

# Investigation of time management skills of pre-service teachers in terms of various variables

**Ayşe Derya Eskimen**

Department of Turkish Language and Literature Education, Faculty of Education, Kütahya Dumlupınar University, Kütahya, Türkiye.

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## ABSTRACT

The study aimed to examine the time management skills of pre-service teachers in terms of various variables. The study is important in terms of both quantitative and qualitative data in terms of planning time, being aware of the importance of time and knowing their habits that will make them waste time and revealing what their attitudes are about it. The study group of the research consists of Turkish pre-service teachers. "Time Management Questionnaire" and three open-ended questions were used as data collection tools. The results of the study show that pre-service Turkish teachers' time management skills differ according to gender, academic gpa, daily smartphone use and daily book reading habits; there was no significant difference according to the grade variable. In the study, it was concluded that as the daily smartphone usage time of pre-service teachers increased, their time management skill scores decreased; as the daily book reading time increased, their time management skill scores increased. The qualitative findings of the study showed that the majority of the pre-service teachers made short or long term plans, were aware of the importance of time and its efficient use, and the habit that they thought spent too much of their time was the smartphone; quantitative findings showed that the pre-service teachers' time management was at the "medium" level. We believe that the results of the study on determining the situations of pre-service teachers regarding time management through quantitative and qualitative data will both contribute to the field and guide further studies.

**Keywords:** Pre-service teachers, time management, Turkish pre-service teachers.

E-mail: aysederya.eskimen@dpu.edu.tr.

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## INTRODUCTION

According to the Turkish Language Institution, time is defined as the period in which a work, an occurrence takes place, will take place, or is taking place. Effective and efficient use of time is important for a person to be able to control his/her life and achieve his/her goals and objectives. This is because being able to plan and use time in the best way is related to having effective time management skills. "The effective and productive use of time, which is such a valuable resource, has led to the emergence of a new concept called "Time Management" in recent years" (Öncel, Büyükoztürk and Özçelikay,

2005: 192).

Time management is defined in the sources as the process of applying management functions such as planning, organizing and controlling one's activities in order to achieve one's goals effectively and efficiently in private and business life (Kocabaş and Erdem, 2003: 192); saving time for important work by eliminating unnecessary work and doing qualified work in a shorter time (Gözel and Halat, 2010: 74). Looking at the definitions, it is seen that time management is related to time planning, being aware of the importance of time and controlling the habits that will

waste time. Because time management increases the productivity and quality of life of the individual. As a matter of fact, according to Timpe (1987) and Mackenzie (1990) cited by Sezen (2013), Timpe emphasizes that the development of time management skills affects an individual's productivity and overall performance. Similarly, Mackenzie (1990) revealed that time management helps to improve the quality of life of individuals, reduces stress, provides a balanced life, increases productivity and facilitates achieving goals. Using time efficiently is very important for all professional groups. In this context, of course, the teaching profession is one of the professions based on planned work and the ability to manage time in the best way. In this regard, it is very important for pre-service teachers to comprehend the importance of time management skills and to be trained as teachers with this awareness and skill. Because only pre-service teachers who have time management skills will be able to use time effectively and efficiently in their professional lives.

The teaching profession is one of the professions based on planned work and the ability to manage time in the best way. Because teachers have to use time effectively due to many characteristics of their work. For example; date and time-based tasks such as completing the subjects related to their lessons on time and following up with the students at the required times put pressure on teachers. Therefore, managing time well and using time management principles effectively will enable teachers to achieve their goals in a shorter time. Teachers should gain this skill in their education life so that they can use time effectively while doing their profession.

Understanding the importance of time management skills of pre-service teachers, who will be one of the active elements of the teaching process, and increasing their skills in time management and it is very important to train them as teachers who have this skill. Because pre-service teachers who have time management skills will be able to use time effectively and efficiently in their professional lives. Therefore, it is thought that it will be necessary and useful to make a situation determination through this application and to present results to the literature through the sample of Turkish pre-service teachers.

Spending time on habits and practices that do not provide benefits and waste time is a factor that negatively affects time management. Therefore, "The first stage of gaining time management skills is to ask the question of where time is spent and to sincerely seek answers to this question (Smith, 1998: 20). In the study, the opinions of pre-service teachers on time planning, being aware of the importance of time and habits that will make them spend time were also included.

