attitudes towards learning scale is “*Nature of learning*”. The pre-service teachers have got 28.87 (often) points as the arithmetic mean from the dimension which is about the nature of learning. It can be said that they have strong habits in the nature of learning. The item “*Learning continues lifelong*” has the highest point ( $\bar{x}=4.84$ ) which means “*always*” as the importance degree. The item “*Intelligent people learn better*” has the lowest point ( $\bar{x}=3.18$ ) which means “*sometimes*” as the importance degree.

**“Openness to learning” Dimension.** The third dimension of the attitudes towards learning scale is “*Openness to learning*”. The pre-service teachers have got 46.52 (always) points as the arithmetic mean from the dimension which is about being openness to learning. It can be said that they have very strong habits in being openness to learning. The item “*I still have a lot to learn*” has the highest point ( $\bar{x}=4.69$ ) which means “*always*” as the importance degree. The item “*Learning difficult subjects gives me pleasure*” has the lowest point ( $\bar{x}=3.81$ ) which means “*often*” as the importance degree.

**“Anxiety about learning” Dimension.** The fourth dimension of the attitudes towards learning scale is “*Anxiety about learning*”. The pre-service teachers have got 33.10 (sometimes) points as the

arithmetic mean from the dimension which is about the anxiety about learning. It can be said that they have some anxieties about learning. The item “*Forgetting what I have learned so quickly makes me worry*” has the highest point ( $\bar{x}=3.51$ ) which means “*often*” as the importance degree. The item “*I feel uncomfortable when new topics are studied*” has the lowest point ( $\bar{x}=1.85$ ) which means “*rarely*” as the importance degree.

### **Personal Growth Initiative Scale**

The pre-service teachers have got 60.18 (often) points as the arithmetic mean from the whole scale which is about personal growth initiative. It can be said that they have strong habits in personal growth initiative. The items “*I can determine what I need to change about myself*” and “*I am constantly trying to improve myself as an individual*” have the highest point ( $\bar{x}=3.96$ ) which means “*often*” as the importance degree. The item “*I seek help from others when I try to make changes about myself*” has the lowest point ( $\bar{x}=3.36$ ) which means “*sometimes*” as the importance degree.

**“Readiness for change” Dimension.** The first dimension of the personal growth initiative scale is “*Readiness for change*”. The pre-service teachers have got 15.33 (often) points as the arithmetic mean from the dimension which is about the readiness for change. It can be said that they have strong habits in readiness for change. The item “*I can determine what I need to change about myself*” has the highest point ( $\bar{x}=3.96$ ) which means “*often*” as the importance degree. The item “*I know when to make a certain change about myself*” has the lowest point ( $\bar{x}=3.75$ ) which means “*often*” as the importance degree.

**“Being regular in planning” Dimension.** The second dimension of the personal growth initiatives scale is “*being regular in planning*”. The pre-service teachers have got 18.74 (often) points as the arithmetic mean from the dimension which is about being regular in planning. It can be said that they have strong habits in being regular in planning. The item “*I set realistic goals for the things I want to change about myself*” has the highest point ( $\bar{x}=3.95$ ) which means “*often*” as the importance degree. The item “*I know how to make a realistic plan for making changes about myself*” has the lowest point ( $\bar{x}=3.60$ ) which means “*often*” as the importance degree.

**“Using resources” Dimension.** The third dimension of the attitudes personal growth initiatives scale is “*Using resources*”. The pre-service teachers have got 10.84 (often) points as the arithmetic mean from the dimension which is about using resources. It can be said that they have strong habits in using resources. The item “*When I try to improve myself, I use the available possibilities*” has the highest point ( $\bar{x}=3.94$ ) which means “*often*” as the importance degree. The item “*I seek help from others when I try to make changes about myself*” has the lowest point ( $\bar{x}=3.36$ ) which means “*sometimes*” as the importance degree.

**“Intentional behaviors” Dimension.** The fourth dimension of the personal growth initiatives scale is “*Intentional behaviors*”. The pre-service teachers have got 15.28 (often) points as the arithmetic mean from the dimension which is about intentional behaviors. It can be said that they have strong habits about intentional behaviors. The item “*I am constantly trying to improve myself as an individual*” has the highest point ( $\bar{x}=3.96$ ) which means “*often*” as the importance degree. The items “*I take every opportunity that arises to improve myself*” and “*I work actively to improve myself*” have the lowest point ( $\bar{x}=3.70$ ) which means “*often*” as the importance degree. Two items have shared the lowest point.

### **2nd Sub – Problem**

“*Is there a meaningful differ in the gender of pre-service teachers according to their attitudes towards learning and their personal growth initiatives?*” has been asked as the question of the second sub – problem and the findings have been shown in Table 3.

