

## Article

# Adoption of Online Education and Pedagogy as New Codes of Life for New Future in Rural Regions

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**Abstract:** The COVID-19 pandemic threw the education system out of gear worldwide. This crisis calls for fundamental reforms and strategic planning to continue education. There are other factors, like pedagogy of care, adoption of emergency remote teaching methods, training of teachers, and assessment strategies. This paper examines teachers' professional competencies working in secondary schools in the rural areas of the Turkish Republic of Northern Cyprus. The paper investigates how distance teaching and learning are adopted, problems encountered for the same, and modes of assessment used. Data was collected by adopting a qualitative survey design, using a holistic case design to understand qualitatively complex events from the participants' perspectives. Data were obtained from 122 teachers working at schools in different regions of the TRNC (Nicosia, Kyrenia, Famagusta, İskele). The findings revealed that although the teachers found the distance education process exhausting, they found ICT helpful. Further, teachers reported that distance education was the best training process in the current pandemic situation. Difficulties were reported to increase students' motivation and prepare appropriate materials for the lesson. They used teaching methods, such as question and answer, narration, fun videos, whiteboard, and online test application techniques.

**Keywords:** COVID-19; education; pedagogy; online teaching; distance education; mobility; well-being; ICT; professional competencies



**Citation:** Yikici, B.; Altınay, F.; Altınay, Z.; Sharma, R.C.; Dagli, G. Adoption of Online Education and Pedagogy as New Codes of Life for New Future in Rural Regions. *Sustainability* **2022**, *14*, 5528. <https://doi.org/10.3390/su14095528>

Academic Editors: Grigorios L. Kyriakopoulos and Dina Zoe Belluigi

Received: 28 March 2022

Accepted: 29 April 2022

Published: 5 May 2022

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## 1. Introduction

The pandemic has been an epidemic that has had a significant impact worldwide in 2019 [1]. Like an uncontrollable hurricane, it has influenced the whole world in many areas, such as socio-cultural, financial, political, and educational. This put all the education systems into a chaotic world and forced educators to switch to an online teaching mode overnight. Many academic institutions that were previously reluctant to alter their traditional pedagogical approach had no choice but to switch entirely to online teaching-learning [2]. We are still in this extraordinary situation all over the world. When taking a look at the effects of the COVID-19 pandemic on the education system, the delay of schools and exam schedules, difficulty in gaining access to technology-based learning, postponement of teacher training, parents having the burden of distant education, the social isolation of children, the understanding that schools are not only educational but also a common social area in which individuals can socialize, are better understood beside the fact that differently from traditional education, there are alternative education methods such as distance education [3]. Distance education is characterized by the absence of regular in-person contact of student and teachers and the study is mainly supported by self-learning materials. Online education is a technologically advanced version of distance

education, carried out with the help of virtual learning environments, online resources like audio and video content.

The teacher's role in online teaching and learning has been well researched [4,5]. Although online learning seems more flexible, it requires sound management in education systems when considering the effectiveness and continuity of education, like implementing personalized learning [6]. Moreover, more importantly, flexible online learning approaches are supposed to be emancipatory, democratizing and expanding access to higher education, and enabling students to take part in education efforts "anytime" and "anywhere" [7].

The reports of the Organization for Economic Development and Cooperation [8], the World Bank [9], and UNESCO [10–13] have focused on the learning-teaching process, technological problems, and health problems. In the scope of education, many countries worldwide have taken crucial measures in response to the pandemic crisis. All the measurements adopted are related to the suspension of all levels of face-to-face classes, which has increased the need of taking action in three major areas: the modalities, platforms, and formats of distance education and learning through technology (with or without the use) education communities and personnel support and mobility; and concern for the overall health and well-being of learners ECLAC-UNESCO [14]. Besides, school closures affected children with disadvantaged backgrounds. They had limited access to online learning and fewer family resources than others, leading to less make up for lost teaching time [15].

Rural areas face unique challenges in the implementation of online education. One reason is that online education depends upon technology infrastructure like internet bandwidth and virtual learning environments. [16] reported technical deficiencies, problems in logging in to the online platforms, and poor computing skills of students in rural areas. In a study examining the digital divide in urban and rural areas [17], it was found that the absence of computers, smartphones, and internet bandwidth for low-income families affects the participation of students in online education at home. Such findings were echoed by [18] that majority of students in rural areas must depend upon laptop-smartphone combinations to engage in remote learning and therefore the affordability of such devices, battery life of devices, portability, and internet connection become crucial issues. In a study on the experiences of nursing students [19] about shifting from face-to-face to e-learning education, the main challenges were limited electronic resources and a balance between work and family responsibilities while learning in online mode. Entrepreneurial farmers in rural China [20] favored internet learning to promote e-commerce leading to entrepreneurial transformation in the rural areas of China. Life skills [21] is another important dimension needs to be taken care of by "using contactless online classes with free entry-based websites" for students. Professional quality of experienced EFL (English as a foreign language) teachers in the rural areas in China [22] proposes to focus on English teaching capacity and English knowledge and skills. Thus, it is evident that there are various kinds of learning roadblocks for online education on rural areas leading to learning loss.

#### Review of literature.

In online learning, the educators are the most critical figures to provide practical approaches to help students sustain their active participation [23]. Due to the rapid advancements in internet technologies, blended learning has been adopted in higher education institutions to engage students in active learning and develop learning outcomes [24]. Daniel [25] suggested that when creating the curriculum and teachers when designing student assessment, curriculum developers can include studies on COVID-19 in a global and historical context. During the pandemic phase, new terms arose, such as online education, distance education, and emergency remote education, digital transformation, digital data and ethics, educational technologies, new educational roles, assessment, course design in distance education, digital skills, and digital competences, trauma and anxiety, social equality, support communities, and mechanisms understanding and empathy pedagogy [1]. An increase in the demand for open and distance education was observed. The modalities of online learning have advantages like studying anywhere individuals want, whenever

is possible; saving a considerable amount of money; no transportation, no commuting on crowded local trains or buses; flexibility of choice; time-saving [26].