There are studies in the literature to determine the time management skills of university students. Britton and Tesser (1991), Trueman and Hartley (1996), İşcan (2008) and Erdul (2005) on the relationship between university students' time management skills and anxiety levels;

Erdem, Piriñçi and Dikmetaş (2005) on the relationship between university students' time management behaviors and academic achievement; Tanrıöğen and İşcan (2009) on the effect of university students' time management skills on their academic achievement; Demirtaş and Özer (2007) on the relationship between time management and academic achievement of prospective teachers; Arslan and Umdu Topsakal (2019), prospective science teachers; Varışoğlu, Seref and Yılmaz (2012), prospective Turkish teachers; Kılıçoğlu (2020), prospective Social Studies teachers; Başak, Uzun and Arslan (2008), nursing students; Ergin and Beyoğlu (2018), prospective teachers of the Faculty of Fine Arts; Sezen (2013), students of the Faculty of Theology; Gözel and Halat (2010), elementary school teachers and other studies are some of the studies that address students' time management skills.

Depending on the development of today's technology, studies have been conducted in the literature on technology, smartphone use and their relationship with time management. In this regard, Orhan and Abacı (2023) examined the effect of smartphone addiction on students' time management and academic achievement; Akay, Ayhan, Orhan and Öçalan (2023) examined university students' leisure time management and technology addiction levels; Denkteş, Temur, Aydın, Balinan and Karadağ (2023) examined secondary school students' leisure time management and digital addiction levels.

## Objective

In this study, it was aimed to determine the time management skills of pre-service teachers through various variables. On the other hand, the qualitative dimension of the study, it was also tried to determine the views of pre-service teachers on time planning, being aware of the importance of time and habits that make them waste time. We believe that the results of the study on determining pre-service teachers' time management skills through quantitative and qualitative data will both contribute to the field and guide further studies.

In line with this, the following questions were sought to be answered in this study:

1. What is the level of time management skills of pre-service teachers?
2. Do pre-service teachers' time management skills differ according to gender variables?
3. Do pre-service teachers' time management skills differ according to the grade variable?
4. Do pre-service teachers' time management skills differ according to their academic GPA?
5. Do pre-service teachers' time management skills differ according to the duration of daily smartphone use?
6. Do the time management skills of pre-service teachers differ according to their daily book reading period?

## METHOD

### Research model

This study, which aims to examine the time management skills of pre-service Turkish language teachers in terms of various variables, is a survey model. Survey models are research approaches that aim to describe a past or current situation as it exists (Karasar, 1999). Quantitative and qualitative data collection methods were used in the study and therefore a mixed method was used to integrate the research results. Because, as Creswell (2003) states, "The purpose of using qualitative and quantitative research methods together in the same research is to increase the advantages and decrease the disadvantages of qualitative and quantitative research."

### Study group

The research was conducted with 142 Turkish language teacher candidates studying at a state university in the 2022-2023 academic year.

### Data collection tools

Quantitative and qualitative data were collected in the study. "Personal Information Form" and "Time Management Scale" developed by Britton and Tesser (1991) and adapted into Turkish by Alay and Koçak (2002) were used to collect quantitative data.

#### Quantitative data collection tools

"Time Management Scale" developed by Britton and Tesser (1991) and adapted into Turkish by Alay and Koçak (2002) was used as a data collection tool in this study conducted to determine the time management skills of pre-service Turkish language teachers. It consists of 27 items. The scale consists of three sub-dimensions named "time planning, time attitudes and resisting time-wasting". The scale is in the form of a five-point Likert scale consisting of "Always, Often, Sometimes, Rarely and Never" options. There are negative items on the scale. Negative items were reversed when scoring.

In the study, the reliability of the scale was calculated with Cronbach Alpha coefficient and the value was found to be 0.873. Whether for the overall scale or the sub-dimensions, the higher the value obtained, the better the student is in time management practices, and the lower the value obtained, the opposite is the case.