**Table 3. Mann Whitney U Analysis About Attitudes Towards Learning and Personal Growth Initiatives According to Gender**

Dimensions / Scales	Gender	n	Mean Rank	Rank Sum	U	p
Expectation about learning	Female	259	196,60	50920,50	13570,50	.061
	Male	119	174,04	20710,50		
Nature of learning	Female	259	179,97	46611,00	12941,00	.012
	Male	119	210,25	25020,00		
Openness to learning	Female	259	195,77	50705,50	13785,50	.099
	Male	119	175,84	20925,50		
Anxiety about learning	Female	259	188,63	48854,00	15184,00	.818
	Male	119	191,40	22777,00		
Readiness for change	Female	259	186,25	48340,50	14569,50	.391
	Male	119	196,57	23290,50		
Being regular in planning	Female	259	186,64	48340,50	14670,50	.452
	Male	119	195,72	23290,50		
Using resources	Female	259	194,97	50497,50	13993,50	.148
	Male	119	177,59	21133,50		
Intentional behaviors	Female	259	191,16	49510,00	14981,00	.662
	Male	119	185,89	22121,00		
Attitudes towards learning	Female	259	193,12	50018,00	14473,00	.342
	Male	119	181,62	21613,00		
Personal growth initiative	Female	259	189,37	49047,50	15377,50	.973
	Male	119	189,78	22583,50		

The results of the Mann Whitney U Analysis about attitudes towards learning and personal growth initiatives according to gender show that whole of the scales and their sub – dimensions ( $p>.05$ ) don't have significant differs expect “*nature of learning*” dimension ( $p<.05$ ). Nature of learning dimension shows significant differ according to the gender of pre-service teachers in the favor of males as seen on mean rank values.

### 3<sup>rd</sup> Sub – Problem

“*Is there a meaningful differ in the teaching divisions of pre-service teachers according to their attitudes towards learning and their personal growth initiatives?*” has been asked as the question of the third sub – problem and the findings have been shown in Table 4 and Table 5.

**Table 4. Kruskal Wallis Analysis About Attitudes Towards Learning According to The Teaching Divisions**

Teaching Divisions	n	Mean Rank	X <sup>2</sup>	df	p
Science teaching education	30	169,93	4,351	5	.500
Primary school mathematics teaching education	64	183,26			
Guidance and psychological counseling education	92	182,01			
Primary school teaching education	64	204,72			
Social studies teaching education	65	184,66			
Turkish language teaching education	63	205,63			

The results of the Kruskal Wallis Analysis about attitudes towards learning according to the teaching divisions show that there is no significant differ ( $X^2=4.351$ ,  $df=5$ ,  $p>.05$ ). Total points of pre-service teachers got from the whole of the attitudes towards learning scale don't give any significant differ according to their teaching divisions.

**Table 5. Kruskal Wallis Analysis About Personal Growth Initiatives According to The Teaching Divisions**

Teaching Divisions	n	Mean Rank	X <sup>2</sup>	df	p
Science teaching education	30	189,92			
Primary school mathematics teaching education	64	154,16			
Guidance and psychological counseling education	92	208,88	10,123	5	.072
Primary school teaching education	64	184,72			
Social studies teaching education	65	194,56			
Turkish language teaching education	63	196,54			

The results of the Kruskal Wallis Analysis about personal growth initiatives according to the teaching divisions show that there is no significant differ ( $X^2=10.123$ ,  $df=5$ ,  $p>.05$ ). Total points of pre-service teachers got from the whole of the personal growth initiatives scale don't give any significant differ according to their teaching divisions.

#### 4<sup>th</sup> Sub – Problem

“Is there a meaningful differ in the grade levels of pre-service teachers according to their attitudes towards learning and their personal growth initiatives?” has been asked as the question of the fourth sub – problem and the findings have been shown in Table 6 and Table 7.

**Table 6. Kruskal Wallis Analysis About Attitudes Towards Learning According to Grade Levels**

Grade Levels	n	Mean Rank	X <sup>2</sup>	df	p
Freshman	93	176,22			
Sophomore	94	194,14	2,433	3	.488
Junior	97	187,61			
Senior	94	199,94			

The results of the Kruskal Wallis Analysis about attitudes towards learning according to the grade levels show that there is no significant differ ( $X^2=2.433$ ,  $df=3$ ,  $p>.05$ ). Total points of pre-service teachers got from the whole of the attitudes towards learning scale don't give any significant differ according to their grade levels.

**Table 7. Kruskal Wallis Analysis About Personal Growth Initiatives According to Grade Levels**

Grade Levels	n	Mean Rank	X <sup>2</sup>	df	p
Freshman	93	172,63			
Sophomore	94	210,14	5,650	3	.130
Junior	97	186,65			
Senior	94	188,49			

The results of the Kruskal Wallis Analysis about personal growth initiatives according to the grade levels show that there is no significant differ ( $X^2=5.650$ ,  $df=3$ ,  $p>.05$ ). Total points of pre-service teachers got from the whole of the personal growth initiatives scale don't give any significant differ according to their grade levels.

#### 5<sup>th</sup> Sub – Problem:

“Is there a meaningful differ in the cumulative grade point averages of pre-service teachers according to their attitudes towards learning and their personal growth initiatives?” has been asked as the question of the fifth sub – problem and the findings have been shown in Table 8.

