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## **INVESTIGATION OF EMERGENCY REMOTE EDUCATION EXPERIENCES OF PROSPECTIVE TEACHERS: A FRAMEWORK FOR PARTICIPATION**

*Research article*

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# Investigation Of Emergency Remote Education Experiences Of Prospective Teachers: A Framework For Participation

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## Abstract

The purpose of the study is to investigate prospective teachers' emergency remote education (ERE) experiences. The study was designed in a phenomenological pattern, one of the qualitative research methods. The study participants consisted of 125 prospective teachers in the education faculty of a state university in Turkey. The data was collected digitally with the interview form created by the researcher. Descriptive analysis was used in the analysis of the data. The results of the study showed that prospective teachers find ERE ineffective. Prospective teachers attend the field courses the most and the general culture courses the least. While the most critical factors that increase students' participation in the courses are the effectiveness of the course, its necessity, and difficulty, the most important factors that decrease their participation are ineffectiveness, unnecessary and easy courses. It has been determined that prospective teachers' participation in courses tends to decrease over time and the most important reason for this is the ineffectiveness of the courses. The achievement motivation of prospective teachers, adaptation, and the effectiveness of the course are factors that increase participation. It has been determined that prospective teachers' attitudes towards ERE tend to be negative over time, and the main reason for this is the ineffectiveness of the courses. The effectiveness of the course and the experience of ERE is the source of the positive attitudes of the prospective teachers toward ERE. Prospective teachers consider easy accessibility, effective use of time, flexibility, and increasing the use of technology as the most important advantages of ERE. Prospective teachers consider factors such as the ineffectiveness of courses, being unsuitable for practice courses, and being away from school life as the most important disadvantage of ERE. Prospective teachers think that they will experience professional inadequacy due to the ineffectiveness of the ERE process. However, they also stated that their experience in ERE is an important professional advantage. Prospective teachers suggested increasing the number of online courses, improving the infrastructure, and increasing the instructor's competencies for developing ERE. Considering the results obtained, a framework has been proposed for participation in distance education.

*Keywords:* Emergency remote education, distance education, undergraduate teacher education, Covid 19 pandemic.

## 1. Introduction

Education is an indispensable tool that enables people to realize themselves and make sense of life. While performing these basic tasks, education is affected by factors such as humans, nature, culture, technology, etc., and the changes in them. The Covid-19 epidemic, which we started to experience in 2020, has also been one of the factors affecting education (Morrison & Sepulveda-Escobar, 2021). With the Covid-19 epidemic process, face-to-face education was suspended worldwide and emergency distance education was started. The Covid-19 process, which has negative effects in many areas and is also considered a global disaster, has caused change and transformation in education. (Güven & Uçar, 2021). Because distance education, which has limited application in education, has provided an important opportunity for everyone to

experience. In addition, it has accelerated the digitalization processes in education. However, the distance education process, which is applied quickly with the start of the Covid 19 epidemic process, is called "Emergency Distance Education (ERE)" because it is not a normal distance education process due to the lack of planning and infrastructure (Bozkurt, et al., 2020). Due to the infrastructure problem, the ERE process, which is experienced more intensely at the higher education level, reveals important outputs. It is aimed to examine the ERE experiences of prospective teachers with a holistic approach in the study.

The Covid 19 epidemic, which emerged in China at the end of 2019, has affected and continues to affect many countries in the world on many issues such as social, economic, psychological education, etc. (Asandaş & Hacıcaferođlu, 2021; Can, 2020). The Covid-19 process has created a new normal and a new paradigm (Bozkurt, 2020). Due to this global epidemic, radical changes have occurred in the life routines of societies (Zhao, 2020). Within the scope of the quarantine practices made to protect from the epidemic, schools at all levels were closed in many countries and face-to-face education was suspended (Bozkurt ve Sharma, 2020; Gupta & Goplani, 2020). In this case, it is stated that it has affected approximately 90-92% of the student population worldwide (Miks & McIlwaine, 2020; UNESCO, 2020). In particular, universities have started to work rapidly to continue their lessons with distance education to provide solutions to the problems that arise during the COVID-19 pandemic process and have switched to ERE (Gewin, 2020).

Like many other countries, Turkey has been affected by the Covid 19 pandemic. With the detection of the first case on March 11, 2020, the education process in universities was temporarily suspended with the decision of the Higher Education Institution (Asandaş & Hacıcaferođlu, 2021). With the decision of the Higher Education Institution on March 23, 2020, it was decided to switch to synchronous or asynchronous distance education (Keskin & Kaya, 2020; YÖK, 2020a; YÖK, 2020b). Teaching-learning and evaluation processes in universities were carried out entirely through distance education. Although distance education practices in higher education in Turkey are not very old, today distance education program and courses are carried out in many universities, especially at the graduate level (YÖK, 2020b). Although there is not enough infrastructure to ensure that all courses are conducted in the form of distance education in universities, all courses were taught through emergency distance education during the pandemic. Therefore, with this transition, problems such as inadequacy of infrastructure systems, low level of readiness of students, etc. have emerged (Özer & Turan, 2021).

Studies show that ERE practices in higher education in Turkey are generally inadequate and ineffective. The research of Tuzun and Toraman (2021) reveals that students are not satisfied with the ERE process and have negative attitudes towards ERE. Similarly, there are studies showing that students' satisfaction with the ERE process is low (Karadağ & Yücel, 2020). Many studies show that the ERE process is ineffective. (Cülha & Yılmaz, 2021; Güven & Uçar, 2021). When the studies done are examined, it is understood that the ineffectiveness of the ERE process is due to reasons such as insufficient infrastructure (Güven & Uçar, 2021) lack of online courses (Durak et al., 2020), lack of interaction, lack of practice (Sarıkaya, 2021), digital inadequacy of the instructor, measurement and evaluation problems (Erođlu, 2021; Özdođan ve Berkant, 2020), and low readiness of the students (Özer & Turan, 2021; Yolcu, 2020). Also, Students' dissatisfaction with ERE is generally due to these reasons. In addition to these negativities, there are also advantages that students state that the ERE process is positive. For example, students emphasized that ERE offers significant advantages in terms of economics, repeat, the flexibility of time and place, healthy, technological skills development (Bakırcı, et al., 2021; Özdođan & Berkant, 2020; Türküresin, 2020).