Furthermore, the functions of schools, alternative education models and structures, new learning and teaching skills of the 21st century, school management skills, a new perception of education, and parent participation were the headings and themes related to the opportunities during the epidemic period [27]. The college-family-school partnerships were found to lessen the effects of trauma, boost digital learning, and assist various teaching cases occurring in homes [28]. An ICT (information and communication technology) program called “The SCHOLAR” was used as a complementary model of teaching and learning during the pandemic outbreak with the purpose to harmonize teachers’ traditional methods practices with blending SCHOLAR learning [29]. The ICT as a complementary tool empowers and encourages innovative teaching and independent learning [30]. Pardede [31] reported using Edmodo, a complementary education tool to promote English lessons. During the COVID-19 outbreak, the Chinese government launched the “School is Closed, But Class Open” campaign that established a large-scale, regular online education application. This application had a substantial impact on society and education [32]. The Beijing University in China proposed five specific teaching strategies for online education for the university educators and the individuals, namely (a) high correspondence between student learning and online instructional design; (b) effective presentation of online teaching information; (c) adequate support by teaching assistants and faculty for students; (d) high-quality engagement to improve the extent and depth of student learning; and (e) contingency plan to cope with unforeseen events of online education platforms [33]. In Indonesia, a program called “School to School” for primary school teachers teaching online had the cooperation and support of all stakeholders in line with the national humanist curriculum. This program determined the availability of technology and online learning success in Indonesia during the COVID-19 outbreak [34]. In Bangalore, India, higher education was widely embraced by technology, and the participation of students was much more than the average classroom attendance [35]. Significant claims have been made for the development of e-learning for students in school and higher education, either as stand-alone programs or alongside more traditional approaches to teaching and learning. National initiatives have improved the position of schools in terms of access to hardware and electronic networks, software and training resources, and staff development.

In the current state of online education, teachers and teacher-educators are still going through uncertain periods related to their careers and work life. The quick shift to online presentation teaching methods to keep students in the learning process effectively at all levels has brought teaching materials and content to the online platforms. It has led to a substantial, intensive workload for staff and becoming adequately competent enough at managing the required software. The effect on students and staff is unequal. For example, in many universities and some contexts, there are already established platforms and types of blended and online course delivery to build more potential, skills, and capacities in these ways under this responsibility [36].

In his study, Hotaman [37] drew attention to the future of online education by providing suggestions full of contributions in the sense that the road map of the future of online education. Hotaman’s [37] suggestions are worthy of taking into consideration. The suggestions are as follows:

1. To ensure the success and effectiveness of distance education, unlike traditional in-class education, distance education programs should be regulated according to the principles of distance education.
2. At this stage, in-service training activities have much more importance in supporting and guiding teachers in distance education and e-learning studies. Organizing courses can help teachers’ knowledge and ensure that educators gain practice by eliminating their deficiencies in managing online applications.
3. The measurement and evaluation processes were among the most challenging areas in distance education. Since the MoNE will continue to evaluate these two from this

period onwards, using the formative evaluation in the process can be helpful for them to prepare the question bank for the end of the period.

4. Compared to face-to-face education, the modalities and processes of distance education are different. Therefore, the same curriculum and same textbooks applied in formal education may not be suitable for distance education. The written materials based on the programmed instruction principles oriented for self-study should be revised accordingly.
5. The inability and negative experiences to access education in distance education caused anxiety and stress during the pandemic since more problems came to the fore. Therefore, it would be adequate to organize face-to-face psychological consultation support points and programs that will relieve the stress and anxiety of the student.
6. Due to the lack of socialization for students being away from school, social activities can be organized with the support of pedagogues and psychologists for students.

In essence, educational institutions should identify students' needs, revise teaching contents, evaluate both effectiveness and efficiency, then negotiate and organize learning activities accordingly to match better the current educational needs, both national and global. It is now undeniable that the significant influence of mass media and online platforms created and continues to create a unique environment for learning and teaching. No matter if beneficial platforms, applications change in the future education in the following months and years, it is inevitable that the need for systematic and adequate preparation, intensive training in applying learning, ongoing evaluation of the teacher's roles, and the teacher's educational, cognitive, affective, and most important managerial roles benefit. Upcoming techniques for overcoming the limitations of online learning will high possibly be at the center of 21st-century education worldwide. Online education will preserve its importance for the next generations, who represent the technology age and technology-based education. Whether blended education is more preferred by all stakeholders in the future or even not going so far after COVID-19 is over is debatable since there is still no clear answer for that. However, there is one evident perception that no matter whether there will be a need for online platforms to sustain education, technology has its place in all education systems more than in the past, and it has strengthened its image in the lives of all individuals in all sectors.

#### Objectives.

This study aimed to determine the current professional competencies of teachers working in secondary schools in rural areas in the TRNC in establishing distance education in teaching and learning, the problems they encounter in this process, what kind of teaching method they use different from traditional education, the difficulties they have in enrolling students in the lesson and the evaluation methods they use. For this purpose, the study investigated the following:

1. How to evaluate the distance education process;
2. What factors make the difference between classical education and distance education?
3. What are the difficulties in the distance education process?
4. What kinds of teaching and learning methods were different from face-to-face education in the distance education process?
5. What difficulties were encountered in enrolling students in the distance education process?
6. What are the assessment methods used in distance education?