**Table 8. Mann Whitney U Analysis About Attitudes Towards Learning and Personal Growth Initiatives According to Cumulative Grade Point Averages**

Dimensions / Scales	GPA	n	Mean Rank	Rank Sum	U	p
Expectation about learning	GPA (0-2)	55	138,58	7622,00	6082.20	.000
	GPA (3-4)	323	198,17	64009,00		
Nature of learning	GPA (0-2)	55	172,06	9463,50	7923,50	.199
	GPA (3-4)	323	192,47	62167,50		
Openness to learning	GPA (0-2)	55	145,35	7994,00	6554,00	.001
	GPA (3-4)	323	197,02	63637,00		
Anxiety about learning	GPA (0-2)	55	211,58	11637,00	7668,00	.105
	GPA (3-4)	323	185,74	59994,00		
Readiness for change	GPA (0-2)	55	169,04	9297,00	7757,00	.131
	GPA (3-4)	323	192,98	62334,00		
Being regular in planning	GPA (0-2)	55	169,29	9311,00	7771,00	.136
	GPA (3-4)	323	192,94	62320,00		
Using resources	GPA (0-2)	55	160,60	8833,00	7293,00	.033
	GPA (3-4)	323	194,42	62798,00		
Intentional behaviors	GPA (0-2)	55	154,26	8484,50	6944,50	.009
	GPA (3-4)	323	195,50	63146,50		
Attitudes towards learning	GPA (0-2)	55	150,55	8280,00	6740,00	.004
	GPA (3-4)	323	196,13	63351,00		
Personal growth initiative	GPA (0-2)	55	160,85	8846,50	7306,50	.035
	GPA (3-4)	323	194,38	62784,50		

The results of Mann Whitney U Analysis about attitudes towards learning and personal growth initiatives according to the cumulative grade point averages show significant differ ( $p < .05$ ) on the dimension of “*expectation about learning*”, “*openness to learning*”, “*using resources*”, “*intentional behaviors*”. The significant differ ( $p < .05$ ) has been also seen on whole scales of “*attitudes towards learning*”, “*personal growth initiative*”. The observed differs are in the favor of high cumulative grade point averages (3 – 4). It can be said that as seen on the significant differs, pre-service teachers, who have high GPA mean rank values, have strong habits about “attitudes towards learning” and “personal growth initiative” than who have low GPA mean rank values.

And another important point according to the results of the analysis, it can be said that the pre-service teachers, who have low GPA, have high mean rank values in “*anxiety about learning*” dimension. Having anxiety about learning can be one of the factors of getting low GPA according to the limitation of the results presented here.

### 6<sup>th</sup> Sub – Problem

“*Is there a relationship between the pre-service teacher attitudes towards learning and their personal growth initiatives?*” has been asked as the question of the sixth sub – problem and the findings have been shown in Table 9.

**Table 9. Spearman’s Rank Correlation Analysis Between Attitudes Towards Learning and Personal Growth Initiatives**

Correlation of Dimensions / Scales	n	r <sub>s</sub>	P
Expectation about learning - Readiness for change	378	.502	.000
Expectation about learning - Being regular in planning	378	.533	.000
Expectation about learning - Using resources	378	.478	.000
Expectation about learning - Intentional behaviors	378	.629	.000
Expectation about learning - Total personal growth initiative	378	.596	.000
Nature of learning - Readiness for change	378	.248	.000
Nature of learning - Being regular in planning	378	.216	.000
Nature of learning - Using resources	378	.211	.000
Nature of learning - Intentional behaviors	378	.181	.000
Nature of learning - Total personal growth initiative	378	.240	.000
Openness to learning - Readiness for change	378	.324	.000
Openness to learning - Being regular in planning	378	.382	.000
Openness to learning - Using resources	378	.273	.000

Openness to learning - Intentional behaviors	378	.495	.000
Openness to learning - Total personal growth initiative	378	.411	.000
Anxiety about learning - Readiness for change	378	-.246	.000
Anxiety about learning - Being regular in planning	378	-.308	.000
Anxiety about learning - Using resources	378	-.136	.008
Anxiety about learning - Intentional behaviors	378	-.307	.000
Anxiety about learning - Total personal growth initiative	378	-.291	.000
Readiness for change - Total attitudes towards learning	378	.278	.000
Being regular in planning - Total attitudes towards learning	378	.284	.000
Using resources - Total attitudes towards learning	378	.310	.000
Intentional behaviors - Total attitudes towards learning	378	.363	.000
Total attitudes towards learning - Total personal growth initiative	378	.335	.000

Table 9 shows that all dimensions and scale between each other have relationship ( $p < .05$ ). Most important points about these relations can be summarized like that. Whole of both two scales have relation as regarded as near to normal level ( $r_s = .33, p = .00$ ). In general view the relation value between .50 and .65 accepted as normal level. This relation points out that attitudes towards learning play role on personal growth initiatives. According to the descriptive statistics as mentioned in the first sub – problem statement pre-service teachers who have strong attitudes towards learning have strong personal growth initiatives. The highest relationship between the dimensions of attitudes towards learning scale and the whole of personal growth initiative scale is seen in “*Expectation about learning*” dimension ( $r_s = .59, p = .00$ ). The lowest one is also in “*Nature of learning*” dimension ( $r_s = .24, p = .00$ ). The highest relationship seen in Table 9 is between “*expectation about learning*” dimension of attitudes towards learning scale and “*Intentional behaviors*” dimension of personal growth initiative scale ( $r_s = .62, p = .00$ ). The lowest relationship seen again in Table 9 is between “*Anxiety about learning*” dimension of attitudes towards learning scale and “*Using resources*” dimension of personal growth initiative scale in a negative way ( $r_s = -.13, p = .008$ ). The highest relationship between the dimensions of personal growth initiative scale and the whole of attitudes towards learning scale is seen in “*Intentional behaviors*” dimension ( $r_s = .36, p = .00$ ).