In the studies on the ERE process in higher education, although the disadvantages of the ERE process are emphasized more, it has been revealed that it has important advantages. In fact, since



the ERE process is not planned enough, it is inevitable that the disadvantages will come to the fore. However, it should be noted that without the Covid 19 process, we would not have had the chance to experience distance education in this way. Therefore, the experiences gained in the ERE process provide important contributions to future distance education practices. Although a lot of research has been done on the ERE process, there are very few studies that look at the ERE process holistically. For this reason, it is necessary to examine the causes of the situations that occur in the ERE process, their relations with each other, and their reflections on future education. In this study, students' ERE experiences will be examined in detail and the resulting situations, the causes of situations, relations between situations, and future expectations will be put forward conceptually by taking into account the results of their other studies.

### **Problem of the Study**

The purpose of the study is to investigate the ERE experiences of prospective teachers. In this context, we seek answers to the following questions:

1. What do prospective teachers think about the effectiveness of ERE? Why?
2. Which courses do prospective teachers attend the most during the ERE process? Why?
3. Which courses do pre-service teachers attend the least in the ERE process? Why?
4. How does the participation of prospective teachers in the ERE process change over time? Why?
5. What are the opinions of prospective teachers about the advantage of ERE process?
6. What are the opinions of prospective teachers about the disadvantage of ERE?
7. How do prospective teachers' attitudes towards the ERE process change over time? Why?
8. What are the opinions of prospective teachers about the professional effects of the ERE process? Why?
9. What are the suggestions of prospective teachers regarding the development of the ERE process?

## **2. Method**

### **2.1. Research Design:**

The study was designed in a qualitative research approach and the phenomenology method was used in order to reveal ERE experience of prospective teachers. Phenomenology studies examine the structures existing in the minds of individuals, central concepts, how these concepts and experiences made sense, and the relationships between them (Christensen, et. al., 2011; Patton, 2002). Phenomenology design was used in the study to reveal how prospective teachers who experienced ERE make sense of and associate these experiences.

### **2.2. Participants**

In phenomenological research, participants must have experienced the phenomenon that is the subject of the study (Yıldırım & Şimşek, 2013). For this reason, using the criterion sampling method, one of the purposive sampling methods, 125 prospective teachers from different departments who had experienced the ERE process were included in the study. The participants consist of prospective teachers in the Faculty of Education of a state university in Turkey. In order to reveal the common points about the ERE phenomenon, it was tried to ensure that the prospective teachers who had the criterion of having experienced the ERE process showed maximum variation in terms of variables such as the duration of ERE experience, department, grade level, and gender. Also, in order to use the research findings in different teacher education undergraduate program,

maximum diversity of the participants was tried to be ensured. The demographic characteristics of the participants are presented in Table 1.

Table 1. *The demographic characteristics of the participants*

Variable		f	%
Gender	Female	99	80
	Male	26	20
Grade level	1	31	24
	2	44	34
	3	39	31
	4	11	11
Department	Primary Education	37	30
	Science and Math Education	39	31
	Turkish and Social Science Education	32	26
	Psychological Counselling and Guidance	14	11
	English	2	1
	Art Education	1	1
Online Course Experience	1-30 Hour	36	28
	31-60 Hour	28	22
	61-90 Hour	21	16
	91-120 Hour	16	13
	121 hours or more	24	20

### 2.3. Instruments

A semi-structured interview was conducted to better understand and make sense of the prospective teachers' ERE experiences. The phenomenological interview is the primary data collection method to reach the core or underlying structure of the meaning of an experience (Merriam, 2013). The interview form included demographic characteristics of prospective teachers such as gender, grade level, department, online course experience length, and nine semi-structured questions about ERE experiences of prospective teachers. The 10-questions interview form prepared by the researcher was submitted to the examination of 2 experts in the field of educational technology and 2 experts in the field of curriculum and instruction. In the selection of experts, the criterion of having conducted research on distance education or participation in distance education was taken into account. In line with the suggestions of the experts, a 9-question form was created. The language and clarity of the interview form, it was examined by 5 prospective teachers from the participants, and its final version was created.

### 2.4. Data Collection

Since the covid 19 epidemic continued at the time of the research, the interviews could not be conducted face to face. First of all, the informed consent was sent to the participants and the participants were informed about the research. The interview form was sent to 131 volunteer participants who wanted to participate in the research via googleform. Since six of the participants had no online course experience, the forms they sent were not included in the analysis. The data were collected in June 2021, at the end of the 3rd ERE term in the pandemic process in the university.

## **2.5. Procedure**

Since the research questions were designed in relation to each other, the data were analyzed using the descriptive analysis method. Descriptive analysis is a type of qualitative data analysis that allows data to be summarized and interpreted according to predetermined themes (Özdemir, 2010). The research questions were formed in such a way as to reveal a structure with flexible boundaries. The first question is aimed to reveal the general views and justifications of the prospective teachers regarding the effectiveness of the ERE process. The second and third questions are related to each other and allow the answers to be compared. These questions also provide the opportunity to compare with the answers regarding the effectiveness of ERE. It also reveals answers about the effectiveness of ERE in different courses. The fourth question is important in that it reveals how the ERE process has undergone a change. In addition, comparing the possible answers obtained in this question with the answers in the first three questions is important in terms of revealing the consistency of the answers. The possible answers obtained from the fifth and sixth questions about the advantages and disadvantages of the ERE process are important in terms of revealing the consistency of the answers obtained in the previous questions. In addition, since these questions are general, it is aimed to provide data richness. The answers to the seventh question, which aims to reveal the changes in the attitudes of prospective teachers in the ERE process and the reasons for the change, have the potential to reveal the consistency of both the answers to the fourth question and the answers to the previous questions. While the eighth and ninth questions are about the possible future effects of ERE, the answers obtained from these questions are intended to reveal both the consistency of the answers to the previous questions and evidence on how distance education will be more effective. The interrelated nature of the research questions is an important mechanism that reveals the consistency of the answers. Therefore, the existing structure is supported by the answers given to different questions. In fact, verifying a finding by diversifying it with other tools and data type is a method that increases the validity of the findings (Miles & Huberman, 1994), but the difficulty in collecting data due to the pandemic process and the problems related to the reliability of the data make this situation difficult. Therefore, the current structure created with research questions fulfills this function. Also, In order to increase the validity and reliability of the study, appropriate and sufficient participation conditions were taken into account in the selection of the participants, which would enable them to be presented in contradictory and negative situations (Merriam, 2013).

