# Views of Greek Teachers on the Implementation of Teaching Approaches in Online Classrooms

**Filippos Evangelou** iD
Hellenic Open University, Greece

**To cite this article:**

# Views of Greek Teachers on the Implementation of Teaching Approaches in Online Classrooms

**Filippos Evangelou**

| Article Info | Abstract |
|---|---|
| | With the emergence of the coronavirus pandemic, education systems at international level were called upon to immediately undertake the transition from face-to-face teaching to a new digital environment. The Greek Ministry of Education has activated the implementation of Online Education - Distance Teaching (OE - DT) for students of Primary and Secondary Education. In this context, this research attempts to investigate the views of Greek teachers on the implementation of teaching approaches in online classrooms during the period of COVID-19. The research sample consists of 734 Greek teachers. The sample was selected by "cluster random sampling". A structured questionnaire with "closed" type of five-point Likert-type questions was used as a research tool for the research and data collection. Statistical analysis and interpretation of the empirical data was implemented with the statistical package SPSS 28. The main findings are: i) the views of the research subjects about the role of the teacher - regarding the interaction between the teacher - students, the use of teaching methods and techniques - in the teaching process, are approximately neutral, i.e. neither positive nor negative; ii) well over half of the teachers stated that in the case of extended use of OE - DT , the sociality of students may be affected. |

## Introduction

The initial outbreak of the coronavirus - in March 2020 - resulted in the temporary suspension of educational structures in hundreds of countries worldwide (Unesco, 2020). In Greece, this emergency situation prompted the responsible officials of the Ministry of Education and Religious Affairs to organize and immediately utilize Online Education - Distance Teaching (OE - DT) for students of Primary and Secondary Education (Evangelou, 2022; Fykaris, 2021; Lionarakis et al., 2020) as Emergency Remote Teaching as it happened in many countries (Bates, 2020a; Doz & Doz, 2023; Hodges et al., 2020; Hodges et al., 2021; Lionarakis et al., 2020; Winthrop, 2020). This form of OE - DT has some elements of Distance Education (DE). However, during its utilisation, there was no careful and detailed training planning, as it is an immediate and forced solution to deal with an emergency situation (Hodges et al., 2020; Khlaif & Salha, 2020; Lansangan et al., 2022; Vlachopoulos, 2020).

Nevertheless, OE - DT constitutes a tool of Information and Communication Technologies, a new form of modern two-way audiovisual communication (Armakolas & Panagiotakopoulos, 2020, p.23), which forms very close data

to those of face-to-face teaching, providing audiovisual stimuli - verbal and non-verbal - that reduce the isolation of the learners (Kanellopoulos et al., 2020, p. 47). The OE - DT was applied in Greece to students of Primary and Secondary Education, without being based on a coherent educational and pedagogical framework of principles and methodology because the conditions were unprecedented due to the exceptional situation of the suspension of schools (Lionarakis et al., 2020). More specifically, in this period, the reference to the term "distance learning" focuses on the concept of the spatial distance of the participants in the teaching process and the way in which it can be overcome, rather than the way it is scientifically exploited through contemporary research (Anastasiadis, 2020). In many cases, the emergency conditions distort the essential value of OE - DT and it is necessary to clarify that OE - DT is not just a simulation of classroom education. OE - DT has its own characteristics, methodology and requirements for its operation (Lionarakis, Manousou & Hartofilika, 2020).

The transition to emergency OE - DT , due to the pandemic, is a source of concern for scholars and a source of many questions regarding the implications for the educational and teaching process itself (Onyema et al. 2020). More specifically, at the global level, there is a strong research interest in studying the methodological and teaching practices, as well as the personal views and attitudes of those teachers who have used OE - DT as teachers (Akhteh et al., 2022; Ghosh, Jansz, Ghosh, 2022; Hu & Huang, 2022, Kiernan, 2020; Mouzakis et al., 2021; Noroozi et al., 2022; Williamson et al., 2020).

In the context of this problematic, in recent research (Adu - Gyamfi et al., 2019; Fykaris, 2021; Kara & Gulfidan, 2019; Kesim, 2019; Reich et al., 2020) raises the question, related to the extent to which the role of OE - DT can focus on meeting the urgent conditions due to coronavirus within a 'techno-centric approach' or whether it will be directed towards enriching teachers' and students' knowledge and skills by enhancing teaching and learning. Through these considerations and questions, the pedagogical, didactic and social dimensions of OE - DT , which is mentioned in a number of related researches (Abidah et al., 2020; Anastasiades, 2020;Bates, 2020a; Bates, 2020b; Kara & Gulfidan, 2019; Sivrikayai, 2019; Takahama, 2020; Zhang et al., 2020; Zhao et al., 2020).

The above are crucial elements to investigate, due to the use of OE - DT in Primary Schools, Secondary Schools and High Schools in Greece. Consequently, it is perceived as essential to search for the meaning that teachers give to their teaching, as well as their views regarding their ability to respond to the urgent and different circumstances related to the utilization of OE - DT during the period of COVID-19 (Mishra et al., 2020; Mouzakis et al., 2021). For the above reasons, the main research objective of this study is to investigate the views of Greek teachers regarding the teaching approaches they used in their online classrooms during the period of COVID-19.

## Method

### Research Questions

The research questions of this study are formulated as follows:

*1st research question:* To what extent do the research subjects consider that OE - DT promotes interaction (dialogue, participation, questions, etc.) between teacher-students in teaching?

*2nd research question:* To what extent do the research subjects consider that with OE - DT the teacher is

able to differentiate his/her teaching taking into account the interests of the students? (the differentiation of teaching is related to the improvement of teaching).