## 2. Methodology

The qualitative research design was employed to determine the problems teachers faced in secondary schools in rural areas in the TRNC in teaching and learning in distance education. The qualitative research approach is the collection, analysis, interpretation, and presentation of verbal data within a flexible conceptual and methodological structure [38]. The subject investigated in qualitative research is examined in depth with a holistic perspective [38,39]. The qualitative approach augmented collaboration between researchers and participants to acquire and transfer experiences.

The case study model [40] and the holistic single-case design were used. In a holistic single case design, there is a single unit of analysis, an individual, an institution, a program, and a school [41]. The case study is a research design in which the researcher analyzes a situation, event, action, and individual in-depth [39]. In addition, it can analyze the subject in depth to understand qualitatively complex events from the participants' perspectives [42].

The case study aims to enable the situation included in the study to be evaluated within the scope of the subject studied. In this study, the difficulties teachers encounter in creating education and training in the distance education process were considered the situation. Content analysis was carried out for interpreting the data.

Necessary permission of the Directorate General of the Middle School dated 16 March 2021 and numbered GOÖ.0.00-174.06-21/E.907 in the 2020–2021 academic year was obtained.

#### Sample.

The study group included 122 teachers working in rural (environment) schools affiliated with the Ministry of National Education and Culture General Secondary Education Department for the 2020–2021 academic year. Since face-to-face interviews could not be done with them, their responses as the written interview form via Docs.google.com (accessed on 31 March 2021) were accepted and evaluated as a document.

The study group included units with specific characteristics per the research purpose. Various types of sampling were included in the study group. The study group was determined by the purposeful sampling method. According to Patton [43], purposeful sampling allows for in-depth study of situations that are thought to have rich information. Researchers have tried to obtain data by reaching analogous states. Attention was paid to the fact that the rural (environment) schools included in the study are located in different regions of the TRNC (Nicosia, Kyrenia, Famagusta, İskele). Since there is no environment (rural) school in the Lefke region, the fifth Region in the TRNC, it was not included in the study. All of the environmental schools in the TRNC and affiliated with the General Secondary Education Department were included in the study.

While determining the study group, the purposeful sampling approach, one of the non-random sampling styles, was used [44]. Non-random sampling is carried out for a specific purpose. Purposeful sampling provides an in-depth study of situations that are thought to yield rich data [41]. In this study, teachers working in rural (environmental) schools were the study participants. With the simulated sampling technique, considering that the schools in the rural (environment) Region have similar characteristics, all of them were included in the study group. Teachers in the study group were reached using the snowball data collection technique [45].

The study group consists of 122 teachers. Eighty-one of the participants; 66.39% represented undergraduate education, 41 of the participants; 33.6% were from graduate education. Fifteen of the participants; 12.30% worked in Kyrenia, 59 of the participants; 48.36% were in İskele, 29 of the participants; 23.57% worked in Famagusta, 19 of the participants; 15.57% worked in the rural schools of Nicosia. Sixteen of the participants, 13.11% were from secondary school, 106 of the participants; 83.61% worked in schools where secondary and high school education is given together.

The work experience of the participants is 37; 30.33% working between (0–5) years; 19; 15.57%, working for (6–10) years; 31; 25.41% working for (11–15) years, 13; 10.66% working for (16–20) years; 15; 12.29% working for (21–25) years; 7; 5.74% working for 26 and above.

The branches of the participants are given in Table 1 below.



**Table 1.** Branches of the participants.

Discipline	Num	Percentage
Psychological Advisor and Guide Trainer	6	4.92%
Turkish Language and Literature	16	13.11%
Turkish—Turkish Language and Literature	5	4.10%
History	8	6.56%
History (Social Information)	6	4.92%
Geography	4	3.28%
Geography-Social Studies	1	0.82%
Philosophy Group	4	3.28%
Religious Culture and Moral Knowledge	1	0.82%
Math	16	13.11%
Biology	1	0.82%
Biology-Science and Technology	2	1.64%
Physics	3	2.46%
Physics-Science Knowledge	1	0.82%
Chemistry	5	4.10%
Science	3	2.46%
English	12	9.84%
German	2	1.64%
Art	2	1.64%
Technology Design	4	3.28%
Music	9	7.38%
Computer	3	2.46%
Physical Education	7	5.74%
Business	1	0.82%
Total	122	100.00%

#### Data Collection.

Domestic and international literature on the subject was examined, and a semi-structured interview form was prepared. Regarding the content of the research questions and the interview questions, the opinions, and suggestions of the lecturer, who is an expert in education management, supervision, economy, and planning, and a language expert for the comprehensibility of the questions were obtained and finalized. Permission has been obtained to apply to environmental (rural) schools affiliated with the secondary education department.

Researchers have faced several difficulties in an unprecedented period of change and disruption in societies due to COVID-19. Public health requirements and social distancing measures have restricted face-to-face research. They have had to switch to another data collection method based on telephone or the internet to collect data [37]. An online forum was used as a web-based data collection resource in this research. A written interview form was prepared on docs.google.com (accessed on 31 March 2021), and the answers given by the teacher in the written interview form were accepted as a document. The data collection process occurred between March 15 and March 30, 2021. A total of 122 teachers, 88, 72.13% of them were women, and 27.87% were men, working in environmental schools voluntarily participated in the study. Using open-ended qualitative questions in the written interview form via Docs.google.com (accessed on 31 March 2021), how they evaluate

distance education, the differences between distance education and face-to-face education, their competence, and difficulties in carrying out distance education, the teaching methods, and open access resources, how. They were asked to indicate where they used them, the assessment methods, and the difficulties they experienced in including students in the distance education process.