## RESULTS AND DISCUSSION

In this study, in which the relationship between pre-service teachers' attitudes towards learning and personal growth initiatives was tried to be examined, the question "What are the descriptive statistics about pre-service teachers' attitudes towards learning and personal growth initiatives?" was determined as the first sub-problem and it was concluded that pre-service teachers' attitudes towards learning and personal growth initiatives were at high scores both in sub-dimensions and in all scales.

### Results Related to "Attitude towards Learning Scale"

The averages obtained from the scale of attitudes towards learning reveal that pre-service teachers have strong habits towards learning. While the item "Learning continues throughout life" has the highest score in terms of importance, the item "I feel uncomfortable when new subjects are studied" has the lowest score. The result that pre-service teachers who continue their education in the faculty of education have positive attitudes towards learning in the education process is also supported by the research (Dikbaş, 2006; Mdikana, Ntshangase, & Mayekiso, 2007; Teo, 2008; Adıgüzel & Dolmacı, 2018). Mdikana, Ntshangase, & Mayekiso (2007), in their research with pre-service teachers, concluded that high attitudes towards learning will positively affect their academic achievement and willingness to learn. In another study, Izgar (2016) examined the relationship between pre-service teachers' stress in the education process and their attitudes towards learning and concluded that they generally had positive attitudes towards learning in their academic courses. Adıgüzel and Dolmacı (2018) examined pre-service teachers' attitudes towards learning according to different variables and concluded that they were generally high. It was stated that the high attitudes of pre-service teachers towards learning stem from the desire to be willing to know new things and to be eager to develop. These results support our research findings.

With the findings obtained from the first dimension of the attitude towards learning scale, "Expectation towards learning" dimension, it was concluded that pre-service teachers have quite strong habits in terms of expectations towards learning. This result is also supported in the study conducted by Wasburn-Moses (2009) on pre-service teachers' expectations about their future roles. In the related study, pre-service teachers also had strong expectations towards learning.

In the second dimension of the attitude towards learning scale, it was concluded that pre-service teachers had strong habits about the nature of learning. It will not only be sufficient for pre-service teachers to understand the subjects in learning situations, but also their awareness of how these learnings is realized should be high. In this direction, their high attitudes towards learning also show that they have tendencies about the nature of learning. Learners who discover the nature of learning also could organize their learning in a more desirable way (Michalski, 1986; Humphrey, 2013).

It was concluded that pre-service teachers had quite strong habits in the third dimension of the attitude towards learning scale, which is "openness to learning". It can be said that learners who think that they are open to learning also have high learning attitudes. Aktürk (2012) concluded in his study that being open to learning will positively affect learning attitudes. Denat (2019), on the other hand, shared the result that nurse candidates' openness to learning will affect their learning attitudes and willingness levels at a very important level. This supports the result obtained in these studies.

When the findings related to the fourth dimension of the attitude towards learning scale "Anxiety about learning" were analyzed, it was concluded that pre-service teachers were sometimes anxious about learning. This interesting result may reveal that their anxiety about learning is a situation that can positively affect their attitudes towards learning. In their study, Ergen and Durmuş (2022) examined the relationship between teachers' beliefs about learning and learning anxiety and concluded that moderate anxiety levels can positively affect learning beliefs. In another study, Sloan et al. (2002) stated that pre-service teachers' anxiety about some courses may positively increase their learning and tendency towards studying. These studies support the result obtained for the related dimension.

### **Results Related To " Personal Growth Initiatives Scale"**

When the findings obtained were analyzed, it was concluded that pre-service teachers' personal growth initiatives were quite high. Among the items in the scale, the items "I can determine what I need to change about myself" and "I try to improve myself continuously as an individual" had the highest mean score, while the item "I ask for help from others when I try to make changes about myself" had the lowest mean score. The findings obtained according to the sub-dimensions of the scale can be interpreted as follows.

In the first dimension of the scale, "Readiness for Change", it can be said that pre-service teachers have strong habits. Pre-service teachers studying in faculties of education stated that they are open to innovations due to the expectations of the education process they will be in the following years. Gür Erdoğan et al. (2018) examined the relationship between pre-service teachers' readiness for change and their lifelong learning tendencies.

As a result of the findings related to the other dimensions of the " Personal Growth Initiatives Scale", namely "Planning", "Using Resources" and "Deliberate Behaviors", it is seen that pre-service teachers have effective characteristics in directing their behaviors related to their future. It is also important for pre-service teachers to exhibit self-regulated behaviors towards their learning in learning-teaching processes in terms of their personal development. These results are also supported by the research conducted by Genç and Fidan (2019), in which the effect of students' personal growth initiatives on their career adaptability is examined.