*3rd research question:* To what extent do the research subjects consider that with OE - DT the teacher can make use of alternative teaching techniques (brainstorming, conceptual mapping, etc.)?

*4th research question*: To what extent do the research subjects consider that with OE - DT students develop skills of critical perception of information data?

*5th research question*: To what extent do the research subjects consider that in case of extended use of OE - DT, students' sociability in teaching can be affected? (we are interested in whether students' social skills are impaired).

**Sample**

The population of the research consists of all teachers and teachers of literature (philologists) in Primary and Secondary Education throughout Greece. The research was conducted from the beginning of May to the end of June 2021. The sample of the research was drawn from teachers and philologist in schools - primary schools, secondary schools, high schools - all over Greece. The research sample consists of 734 teachers. Of the 734 teachers, 381 (51.9%) are Primary Education teachers and 358 (48.1%) are Secondary Education teachers of literature (philologists). It is worth noting that no statistically significant correlations were found between variables such as age and gender. However, statistically significant correlations were found between 2 question variables and teachers' specialization (Tables 7 and 8).

The sample was selected by "cluster random sampling" (Cohen et al., 2000) from a list of all primary and secondary schools in the whole country. More specifically, 1,000 school units (primary schools, secondary schools, high schools) were randomly selected from the total list of school units. Then, from these 1,000 school units, a sample of 734 teachers was drawn up and asked to complete the research questionnaire.

**Data Collection**

For the implementation of the proposed research and for data collection, was used as a research tool a structured questionnaire with "closed" type five-point Likert scale questions, which facilitate the connection with the objectives and research questions of the proposed research (Robson & McCartan, 2015) and satisfy the following two parameters: that their values are mutually exclusive and cover the whole range of possible answers. At the same time, the scale was chosen up to 5 to give more reliability with the existence of several alternative answers. The options are as follows: 1= Not at all, 2= Slightly, 3= Moderately, 4= Very, 5= Extremely. In this paper, 5 of the 23 questions of the questionnaire are analysed.

The questionnaire was constructed on the Google Forms online platform because this allows it to be shared in a short period of time with the research subjects and "allows us to have large samples of responses with relatively little additional effort" (Robson & McCartan, 2015). In addition, this ensures the anonymity of the research subjects, which is a key element of the reliability of the research. The link created corresponding to the

questionnaire was emailed to the research subjects. Upon completion of the questions and submission, the questionnaire database was updated in real time to allow immediate access to the research data for further statistical processing and analysis by the researcher. At the same time, uniqueness in the completion of the questionnaire for each research subject was also ensured.

The statistical analysis, processing and interpretation of the empirical data was carried out using the statistical package SPSS 28. More specifically, the analysis of the questions was performed as follows:

- first, the reliability of the questionnaire was checked using the Cronbach - Alpha index.
- then an analysis of the frequencies obtained from the recordings of the answers given was carried out.
- finally, a One-way ANOVA means test was carried out in order to establish statistically significant relationships between the variables.

In conclusion, a major limitation of the research is the number of the sample, which consists of a total of 734 teachers, which does not constitute 10% of all active teachers in primary education and teachers of literature in secondary education throughout the country. Consequently, the results are not generalisable.

**The Survey Variables**

Through the research questions of this paper and then through the statistical analysis, processing and interpretation of the empirical data, the relationship and effects of the independent variable on the dependent variable are examined. In this research, the independent variable is OE - DT for students of Primary and Secondary Education, which the researcher manipulated to capture the effects of this manipulation. The dependent variable is the views of Primary Education teachers and Secondary Education teachers' views (filologists) on the effect of the implementation of OE - DT on the teaching approaches they utilize in the online classrooms during the period of COVID-19. The dependent variable is recorded through the responses to the questionnaires.

**Reliability of the Research Tool**

The reliability of the questionnaire was checked by Cronbach's Alpha reliability index and it was found that it has a value of a=0.930>0.7 in all variables. Consequently, the questionnaire is considered reliable due to the satisfactory and high value of the index.

## Results

**Data Analysis in Terms of Frequency for 5 Research Variables - Questions**

In the variable-question (1): 'To what extent do you think that OE - DT promotes interaction (dialogue, participation, questions, etc. Of the 734 teachers who completed the questionnaire (see Table 1), 111 (15.2%) answered "Not at all", 337 (46%) answered "Slightly", 236 (32.2%) answered "Moderately", 43 (5.9%) answered "Very" and 5 (0.7%) answered "Extremely". Consequently, a high percentage (78.8%) of teachers responded between "Slightly" and "Moderately" (as shown below and in Table 6 of means and standard deviation).

Table 1. The Frequencies in Relation to the Question - Variable (1)

| Variable (1) | Frequency | Percent (%) |
|---|---|---|
| Not at all | 111 | 15.2 |
| Slightly | 337 | 46.0 |
| Moderately | 236 | 32.2 |
| Very | 43 | 5.9 |
| Extremely | 5 | 0.7 |
| Missing Value | 2 | |
| **Total** | **734** | **100** |

In variable-question (2): "To what extent do you think that with OE - DT the teacher has the possibility to differentiate his/her teaching taking into account the interests of the students (we are interested in whether students' social skills are impaired) " of the 734 teachers who completed the questionnaire (see Table 2), 95 (13%) answered "Not at all", 223 (30.5%) answered "Slightly", 271 (37.1%) answered "Moderately", 128 (17.5%) answered "Very" and 14 (1.9%) answered "Extremely". Consequently, a relatively high percentage (67.6%) of teachers responded between "Slightly" and "Moderately".