The research data were obtained using the document analysis technique. Document review covers the analysis of written materials containing information about the subjects to be researched [41]. Karasar [38] stated that the essential requirement of a successful document review is to find and examine the documents on the subject and to make the necessary arrangements to reach a synthesis that will reveal a specific situation or opinion. The stages specified by [41] (accessing the documents, checking the originality, understanding the documents, analyzing the data, using the data) were considered in the document analysis.

#### Data Analysis.

The data collected through document analysis from qualitative methods was analyzed with descriptive content analysis. Document analysis is the examination of the researched documents in the light of the research question [38]. The purpose of the descriptive analysis is to present the obtained findings to the reader in an organized and interpreted form. For this purpose, the QMiner program was used. Categories and codes were determined.

### 3. Results

The research findings were analyzed to answer each research question, and the results of this analysis are given below.

First dimension: Evaluation of the distance education process: The first dimension of the study was created within the scope of presenting opinions about the evaluation of the distance education process. In this context, 122 participants were asked for their opinions. The answers given to these questions were coded and their themes were extracted, and the distributions related to these themes are given in Table 2 and the graphic.

**Table 2.** Evaluation of the distance education process.

Category	Code	Count	%Codes	Cases	%Cases
Evaluation	a new experience (must have)	3	0.20%	1	100.00%
	Insufficient	8	0.40%	1	100.00%
	Positive	5	0.30%	1	100.00%
	nice solution/best practice	2	0.10%	1	100.00%
	Negative	6	0.30%	1	100.00%
	a difficult process	18	0.90%	1	100.00%
	Successful	1	0.10%	1	100.00%
	useful/useful	10	0.50%	1	100.00%
	the lesser evil	1	0.10%	1	100.00%
	Tiring	6	0.30%	1	100.00%
	Unprepared	3	0.20%	1	100.00%
	Motivation	5	0.30%	1	100.00%
	Interaction	4	0.20%	1	100.00%
	student's point of view				
	Efficient	4	0.20%	1	100.00%
	inefficient process/useless	33	1.70%	1	100.00%
	student interest	4	0.20%	1	100.00%
	the student's continuing education	3	0.20%	1	100.00%
	student participation	2	0.10%	1	100.00%
	GOOD	10	0.50%	1	100.00%
	saving on time	1	0.10%	1	100.00%

The first dimension of the research within the scope of expressing opinions was the evaluation of the distance education process. Most of the participants stated that it was a complex process. In this context, a participant said, “We can say that the pandemic process we live in is a challenging process (P (19))”. Some of the participants expressed in the form, “I would like to state that the distance education process has exhausted our students and us and is an extremely tiring process (P (67))”. Another participant said, “It is an obvious fact that in the pandemic process, distance education is a less efficient and useless process compared to face-to-face education (P (79))”. Another participant said, “I think that it is a new training method within the scope of the evaluation of the distance education process, and it is very useful and beneficial to us, and we do not have much loss in education thanks to technology (K (98))”.

Second dimension: The factors that make the difference between classical education and distance education:

The second dimension of the study was created within the scope of revealing the opinions about the factors that make the difference between classical education and distance education (Table 3).

**Table 3.** Factors that make the difference between conventional education and distance education.

Category	Code	Count	%Codes	Cases	%Cases
Differences between Classical Distance Education	face-to-face training is more beneficial	13	0.70%	1	100.00%
	technology possibility	3	0.20%	1	100.00%
	internet bottom	4	0.20%	1	100.00%
	establish an emotional connection	1	0.10%	1	100.00%
	contact	17	0.90%	1	100.00%
	course materials	1	0.10%	1	100.00%
	quantification and consideration	3	0.20%	1	100.00%
	curriculum	1	0.10%	1	100.00%
	teaching methods	2	0.10%	1	100.00%
	student motivation	1	0.10%	1	100.00%
	teacher’s effect on education	2	0.10%	1	100.00%
	lack of interaction	6	0.30%	1	100.00%
	the inconvenience of the home environment	1	0.10%	1	100.00%
	parents’ perspective on education	1	0.10%	1	100.00%
	discontinuity	1	0.10%	1	100.00%
	the system is new	1	0.10%	1	100.00%
	active participation of the student	1	0.10%	1	100.00%
	student apathy	4	0.20%	1	100.00%
	eye contact	6	0.30%	1	100.00%
	student control	1	0.10%	1	100.00%
	opportunity equality	3	0.20%	1	100.00%
	socializing	2	0.10%	1	100.00%
	teaching time	1	0.10%	1	100.00%
	inability to do application activities	2	0.10%	1	100.00%
	no feedback	1	0.10%	1	100.00%
	body language	3	0.20%	1	100.00%
	realistic environment	2	0.10%	1	100.00%
	uncertainty of the process	2	0.10%	1	100.00%
	classroom climate	1	0.10%	1	100.00%
	camera use liability	1	0.10%	1	100.00%
	cost savings				
	physical problems	1	0.10%	1	100.00%
	role confusion of teachers	1	0.10%	1	100.00%



The second dimension of the study within the scope of the opinions was about the factors that make the difference between classical education and distance education. A participant expressed the ideas in the form as follows. *“Within the scope of the differences between classical education, namely face-to-face education, and distance education, I can say that face-to-face education is the best education process in the current pandemic situation, although it is indisputably much more beneficial (K (44))”*. Another participant said: *“One of the most distinctive differences between face-to-face education and distance education is that we can communicate effectively with communication applications such as WhatsApp, Facebook, and Messenger, even though it looks better face to face within the scope of communication (K (56))”*. Another participant expressed in the form: *“While eye contact is established with very good students in face-to-face education, we cannot make eye contact in distance education. This causes a decrease in the messages we want to give in education (F (38))”*. Another participant stated: *“Although the lack of interaction with our students in face-to-face education is not much, we can see the lack of interaction in distance education much more (K (61))”*.