In the second sub-problem, which investigated the relationship between pre-service teachers' attitudes towards learning and personal growth initiatives according to their gender, it was determined

that there was no significant difference except for the "nature of learning" dimension. The nature of learning dimension shows a significant difference in favor of men as seen in the mean rank values according to the gender of the pre-service teachers. This result obtained from the research was also found in the study conducted by Genç and Fidan (2019), and the averages of personal development orientations and career adaptability skills of students according to their gender were very close to each other. However, when the relationship between personal growth initiatives and attitude towards learning is examined in many studies, the significant difference found in favor of women draws attention (Yüksek Şahin & Taşkın, 2019; Nathans & Brown, 2022).

It is seen that there is no significant difference between the attitudes towards learning and personal growth initiatives of pre-service teachers according to the departments they study. Likewise, no significant difference was found in the total scores of pre-service teachers' personal growth initiatives scale according to the departments they were studying. It can be concluded from these findings that the relationship between attitudes towards learning and personal growth initiatives of pre-service teachers does not change with the fields of study and that pre-service teachers in all fields have the same structure in general. In the same way, the fourth sub-problem of the study, which was analyzed within the scope of the fourth sub-problem of the research, did not find a significant difference between pre-service teachers' attitudes towards learning and personal growth initiatives according to their grade levels. Related variables may lead to the interpretation that pre-service teachers have the same competences at each grade level.

Do the GPAs of pre-service teachers show a significant difference according to their attitudes towards learning and personal growth initiatives?" was asked as the question of the fifth sub-problem and significant differences were observed in all the scales of "attitudes towards learning" and "personal growth initiatives ". The observed differences were in favor of higher-grade point averages. As can be seen from the significant differences, it can be said that pre-service teachers with high GPA have stronger habits in "attitudes towards learning" and "personal growth initiatives" compared to those with low GPA. This result coincides with the studies in the literature (Vogel et al., 1999; Lea et al., 2003; Rao, 2004; Kara, 2009; Helena-Martins et al., 2019; Diez-Palomar et al., 2020). It is seen that the academic achievements of pre-service teachers are related to many variables in their learning processes as well as their future personal tendencies. Another important point according to the results of the analyses is that pre-service teachers with low grade point averages have high rank averages in the "learning anxiety" dimension. According to the limitation of the results presented here, having learning anxiety can be considered as one of the factors of obtaining a low-grade point average. This idea is also supported by the studies (Lama, 2011; Amiri & Ghonsooly, 2015; Demir, 2022). It can be said that high anxiety levels of pre-service teachers and, in generalization, university students negatively affect their attitudes towards learning and personal growth initiatives.

The question "Is there a relationship between pre-service teachers' attitudes towards learning and personal growth initiatives?" was asked as the question of the sixth sub-problem and it was concluded that there was a relationship between all dimensions and scales. This relationship indicates that attitudes towards learning play a role in personal growth initiatives. As a result, pre-service teachers with strong attitudes towards learning also have strong personal growth initiatives. This coincides with the results obtained in the literature (Weigold, et al., 2014; de Jager-van Straaten, et al., 2016; van Woerkom & Meyers, 2019). As an important result, the fact that pre-service teachers with high attitudes towards learning also have high personal growth initiatives supports the conclusion that the academic knowledge they receive during their university education processes also increases their personal growth initiatives for the future.