#### Qualitative data collection tools

For the qualitative dimension of the research, an

evaluation was carried out to determine the attitudes of pre-service teachers towards time planning, time use and what they spend the most time with. In this context, six open-ended question forms were prepared for pre-service teachers. In order to ensure the internal validity of these questions, after receiving the opinion of a field expert, the questions were finalized by reducing them to three questions, which were also related to the planning, attitude and time wasters sub-dimensions of the scale:

- Do you make short or long term plans? If so, in which areas do you make plans?
- Is it important for you to use time efficiently? Why?
- What are the activities, habits or things that come to your mind that you think take up too much time or waste your time?

### Data analysis

The quantitative data obtained in the study were analyzed through descriptive statistics; qualitative data were analyzed through content analysis. In this study, a concurrent triangulation strategy was used as a mixed research design; the aim was to interpret qualitative and quantitative data collected simultaneously and to provide triangulation (Creswell, 2003).

The quantitative data obtained from the study were analyzed using SPSS 22 software. In the analysis of the data, firstly, the assumptions to be met in order to decide which tests (parametric/nonparametric tests) to apply were tested.

Kolmogorov-Smirnov, kurtosis and skewness values, which are other assumptions of normal distribution, were used to decide on the normality of the distribution. Kolmogorov-Smirnov and Shapiro-Wilk tests were used to check whether the numerical variables were normally distributed. The data show normal distribution.

### Ethics committee permission

Board name: Rectorate of Kütahya Dumlupınar University, Social Sciences and Humanities Scientific Research and Publication Ethics Board

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## FINDINGS

In this section, findings on the level of time management skills of pre-service teachers are presented.

### Findings related to quantitative data

As shown in Table 1, Kolmogorov-Smirnov and kurtosis-

skewness coefficients were analyzed to determine whether the data met the normality assumption. The kurtosis and skewness values for the data with a significance level less than 0.05 obtained from the Kolmogorov-Smirnov tests were between  $\pm 2.0$  (George

and Mallery, 2010) and the values were considered to be normally distributed and the analyzes were performed with parametric tests. In order to answer the first problem of the study, "What is the level of pre-service teachers' time management skills?" can be seen in Tables 2 and 3.

**Table 1.** Normal distribution values for time management scale total scores.

	Kolmogorov-Smirnov			Skewness	Kurtosis
	Statistics	Sd	P		
Time planning	0.04	142.00	0.20	0.01	-0.30
Time attitudes	0.09	142.00	0.00	-0.30	0.07
Time wasters	0.13	142.00	0.00	-0.50	0.04
Time management questionnaire	0.04	142.00	0.20	-0.08	-0.20

**Table 2.** Distribution values regarding time management levels.

	Level	N	%
Time management questionnaire	Low level	18	12.68
	Medium level	70	49.30
	High level	51	35.92
	Very high level	3	2.11

When the time management questionnaire levels of the people were analyzed, it was determined that 49.30% (n:70) of the study sample was at a medium level and 35.92% (n:51) was at a high level. In order to determine the level of participation from the scores obtained from the scales, the group width value was evaluated using the formula  $4/5 = .80$ . For this purpose; 1.00 to 1.80

was taken as "very low level"; 1.80 to 2.60 as "low level"; 2.60 to 3.40 as "medium level"; 3.40 to 4.20 as "high level"; 4.20 to 5 as "very high level". It can be seen in the table below that the total score of the time management questionnaire (87) divided by the number of items (27) is 3.2 and their time management is at a "medium" level.

**Table 3.** Summary statistical values of scale scores.

	n	Minimum	Maximum	Average	Standard deviation
Time planning	142	22.00	77.00	51.59	10.49
Time attitudes	142	10.00	34.00	22.94	4.14
Time wasters	142	4.00	20.00	12.89	2.85
Time management questionnaire	142	50.00	124.00	87.42	13.98

It is seen that the mean score of time planning is  $51.59 \pm 1.49$  with a minimum value of 22 and a maximum value of 77, the mean score of time attitudes is  $22.94 \pm 4.14$  with a minimum value of 10 and a maximum value of 34, the mean score of time wasters is  $12.89 \pm 2.845$  with a minimum value of 4 and a maximum value of 20, and the mean score of time management questionnaire is  $87.42 \pm 13.98$  with a minimum value of 50 and a maximum value of 124.

In order to answer the second problem of the study, "Do pre-service teachers' time management skills differ

according to the gender variable?" the total score and descriptive statistics of the pre-service teachers were calculated. The data related to these statistics can be seen in Table 4.