Table 2. The Frequencies in Relation to the Question - Variable (2)

| Variable (2) | Frequency | Percent (%) |
|---|---|---|
| Not at all | 95 | 13.0 |
| Slightly | 223 | 30.5 |
| Moderately | 271 | 37.1 |
| Very | 128 | 17.5 |
| Extremely | 14 | 1.9 |
| Missing Value | 3 | |
| **Total** | **734** | **100** |

In variable-question (3): 'To what extent do you think that with OE - DT the teacher can make use of alternative teaching techniques (brainstorming, conceptual mapping, etc. )?" of the 734 teachers who completed the questionnaire (see Table 3), 49 (6.7%) answered "Not at all", 197 (26.9%) answered "Slightly", 254 (34.7%) answered "Moderately", 200 (27.3%) answered "Very" and 32 (4.4%) answered "Extremely". Consequently, over 3/5 of the teachers (62%) answered between "Moderately" and "Very".

Table 3. The Frequencies in Relation to the Question - Variable (3)

| Variable (3) | Frequency | Percent (%) |
|---|---|---|
| Not at all | 49 | 6.7 |
| Slightly | 197 | 26.9 |
| Moderately | 254 | 34.7 |
| Very | 200 | 27.3 |
| Extremely | 32 | 4.4 |
| Missing Value | 2 | |
| **Total** | **734** | **100** |

In variable-question (4): "To what extent do you think that with OE - DT students develop critical thinking skills of information data?" of the 734 teachers who completed the questionnaire (see Table 4), 74 (10.2%) responded "Not at all", 299 (41%) responded "Slightly", 282 (38.7%) responded "Moderately", 67 (9.2%) responded "Very" and 7 (1%) responded "Extremely". Consequently, a fairly high percentage (79.7%) of teachers responded between "Slightly" and "Moderately".

Table 4. The Frequencies in Relation to the Question - Variable (4)

| Variable (4) | Frequency | Percent (%) |
|---|---|---|
| Not at all | 74 | 10.2 |
| Slightly | 299 | 41.0 |
| Moderately | 282 | 38.7 |
| Very | 67 | 9.2 |
| Extremely | 7 | 1.0 |
| Missing Value | 5 | |
| **Total** | **734** | **100** |

In the variable-question (5): "In the case of extended use of OE - DT, to what extent can students' sociability during teaching be affected? (we are interested in whether students' social skills are impaired)" of the 734 teachers who completed the questionnaire (see Table 5), 57 (7.8%) answered "Not at all", 124 (17%) answered "Slightly", 171 (23.5%) answered "Moderately", 269 (36.9%) answered "Very" and 108 (14.8%) answered "Extremely". Consequently, about 3/5 of the teachers (60.4%) answered between "Moderately" and "Very".

Table 5. The Frequencies in Relation to the Question - Variable (5)

| Variable (5) | Frequency | Percent (%) |
|---|---|---|
| Not at all | 57 | 7.8 |
| Slightly | 124 | 17.0 |
| Moderately | 171 | 23.5 |
| Very | 269 | 36.9 |
| Extremely | 108 | 14.8 |
| Missing Value | 5 | |
| **Total** | **734** | **100** |

**Means and Standard Deviation of Variables**

Table 6 shows the means and standard deviation of the variables. In the variable-question (1) the mean is 2.3087 (St.Dev.=0.82225), i.e. it is well above the 2 corresponding to the answer "Slightly". Consequently, the respondents' views are approaching neutrality (see Table 6). In the variable-question (2) the mean is 2.6484 (St.Dev.=0.97689), i.e. it is below 3 and more specifically between 3 corresponding to the answer "Moderately" and 2 corresponding to the answer "Slightly". Therefore, the views (or statements) of the respondents are approximately in the middle - neutral, i.e. neither positive nor negative (Table 6). In the variable-question (3) the

mean is 2.9577 (St.Dev.=0.99223), i.e. it is close to 3 which corresponds to the answer "Moderately". Therefore, the views (or statements) of the respondents are above the mean, i.e. they move away from negative statements and neutrality and tend towards positive statements. In the variable-question (4) the mean is 2.4979 (St.Dev.=0.83390), i.e. it is well above the 2 corresponding to the "Slightly" response. Consequently, the respondents' views are approaching neutrality.  In the variable-question (5) the mean is 3.3388 (St.Dev.=1.15389), i.e. it is well above 3 corresponding to the answer "Moderately". Therefore, the views (or statements) of the respondents are well above the mean, i.e. they are away from neutrality and are relatively positive.

Table 6. Means and Standard Deviations of the 5 Question Variables

| Question variables | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| Question variable (1) | 732 | 1.00 | 5.00 | 2.3087 | 0.82225 |
| Question variable (2) | 731 | 1.00 | 5.00 | 2.6484 | 0.97689 |
| Question variable (3) | 732 | 1.00 | 5.00 | 2.9577 | 0.99223 |
| Question variable (4) | 729 | 1.00 | 5.00 | 2.4979 | 0.83390 |
| Question variable (5) | 729 | 1.00 | 5.00 | 3.3388 | 1.15389 |

**Statistically Significant Correlations with the Variable "Specificity"**

The Independent Samples Test (see Table 7) revealed that there is a statistically significant difference between the views of the two disciplines (p=0.000<0.05) for the variable - question (3) with the philologists rating this statement more positively (Mean=3.1193, St.Dev.=.99427) compared to the teachers (Mean=2.8079, St.Dev.=.96779).