The answers of the participants for each question were coded separately by the researcher and an expert in educational technology. The data were examined and the codes and the themes in which these codes were connected were created. The continuous comparison analysis method was used in the coding and thematization process. The data are coded and compared with each other so that related data are organized under certain concepts and categories. The control coding is performed by encoding the data with two different encoders in order to ensure the reliability of the research. Control coding provides good reliability control for qualitative research (Miles & Huberman, 1994). As a result of the control coding, 6 of the total 98 codes encoded in the study were differently encoded by the encoders. The consensus percentage is calculated as 94 using Miles & Huberman's (1994) formula. This consensus percentage value is sufficient for reliability. The findings were supported by direct quotations from the participants to ensure the reliability of the research. The names of the participants in the direct quotations are shown as T1, T2,... The results obtained from the research were conceptualized and presented in diagram form. In this research, the researcher not only carried out the current research, but also actively participated in the ERE process by lecturing. Therefore, the researcher is a lecturer who has experienced the ERE process. In addition, the encoders and experts actively participated in the ERE process. This situation affected every stage of the research, from the preparation of the research questions to the creation of the themes.

#### 4. Findings

The findings related to the research questions are presented below in order.

##### 4.1. Opinions of prospective teachers on the effectiveness of ERE

The Opinions of prospective teachers on the effectiveness of ERE are shown in Table 2.

Table 2. *Opinions of prospective teachers on the effectiveness of ERE*

		f	%
Effectiveness of ERE	Very effective	10	8
	As Effective as Face-to-Face Education	28	22
	Ineffective	67	54
	Very ineffective	20	16
Preference Of Attending The Course	Face-to-Face Education	67	54
	Online	21	16
	Hybrid Model (Face-to-Face Education +online)	37	30

The majority of prospective teachers (f=87) think that ERE is ineffective. While few prospective teachers (f=28) think that ERE is as effective as face-to-face education, only 10 of them think that ERE is effective. While prospective teachers mostly prefer face-to-face education (f=67), they prefer ERE the least (f=21). Some of the prospective teachers (f=37) prefer the hybrid model.

##### 4.2. Opinions of prospective teachers on the effectiveness of ERE

The types of courses that prospective teachers attend the most during the ERE process and their reasons for attendance are shown in Table 3.

Table 3. *The courses prospective teachers attended most in the ERE process*

Types of Courses	f	Reason	f
Subject Matter	85	Effectiveness of the Course	24
		Necessity and Professional Contribution of the Course	22
		Difficulty of The Course	16
		Like the Course	9
		Take The Attendance Record	2
Teaching Profession	17	Necessity and Professional Contribution of the Course	7
		Effectiveness of the Course	6
		Difficulty of The Course	2
General Culture	2	Like the Course	2
		Effectiveness of the Course	2
All Courses	15	Necessity and Professional Contribution of the Course	11
		Effectiveness of the Course	3
		Socialization	1

Prospective teachers attended the most (f=85) subject matter courses in the ERE process. The main reasons for participating in these courses are the necessity of the course and its professional contribution (f=24) and the effectiveness of the course (f=22). In addition to these, being difficult

(f=16) and liking the course (f=9) are other important reasons for attending the courses. Some of the teachers' opinion on attendance subject matter courses are as follows:

T10: I attended subject matter courses because it will contribute to my professional life and it is necessary for future professional exams.

T58: I attended the subject matter courses because our teachers enabled us to participate actively in the online lessons.

T71: Since the subject matter courses are a little more difficult, I attended online courses and took notes.

T107: Because I love literature, I attended more literature-related courses.

T82: The teachers of the f subject matter courses took a picture of the list of participants who attended the online lesson.

Another type of course that prospective teachers attend most is teaching profession courses. When the main reasons for prospective teachers' attendance in these courses are examined, the necessity of the course and its professional contribution (f = 7) and the efficiency of the course (f = 6) are the most emphasized. The views of some prospective teachers regarding attendance in these courses are as follows: T22: Since I will need it frequently in my professional life, I attended more teaching profession courses.

T36: The teaching of the course is very interesting. Our instructor's teaching method is enjoyable.

T103: I attended because I had no idea about ..... course and it was difficult.

Some of the prospective teachers stated that they attended all courses regardless of course type. They stated that the necessity of the course and its professional contribution (f = 10) and the efficiency of the course (f = 4) were important factors in their attendance in these courses. One prospective teacher also stated that he attended all classes in order to socialize.

T100: I attended all of them because I think all courses are important without distinction.

T99: I attended all of them because the learning process was going well.

T6: I took care to attend all my courses. Because we can't go to school anyway. I feel like I'm a little more interactive schooled, at least with the online classes.

A small number of prospective teachers (f=2) stated that they mostly attended general culture courses. They emphasized that they attended these courses because they were effective. Some teachers' opinions on this are as follows:

T46: I mostly attended general culture courses. Because I think these courses are more effective with distance education.

### **4.3. The Courses Prospective Teachers Attended Least in the ERE Process**

The types of courses that prospective teachers attend the least in the ERE process and the reasons for their attendance are shown in Table 4.

Table 4. *The courses prospective teachers attended least in the ERE process*

Type of Courses	f	Reason	f
General Culture	45	Ease of the Course	16
		Absence of the Course	8
		Lack of Information on the Course Schedule	6
		Ineffectiveness of the Course	6
		The lesson is unnecessary	5
Subject Matter	27	Ineffectiveness of the Course	16
		The lesson is unnecessary	3
		Ease of the Course	3
		Absence of the Course	2
Elective	19	The lesson is unnecessary	9
		Ease of the Course	4
		Ineffectiveness of the Course	3
		Absence of the Course	1
Teaching Profession	18	Ineffectiveness of the Course	5
		Ease of the Course	4
		Lack of Information on the Course Schedule	3
		Absence of the Course	2
		System problems/ personal reasons	2

Prospective teachers stated that they attended at least (f=41) general culture courses in the ERE process. When the reasons for prospective teachers' least participation in general culture courses are examined, it is emphasized that these courses are easy (f=16). However, it is seen that the factors related to the process and the instructor, such as the absence of a course (f= 8), lack of information on the course schedule (f=6), and ineffectiveness of the course (f=6) are emphasized. In addition, some of the prospective teachers (f=5) stated that they did not attend these courses because they were professionally unnecessary. Some of the prospective teachers' opinions are as follows:

T29: Because they were mostly known issues. I didn't think it required much effort.