Third dimension: Requirements and difficulties in the process of distance education: The third dimension of the study was created within the scope of presenting the opinions about the situations that are sufficient and difficult in the distance education process (Table 4).

**Table 4.** Situations experienced and difficulties in the distance education process.

Category	Code	Count	%Codes	Cases	%Cases
Situations You Are Sufficient and Have Difficulty	time	5	0.30%	1	100.00%
	environment being sustainable	1	0.10%	1	100.00%
	attending in-service courses and seminars	2	0.10%	1	100.00%
	my digital and technological skills are sufficient	3	0.20%	1	100.00%
	internet-related troubles	12	0.60%	1	100.00%
	not being able to check homework	5	0.30%	1	100.00%
	preparing material	8	0.40%	1	100.00%
	student motivation	8	0.40%	1	100.00%
	having an uncertain process	1	0.10%	1	100.00%
	being in a virtual environment	2	0.10%	1	100.00%
	inability to do practical activities	3	0.20%	1	100.00%
	I have enough knowledge and equipment	15	0.80%	1	100.00%
	difficulty involving the student in active lessons	10	0.50%	1	100.00%
	teaching method				
	communication with the student	3	0.20%	1	100.00%
	trouble controlling the student	5	0.30%	1	100.00%
	thanks to the education we received, there is no problem	1	0.10%	1	100.00%
	late attendance of students	5	0.30%	1	100.00%
	my eye health is negatively affected	1	0.10%	1	100.00%
	difficulty differentiating the lesson	1	0.10%	1	100.00%
	not being able to reach the student	2	0.10%	1	100.00%
	I am using the time sufficiently	2	0.10%	1	100.00%
	follow the student academically	9	0.50%	1	100.00%
	student's interest in extracurricular activities	2	0.10%	1	100.00%
	curriculum density				
	inability to master technology				
	participation in the lesson	4	0.20%	1	100.00%
	assessment of the student (assessment and evaluation)	3	0.20%	1	100.00%
	I had no problem				

Table 4. Cont.

Category	Code	Count	%Codes	Cases	%Cases
	visual expression	7	0.40%	1	100.00%
	not being able to make eye contact	2	0.10%	1	100.00%
	readiness of the student	3	0.20%	1	100.00%
	role confusion				
	lesson loss	2	0.10%	1	100.00%
	comfortable movement of the student				
	lack of tools	1	0.10%	1	100.00%
	prepare the subjects	1	0.10%	1	100.00%
	inability to get feedback from the student	1	0.10%	1	100.00%

The third dimension of the research within the scope of the opinions was about the situations that were sufficient and difficult in the distance education process, one participant explained his thoughts in the form said: *“My internet is constantly disconnected, and I both lose time, and I cannot do my lessons efficiently (P (72))”*. Another participant said: *“I have enough knowledge and equipment in the distance education process. I didn’t have much trouble. However, I can say that I had a little more difficulty in following the student academically (K (53))”*. Regarding this dimension, another participant expressed his opinions by saying: *“I have a lot of difficulty in including the student in the lesson actively, but also in controlling the student in the lesson. (K (23))”*. Another participant said: *“I have a hard time increasing the motivation of the students and preparing appropriate material for the lesson. However, I brought my digital and technological skills to a sufficient level by attending courses and seminars. Thus, the problems I experienced in providing motivation and preparing the appropriate materials decreased even more. (K (89))”*. Another participant said about this dimension: *“I cannot do homework control in distance education sufficiently. The readiness of our students is not enough. Moreover, students attend classes late, or attendance is low for each lesson. However, I use the time sufficiently in the lessons and I do not have any problems in terms of time in the lessons. (K (111))”*.

Fourth dimension: Teaching method/methods used differently from face-to-face education in the distance education process: The fourth dimension of the study was formed within the scope of revealing the opinions about the teaching method/methods used in the distance education process different from face-to-face education (Table 5).

The fourth dimension of the research within the scope of the opinions was about the teaching method/methods used differently from face-to-face education in the distance education process. One participant expressed his views: *“Unlike face-to-face education, I use PowerPoint (presentation/slide) in my lesson presentations in distance education (K48)”*. Another participant expressed his views about this dimension as follows: *“I try to increase the motivation of my students and their interest in the lessons by using technological visuals too much in the lessons I conduct in distance education. (C (11))”*. Within the scope of this dimension, another participant said: *“I use many teaching methods such as question-answer method, narration technique, fun videos, whiteboard, and online test application techniques in distance education, different from face-to-face education. (K113)”*. Regarding this dimension, another participant expressed his opinions by saying: *“In the distance education process, I use many teaching methods by using brainstorming management, live sample question solution, smartboard applications, project studies and most of the discussion method. (K (19))”*. Another participant related to this topic stated: *“Exercises from the internet during the distance education process, simulating and sampling method, making presentations to students, using digital books, talking method through dialogue, sharing more pictures about the topics, game-based methods, and appropriate links to the topics. I try to do the lessons by sending them to the students. (K (47))”*.

**Table 5.** Teaching method/methods and assessment types are used differently from face-to-face education in the distance education process.