Table 7. Statistically Significant Correlations Between the Variables Specificity & Variable 3

| Specificity | N | Mean | Std. Deviation | Sig. (2-tailed) |
|---|---|---|---|---|
| Teachers | 380 | 2.8079 | .96779 | .000 |
| Philologists | 352 | 3.1193 | .99427 | |

The Independent Samples Test (see Table 8) revealed that there is a statistically significant difference between the views of the two disciplines (p=0.004<0.05) for variable (5), with the philologists rating more positively the specific statement (Mean=3.4657, St.Dev.=1.09582) compared to the teachers (Mean=3.2216, St.Dev.=1.19455).

Table 8. Statistically Significant Correlations Between Specificity and Variable 5

| Specificity | N | Mean | Std. Deviation | Sig. (2-tailed) |
|---|---|---|---|---|
| Teachers | 379 | 3.2216 | 1.19455 | .004 |
| Philologists | 350 | 3.4657 | 1.09582 | |

## Discussion

From the answers of both teachers and philologists - as shown in frequency Table 1 - 5 and in Table 6 of averages

- to the above five questions, it is clear that the views of both teachers and teachers of literature are approximately neutral, i.e. neither positive nor negative, regarding on the implementation of teaching approaches they used in online classrooms during the period of COVID-19. It is noted that only in 2 questions (see Table 7 and 8), it is found that there is a statistically significant difference in terms of the variable: "specialization", with philologists scoring more positively on these statements compared to teachers.

More specifically, in question (1) a high percentage (78.8%) of teachers answered between the statements "Slightly" and "Moderately" (see Table 1 and 6).Typically, similar statements arise in a survey (Mouzakis et al., 2021) where teachers point out that the lack of interactivity and meaningful contact between teacher and students resulted in students being limited to a "passive receiver role". In related research (Anastasiadis, 2020; Cardullo et al., 2021; Jimoyiannis et al., 2021; Kocoglu & Tekdal, 2020; Korkmaz & Toraman, 2020; Kraft et al., 2020; Moser et al., 2021; Mouzakis et al., 2021; Verma & Priyamvada, 2020) is reported on the reduced interaction between teacher and students and the limited participation of students in the teaching and learning process. Also, very recent research (Adarkwah, 2021; Orhan & Beyhan, 2020) found that OE - DT was less successful than formal education due to the lack of communication and interaction. These data support the fact that the element of interaction between students in the OE - DT process is a major concern (Kesim, 2019; Fykaris, 2021).

In question (2), a relatively high percentage (67.6%) of teachers answered between the statements "Slightly" and "Moderately" (see Table 2 and 6). In a related question to the last question, in question (3), more than 3/5 of teachers (62%) answered between the statements "Moderately" and "Very" (see Table 3 and 6). In these two questions - regarding modern teaching methods and techniques - where a neutrality in teachers' statements emerges, research and studies have been identified where this neutrality and ambiguity are related to this neutrality and ambiguity. More specifically, on the one hand, in studies (Adu - Gyamfi, et. al., 2019; Doghonadze et al., 2020; Kocoglu & Tekdal, 2020) teachers did not consider the remote teaching implemented during the pandemic as the traditional teacher-centered teaching method was applied, as well as pointed out the inability to implement modern teaching methods and techniques due to lack of computer knowledge and lack of preparation time (Hebebci et. al., 2020). On the other hand, in relevant studies on this topic (Adu-Gyamfi et. al., 2019; Fykaris, 2021) it was found that, usually, lecturers use the same teaching tools and the same teaching methodology that they use in face-to-face teaching. Also, other studies (Jimoyiannis et al.,2021; Lapada et al., 2020) revealed that teachers were willing to use new learning practices and online tools, noting that many students were more involved in learning activities through technology and modern teaching methods and techniques compared to their presence in face-to-face teaching (Bergdahl & Nouri, 2020). The above ambivalent views confirm the neutrality revealed by the teachers' statements in this study in questions (2) and (3) regarding modern teaching methods and techniques such as differentiated teaching, brainstorming, conceptual mapping.

In question (4), a fairly high percentage (79.7%) of teachers answered between the statements "Slightly" and "Moderately" (see Table 4 and 6). With these statements are relevant to the data reported in a related research (Niemi & Kousa, 2020) in which it is stated that with the use of OE - DT , many times, the emphasis is placed on the transmission of information, so that both the pedagogical conditions that should govern a learning environment and the cultivation of students' skills, such as critical thinking, creativity, etc., are neglected.

In question (5), well over half of the teachers (60.4%) answered between the statements "Moderately" and "Very" (see Table 5 and 6). These data are confirmed by other studies (Cardullo et al., 2021;Carretero Gomez et al., 2021; Moser et al., 2021; Mouzakis et al., 2021; Stakhteas & Stakhteas, 2020; Unesco, 2021) where it is reported that the socializing function of the school - which is so essential for students' learning and development - seems to be affected and not to take place due to the utilization of OE - DT . Characteristically, a similar study (Orhan & Beyhan, 2020) found that the lack of social interaction and visual contact with students, as well as the absence of feedback reduced, according to teachers, the effectiveness of OE - DT .

In conclusion, it can be seen that regarding the implementation of teaching approaches in in online classrooms during the period of the coronation, a high percentage of teachers (about 75%) in 3 of the 5 sub-questions - concerning the interaction (dialogue, participation, questions, etc.) between teacher and students, the improvement of teaching by differentiating teaching, the development of critical perception skills of information data by students - indicate the options "a little" and "moderate". In the remaining 2 questions - concerning the teacher's use of alternative teaching techniques (brainstorming, conceptual mapping, etc.) and students' fading sociality during instruction - well over half of the teachers (about 61%) state the options "moderately" and "a lot". Based on this, it can be argued that the teaching approaches implemented by the teacher OE – DT  require a different approach and management by the teacher compared to face-to-face teaching since the characteristics, methodology and requirements for OE - DT change.