T121: I did little to attend general culture courses. Because our teachers were not teaching the lessons online.

T2: At least I attended the ..... course because there was no information about when the course would be held.

T118: General culture courses were very ineffective. Only slides are used in the teaching process.

T104: I do not think that general culture courses have much contribution to the profession.

Some of the prospective teachers (f=27) stated that the courses they attended the least were subject matter courses. The main reason for their low attendance in these courses is that the courses are taught ineffectively (f=16). In addition, considering the course unnecessary (f=3), the fact that the course is easy (f=3) and the course is not held (f=2) are the other reasons for not attending the course. Some of the prospective teachers' opinions are as follows:

T8: Because it was a boring and in no way effective lesson that I couldn't learn.

T37: Although I attended this class, I cannot say that I actively listened. It was similar to a lecture we had seen before, and it was almost



Elective courses are one of the course types that prospective teachers rarely attend (f=19). Elective courses may include vocational knowledge, subject matter knowledge and general culture courses. When the main reasons for prospective teachers' low attendance in elective courses are examined, it is seen that these courses are considered unnecessary (f=9) and the courses are easy (f=4). In addition, it was emphasized that the course was inefficient (f=4). Some of the prospective teachers' opinions are as follows:

T11: Because I do not think that these courses will be as beneficial to me as subject matter courses in my teaching life.

T70: Because it was easier to learn the lesson by accessing the documents later.

T72: I attended these courses very little. Our teacher did not give much importance to his class anyway.

One of the courses that prospective teachers rarely attend (f=18) is teaching profession courses. The main reasons why prospective teachers attend these lessons less are that the lesson is ineffective (f=5) and the lesson is easy (f=4). In addition to these, lack of information on the course schedule (f=3), absence of the course (f=2), technical problems, and personal reasons (f=2) are other reasons for not attending. Some of the prospective teachers' opinions are as follows:

T61: After attending a few teaching profession classes and realizing that our instructors only read the slide and did not add much, I realized that this was a waste of time for me.

T120: I attended the ..... class the least because it was a class that required memorization and there was no need to take it online.

T2: I attended at least the ..... course because it was not announced when the course would be held.

T84: Because online classes were held via Zoom. It was difficult to join via Zoom

#### 4.4. Change of Prospective Teachers' Attendance in the ERE Process

The changes in the attendance of prospective teachers in the ERE process and their reasons are shown in Table 5.

Table 5. *The changes in the attendance of prospective teachers in the ERE and their reasons*

Change	f	Reason	f
Decreased	54	Ineffectiveness of the Course	17
		Personal Reasons	10
		Absence of the Course	4
		Boring	8
		Technical Problems	5
		Adaptation	1
Stable	39	Effectiveness of the Course	5
		Achievement	4
		Personal Reasons	1
		Technical Problems	1
Increased	31	Achievement	12
		Adaptation	6
		Effectiveness of the Course	5
		Reduction Of Technical Problems	4

A significant number of prospective teachers ( $f=54$ ) stated that their attendance in ERE decreased over time. They emphasized that the courses were inefficient ( $f=17$ ) as the main reason for this situation. In addition, personal reasons ( $f=10$ ) and boredom over time ( $f=8$ ) are other important reasons. Also, technical problems ( $f=5$ ) and the absence of the courses ( $f=4$ ) are other reasons for the decrease in attendance. Prospective teachers' opinions are as follows:

T13: Since we taught much more interactive lessons in the first semester, I attended with more enthusiasm, but I think the second semester was not very effective.

T26: Activities of daily living got in the way of my lesson focus.

T124: It decreased over time because I started to get bored.

T93: I had a problem with the internet, so I couldn't attend the classes much.

Some of the prospective teachers ( $f=39$ ) stated that their attendance in the courses did not change over time. The reason for this was emphasized that the courses were effective ( $f=5$ ) and the desire to get the academic achievement ( $f=4$ ). Prospective teachers' opinions are as follows:

T78: I attended classes to improve my grades.

Some of the prospective teachers ( $f=31$ ) stated that their attendance in the courses increased over time. The main reason for this increase is the desire of prospective teachers to be successful in the courses ( $f=12$ ). In addition, their adaptation to the ERE process ( $f=6$ ), the effectiveness of courses ( $f=4$ ), and the reduction of technical problems ( $f=4$ ) are other reasons for attendance. Prospective teachers' opinions are as follows:

T27: It increased over time. Increasing my grades because I have difficulties in exams.

T95: It increased because I understood the system better now.

T116: I can say that it has increased, as I learned the operation and broke those prejudices, it became more efficient.

T105: It increased over time because at first my internet, etc. I didn't have the opportunity to attend the course.

#### 4.5. Opinions of Prospective Teachers on the Advantages of the ERE Process

Prospective teachers' opinion on the advantages of the ERE process are shown in Table 6.

Table 6. *Prospective teachers' opinion on the advantages of the ERE process*

	f
Easy Accessibility	26
Effective Use Of Time	24
Increasing The Use of Technology	10
Providing Flexibility	10
Providing Professional Development	9
Increasing Academic Achievement	7
Low Cost	5
Opportunity To Experience ERE	3
Personal Reasons	3
Being Healthy	3
The Importance of Face-to-face Education	1
No advantage	16



The most emphasized by the prospective teachers regarding the advantages of the ERE process are easy accessibility (f=26) and effective use of time (f=24). In addition, prospective teachers consider providing flexibility (f=10), increasing the use of technology (f=10), providing professional development (f=9), and increasing academic achievement (f=7) as important advantages. In addition to all these advantages, they considers the low cost (f=5), opportunity to experience ERE (f=3), being healthy (f=3), and some personal reasons (f=3) as advantages. Some of the prospective teachers' opinions are as follows:

T29: I could open and listen to any topic I wanted, whenever I wanted. Where I didn't understand, I could rewind the video, the pdf.

T95: Its most important contribution taught me to use my time well.

T67: ERE has increased my knowledge of technology. Because I have to provide education using technology.

T113: ERE provided the opportunity to study comfortably without going to school.

T100: It has enabled us to be better equipped against such situations.

T31: I got high grades because it was a stress-free exam environment.