Category	Code	Count	%Codes	Cases	%Cases
Methods Used in Distance Education	Power point/presentation/slide	12	0.60%	1	100.00%
	Microsoft office applications, various applications (Pinterest, Youtube, Moodle, WhatsApp, Messenger, Google Meet	1	0.10%	1	100.00%
	narrative technique	6	0.30%	1	100.00%
	technology—visuality	20	1.00%	1	100.00%
	visual materials	1	0.10%	1	100.00%
	video lecture	1	0.10%	1	100.00%
	digital book	1	0.10%	1	100.00%
	question and answer method	1	0.10%	1	100.00%
	I shared pictures on the subject	1	0.10%	1	100.00%
	pdf files	4	0.20%	1	100.00%
	have students prepare a presentation	1	0.10%	1	100.00%
	reflect the subject on the screen using a picture, map, etc.	1	0.10%	1	100.00%
	by giving study questions homework collecting assignments via WhatsApp	3	0.20%	1	100.00%
	I tried to explain the questions they did not understand with a one-on-one audio recording.	1	0.10%	1	100.00%
	analogy, methods of observation	1	0.10%	1	100.00%
	fun videos	1	0.10%	1	100.00%
	using online testing techniques	3	0.20%	1	100.00%
	whiteboard	2	0.10%	1	100.00%
	dialogue/conversation	2	0.10%	1	100.00%
	by making appropriate links to the topics	1	0.10%	1	100.00%
	online homework and control	1	0.10%	1	100.00%
	project studies	2	0.10%	1	100.00%
	brainstorming	5	0.30%	1	100.00%
	analogy and sampling	1	0.10%	1	100.00%
	picture puzzle.	1	0.10%	1	100.00%
	game-based methods	1	0.10%	1	100.00%
	animated from the screen	1	0.10%	1	100.00%
	live sample question solution	1	0.10%	1	100.00%
	smart board app	2	0.10%	1	100.00%
	lessons with music	1	0.10%	1	100.00%
	starting with therapy	1	0.10%	1	100.00%
	discussion method	1	0.10%	1	100.00%
	manual skills	1	0.10%	1	100.00%
	exercises from the internet	1	0.10%	1	100.00%

Fifth dimension: Difficulties experienced in adding lessons with students in the distance education process: The fifth dimension of the study was created within the scope of presenting the opinions about the difficulties experienced in adding lessons with the students in the distance education process (Table 6).

**Table 6.** Difficulties in adding lessons with students in the distance education process.

Category	Code	Count	%Codes	Cases	%Cases
Troubles in Adding Students to the Course	inability to wake up (trouble getting up in the morning)	2	0.10%	1	100.00%
	device/technology deficiency	3	0.20%	1	100.00%
	reluctant	4	0.20%	1	100.00%
	internet problem	15	0.80%	1	100.00%
	inability to attend				
	low participation	1	0.10%	1	100.00%
	microphone problem	9	0.50%	1	100.00%
	unsuitable home environment	1	0.10%	1	100.00%
	the camera is not open	12	0.60%	1	100.00%
	other jobs	1	0.10%	1	100.00%
	interest	7	0.40%	1	100.00%
	exam	1	0.10%	1	100.00%
	waste of time	1	0.10%	1	100.00%
	attention	3	0.20%	1	100.00%
	negative	2	0.10%	1	100.00%
	low motivation	14	0.70%	1	100.00%
	negligence				
	not listening				
	question	4	0.20%	1	100.00%
	parental indifference	1	0.10%	1	100.00%
	lack of material	1	0.10%	1	100.00%
	arbitrary behavior	2	0.10%	1	100.00%
	arbitrary behavior	1	0.10%	1	100.00%
	uncertainty	2	0.10%	1	100.00%
	noise	2	0.10%	1	100.00%
	polling	3	0.20%	1	100.00%
	legal sanction	1	0.10%	1	100.00%
	play game	2	0.10%	1	100.00%
	environmental stimulants	1	0.10%	1	100.00%
	daily decisions	1	0.10%	1	100.00%
	unclear	1	0.10%	1	100.00%
	attendance absenteeism	2	0.10%	1	100.00%
	student participation	1	0.10%	1	100.00%
	yield	3	0.20%	1	100.00%
	access shortage	1	0.10%	1	100.00%
	inability to connect				
	early start of classes	1	0.10%	1	100.00%
	I pass class				
	refusal/incapacity to participate	1	0.10%	1	100.00%
	family	6	0.30%	1	100.00%
	control	1	0.10%	1	100.00%
	talk	2	0.10%	1	100.00%

The fifth dimension of the study within the scope of the opinions was about the difficulties experienced in adding lessons with the students during the distance education process. One participant stated that “Our students have difficulties in attending the class because they cannot get up in the morning, lack device technology, and have internet problems. (F (22))”. Another participant stated: “During the distance education process, most of our students do not want to turn on their cameras and do not participate in the lessons by keeping their microphones closed (K (98))”. Another participant shared his thoughts: “We can say that our students have

*low motivation in distance education, have little interest, are indifferent, have high environmental stimulants, and their participation in classes decreases due to lack and inadequacy of materials. (F (43))*". Another participant is in this dimension said: *"I can say that the participation and interest of students in the lesson have decreased in matters such as parents do not control their children sufficiently, neglect, attention deficit and not listening to the lesson. (P (88))"*.

Sixth dimension: Evaluation methods in the distance education process. The sixth dimension of the research was created within the scope of revealing the opinions about the evaluation methods in the distance education process (Table 7).