## Conclusion

From the results of the research and the testing of the research questions on the factors investigated, some useful conclusions are drawn, which are coded as follows: i) The views of Greek teachers regarding on the implementation of teaching approaches they used in online classrooms during the period of COVID-19 are neutral, i.e. neither positive nor negative. More specifically, teachers and philologists state in a fairly high percentage the options "Slightly" and "Moderately" regarding both the interaction (dialogue, participation, questions, etc.) between teacher - students when using OE - DT and the possibility for students to develop skills of critical perception of information data. They also indicate a high percentage of "Moderately" and "Very" options both in terms of the teacher's ability to teach differently based on the needs of the students and the teacher's ability to use alternative teaching techniques such as brainstorming, concept mapping, etc. At the same time, this ability of the teacher to make use of alternative teaching techniques is rated more positively by philologists than by teachers.

ii) The above findings related to the pedagogical and instructional management by Greek teachers and in particular to methods and teaching techniques used in online classrooms, demonstrate that OE - DT is not a "panacea" but is distinguished by both advantages and disadvantages. In more detail, on the one hand, in OE - DT , the teacher, by using new technologies, taking into account the interests of students, can guide them to approach - by using alternative teaching techniques, such as brainstorming, etc. - the learning process in a multifaceted way, i.e. to interact and operate in a multimodal way in the approach to the learning object and, by extension, in teaching. On the other hand, it is worth noting that even in the second pandemic period - the period October 2020 to early May 2021 - although it was expected that substantial actions on the pedagogical dimensions of OE - DT would be

implemented, it is found that they focused on the technological dimension instead of designing and implementing a pedagogical framework. This fact led to the uncritical transfer of the functions of the school environment to an e-learning system that shaped the teacher-centered character of OE - DT and the reduced interaction between teacher - student (Anastasiadis, 2020). Therefore, it is found that there is an increased possibility that any teaching, where new technologies are utilized and in this case OE - DT , will be "lost" in a useless tour, without a clear orientation to its deeper meaning. Consequently, the teacher plays a crucial role and is required to reflect on the type of teaching tools to be utilized in his/her teaching and on the time and duration of the teaching to be utilized (Al- Ghasab, 2022; Fykaris, 2021;Solé-Llussà et al., 2022).

iii) Well over half of the teachers and philologists stated that in the case of extended use of OE - DT the sociality of students may be affected. However, in this case it is worth noting that philologists rated it more positively than teachers. From these results, it can be concluded that although OE - DT tends to become less impersonal, since a variety of electronic tools and audiovisual media are used, the sociality of students is affected, to a fairly large extent, during the utilization of OE - DT (Clark, 2020; Stakhteas & Stakhteas, 2020), thus affecting the socializing function of the school, which is essential for the all-round development and learning of students. It can be argued that this issue acquires particular importance in the context of the teaching process as well, since Didactics and by extension the learning process, constitute complex and multifactorial processes, where the emphasis is not only on the cognitive but also on the social, emotional, psychomotor and experiential factors. Consequently, it is worth noting that while the potential of OE - DT and new technologies in the teaching process is useful, however, it is impractical to replace face-to-face teaching and interaction between students and should not "reinforce students' indirect or direct dependence on it or attachment to any kind of screen" (Fykaris, 2021, p.191).

Based on the above, it is important for the teacher to gain a critical understanding of the new realities shaped by the pandemic with the urgent use of OE - DT in the educational process (Koulaouzidis, 2022). In particular, a reflective dialogical process on the part of the teacher who is able to recognize the new realities, to reveal the advantages and disadvantages of the utilization of OE - DT , to build from the outset his new roles, is Very likely to accept crucial for the restoration of the disharmony caused by the urgent utilization of OE - DT in all educational levels (Koulaouzidis, 2022). At the same time, a key objective of the teacher's utilization of OE - DT expertise is necessary to reflect and reflect on the appropriateness of teaching practices. When utilizing OE - DT, it is necessary for the teacher to attach particular value to his/her pedagogical role and more specifically to the individual roles it encompasses (Zhang & Lin, 2019) since his/her role in OE - DT is crucial with regard to support, communication, activating students and developing collaborative learning.

At the same time, the teacher's priority in the use of OE - DT and teaching in online classrooms should not be the "instrumental" or "wooden" technological transformation, but the pedagogically and didactically established use of OE - DT from the perspective of each scientific field that focuses on the learner, will be based on the collaborative nature of those involved in the process (students - students, students - teachers, teachers - teachers), interaction and the construction of knowledge at a distance (Evangelou, 2022). The dominant issue for all stakeholders - state, teachers, students, parents/guardians - with the use of OE - DT in primary and secondary schools is, apart from the correct and effective pedagogical and instructional design, to focus on the learning of

our students and in particular on "teaching them how to learn" (Lionarakis et al., 2020).

In conclusion, the views of the Greek teachers on the teaching approaches during the implementation of OE - DT show that there are not the same characteristics and the same methodology as face-to-face teaching. The implementation of OE - DT not only affects not only the teaching approaches that teachers will use - compared to face-to-face teaching - but also the sociality of students since the present study found that OE - DT does not promote to a great extent the interaction between teacher - student, as well as weakens the social skills of students. For this reason, it is necessary for the teacher when implementing teaching approaches in OE - DT to understand that he/she is called upon to face new challenges and new pedagogical conditions that change the usual educational interactions (that occur in face-to-face teaching) and of course to formulate a new framework of interaction, reinforcement and guidance of students, through the cultivation of skills of active search, critical reading and approaching of students' information data as well as development and development of skills of active search, critical reading and approaching of students' information.