When we look at Table 4, time management of pre-service teachers shows a statistically significant difference in favor of men according to gender ( $t: -2.20; p < 0.05$ ). In this context, when the mean values were analyzed, it was seen that males ( $89.22 \pm 13.37$ ) had higher time management questionnaire scores than females ( $83.81 \pm 14.63$ ). On the other hand, the scores of the time wasters show a

statistically significant difference according to gender ( $t: -2.96$ ;  $p < 0.05$ ). When the mean values are analyzed, it is

seen that men ( $13.38 \pm 2.68$ ) have higher time-consuming scores than women ( $11.91 \pm 2.94$ ).

**Table 4.** Comparison of time management scale scores according to gender variable.

	Gender	N	$\bar{X} \pm Ss$	t	Sd	P
Time planning	Woman	47	$49.55 \pm 11.78$	-1.64	140	0.10
	Male	95	$52.60 \pm 9.71$			
Time attitudes	Woman	47	$22.34 \pm 4.20$	-1.22	140	0.22
	Male	95	$23.24 \pm 4.11$			
Time wasters	Woman	47	$11.91 \pm 2.94$	-2.96	140	0.00
	Male	95	$13.38 \pm 2.68$			
Time management questionnaire	Woman	47	$83.81 \pm 14.63$	-2.20	140	0.03
	Male	95	$89.22 \pm 13.37$			

t: Independent sample t-test

**Table 5.** Comparison of time management questionnaire scores by grade level.

	Classroom	N	$\bar{X} \pm Ss$	F	P
Time planning	1st grade	51	$49.29 \pm 11.11$	1.58	0.20
	2nd grade	40	$52.03 \pm 8.99$		
	3rd grade	15	$55.00 \pm 8.67$		
	4th grade	36	$52.94 \pm 11.52$		
Time attitudes	1st grade	51	$22.18 \pm 4.21$	0.96	0.41
	2nd grade	40	$23.33 \pm 3.52$		
	3rd grade	15	$23.07 \pm 4.42$		
	4th grade	36	$23.56 \pm 4.58$		
Time wasters	1st grade	51	$13.16 \pm 2.84$	2.24	0.09
	2nd grade	40	$13.40 \pm 2.99$		
	3rd grade	15	$13.13 \pm 2.07$		
	4th grade	36	$11.86 \pm 2.82$		
Time management questionnaire	1st grade	51	$84.63 \pm 14.57$	1.22	0.30
	2nd grade	40	$88.75 \pm 12.48$		
	3rd grade	15	$91.20 \pm 12.91$		
	4th grade	36	$88.36 \pm 14.96$		

F: One-way analysis of variance

When we look at Table 5, time management and sub-dimension scores of pre-service teachers do not show a statistically significant difference according to their grade levels ( $p > 0.05$ ).

In order to answer *the fourth problem of the study*, "Do pre-service teachers' time management skills differ according to their academic GPA?", the results of the total scores and descriptive statistics of the pre-service

teachers are given in Table 6.

When we look at Table 6, Time planning, time attitudes and time management inventory scores do not show a statistically significant difference according to academic GPA ( $p > 0.05$ ).

Time wasters scores show a statistically significant difference according to academic GPA ( $F: 5.38$ ;  $P < 0.05$ ). When the Bonferroni multiple comparison test was used to

determine between which groups the difference was between, it was found that the scores of people with GPA between 1.25 and 2.50 were significantly lower than the scores of people with GPA between 2.50 and 3.00.

The total score and descriptive statistics of the scale related to *the fifth problem* of the study, "Do the time management skills of pre-service teachers differ according to their daily smartphone usage time?" are shown in Table 7.