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## REFERENCES

- Adıgüzel, A., & Dolmacı, A. (2018). *Öğretmen adaylarının öğrenmeye yönelik tutumlarının farklı değişkenlere göre incelenmesi*. *AJELI-Anatolian Journal of Educational Leadership and Instruction*, 6 (2), 63 – 79. <https://dergipark.org.tr/en/pub/ajeli/issue/41881/438499>
- Aktürk, A. O. (2012). Öğretmen adaylarının öğrenmeye ilişkin tutumlarının öğretmenlik mesleğini tercih etme nedenlerine ve akademik başarılarına göre incelenmesi. *Ahi Evran Üniversitesi Kırşehir Eğitim Fakültesi Dergisi*, 13 (3), 283 – 297. <https://dergipark.org.tr/en/pub/kefad/issue/59486/854948>
- Altıntaş, S. (2022). *Öğretmenlerin kişisel ve mesleki gelişimleri için açık eğitim kaynaklarını kullanma alışkanlıklarının yaşam boyu öğrenme eğilimleri açısından değerlendirilmesi* [Published doctoral thesis]. Trakya Üniversitesi Fen Bilimleri Enstitüsü.
- Amiri, M., & Ghonsooly, B. (2015). The relationship between English learning anxiety and the students' achievement on examinations. *Journal of Language Teaching and Research*, 6 (4), 855 – 865. <http://dx.doi.org/10.17507/jltr.0604.20>
- Arslanoğlu, İ. (2016). *Bilimsel yöntem ve araştırma teknikleri ders notları* [Scientific method and research techniques lecture notes] (1<sup>st</sup> ed.). Gazi Kitabevi Tic. Ltd. Şti.
- Awang, M. M., Ahmad, A. R., Bakar, N. A. A., Ghani, S. A., Yunus, A. N. M., Ibrahim, M. A. H., ... & Rahman, M. J. A. (2013). Students' attitudes and their academic performance in nationhood education. *International Education Studies*, 6 (11), 21 – 28. <http://dx.doi.org/10.5539/ies.v6n11p21>
- Bohndick, C., Ehrhardt-Madapathi, N., Weis, S., Lischetzke, T., & Schmitt, M. (2022). Pre-service teachers' attitudes towards inclusion and their relationships to personality traits and learning opportunities. *European Journal of Special Needs Education*, 37 (1), 146 – 155. <https://doi.org/10.1080/08856257.2020.1857929>
- De Houwer, J., Barnes – Holmes, D., & Moors, A. (2013). What is learning? On the nature and merits of a functional definition of learning. *Psychonomic bulletin & review*, 20 (4), 631 – 642. <https://doi.org/10.3758/s13423-013-0386-3>
- De Jager-van Straaten, A., Jorgensen, L., Hill, C., & Nel, J. A. (2016). Personal growth initiative among Industrial Psychology students in a higher education institution in South Africa. *SA Journal of Industrial Psychology*, 42 (1), 1 – 11. <https://doi.org/10.4102/sajip.v42i1.1283>
- Denat, Y. (2019). Hemşirelik öğrencilerinin öğrenme tutumları ve etkileyen etmenler [Nursing students' attitudes toward learning and determinant factors]. *Sakarya University Journal of Holistic Health*, 2 (2), 10 – 21. <https://dergipark.org.tr/en/pub/sauhsd/issue/50266/618554>
- Demir, F. (2022). The effect of different usage of the educational programming language in programming education on the programming anxiety and achievement. *Education and Information Technologies*, 27 (3), 4171 – 4194. <https://doi.org/10.1007/s10639-021-10750-6>
- Díez-Palomar, J., García-Carrión, R., Hargreaves, L., & Vieites, M. (2020). Transforming students' attitudes towards learning through the use of successful educational actions. *PLoS one*, 15(10), e0240292. <https://doi.org/10.1371/journal.pone.0240292>

- Dikbaş, E. (2006). *Öğretmen adaylarının e-öğrenmeye yönelik tutumlarının incelenmesi* [Published doctoral thesis]. DEÜ Eğitim Bilimleri Enstitüsü.
- Dovbnia, S. O., Melnyk, N. I., Shulyhina, R. A., Andrushchenko, N. V., & Kosenko, Y. M. (2022). Diagnosis of creative potential of future teachers as a mental basis for professional self – improvement. *Polish Psychological Bulletin*, 53 (1), 47 – 52. <https://doi.org/10.24425/ppb.2022.140481>
- Doob, L. W. (1947). The behavior of attitudes. *Psychological Review*, 54 (3), 135 –156. <https://doi.org/10.1037/h0058371>
- Dunn, T. G., & Shriener, C. (1999). Deliberate practice in teaching: What teachers do for self – improvement. *Teaching and teacher education*, 15 (6), 631 – 651. [https://doi.org/10.1016/S0742-051X\(98\)00068-7](https://doi.org/10.1016/S0742-051X(98)00068-7)
- Ereş, F. (2010). İlköğretim okulu öğretmenlerinin genel alan yeterlikleri kapsamındaki kişisel ve meslekî değerler ile meslekî gelişim yeterliklerine ilişkin ilköğretim müfettişlerinin görüşleri [Opinions of primary education inspectors intended for personal and professional values and professional development competencies within general work frame proficiencies of primary school teachers]. *Gazi University Journal of Gazi Educational Faculty (GUJGEF)*, 30 (2), 357 – 374. <https://dergipark.org.tr/en/download/article-file/77046>
- Ergen, Y. & Durmuş, M. E. (2022). Sınıf öğretmenlerin matematik öğrenmeye ilişkin inançları ve matematik öğretimi kaygıları arasındaki ilişki [The relationship between class teachers' beliefs about mathematics learning and their mathematics teaching anxiety]. *Van Yüzüncü Yıl University Journal of Education Faculty*, 19 (1), 65 – 85. <https://doi.org/10.33711/yyuefd.1067779>
- Ertürk, S. (1975). *Eğitimde Program Geliştirme* (1<sup>st</sup> ed.) [Curriculum Development in Education]. Yelkenitepe Yayınları.
- Fidan, N. (1986). *Okulda Öğrenme ve Öğretme* (3<sup>rd</sup> ed.) [Learning and Teaching at School]. Pegem Akademi.
- Gawronski, B. (2007). Attitudes can be measured! But what is an attitude?. *Social Cognition*, 25 (5), 573 – 581. <http://bertramgawronski.com/documents/G2007SC.pdf>
- Genç, M., & Fidan, Y. (2019). Öğrencilerin kişisel gelişim yönelimlerinin kariyer uyum yeteneklerine etkisi: üniversite öğrencileri örneği [The effect of personal growth initiative on student's career adaptation skills: the case of a university]. *İstanbul Ticaret Üniversitesi Sosyal Bilimler Dergisi*, 18 (35), 151 – 178. <https://search.trdizin.gov.tr/yayin/detay/333522/>
- Gömlüksiz, M.N. & Kan, A. Ü. (2007). Yeni ilköğretim programlarının dayandığı temel ilke ve yaklaşımlar [Basic principles and approaches of new primary school curricula]. *Fırat Üniversitesi Doğu Araştırmaları Dergisi*, 5 (2), 60 – 66. <https://dergipark.org.tr/en/pub/fudad/issue/47099/592460>
- Guido, R. M. D. (2018). Attitude and motivation towards learning physics. *International Journal of Engineering Research & Technology (IJERT)*, 2 (11), arXiv:1805.02293. <https://doi.org/10.48550/arXiv.1805.02293>
- Güçlü, M., & Bozgeyikli, H. (2016). Öğretmen adaylarının Türk eğitim tarihi dersine yönelik tutumlarının incelenmesi [An investigation of teacher candidates' attitudes towards the Turkish history of education course]. *Journal of History School*, 9 (XXV), 401 – 415. <http://dx.doi.org/10.14225/Joh800>