## References

Abidah, A., Hidaayatullaah, H. N., Simamora, R. M., Fehabutar, D., & Mutakinati, L. (2020). The Impact of COVID-19 to Indonesian Education and Its Relation to the Philosophy of "Merdeka Belajar". *Studies in Philosophy of Science and Education*, *1*(1), 38-49.

Adarkwah, MA. (2021). "I'm not against online teaching, but what about us?": ICT in Ghana post COVID-19. *Education and Information Technologies*. 26(2), 1665–1685. Doi: 10.1007/s10639-020-10331-z

Adu - Gyamfi, E., Kwadwo Addo, P., & Asamoah-Boateng, C. (2019). An Examination of Differences between the Mean Indicator Ratings by Different Stakeholders in Distance Education Program. *International Journal of Higher Education*, *8*(4), 72-78.

Akhteh, M.P., Farrokhnia, M., Banihashem, S.K., & Noroozi, O. (2022). The Relationship between Students' Satisfaction and Motivation and their Perceived Learning Outcome in an Online Peer Feedback Module. In O. Noroozi & I. Sahin (Eds.), *Studies on Education, Science, and Technology 2022* (pp. 297-310).

Al-Ghasab, G. B. (2022). Reality of using modern teaching methods in teaching English language among teachers. *International Journal of Education in Mathematics, Science, and Technology (IJEMST)*, *10*(2), 512-527. Doi: https://doi.org/10.46328/ijemst.2411

Anastasiadis, P. (2020). The School Distance Education in the era of the COVID-19 Coronavirus: the example of Greece and the challenge of the transition to the "Open School of Exploratory Learning, Collaborative Creativity and Social Solidarity". *Open Education: the Journal of Open and Distance Education and Educational Technology*, 16(2), 20-48. Doi: https://doi.org/10.12681/jode.25506

Armakolas, S., & Panagiotakopoulos, Ch. (2020). Distance teaching through videoconferencing: the effects of technological factors. *Open Education: the journal of Open and Distance Education and Educational Technology*, *16*(1), 22-43.

Bates, T. (2020a). *What have we learned from COVID-19 about the limitations of online learning – and the implications for the fall?* [Blog post]. Retrieved on 15 November 2021, from URL: https://www.tonybates.ca/2020/07/04/what-have-we-learned-from-COVID-19-about-the-limitations-of-

online-learning/

Bates, T. (2020b). *Advice to those about to teach online because of the corona-virus*. Retrieved on 15 November 2021, from URL: https://www.tonybates.ca/2020/03/09/advice-to-those- about-to-teach-online-because-of-the-corona-virus/

Bergdahl, N. & Nouri, J. (2020). Student engagement and disengagement in TEL – The role of gaming, gender and non-native students. *Research in Learning Technology*, *28*. https://doi.org/10.25304/rlt.v28.2293

Cardullo, V., Wang, C.-H., Burton, M., & Dong, J. (2021). K-12 teachers' remote teaching self-efficacy during the pandemic. *Journal of Research in Innovative Teaching & Learning*, 2397–7604.

Carretero Gomez, S., Napierala, J., Bessios, A., Mägi, E., Pugacewicz, A., Ranieri, M., Triquet, K., Lombaerts, K., Robledo Bottcher, N., Montanari, M., & Gonzalez Vazquez, I. (2021). *What did we learn from schooling practices during the COVID-19 lockdown?* EUR 30559 EN. Publications Office of the European Union, Luxembourg. Doi: 10.2760/135208, JRC123654.

Clark, J. T. (2020). *Clinical Engineering Handbook*. 410-415.

Cohen, L., Manion, L., & Morrison, K. (2000). *Research Methods in Education* (5th Ed.). Routledge Falmer, London.

Doghonadze, N., Aliyev, A., Halawachy, H., Knodel, L., & Adedoyin, A.,S. (2020). The Degree of Readiness to Total Distance Learning in the Face of COVID-19 - Teachers' View (Case of Azerbaijan, Georgia, Iraq, Nigeria, UK and Ukraine). *Journal of Education in Black Sea Region*, *5* (2) 2-41.

Doz, D., & Doz, E. (2023). The impact of COVID-19 distance learning on students' math anxiety: An exploratory study. *International Journal of Education in Mathematics, Science, and Technology (IJEMST)*, *11*(1), 1-16. https://doi.org/10.46328/ijemst.2219

Evangelou, F. (2022). The linguistic expression of secondary school students during the tele-education process: a proposal for a research design. In A. Lionarakis (Ed.), *Proceedings of the 11th International Conference in Open & Distance Education (ICODL 2021) entitled: "Open and Distance Education in the Era of Pandemic: Experiences, Challenges and Perspectives"* (Vol. 4, Part A, pp. 73 - 81). Athens: Hellenic Open University, Hellenic Network for Open & Distance Education. Retrieved on 25 November 2021, from URL: https://eproceedings.epublishing.ekt.gr/index.php/openedu/issue/view/151

Fykaris, I. (2021). Distance Teaching in Primary and Secondary Education: a teaching possibility or an educational-social dilemma. *Pedagogical Review*, 38, 181 - 195.

Ghosh, M., Jansz, J., & Ghosh, A. (2022). Effect of COVID-19 Pandemic on Traditional Teaching. *International Journal on Studies in Education (IJonSE), 4*(2), 107-129. https://doi.org/10.46328/ijonse.63

Hebebci, M. T., Bertiz, Y., & Alan, S. (2020). Investigation of views of students and teachers on distance education practices during the Coronavirus (COVID-19) Pandemic. *International Journal of Technology in Education and Science (IJTES)*, 4(4), 267-282.