T107: Its most important advantage enabled us to have a healthy year.

Some of the prospective teachers (f=16) think that ERE has no advantage. Some of the prospective teachers' opinions are as follows:

S103: I don't think it contributed anything

#### 4.6. Opinions of Prospective Teachers on the Advantages of the ERE Process

Prospective teachers' opinion on the disadvantages of the ERE process are shown in Table 7.

Table 7. *Prospective teachers' opinion on the disadvantages of the ERE process*

	f
Ineffectiveness of Courses	57
Unsuitable for Practical Courses	13
Being Away From School Life	10
Technical Problems	8
Intensity	7
Inability to Focus	7
Measurement And Evaluation Problems	7
Asociality	4
Lack Of Planning	3
Adaptation Problems	2
No Disadvantage	10

One of the disadvantages of the ERE process, that the prospective teachers emphasized the most was the ineffectiveness of the courses (f=57). In addition, prospective teachers emphasized that ERE was not suitable for practice courses (f=13). The prospective teachers stated being away from school life (f=10), technical problems (f=8), intensity (f=7), inability to focus (f=7), and measurement and evaluation problems (f=7) as important disadvantages. In addition, prospective

teachers consider asociality ( $f=4$ ), lack of planning ( $f=3$ ), and adaptation problems ( $f=2$ ) as disadvantages. Some of the prospective teachers' opinions are as follows:

T111: I did not learn anything in this process.

T13: There are deficiencies in the subject matter courses that we can learn by practice.

T70: The most important disadvantage is that we have not been able to benefit from our social environment and the learning benefits of face-to-face education.

T117: Having trouble attending classes. My voice does not go away when I try to turn on the microphone. Interruptions in live lessons.

T2: When homework and exams overlapped, I felt overwhelmed and alienated from the lessons.

T38: Not being able to measure and evaluate fairly, getting the same grades between those who study hard and those who don't, and exams are meaningless.

Some of the prospective teachers ( $f=10$ ) stated that ERE has no disadvantages. Some of the prospective teachers' opinions are as follows:

T12: It did not have any disadvantages for me, because it did not cause any financial problems and I was able to study without leaving my child.

#### 4.7. Change of Prospective Teacher' Attitudes towards the ERE Process

The changes in the attitudes of prospective teachers towards the ERE process and their reasons are shown in Table 8.

Table 8. *The changes in the attitudes of prospective teachers towards the ERE process*

Change	f		f
Negative	54	Ineffectiveness of Courses	40
		Boredom	2
		Difficulty of The Course	2
		Exigency	2
Positive	37	Effectiveness of Courses	14
		Experience ERE	12
		Comfort	3
		Exigency	2
Neutral	33	Exigency	13
		Ineffectiveness of Courses	7
		Experience ERE	4

A significant number of prospective teachers ( $f=54$ ) emphasized that their attitudes towards ERE changed negatively. The main reason for this is the ineffectiveness of the lessons ( $f=40$ ). In addition, reasons such as boredom, the difficulty of the course, and the exigency of ERE lead to a negative attitude. Some of the prospective teachers' opinions are as follows:

T119: It has become negative over time, no teaching is done, measurement and evaluation are not good.

T124: It was positive at first but now I'm bored and lost my positivity

Some of the prospective teachers emphasized that their attitudes towards ERE became more positive over time ( $f=37$ ). They stated that the main reason for their positive attitude is that the courses are effective ( $f=14$ ) and that they get used to it as they experience it ( $f=12$ ). They also stated that reasons such as comfort and the exigency of the ERE process affect their attitudes positively. Some of the prospective teachers' opinions are as follows:

T11: It has changed positively. It was sustained more effectively than I anticipated.

T73: It changed positively over time because it took some time to get used to and learn with ERE.

T50: Even though I never liked it before, I don't want it to end now, I'm used to this comfort.

Some of the prospective teachers emphasized that their attitudes towards ERE did not change throughout the process and that they were in line with their initial expectations. The main reason for this is that ERE is an exigency in this process ( $f=13$ ). Some of them emphasized that their attitudes did not change because they had just experienced this process ( $f=4$ ) and it was inefficient in line with their initial expectations ( $f=7$ ). Prospective teachers' opinions are as follows:

T5: My opinion on ERE is not very positive, but there is nothing to do, the process necessitated this situation.

T110: I was a supporter of face-to-face education, I knew it would be ineffective. my opinion has not changed.

T9: Neutral. Because I knew from the beginning that I would get this much efficiency.

#### 4.8. Opinions of Prospective Teachers on the Professional Effect of the ERE Process

Prospective teachers' opinions and reasons regarding the professional effect of the ERE process are shown in Table 9.

Table 9. *Prospective teachers' opinions on the professional effect of the ERE process*

Effect	f	Reason	f
Negative	72	Professional Incompetence	59
		Lack of Practice	10
		Asociality	1
Positive	32	Experiencing the ERE Process	17
		Technology Use	8
		Equal Effect	4
Both Positive and Negative	11	Experiencing the ERE Process / Lack of Practice/ Professional Incompetence	6
		Experience and development	5
Neutral	9	Experiencing the ERE Process	5
		Equal Effect	4

Prospective teachers' opinions on the professional effect of the ERE process are mostly negative ( $f=72$ ). The main reason for the negative opinions is that the ERE process creates professional incompetence in them ( $f=59$ ). Another important reason for the negative opinions of prospective teachers is the lack of practice in the ERE process ( $f=10$ ). Some of the prospective teachers' opinions are as follows:

T43: Negative because you can teach as much as you learn.

T20: I think I will feel the lack of not taking the practical lessons face to face.

Some of the prospective teachers (f=32) think that the ERE process will contribute positively to their profession. They consider the experience of the ERE process (f=17) and the use of technology (f=8) as important professional contributions. In addition, it is considered as a professional contribution to be equally effective with face-to-face education (f=4). Some of the prospective teachers' opinions are as follows:

T59: I think it will have a positive effect. If I have to experience similar distance education situations in the coming years, it will be an advantage for me to have experience.

T12: It will not affect us negatively because our level of use of information and technology has increased and the teachers give us homework and direct us to research.

T54: In distance education, I definitely do not think that I am missing anything from what I can learn at school.