**Table 7.** Opinions about the evaluation methods in the distance education process.

Category	Code	Count	%Codes	Cases	%Cases
Assessment Methods in Distance Education	short tests	13	0.70%	1	100.00%
	participation	9	0.50%	1	100.00%
	homework	50	2.60%	1	100.00%
	control via WhatsApp	4	0.20%	1	100.00%
	online exam	15	0.80%	1	100.00%
	observation form	2	0.10%	1	100.00%
	in-class performance tracking	3	0.20%	1	100.00%
	asking questions during the lesson	6	0.30%	1	100.00%
	question answer	7	0.40%	1	100.00%
	oral examination	8	0.40%	1	100.00%
	term paper	2	0.10%	1	100.00%
	daily questions	1	0.10%	1	100.00%
	activity	3	0.20%	1	100.00%
	don't ask questions one by one	2	0.10%	1	100.00%
	feedback	8	0.40%	1	100.00%
	project videos	2	0.10%	1	100.00%
	presentation	6	0.30%	1	100.00%
	preparing an experiment	2	0.10%	1	100.00%
	reading and commenting	2	0.10%	1	100.00%
	evaluation via google form/google classroom (/test exam/mock exam)	7	0.40%	1	100.00%
	the exam in the form of projecting cameras open	1	0.10%	1	100.00%
	answering questions during the lesson	1	0.10%	1	100.00%
	making students exams during the lesson				
	video	5	0.30%	1	100.00%
	idea	3	0.20%	1	100.00%
	evaluation	17	0.90%	1	100.00%
	conversation				
	return with symbols	1	0.10%	1	100.00%
	listening listening exam	2	0.10%	1	100.00%
	not done				
	discussion	2	0.10%	1	100.00%
	test question	11	0.60%	1	100.00%
	online question-answer	1	0.10%	1	100.00%
	teamwork	2	0.10%	1	100.00%
	end-of-unit questions	1	0.10%	1	100.00%
	text review	1	0.10%	1	100.00%
	test exam				
	instant question	2	0.10%	1	100.00%
	student				
	play games	2	0.10%	1	100.00%
	product evaluation	1	0.10%	1	100.00%

In the sixth dimension of the study, within the scope of the opinions about the evaluation methods in distance education, a participant expressed his opinion: *"I evaluated the*

*students by giving online questions and answers and homework (K(70))*". Another participant is about this subject *"I try to include students by making my lessons generally as questions and answers. In addition, I explain the assignments by checking them on WhatsApp, checking them individually, sometimes identifying common mistakes, and solving them in the classroom. I also do a quiz at the end of the unit. (K(17))"*. Another participant evaluated the assessment methods as: *"I used in the distance education process, doing homework on time, doing the homework correctly, active participation in the lesson and online exams. (K(48))"*. Another participant shared his views by saying, *"homework was given regularly, quizzes were given, and questions were asked in the classroom, both children were activated, and necessary reports were kept. (K (86))"*. Another participant shared his opinions as follows: *"I want to give homework and give feedback. I want them to prepare presentations and experiments and send them in the form of videos (as a term paper). We also solve some of the assignments during the online class (by asking students to read and interpret). (K(30))"*.

#### 4. Conclusions

The findings have highlighted that the distance education practices have acted like new codes of life for a new future in rural regions as the teachers report them to be very useful and beneficial to them because of the continuation of studies. The teachers expressed their positivity towards effective communication using applications like WhatsApp, Facebook, Messenger, and Google Classroom. An increased motivation among the students was reported as the teachers used technological visuals and innovative strategies like narration techniques, fun videos, whiteboards, and online test applications. The use of digital books, talking methods through dialogue, and game-based methods seem to be game-changing new codes for a new future in rural regions.

The results and suggestions of the research were analyzed to answer each research question, and the results of this analysis are given below in order.

First dimension: Results of the evaluation of the distance education process:

Within the scope of the first dimension of the study to express opinions about the evaluation of the distance education process, most of the participants stated that it was a challenging process. According to the participants' opinions, it can be said that the distance education process exhausts teachers and students a lot, and the pandemic process is exhausting. It was understood that during the pandemic process, distance education was a less efficient and less helpful process compared to face-to-face education, which was an overall result among the participants. However, although it is a new education method within the scope of the evaluation of the distance education process, it can be said from the opinions of the participants that it was very useful and beneficial for teachers and that it did not have much loss in education thanks to technology, which showed similarity between the idea of [32] who emphasized that it has become an important cause. In this context, it can be suggested that to make distance education more accessible and more practical, which is a complex process, the Ministry of National Education should reduce the course curriculum and shorten the duration of the courses. In addition to these, it can be said that it would be a suitable suggestion to increase more in-depth and comprehensive in-service training courses regarding the distance education method for teachers [37].

Second dimension: Results related to the factors that make the difference between classical education and distance education:

The second dimension of the study showed that face-to-face education was much more beneficial within the scope of the differences between classical education and distance education within the scope of the results that make the difference between classical education and distance education. However, it can be said that distance education is the best training process in the current pandemic situation. One of the most distinctive differences between face-to-face education and distance education is that even though face-to-face training seems to be better within the scope of communication, it is from the data that very effective communication can be established with communication applications such as WhatsApp, Facebook, and Messenger. While eye contact is established with each student in



face-to-face education, it is understood that there are significant difficulties in establishing eye contact in distance education. For this reason, it can be said that the messages that teachers want to give in education cause a decrease in their meaning. Although the lack of interaction with students in face-to-face education is not much, it can be concluded that there is much more lack of interaction in distance education. There is a lack of effective interaction between teachers and students [33].

More intensive studies are required to ensure that teachers can make technology communication tools much more efficient and effective. It would be an appropriate method to separate students into two or three groups by reducing the number of large student groups in the lessons, primarily to ensure better eye contact and interaction.

Third dimension: Results about the situations that are sufficient and have difficulties in the distance education process:

The third dimension of the study showed that the desired efficiency in the lessons has decreased due to the continuous disconnection of the internet within the scope of the opinions about the situations that are sufficient and the difficulties in the distance education process. It can be said that some teachers do not have too many problems due to their sufficient knowledge and equipment in the distance education process. However, it can be concluded that teachers have a little more difficulty in following the student academically [32]. According to the data, it can be said that teachers have difficulty activating the student to the lesson and have great difficulties controlling the student in the lesson [46]. It is understood from the opinions that teachers also have difficulties in measurement and evaluation. It is understood that teachers have difficulties increasing students' motivation and preparing appropriate materials for the lesson. However, some teachers have brought their digital and technological skills to a sufficient level by participating in courses and seminars. In this context, it can be said that the problems experienced by teachers in motivating students and preparing appropriate materials may decrease. It is understood that the teachers could not do homework control due to the distance education sufficiently, the readiness of our students was not at the desired level, and the students entered the class late. It is understood that the majority of the participants use the time sufficiently in the lessons and do not have any problems in terms of time in the lessons. It is seen that the teachers adapt to distance education [47].