Hodges, C. Moore, S., Lockee, B., Trust, T., & Bond, A. (2020). *The Difference between Emergency Remote Teaching and Online Learning.* Retrieved on 25 October, 2020, from https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-and-online-learning

Hodges, C. B., Moore, S., Lockee, B. B., Bond, M. A., & Jewett, A. (2021). An instructional design process for Emergency Remote Teaching. In D. Burgos, A. Tlili, A. Tabacco (Eds.), *Radical solutions for education*

in a crisis context. *Lecture notes in educational technology.* Singapore: Springer. doi: https://doi.org/10.1007/978-981-15-7869-4_3

Hu, H. & Huang, F. (2022). Application of Universal Design for Learning into Remote English Education in Australia amid COVID-19 Pandemic. *International Journal on Studies in Education (IJonSE), 4*(1), 55-69. https://doi.org/10.46328/ijonse.59

Jimoyiannis, A., Koukis, N., & Tsiotakis, P. (2021). Shifting to emergency remote teaching due to the COVID-19 pandemic: An investigation of Greek teachers' beliefs and experiences. In A. Reis, J. Barroso, J. B. Lopes, T. Mikropoulos & C.-W. Fan (Eds.), *Technology and Innovation in Learning, Teaching and Education* (pp. 320-329). Cham, Switzerland: Springer.

Kanellopoulos, A., Koutsoumpa, M., & Giosos, I. (2020). Audiovisual Learning and Videoconferencing in eLearning. *Open Education: the journal for Open and Distance Education and Educational Technology*, *16*(1), 44-63. Doi: https://doi.org/10.12681/jode.22976

Kara, M., & Gulfidan C. (2019). Master's Students' Perceptions and Expectations of Good Tutors and Advisors in Distance Education. *International Review of Research in Open and Distributed Learning*, *20*(2), 162-179.

Kesim, E. (2019). A study of the graduate theses on distance learning administration in Turkey from 1999 to 2019. *Journal of Distance Education*, *21*(2), 17-36.

Khlaif, Z. N., & Salha, S. (2020). The unanticipated educational challenges of developing countries in COVID-19 crisis: A brief report. *Interdisciplinary Journal of Virtual Learning in Medical Sciences*, *11*(2), 130-134. Doi: https://doi.org/10.30476/ijvlms.2020.86119.1034

Kiernan, J. E. (2020). Pedagogical commentary: Teaching through a pandemic. *Social Sciences & Humanities Open*, 2, 100071.

Kocoglu, E., & Tekdal, D. (2020). Analysis of distance education activities conducted during COVID-19 pandemic. *Academic journals*, 15 (9), 536-543.

Korkmaz, G., & Toraman, C. (2020). Are We Ready for the Post-COVID-19 Educational Practice? An Investigation into What Educators Think as to Online Learning. *International Journal of Technology in Education and Science, 4*(4).

Koulaouzidis, G. (2022). The pandemic crisis as a collective disorienting experience: examining the pandemic in terms of transformation theory. *Online conference of IME GSEVEE on: "The experience of the COVID-19 pandemic in adult education and training: dimensions, consequences, perspectives".* [video]. Athens: IME GSEVEE

Kraft, M. A., Simon, N. S., & Lyon, M. A. (2020). *Sustaining a Sense of Success: The Importance of Teacher Working Conditions During the COVID-19 Pandemic.* EdWorkingPaper, Annenberg Institute, Brown University, https://doi.org/10.26300/35nj-v890.

Lansangan, R. V., Yoma, K. S., & Yoma, C. A. E. (2022). Pedagogical practices and challenges of junior high school teachers in virtual teaching in the lens of the CoI framework. *International Journal of Technology in Education and Science (IJTES)*, *6*(1), 145-163.Doi: https://doi.org/10.46328/ijtes.327

Lapada, A., Fabrea, M., Roldan, R., & Farooqi, A. (2020). Teacher's COVID-19 Awareness, Distance Learning Educational Experiences and Perceptions toward Institutional Readiness and Challenges. *International Journal of Learning*, *19*(6), 127-144. doi:10.26803/ijlter.19.6.8

Lionarakis, A., Manousou, E., & Hartofilika, A. (2020). *The experience of the Hellenic Open University and its use in all levels of education*. Retrieved on 25 November 2021, from URL: https://www.esos.gr/arthra/66695/i-empeiria-toy-ellinikoy-anoiktoy-panepistimioy-kai-i-axiopoiisi-tis-se-oles-tis

Lionarakis, A., Manousou, E., Hartofilika, T., Papadimitriou, S., & Ioakeimidou, B. (2020). Declaration on Open and Distance Education. *Open Education: the journal for Open and Distance Education and Educational Technology*, *16* (1), 4-8. Doi: https://doi.org/10.12681/jode.23741.

Mishra, L., Gupta, T., & Shree, A. (2020). Online teaching-learning in higher education during lockdown period of COVID-19 pandemic. *International Journal of Educational Research Open*, 1, 100012.

Moser, K. M., Wei, T., & Brenner, D. (2021). Remote teaching during COVID-19: Implications from a national survey of language educators. *System*, *97*, 102431.

Mouzakis, Ch., Koutromanos, G., & Tsoli, K. (2021). Emergency Distance Teaching during the Pandemic: Teachers' Beliefs and Experiences. In Th. Brattitsis (ed.), *Proceedings of the 12th Panhellenic and International Conference "ICT in Education"* (pp. 108-115). PIM, Florina, 14-16 May 2021.