Few of prospective teachers think that the ERE process will have both positive and negative contributions (f=11) professionally. They stated that their experience of the ERE process (f=5) was a contribution, while the lack of practice would cause professional incompetence (f=6). Some of the prospective teachers' opinions are as follows:

T30: I think it can work both ways. Because we had the chance to learn more seminars and information positively. On the downside, we had the very little practical opportunity.

T64: If we experience a period when we will be away from school like this again, I think it will affect it positively.

Few of the prospective teachers (f=9) are neutral regarding the professional contributions of the distance education process. Because they emphasized that they had just experienced this process (f=5) and that it was as effective as face-to-face education (f=4). Prospective teachers' opinions are as follows:

T39: I can be neutral on this. I had extra individual studies to avoid the lack of face-to-face training. I believe this is sufficient.

#### 4.9. Suggestions of Prospective Teachers for the Improvement of the ERE Process

The suggestions of the prospective teachers for the development of the ERE process are shown in Table 10.

Table 10. *The suggestions of the prospective teachers for the development of the ERE process*

Suggestions	f
Increasing the number of Online class	31
Developing Technical Infrastructure be planned	26
Increasing Lecturer Competencies	13
Complete Removal	14
Create the Opportunity for practice courses	5
Using for Theoretical Courses	3
Homework and Project based ERE	3
Supporting Students	3

Increasing the number of online classes (f=31) and improving the technical infrastructure (f=27) come to the fore in the suggestions of prospective teachers regarding the development of



ERE. Prospective teachers also emphasized that ERE should be more planned (f=13) and Lecturers' competencies should be increased. In addition to these, creating the opportunity for practice courses (f=5), using it for theoretical lessons (f=3), homework/project-based ERE (f=3), and supporting students (f=3) are other suggestions. Some of the prospective teachers' opinions are as follows:

Ö84: All lessons should be held as online classes and with the attendance of all students. Thus, it is like a real classroom environment and there can be more permanent learning.

T70: Equality of opportunity should be created in order to maximize attendance in the course. and virtual classroom environment should be tried to be realized..

T35: A syllabus should be created and teachers and students should follow this schedule.

T39: In ERE, lecturers need to take on more roles and make the lesson interesting.

T67: We always take our lessons theoretically. ....some steps can be taken for practice courses.

T30: I think that our knowledge is more settled when we progress with the homework rather than the exams.

Some of the prospective teachers (f=14) emphasized that ERE should be removed completely. Some of the prospective teachers' opinions are as follows:

T63: If there is no classroom environment, that is, if it is not face-to-face, the efficiency will always be low no matter what

## 5. Results and Discussion

The results of the study showed that the ERE process was generally ineffective and prospective teachers mostly preferred face-to-face education. However, it has emerged that the hybrid model can be an important alternative in teacher education. As in this study, there are many studies that show that ERE is ineffective (Bahadır, 2021; Cülha & Yılmaz, 2021; Güven & Uçar, 2021; Yolcu, 2020; Yurdakal & Kırmızı, 2021). This situation has many common reasons for ERE such as insufficient technical infrastructure, low readiness, unsuitability for practice courses, negative attitudes, the inadequacy of trainers, and planning problems. It is known that although the Council of Higher Education (CHE) recommends that the courses be taught synchronously in the ERE process, only six universities can conduct all their courses synchronously. The ERE process was inadequate and ineffective, as most universities tried to manage processes through the previously established learning management system (Durak et. al., 2020). For these reasons, prospective teachers did not want to participate in the ERE process (Hernandez et al., 2021; Taşkaya, 2021; Özdoğru, 2021; Özer & Turan, 2021; Sarıkaya, 2021).

The courses that prospective teachers attend the most in the ERE process are subject matter knowledge courses. The main reasons why prospective teachers attend these courses are effectiveness, necessity and professional contribution, and the difficulty of the course. The courses that prospective teachers attend the least in the ERE process are general culture courses. In addition, one of the courses that prospective teachers attend less is elective courses. The main reasons for prospective teachers' low attendance to these courses are ease, ineffectiveness, unnecessaryness of the course and not teaching the course online. There are studies showing that most of the courses at ERE are not online and there is little or no interaction. (Durak et. al., 2020; Hernandez et al., 2021; Özdoğan & Berkant, 2020; Özdoğru, 2021; Taşkaya, 2021; Yolcu, 2020). This reduces the effectiveness of the ERE process. The effectiveness of the course, being professionally necessary and contributing, and being difficult are the factors that enable prospective teachers to attend the courses, while being ineffective, being professionally

unnecessary, and being easy are the factors that reduce prospective teachers' participation in the courses. These findings regarding the ERE process are related to both the ERE process and the undergraduate teacher education program. The difficulty factor in course participation is considered to be related to the operation or effectiveness of the ERE process. Prospective teachers attend these courses through ERE in order to better understand and be successful in difficult lessons. However, the fact that the professional necessity and contribution of the course is a fundamental factor in the participation of the prospective teachers shows that some courses are perceived as professionally unnecessary by the prospective teachers. This situation shows that the prospective teachers are not motivated about the necessity of these courses or whether they are really unnecessary. These findings show that it is necessary to revise the courses in the teacher education undergraduate program. As a striking finding, the absence of online courses can be considered as a situation related to both the lack of infrastructure and the incompetence of the instructors regarding ICT and distance education.

It has been determined that the participation of prospective teachers in the ERE process generally tends to decrease over time. The main reasons for the decrease in the participation of prospective teachers in the ERE process are that the courses are ineffective and boring. In addition, technical problems are one of the factors that reduce participation in the ERE process. It has been emphasized in many studies that the most important problem of the ERE process is the lack of infrastructure (Durak et al., 2020; Sarıkaya, 2021; Seyhan, 2021; Tařkaya, 2021; Türküresin, 2020). Lack of infrastructure is also an important factor reducing the effectiveness of the ERE process. This can be considered normal, as the transition to the ERE process is fast. The factors that maintain or increase the participation of prospective teachers in the ERE process are increasing academic achievement, the effectiveness of the course, and adaptation. Therefore, the fact that the course is effective, entertaining, motivating for academic achievement, and being free from technical problems increases the participation of prospective teachers in the ERE process.