- Gür Erdoğan, D., Zafer Güneş, D., & Güngören, Ö. C. (2018). Öğretmen adaylarının değişime hazır olma durumları ile yaşam boyu öğrenme eğilimleri. *ERPA International Congresses on Education 2018*. <https://hdl.handle.net/20.500.12436/4166>
- Gürbüz, S. & Şahin, F. (2018). *Sosyal bilimlerde araştırma yöntemleri* [Research methods in social sciences] (5<sup>th</sup> ed.). Seçkin Yayıncılık.
- Helena Martins, M., Borges, M. L., & Gonçalves, T. (2018). Attitudes towards inclusion in higher education in a Portuguese university. *International Journal of Inclusive Education*, 22 (5), 527 – 542. <https://doi.org/10.1080/13603116.2017.1377299>
- Humphrey, G. (2013). *The nature of learning: in its relation to the living system*. Routledge.
- Izgar, H. (2016). Öğretmen adaylarının eğitim stresi ve öğrenmeye karşı tutumları üzerinde karşılaştırmalı bir araştırma [A comparative study on the training stress of prospective teachers and their attitudes towards learning]. *Bayburt Eğitim Fakültesi Dergisi*, 10 (2), 385 – 399. <https://dergipark.org.tr/en/pub/befdergi/issue/17275/180474>
- Kara, A. (2009). The effect of a 'learning theories' unit on students' attitudes toward learning. *Australian journal of teacher education*, 34 (3), 100 – 113. <https://ro.ecu.edu.au/ajte/vol34/iss3/5/>
- Kara, A. (2010). Öğrenmeye ilişkin tutum ölçeğinin geliştirilmesi [The development of the scale of attitudes toward learning]. *Electronic Journal of Social Sciences*, 9 (32), 49 – 62. <https://dergipark.org.tr/tr/download/article-file/70180>
- Karakaya, İ. (2014). Bilimsel araştırma yöntemleri [Scientific research methods]. In Tanrıöğen, A. (Ed.), *Bilimsel araştırma yöntemleri* (4<sup>th</sup> ed., pp. 57 – 86). Anı Yayıncılık.
- Karban, R. (2015). *Plant sensing and communication*. In *Plant Sensing and Communication* (1<sup>st</sup> ed.). University of Chicago Press.
- Kidman, G. (2009). Attitudes and interests towards biotechnology: the mismatch between students and teachers. *Eurasia Journal of Mathematics, Science and Technology Education*, 5 (2), 135 – 143. <https://eprints.qut.edu.au/28904/1/28904.pdf>
- Lama, M. A. Q. (2011). The relation of depression and anxiety in academic achievement among group of university students. *International journal of psychology and counselling*, 3 (5), 96 – 100. <http://www.academicjournals.org/IJPC>
- Lea, S. J., Stephenson, D., & Troy, J. (2003). Higher education students' attitudes to student-centered learning: beyond educational bulimia?. *Studies in Higher Education*, 28 (3), 321 – 334. <https://doi.org/10.1080/03075070309293>
- Michalski, R. S. (1986). *Understanding the nature of learning: Issues and research directions*. Morgan Kaufmann Publishers. <https://www.mli.gmu.edu/papers/81-85/85-09.pdf>
- Mdikana, A., Ntshangase, S., & Mayekiso, T. (2007). Pre-Service Educators' Attitudes towards Inclusive Education. *International Journal of Special Education*, 22 (1), 125 – 131. <https://files.eric.ed.gov/fulltext/EJ814479.pdf>
- Nathans, L., & Brown, A. (2022). Differences in pre-service teacher attitude change about family involvement across four universities. *Societies*, 12 (2), 65. <https://doi.org/10.3390/soc12020065>