**Table 6.** Comparison of time management questionnaire scores according to academic GPA.

	Academic Gpa	N	$\bar{X} \pm Ss$	F	P	Group
Time planning	Between 1.25 - 2.50	39	49.33 $\pm$ 10.86	2.18	0.12	
	Between 2.50 - 3.00	38	50.63 $\pm$ 8.90			
	Between 3.00 - 3.75	65	53.51 $\pm$ 10.93			
Time attitudes	Between 1.25 - 2.50	39	22.15 $\pm$ 4.25	1.22	0.30	
	Between 2.50 - 3.00	38	22.87 $\pm$ 3.67			
	Between 3.00 -3.75	65	23.46 $\pm$ 4.33			
Time wasters	Between 1.25 - 2.50	39	11.79 $\pm$ 3.15	5.38	0.01	1<2
	Between 2.50 - 3.00	38	13.84 $\pm$ 2.34			
	Between 3.00 - 3.75	65	13.00 $\pm$ 2.74			
Time management questionnaire	Between 1.25 - 2.50	39	83.28 $\pm$ 13.75	2.86	0.06	
	Between 2.50 - 3.00	38	87.34 $\pm$ 11.92			
	Between 3.00 - 3.75	65	89.97 $\pm$ 14.81			

F: One-way analysis of variance

**Table 7.** Comparison of time management questionnaire scores according to daily smartphone usage time.

	Smartphone usage time	N	$\bar{X} \pm Ss$	F	P	Group
Time planning	Less than 2 hours	29	55.66 $\pm$ 12.50	3.39	0.04	2<1
	3-4 hours	80	49.89 $\pm$ 9.67			
	5-6 hours	33	52.15 $\pm$ 9.76			
Time attitudes	Less than 2 hours	29	23.83 $\pm$ 4.68	1.05	0.35	
	3-4 hours	80	22.55 $\pm$ 3.92			
	5-6 hours	33	23.12 $\pm$ 4.18			
Time wasters	Less than 2 hours	29	13.66 $\pm$ 3.09	3.35	0.04	3<1
	3-4 hours	80	13.04 $\pm$ 2.69			
	5-6 hours	33	11.88 $\pm$ 2.79			
Time management questionnaire	Less than 2 hours	29	93.14 $\pm$ 16.03	3.31	0.04	2<1
	3-4 hours	80	85.48 $\pm$ 13.11			
	5-6 hours	33	87.15 $\pm$ 13.16			

F: One-way analysis of variance

When we look at Table 7, the time management scores of pre-service teachers show a statistically significant difference according to the duration of daily smartphone use (F: 3.31; P < 0.05). When we look at which groups the difference is between, it is determined that the time

management questionnaire scores of people who use it for 3 to 4 hours daily are significantly lower than those who use it for less than 2 hours.

In order to answer the *sixth problem* of the study, "Do pre-service teachers' time management skills differ

according to their book reading habits?", the total scores and descriptive statistics of the pre-service teachers were calculated. Related results are shown in Table 8.

When we look at Table 8, we see that there is a statistically significant difference between the time management general scores of pre-service teachers

according to their daily reading time ( $F: 11.66; P < 0.05$ ). When we look at which groups the difference is between, it is determined that the time management questionnaire scores of the people who read books for less than 1 hour per day are significantly lower than the people who read books for 1 to 2 hours and 3 to 4 hours.

**Table 8.** Comparison of time management questionnaire scores according to daily book reading time.

	Daily book reading time	N	$\bar{X} \pm Ss$	F	P	Group
Time planning	Less than 1 hour	62	47.92 ± 10.86	7.36	0.00	1<2
	1-2 hours	69	54.36 ± 9.65			
	3-4 hours	11	54.91 ± 7.29			
Time attitudes	Less than 1 hour	62	21.63 ± 4.13	5.91	0.00	1<2
	1-2 hours	69	23.97 ± 3.93			
	3-4 hours	11	23.91 ± 3.78			
Time wasters	Less than 1 hour	62	11.89 ± 2.88	7.59	0.00	1<2
	1-2 hours	69	13.64 ± 2.70			
	3-4 hours	11	13.91 ± 1.70			
Time management questionnaire	Less than 1 hour	62	81.44 ± 13.32	11.66	0.00	1<2,3
	1-2 hours	69	91.97 ± 13.09			
	3-4 hours	11	92.73 ± 10.61			

F: One-way analysis of variance

**Findings related to qualitative data**

**b.1** Do you make short or long term plans? If so, in which areas do you make plans? nineteen students stated that they did not make plans and did not like to make plans, while one hundred and twenty-three pre-service teachers stated that they made short or long term plans.