While the prospective teachers consider the factors such as easy accessibility, effective use of time, increasing the use of technology, providing flexibility, and providing professional development low cost, being healthy as the most important advantages of the ERE process, They consider being ineffective, not suitable for practical courses, being away from school, technical problems, intensity, inability to focus, measurement and evaluation problems as the most important disadvantages of the ERE process. Other studies have also supported results that support the findings of the present study. In other studies, it has been revealed that the advantages of the ERE process are repetition, flexibility, time and space independent learning, time utilization, economy, developing technology use skills, developing research skills, being comfortable, being healthy, and meeting the education needs during the pandemic period and disadvantages of the ERE process are being ineffective, measurement and evaluation problems, technical problems, lack of communication and interaction, lack of motivation, inequality of opportunity in education, low readiness, being away from the school environment and not being suitable for practice courses. (Bahadır, 2021; Cülha & Yılmaz, 2021; Eti & Karaduman, 2020; Morrison & Sepulveda-Escobar, 2021; Özdoğan & Berkant, 2020; Özdođru, 2021; Özer, & Turan, 2021; Sarıkaya, 2021; Seyhan, 2021; Shim & Lee, 2020; Türküresin, 2020; Yolcu, 2020). If the distance education process is planned in a way that allows participation anywhere and anytime, encourages the use of technology, and is fun and effective, it attracts prospective teachers. Therefore, if the distance education process is planned in detail allows participation anywhere and anytime, encourages the use of technology, is fun, interactive, effective, and can measure and evaluate fairly, it attracts prospective teachers.



Prospective teachers' attitudes towards the ERE process tend to change mostly negatively. The main reasons for this situation are the ineffectiveness of the courses. The factors that enable prospective teachers to change their attitudes positively towards the ERE process are the effectiveness of the courses and the necessity of the process. Therefore, the effectiveness of the courses positively affects the attitudes of prospective teachers towards distance education. The results of the studies show that prospective teachers' satisfaction with the ERE process is low (Bahadır, 2021; Karadağ & Yücel, 2020; Shim & Lee, 2020) and their attitudes are negative (Karatepe et al., 2020). It was emphasized that this situation was caused by problems such as technical problems, insufficient infrastructure, the way the lessons were taught, low readiness, and assessment and evaluation problems. Therefore, solving these problems will make it easier for prospective teachers to internalize the distance education process. When they internalize this process, their belief about the necessity of the process will increase.

Prospective teachers think that the ERE process will negatively affect them professionally. It was stated that the main reason for this was the ineffectiveness of the ERE process and that this ineffectiveness would create professional incompetence. In addition, it was emphasized that the lack of practice in the ERE process would create professional incompetence in practice. The results of the studies support the present findings. The ineffectiveness of the ERE process has negatively affected all education stakeholders such as students, teachers, and parents (Asandaş & Hacıcaferoğlu, 2021; Hill, 2021). The results of the research of Karatepe et al. (2020) revealed that prospective teachers are reluctant to provide online distance education, they do not consider themselves sufficient and they do not believe that online courses are the future of education. Also, the results of Eti and Karaduman, (2020)'s research also show that the majority of prospective teachers consider themselves inadequate in distance education and that the ERE process negatively affects their professional competencies. They think that prospective teachers' education will be incomplete because of the ERE process. Prospective teachers consider their experience of the ERE process as ineffective, as a professional contribution. Therefore, activities should be carried out to support teachers' incomplete training in the ERE process. In addition, it is need for undergraduate teacher education program to provide prospective teachers with opportunities to practice engagement strategies in distance education settings (Smith & Schlaack, 2021).

Prospective teachers emphasized that factors such as increasing the number of online lessons, eliminating infrastructure problems, making good planning, and increasing instructor competencies are important for the development of the ERE process. Similar results have been found in other studies as well. In Bahadır's (2021) study in order for an effective distance education, the participants stated that instructors should have sufficient professional knowledge and skills, technical issues should be eliminated, intensive interaction should be supported, and equality among students in term of access to technological tools should be ensured. In Özdoğan and Berkant's (2020) and Shim and Lee's (2020) research, the suggestions of the prospective teachers are to make the measurement and evaluation fair in the process, to create equal opportunities, to activate interaction, to make face to face for practice courses to increase participation and interaction in the lesson, to strengthen the infrastructure, to teach students with their own teachers and to reduce the number of lessons. Inadequacy of the infrastructure in the ERE process is an expected situation and is emphasized in many studies (Taşkaya, 2021; Yolcu, 2020; Yurdakal & Kırmızı, 2021). Therefore, it is necessary to evaluate the ERE process by taking this fact into account. Although the insufficient number of online courses is partially explained by the lack of infrastructure, there are free applications that can be used to conduct online courses. Therefore, the ERE process can be made more effective by using these free applications. However, at this point, it is emphasized that there are problems related to the competencies of the instructors. Therefore, when the negative effect of the lack of infrastructure is ignored, it can be said that the

ICT and distance education skills of the instructors are of vital importance. If the instructors' ICT competencies in general and distance education, in particular, were at the desired level, the ERE process could be made more effective by making more online courses in the ERE process. Therefore, for the effectiveness of distance education, it is vital to plan effectively, make the infrastructure sufficient, increase the number of online lessons, and increase the instructor's competencies.

When the results obtained from the study and other studies are evaluated in general, it is seen that the ERE process is ineffective. The main reasons for this situation are the inadequacy of the technical infrastructure, the inadequacy of the instructors in ICT and distance education competence, planning problems, and the characteristics of prospective teachers such as readiness and motivation for distance education. Inadequate technical infrastructure and planning problems may be expected conditions for the ERE process. However, it is noteworthy that the university instructors, whose technological infrastructure is partially better and who train the digital learners of the 21st century, have low proficiency in ICT and distance education. It is also important to consider that some of the courses in the teacher education program are not considered necessary by the students or that they are not believed to provide a professional contribution. It is also a point that should be emphasized that prospective teachers, who attended general culture courses through distance education before the ERE process and are expected to be digital natives, have problems in adapting to distance education. Considering the results obtained from this study and other studies, the framework shown in Figure 1 below was created.