- Niles, J. K., Gutierrez, D., Dukes, A. T., Mullen, P. R., & Goode, C. D. (2022). Understanding the relationships between personal growth initiative, hope, and abstinence self-efficacy. *Journal of Addictions & Offender Counseling*, 43 (1), 15 – 25. <https://doi.org/10.1002/jaoc.12099>
- Özden, Y. (2021). *Öğrenme ve Öğretme* (14<sup>th</sup> ed.) [Learning and Teaching]. Pegem Akademi.
- Özakupınar, Y. (1988), Milli eğitimin gayesi ve öğretmenlik şahsiyeti [The purpose of national education and the personality of teaching]. *S.Ü. Eğitim Fakültesi Dergisi*, 2 (1), 115 – 124.
- Rao, S. (2004). Faculty attitudes and students with disabilities in higher education: A literature review. *College Student Journal*, 38 (2), 191 – 199. <https://go.gale.com/ps/i.do?id=GALE%7CA119741925&sid=googleScholar&v=2.1&it=r&linkaccess=abs&issn=01463934&p=AONE&sw=w&userGroupName=anon%7E622eb09b>
- Robitschek, G., Ashton, MW., Spering, GG., Geiger, N., Byers, D., Schotts, GG., Thoen, MA. (2012). Development and psychometric evaluation of the personal growth initiative scale – II. *Journal Counseling Psychology*, 59 (2), 274 – 287. <https://doi.org/10.1037/a0027310>
- Şahin, B. (2012). Metodoloji [Methodology]. In Tanrıoğen, A. (Ed.), *Bilimsel araştırma yöntemleri* (4<sup>th</sup> ed., pp. 109-130). Anı Yayıncılık.
- Seferoğlu, S. S. (2004). Öğretmen yeterlilikleri ve mesleki gelişim [Teacher competencies and professional development]. *Bilim ve Aklın Aydınlığında Eğitim*, 58, 40 – 45. [https://yunus.hacettepe.edu.tr/~sadi/yayin/Seferoglu\\_Ogretmen\\_Yeterlikleri\\_BAAE\\_2004-58.pdf](https://yunus.hacettepe.edu.tr/~sadi/yayin/Seferoglu_Ogretmen_Yeterlikleri_BAAE_2004-58.pdf)
- Schmeck, R. R. (1988). Individual differences and learning strategies. In *Learning and study strategies* (1st ed., pp. 171 – 191). Academic Press. <https://doi.org/10.1016/B978-0-12-742460-6.50016-5>
- Sloan, T., Daane, C. J., & Giesen, J. (2002). Mathematics anxiety and learning styles: What is the relationship in elementary preservice teachers?. *School Science and Mathematics*, 102 (2), 84 – 87. <https://doi.org/10.1111/j.1949-8594.2002.tb17897.x>
- Şimşek, M. R. (2020). The impact of service – learning on EFL teacher candidates' academic and personal development. *European Journal of Educational Research*, 9 (1), 1 – 17. <https://eric.ed.gov/?id=EJ1241202>
- Şimşek, A., 2012. Araştırma modelleri [Research models]. In Simsek, A. (Ed.), *Sosyal bilimlerde araştırma yöntemleri* (1<sup>st</sup> ed., pp. 80 – 107). Anadolu Üniversitesi Yayınları.
- Teo, T. (2008). Pre-service teachers' attitudes towards computer use: A Singapore survey. *Australasian Journal of Educational Technology*, 24 (4). <https://doi.org/10.14742/ajet.1201>
- Thrun, S., & Pratt, L. (Eds.). (2012). *Learning to learn* (14<sup>th</sup> ed.). Springer Science & Business Media.
- Vogel, S. A., Leyser, Y., Wyland, S., & Brulle, A. (1999). Students with learning disabilities in higher education: Faculty attitude and practices. *Learning Disabilities Research & Practice*, 14 (3), 173 – 186. [https://www.tandfonline.com/doi/abs/10.1207/sldrp1403\\_5](https://www.tandfonline.com/doi/abs/10.1207/sldrp1403_5)
- Wasburn-Moses, L. (2009). An exploration of pre-service teachers' expectations for their future roles. *Teacher Education and Special Education*, 32 (1), 5 – 16. <https://doi.org/10.1177/0888406408330865>

- Weigold, I. K., Weigold, A., Russell, E. J., & Drakeford, N. M. (2014). Examination of the psychometric properties of the Personal Growth Initiative Scale–II in African American college students. *Assessment*, 21 (6), 754 – 764. <https://doi.org/10.1177/1073191114524019>
- Yalçın, İ. ve Malkoç, A. (2013). Adaptation of personal growth initiative scale – II to Turkish and investigation of psychometric properties. *Düşünen Adam*, 26 (3), 258 – 266. <https://dx.doi.org/10.5350/DAJPN2013260304>
- Yetim, A. A., & Göktaş, Z. (2004). Öğretmenin mesleki ve kişisel nitelikleri [Teacher’s occupational and personal qualifications]. *Kastamonu Eğitim Dergisi*, 12 (2), 541 – 550. <https://dspace.balikesir.edu.tr/xmlui/handle/20.500.12462/5249>
- Yıldırım, A. ve Şimşek, H. (2011). *Sosyal bilimlerde nitel araştırma yöntemleri* [Qualitative research methods in the social sciences] (8<sup>th</sup> ed.). Seçkin Yayıncılık.
- Yüksel-Sahin, F., & Taşkın, T. (2019). Çalışmayan ev kadınlarının mutluluk ve kişisel gelişim yönelimi düzeylerinin incelenmesi [Examination of the levels of happiness and self-improvement tendencies among unemployed housewives]. *Journal of Theory and Practice in Education*, 15 (Special Issue 1), 24 – 36. <https://doi.org/10.17244/eku.491068>