**Table 9.** Responses to the question: Do you make short or long term plans?

Category	F
Daily/short-term or future/long-term plans	123
No, I don't	19

"I make plans for my future. I make weekly plans about my lessons." S10

"I don't make long term plans, I usually plan my day." S13

"I usually make short-term plans and have difficulty in following long-term plans. I usually deal with daily and weekly plans related to lessons and school." S20

"In general, I do everything within the plans." S21

"I do it while studying for exams. I take notes on what I need to do." S22

"I usually make daily plans. I like to be in control. Future

plans scare me." S66

"When I study, I try to work in a planned way, other than that, I make plans for the near future at most, I don't make long-term plans." S90

"I always make short-term plans. If there are things I need to do tomorrow, I plan everything. It feels better for me to live in a planned way." S43

"Yes, I make plans for my future and one of them is to be appointed as a teacher as soon as possible, I want to be a teacher and touch children's lives and make them happy." S92

**b.2** Is it important for you to use time efficiently? One hundred and twenty-four pre-service teachers answered yes; fourteen students answered no; and four pre-service teachers stated that they thought it was important but they were not very successful in this regard.

**Table 10.** Is it important for you to use time efficiently? Answers to the question "Why?"

Category	F
Yes	124
No	14
It is important but I am not very good at it	4

"It is definitely important. I think we should be knowledgeable about time management and improve ourselves." S23

"Yes, it is important, but I cannot do it." S36

"Using time efficiently is important for me. Because I adjust my plans according to the time I will use." S56

"It is important, but I am not very successful in this regard." S99

"It is important. Otherwise, I cannot finish my work during the day." S104

"Yes, it is important. When I am busy with something unimportant, I realize this and put an end to this situation." S105

"Using time efficiently is important for me. Because I make plans to spend my time in the best way and to the fullest. If it doesn't go like this, I feel bad." S126

"So, yes. It's a great virtue to be able to do that nowadays. I apply it as much as I can, because time is a concept that we cannot bring back." S132

"It's important. Because time is cash and cannot be spent too much. It is necessary to spend it appropriately and judiciously." S137

"It is important because when I use time efficiently, I can spare more time for myself." S138

**b 3.** What are the activities, habits or things that come to your mind that you think take up too much of your time or waste your time? One hundred and twenty-three of the pre-service teachers answered social media and telephone. Seven pre-service teachers stated that they did not have such habits, while the others stated that they spent time playing computer games, sleeping and watching television.

**Table 11.** What are the activities, habits or things that come to your mind that you think take up too much of your time or waste your time? Responses to the question

Category	F
Smartphone / social media	123
None	7
Computer game	6
Sleep	4
Watching TV	2

Since I am someone who knows how to say 'no', I do not allow activities that take up too much of my time. S14

"Answering the phone. Sometimes even the work I will do during the day can be left for the next day." S22

"I think that spending too much time on the phone wastes a lot of my time." S33

"I think that surfing television channels is a waste of time." S44

"Sometimes I can get caught up in computer games. It takes up a lot of my time." S46

"Definitely social media. Although I am aware that it is very addictive, I cannot reduce it." S51

"The phone and social media are a swamp, which takes up too much of my time." S63

"Sleep. I think sleeping more than 6-7 hours a day is a huge waste of time." S70

"I think that social media tools take up too much of my time. For example, when I want to take a quick look at Instagram, it takes me in a moment and I don't realize how time flows." S73

"I spend most of my time on improving myself." S77

"Sometimes I spend too much time on the phone. When I realize it, I put it down and do something else." S88

## CONCLUSIONS AND RECOMMENDATIONS

This study was aimed to determine the level of time management skills of pre-service Turkish teachers and to examine whether they differ according to gender, grade, academic GPA, daily smartphone use and book reading time. In addition, the opinions of pre-service teachers on their attitudes towards time planning, time use and determining what they spend the most time with were also discussed.

The findings of the study revealed that pre-service teachers' time management skills were at a "medium" level; time management skills showed a statistically significant difference according to gender, academic GPA, daily smartphone usage time and daily smartphone usage time; and there was no significant difference according to the grade of pre-service teachers. The qualitative findings of the study indicate that the majority of pre-service teachers make short or long term plans, are aware of the importance of time and using it efficiently, and state that the habit that consumes too much of their time is smartphones.