Fourth dimension: Results related to the teaching method/methods used differently from face-to-face education in the distance education process:

The fourth dimension of the study revealed that different from face-to-face education in distance education, primarily it was understood from the PowerPoint (presentation/slide) data that teachers tried to increase the students' motivation and their interest in the lessons by using technological visuals much more in the lessons. Teachers gave their lectures by making presentations and supporting them with visuals [36,48]. Within the scope of teaching methods, we can say that they use many teaching methods such as question and answer method, narration technique, fun videos, whiteboard, and online test application techniques, especially in distance education, unlike face-to-face education [49]. In addition to these, it is understood that the brainstorming method, live sample question solution technique, smartboard application method, project studies, and mostly discussion method are used by teachers in the distance education process. In the distance education process, we can say from the participants' opinions that they try to do the lessons by sending them the appropriate links to the subjects with the internet exercises, simulating and sampling method, making presentations to students, using digital books, talking method through mutual dialogue, sharing more pictures about the subjects, game-based methods, and relevant links. In this context, it can be suggested that all teachers should be given serious training in a planned, programmed, and systematic manner in subjects such as teaching methods and measurement and evaluation in distance education so that teachers can make their distance education lessons more effective and efficient [49,50].

Fifth dimension: Results related to the difficulties faced in adding lessons with students during the distance education process:

The fifth dimension of the study emphasized that students cannot get up in the morning, have device technology deficiencies, and have problems attending classes due to their internet problems. It was understood that students' obstacles at home were internet access and electronic devices [51,52]. Students do not want to turn on their cameras and participate in classes by keeping their microphones off during the distance education process. Their motivation in distance education is low, their interest is low, they are indifferent, and there are too many environmental stimuli. We can say that the attendance at the classes has decreased due to the lack of material. It can be said that the fact that the teaching material in distance education cannot be arranged according to the needs and conditions of the students and that the curriculum in classical education is applied in distance education, the intensity of the subjects causes the students to be reluctant to participate in the course. Aliyyah et al. [34] and Pokhrel and Chhetri [49] emphasize that teachers should be directed to different online educational tools.

In addition to these, it was understood that the parents do not control their children sufficiently. There is neglect, attention deficit, and not listening to the lessons. The students' participation and interest in the lesson are not at the desired level. In this context, more exact distance education training for teachers to increase students' interest in lessons and concentrate their attention on lessons; can be suggested that training on using technology, designing, and monitoring distance education should be organized [37].

Results on the evaluation methods in the sixth dimension in distance education:

Within the scope of the results of the sixth dimension of the study regarding the evaluation methods used in the distance education process, it is seen that the teachers give homework to the students as the assessment method as in classical education. In addition to this, the student tried to be activated with the question-answer technique during the lecture, mini-quizzes were made at the end of the unit, and test questions were solved. Some teachers were given homework through Google classroom and made online test applications and exams on the google form. It is understood from the answers given that teachers prefer to use methods such as question and answer, solving test questions, participation, solution of end-of-unit questions, text analysis, asking individual questions, term papers, and making presentations in distance education. Teachers used online applications such as Google Forms, Google Classroom, and WhatsApp to control the assignments given to students. With the interruption of face-to-face education, it is seen that online measurement and flexible evaluation methods, which are not normally used, are used in education [27]. Designing student assessment "helps teachers to focus as well [18].

The use of some assessment methods used in classical education and distance education caused the teacher's working time to extend. Teachers had to reorganize their time, and teachers took time to do their tasks and interact with students [48]. The experiences related to various models of online education indicate the emergence of blended learning as a mainstream approach [53] as it combines online learning with onsite learning and thus augments the shortcomings of the system to offer greater flexibility to teachers, students, and administrators. The practices of emergency remote teaching [54] focus on alternative ways of teaching, homework, sorting out technical problems during synchronous classes, and instructor's role for regular instantaneous feedback. The pandemic emphasized the need to devote more time to teacher and student interaction. From the answers given, it is understood that the participants spent some of their time interacting with students through WhatsApp. In this context, teachers can be trained on the variety of measurement and evaluation methods in distance education and how to use their time more efficiently.

**Author Contributions:** Conceptualization, B.Y. and F.A.; methodology, B.Y., F.A. and R.C.S.; software, G.D.; validation, B.Y., Z.A. and G.D.; formal analysis, B.Y., F.A., Z.A., R.C.S. and G.D.; investigation, B.Y.; resources, F.A. and G.D.; data curation, B.Y. and Z.A.; writing—original draft preparation, B.Y. and F.A.; writing—review and editing, B.Y., F.A., R.C.S. and Z.A.; visualization, G.D.; supervision, F.A. and Z.A.; project administration, F.A., Z.A. and G.D. All authors have read and agreed to the published version of the manuscript.

**Funding:** This research received no external funding.

**Institutional Review Board Statement:** Necessary permission of the Directorate General of the Middle School dated 16 March 2021 and numbered GOÖ.0.00-174.06-21/E.907 in the 2020–2021 academic year was obtained.

**Informed Consent Statement:** Informed consent was obtained from all subjects involved in the study.

**Data Availability Statement:** Data can be requested upon from the researchers.

**Conflicts of Interest:** The authors declare no conflict of interest.

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