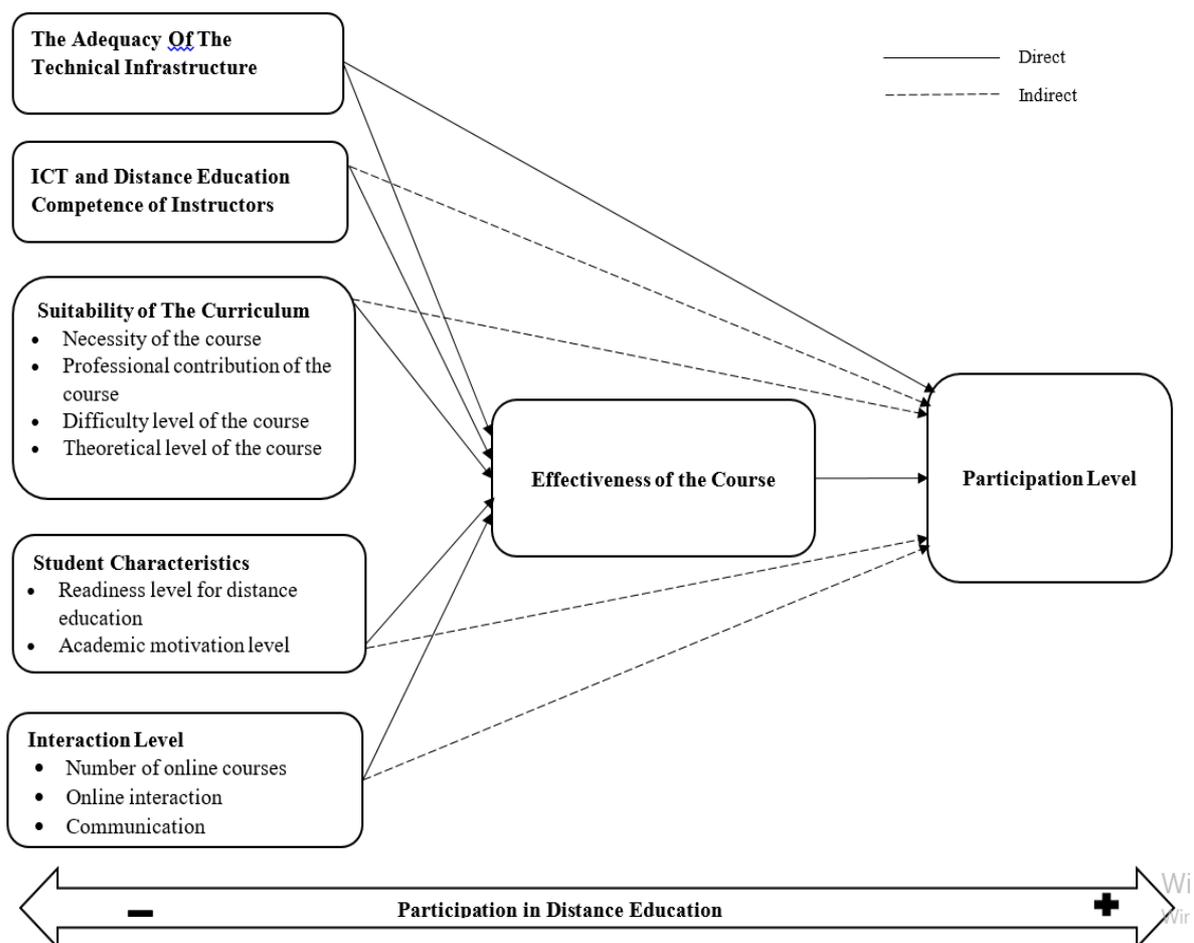


Figure 1. A framework for distance education participation

In the framework, five basic variables that affect the participation of prospective teachers in the distance education process and the effectiveness of the process are defined. The adequacy of the technical infrastructure is considered the most basic variable. Because the adequacy of the technical infrastructure primarily ensures the participation of the students in the process and at the same time is indispensable for the effectiveness of the process. The ICT and distance education competence of the instructors is a fundamental element in the effectiveness of distance education. The increase in competence of the instructors increases the effectiveness of distance education and ensures the participation of prospective teachers in the process. While the variable of the suitability of the curriculum is primarily a variable that affects the preferences of prospective teachers in attendance, it is also related to the effectiveness of the distance education process. Emphasizing that practical courses are not suitable for distance education can be evaluated in the context of effectiveness, while the necessity of the course, its professional contribution, and level of difficulty can be evaluated in the context of participation. The interaction variable is basically related to the effectiveness of the distance education process. The high number of online courses, interactions, and communication increases the effectiveness of the distance education process. Student characteristics can be evaluated in relation to both participation and effectiveness. Increasing the motivation and readiness for distance education of prospective teachers is a variable that increases both their participation in the process and the effectiveness of the process. In this framework, every variable that increases the effectiveness of distance education also increases participation.

## **5.1 Conclusion and Recommendations**

As a consequence, although the ERE process is ineffective, it is important for the experience and development of distance education. Developing the technical infrastructure, reviewing the program, increasing the instructor's competencies, increasing the readiness and motivation of the students, and increasing the interaction increase both the effectiveness of distance education and the participation of prospective teachers in the process. Whether it is distance or face-to-face education, the courses in the current undergraduate teacher education program should be revised. The courses that are unnecessary or have little professional contribution can be removed from the curriculum and a curriculum can be developed for new courses. Courses or course materials can be designed in accordance with distance education and hybrid model. The incompetence of the instructors in ICT and distance education is one of the most important points to be considered in the ERE process and in the future education process. Because the high qualifications of the instructors is a factor that will partially eliminate the lack of technical infrastructure. If the instructors have high ICT or distance education competence, they can make the distance education process more effective by making more and more interactive online courses. Considering the professional negative effects of the current ERE process for prospective teachers, the importance of this situation can be better understood. In this context, in-service program can be prepared for the training of instructors. Technology use and integration issues should be included more in undergraduate teacher education program in order to increase students' readiness and motivation for the distance education process. Considering these situations, it is thought that distance education and hybrid models will be strong education models in the future.

## **5.2. Limitations and Further Research**

The participants of the qualitatively designed research are prospective teachers in a single state university. Therefore, since the distance education infrastructures of universities differ, the results of this research may contain limitations in revealing these differences. The fact that the data collection process cannot be done face-to-face due to the pandemic can be considered as a limitation. The framework revealed in the study can be supported by quantitative research. Experimental or mixed research can be done on the factors that ensure the effectiveness of distance

education. Research can be conducted on the suitability and necessity of the courses in undergraduate teacher education program. Studies that reveal the distance education and ICT skills of the instructors/lecturers can be done. Studies can be conducted to reveal the impact of the ERE process on the education and professional development of prospective teachers. Studies can be designed to determine the readiness of prospective teachers for distance education.

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