The first problem of the study, "*What is the level of time management skills of pre-service teachers?*" was answered as medium level. Similar to this study, literature, Sezen (2013) obtained a similar result to our study by finding the average of the students as eighty-five, that is, medium level, in his study on time management of theology faculty students. İşcan (2008) and Erdem, Piriñçi and Dikmetaş (2005) also stated that university students' time management skills are at the "medium" level. Gözel and Halat (2010), on the other hand, expressed the views of primary school teachers on general time management as "high" level. It is thought that the higher level of time management of teachers compared to students may be related to the more professional management of time in business life.

The answer to the second problem of the study, "Do the time management skills of pre-service teachers differ according to the gender variable?" is that the time management of pre-service teachers shows a statistically



significant difference in favor of men according to gender. In this context, when the mean values were analyzed, it was seen that males ( $89.22 \pm 13.37$ ) had higher time management questionnaire scores than females ( $83.81 \pm 14.63$ ). Time planning and time attitudes scores did not show a statistically significant difference according to gender ( $p > 0.05$ ). On the other hand, the scores of time spenders show a statistically significant difference according to gender ( $t: -2.96; p < 0.05$ ). When the mean values are analyzed, it is seen that men ( $13.38 \pm 2.68$ ) have higher time-consuming scores than women ( $11.91 \pm 2.94$ ). As a matter of fact, in the literature, Demirtaş and Özer (2007) also found a difference in favor of girls in the dimension of time wasters and stated that female students avoided time wasters. Akay, Ayhan, Orhan and Öçalan (2023) also stated in their study that the mean scores of male students on the technology addiction scale were significantly higher than female students. This result supports the conclusion that female students avoid time wasters more than male students. In their study, Alay and Koçak (2003) emphasized that female students were better time managers than male students in general time management and time planning, planned their time well, and therefore had higher academic achievement. Akay, Ayhan, Orhan and Öçalan (2023) concluded in their study that women's leisure time management level averages were slightly higher than men's. Erdul (2005) stated that female students were more successful than male students in total time management and time planning. İşcan (2008) also stated in his study that the attitudes and skill levels of female students regarding time management were higher than those of male students.

The result of the third problem question of the study, "*Do the time management skills of pre-service teachers differ according to the grade variable?*" is that there is no significant difference according to the grade levels. This result is in parallel with the studies (Erdem, Piriñci and Dikmetaş, 2005; İşcan, 2008; Arslan and Umdü Topsakal, 2019). In the literature, Sezen (2013) and McKean (2000) stated that time management skills tend to increase with age and grade level in a study conducted with university students.

When we look at *the result of the fourth problem question of the study*, "*Do the time management skills of pre-service teachers differ according to their academic GPA?*", time planning, time attitudes, and time management scores do not show a statistically significant difference according to academic GPA ( $p > 0.05$ ). Alay and Koçak (2003) also stated in their study that there is no relationship between university students' time attitude and academic achievement.

There was a statistically significant difference between the academic GPA of the pre-service teachers and the time wasters ( $F: 5.38; P < 0.05$ ). Alay and Koçak (2003) also stated in their study that there was an opposite relationship between the time-wasters dimension of the time

management scale and the general academic grade point average of the students. "This means that the more university students waste time, the less successful they will be in academic life. For this reason, university students should use their time well and keep themselves away from situations and jobs that will waste their time" (p. 334). In the literature, Kılıçoğlu, in her study on pre-service social studies teachers, found that the academic GPA variable was effective on the general scores of the time management scale of university students and that time management skills increased as the academic GPA increased. Demirtaş and Özer (2007); Başak, Uzun and Arslan (2008) stated that there is a positive relationship between academic achievement and time management. Britton and Tesser (1991) also emphasized that time attitudes are an indicator of academic achievement.