Niemi, H. M., & Kousa, P. (2020). A case study of students' and teachers' perceptions in a Finnish high school during the COVID pandemic. *International Journal of Technology in Education and Science (IJTES)*, *4*(4), 352-369.

Noroozi, O., Kerman, N. T., Banihashem, S. K. & Biemans, H. J. A. (2022). The Role of Students' Perceived Motivation and Perceived Fairness of Peer Feedback for Learning Satisfaction in Online Learning Environments. In M. Shelley, H. Akcay, & O. T. Ozturk (Eds.), *Proceedings of ICRES 2022-- International Conference on Research in Education and Science* (pp. 273-278), Antalya, TURKEY. ISTES Organization..

Onyema, E. M., Eucheria, D. N. C., Obafemi, D. F. A., Sen, S., Atonye, F. G., Sharma, D. A., & Alsayed, A. O. (2020). *Impact of Coronavirus Pandemic on Education. Journal of Education and Practice*, *11*(13), 108–121.

Orhan, G., & Beyhan, O. (2020). Teachers' perceptions and teaching experiences on distance education through synchronous video conferencing during COVID-19 pandemic. In: Vlăduțescu, H. S., Bunăiașu, C. M. & Negrea, X (Ed.), *Social Sciences and Education Research Review 7(1)*. University of Craiova.

Reich, J., Buttimer, C. J., Fang, A., Hillaire, G., Hirsch, K., Larke, L., … & Slama, R. (2020). *Remote Learning Guidance From State Education Agencies During the COVID-19 Pandemic: A First Look*. Retrieved on 15 November 2021, from URL: http://eduteka.icesi.edu.co/articulos/1038/1

Robson, C., & McCartan, K. (2015). *Real World Research* (4th Ed.).Wiley.

Sivrikayai, S. (2019). Chemistry students and opinions about taking chemistry education as distance education. *European Journal of Open Education and e-learning Studies, 4*(2), 35 – 45.

Solé - Llussà, A., Aguilar, D., & Ibáñez, M. (2022). The effect of an instructional intervention based on the use of video-worked examples to promote elementary students' science process skills. *International Journal of Education in Mathematics, Science, and Technology (IJEMST)*, *10*(3), 753-772.

Stakhteas, H. & Stakhteas, F. (2020). Tracing Teachers' Views on Teacher's Views on Distance Learning in the Beginning of the Pandemic. *Education Sciences*, (2), 173-194.

Takahama, E. (2020). Northshore School District closes all schools for coronavirus concerns: 'We are no longer

able to provide quality instruction.' *The Seattle Times*. Retrieved on 19/05/ 2020, from URL: https://www.seattletimes.com/seattle-news/education/northshore-school-districtcloses-all-schools-beginning-thursday-school-will-resume-online-monday/

Unesco (2020). *Teacher Task Force calls to support 63 million teachers touched by the COVID-19 crisis*. Retrieved on 05/112020, from URL: https://en.unesco.org/news/teacher-task-force-calls-support-63-millionteachers-touched-COVID-19-crisis

Unesco (2021). *UNESCO figures show two thirds of an academic year lost on average worldwide due to COVID-19 school closures*. Retrieved on 21/10/21 from URL: https://en.unesco.org/news/unesco-figures-show-two-thirds-academic-year-lostaverage-worldwide-due-COVID-19-school

Verma, G., & Priyamvada (2020). COVID-19 and Teaching: Perception of School Teachers on Usage of Online Teaching Tools. *MuktShabd Journal,* IX(VI), 2492-2503.

Vlachopoulos, D. (2020). COVID-19: Threat or opportunity for online education? *Higher Learning Research Communication*, 10(1), 16–19. Doi: https://doi.org/10.18870/hlrc.v10i1.117

Williamson, B., Eynon, P., & Potter, J. (2020). Pandemic politics, pedagogies and practices: digital technologies and distance education during the coronavirus emergency. *Learning, Media and Technology*, *45*(2), 107–114.

Winthrop, R. (2020). *How has the coronavirus impacted the classroom? On the frontlines with Dr. Jin Chi of Beijing Normal University. Center for Universal Education Senior Fellow - Global Economy and Development*. Retrieved on 19/05/ 2021 from URL:https://www.brookings.edu/blog/education-plus-development/2020/02/27/how-has-the-coronavirus-impacted-the-classroom-on-the-frontlines-with-dr-jin-chi-of-beijing-normal-university/

Zhang, W., Wang, Y., Yang, L., & Wang, C. (2020). Suspending Classes Without Stopping Learning: China's Education Emergency Management Policy in the COVID-19 Outbreak. Journal of Risk and Financial Management, MDPI, *Open Access Journal*, *13*(3), 1-6.

Zhang, Y. & Lin, C.-H. (2019). Student interaction and the role of the instructor in a virtual high school: What predicts online learning satisfaction? *Technology, Pedagogy, and Education*, 1-20. doi: 10.1080/1475939X.2019.1694061

Zhao, N., Zhou, X., Liu, B. & Liu, W. (2020). Guiding Teaching Strategies with the Education Platform during the COVID-19 Epidemic: Taking Guiyang No. 1 Middle School Teaching Practice as an Example. *Science Insights Education Frontiers*, *5*(2), 531-539.

## Author Information

**Filippos Evangelou**

https://orcid.org/0000-0002-8162-9323

Hellenic Open University

18 Aristotelous St.

263 35 Patras

Greece

Contact e-mail: *filipevang@gmail.com*