The fifth problem question of the study, "*Do the time management skills of pre-service teachers, in general, differ according to the duration of daily smartphone use?*" resulted in the direction that time management skill scores of pre-service teachers decreased as the duration of daily smartphone use increased. For example, it was determined that the time management inventory scores of pre-service teachers who used their phones for 3 to 4 hours daily were significantly lower than those who used their phones for less than 2 hours. In the time planning and time wasters sub-dimensions of the scale, it was also found that students' time management skills decreased as the duration of daily smartphone use increased. It can be stated that this result supports the items "Continuing habits or activities that do not provide benefits; spending more time on your private affairs than school work" in the time wasters dimension of the scale and is related to the inability to use time correctly. Since it supports the qualitative findings of the study, it should be stated that smartphones are the habit that pre-service teachers spend the most time on, as can be seen in the students' answers to the questions. It is also certain that the pre-service teachers stated that when they picked up the phone, they could not put it down like an addiction when they wanted to take a short glance and turn it off. This shows that the smartphone can be a serious time waste. In the literature, Orhan and Abacı (2023), in their study on the effect of smartphone addiction on time management and academic achievement, determined that the time planning scores of those who were interested in smartphones for 1 to 2 hours a day were higher than those who used them for longer periods. Akay, Ayhan, Orhan and Öçalan (2023) also found that the leisure time management levels of students who use technological products for more time were significantly lower than those who use them for less time.

The answer to the sixth problem question of the study "*Do the time management skills of pre-service teachers differ according to the daily reading time?*" statistically shows that as the daily reading time of pre-service teachers increases, their time management skill scores

also increase. Again, the sub-dimensions of the scale, namely planning, attitude and time wasters, show that as the daily book reading time increases, the time management skills of pre-service teachers increase. Accordingly, it was determined that the time management scores of pre-service teachers who read books for less than 1 hour per day were significantly lower than those who read books for 1 to 2 hours and 3 to 4 hours. Based on this result, we can say that reading books is important in using time more effectively and efficiently. We think that allocating time for reading books contributes to time management skills by providing a level of consciousness towards planning time, using time constructively, and allocating a more limited and planned time for time wasters.

*The first of the results obtained from the qualitative findings of the study indicates that most of the pre-service teachers make plans in the short or long term.* Planning is important because achieving one's goals and objectives is realized through planning. Planning is the work of designing an order, making it easier to reach the goal. It can be considered as a discipline that should be acquired not only in education but in all areas of life. An individual's ability to control his/her own life depends first of all on having effective time management skills. Using or managing time effectively means planning and using every hour and every minute in line with a specific goal and purpose (Şimşek, Çelik and Soysal, 2009: 90)." As in every profession, time management is especially important in the teaching profession. A pre-service teacher who uses time efficiently and in a controlled and planned manner will reach his/her goals more easily.

*The answer to the second question of the qualitative research is that pre-service teachers are aware of the importance of time and its efficient use.* "The fact that individuals do not know how valuable their time is, often fail to realize that the way they spend their time is a function under their control, do not think about how little time they really have to achieve success in life, and do not have a system or strategy for managing their time results in their inability to use their available time effectively (Şimşek, Çelik and Soysal, 2009: 93)." The pre-service teachers, who stated that using time efficiently is important for them, stated that the habit that consumes a lot of their time is the smartphone as *an answer to the third question of the qualitative research.* Although the pre-service teachers know that this habit takes up a lot of their time, it should also be stated that this is an awareness of being able to manage time, since "The best way for individuals to manage their time depends on revealing where and how they actually spend their time" (Smith, 1998: 20). Some students expressed that they were aware that this was a time waster and that some of them set a limit for themselves by not allowing it, some students expressed

regret after wasting time by realizing this loss of time, some students expressed that they postponed some of their work to the next day due to this loss of time, etc. (Smith, 1998: 20). As a matter of fact, "an individual's ability to control his/her own life depends first of all on having effective time management skills. Using or managing time effectively means planning and using every hour and every minute in line with a specific goal and purpose (Şimşek, Çelik and Soysal, 2009: 90)". Especially in today's world of technology, smartphones, tablets, social media applications, unlimited content on the internet takes a lot of time. If we are going to spend time here, it is important to be prepared for this and to be aware of the use of time. For this reason, we can say that the qualitative part of the study is about the relationship between time use and technology use. It was also important in this study to evaluate the pre-service teachers' ability to use time for their purpose and goal, to manage time and to provide this control while spending time with today's technologies.

The results of the study show that, based on the findings, studies can be conducted to raise awareness among students that smartphones and social media applications are important time wasters when not used for their intended purpose.

Awareness can be raised through audiovisual materials and activities for students, especially pre-service teachers, about time, its importance and its management.

Similar studies can be conducted with different samples.

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