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THE PRINCIPAL'S ROLE IN THE ORGANIZATION AND IMPLEMENTATION OF ONLINE TEACHING AND LEARNING IN GREECE DURING THE FIRST COVID-19 LOCKDOWN

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ABSTRACT

Online teaching and learning were widely implemented in all grades of education in Greece from March 2020 until the end of the school year, with some variations between different grades, in order to secure public health due to the Covid-19 pandemic. The

expectations set on the school principal for the implementation of online teaching and the maintenance of school community's cohesion during the pandemic in Greece were tremendous. The aim of this paper is to investigate the principals' role as regards to the organization and implementation of online teaching in primary schools in the country. The data collection was conducted through an online questionnaire delivered to a sample of 372 principals (i.e. 8.7% of the total population of principals across Greece). The findings of the study point out that for the online teaching organization and implementation principals depended heavily of their collaboration with the schools' Education Coordinators, who are responsible for the scientific and pedagogical support of schools, the school teachers themselves, as well as students' parents. The study also indicates that principals considered that the online delivery of school courses was largely successful, but it required a huge amount of additional human-hours from all involved. The study concludes that, as other studies show elsewhere, in order to achieve the educational goals, the collaboration between the members of the local school community and other institutions is imperative, especially in a period of crisis as the pandemic was.

Keywords: Principal's role, Covid-19, online teaching

Ο ΡΟΛΟΣ ΤΟΥ ΔΙΕΥΘΎΝΤΗ ΣΤΗΝ ΟΡΓΑΝΩΣΗ ΚΑΙ ΤΗΝ ΕΦΑΡΜΟΓΗ ΤΗΣ ΕΞ ΑΠΟΣΤΑΣΕΩΣ ΕΚΠΑΙΔΕΥΣΗΣ ΣΤΗΝ ΕΛΛΑΔΑ ΚΑΤΑ ΤΗ ΔΙΑΡΚΕΙΑ ΤΟΥ ΠΡΩΤΟΥ LOCKDOWN

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ΠΕΡΙΛΗΨΗ

Η εξ αποστάσεως εκπαίδευση εφαρμόστηκε καθολικά σε όλες τις βαθμίδες της εκπαίδευσης στην Ελλάδα από τον Μάρτιο του 2020 έως το τέλος του σχολικού έτους, με κάποιες διαφοροποιήσεις ανά βαθμίδα, προκειμένου να διασφαλιστεί η υγεία των πολιτών εξαιτίας της πανδημίας του Covid-19. Οι προσδοκίες από τον διευθυντή για την εφαρμογή της εξ αποστάσεως εκπαίδευσης και τη διατήρηση της συνοχής της σχολικής κοινότητας κατά τη διάρκεια της πανδημίας στην Ελλάδα ήταν τεράστιες. Σκοπός της παρούσας έρευνας είναι να εξετάσει τον ρόλο του διευθυντή αναφορικά με την οργάνωση και εφαρμογή της εξ αποστάσεως εκπαίδευσης στα δημοτικά σχολεία της χώρας. Η συλλογή των δεδομένων πραγματοποιήθηκε μέσω ενός online ερωτηματολογίου που χορηγήθηκε σε ένα δείγμα 372 διευθυντών (8,7% του συνολικού πληθυσμού των διευθυντών στην Ελλάδα). Τα ευρήματα της έρευνας καταδεικνύουν ότι για την οργάνωση και την εφαρμογή της εξ αποστάσεως εκπαίδευσης οι διευθυντές εξαρτιόνταν σε μεγάλο βαθμό από τη συνεργασία τους με τους Συντονιστές Εκπαιδευτικού Έργου, οι οποίοι είναι υπεύθυνοι για την επιστημονική και παιδαγωγική υποστήριξη των σχολείων, των εκπαιδευτικών και των γονιών των μαθητών. Η έρευνα δείχνει επίσης ότι οι διευθυντές θεώρησαν πως η εξ αποστάσεως παράδοση των σχολικών μαθημάτων ήταν σε μεγάλο βαθμό επιτυχής, αλλά χρειάστηκε ένας τεράστιος αριθμός επιπλέον ανθρώπινων ωρών από την πλευρά όλων των εμπλεκομένων. Η έρευνα καταλήγει στο συμπέρασμα ότι, για την επίτευξη των εκπαιδευτικών στόχων, η συνεργασία ανάμεσα στα μέλη της τοπικής σχολικής κοινότητας και άλλων φορέων είναι επιβεβλημένη, ειδικά σε μια περίοδο κρίσης όπως η πανδημία, στοιχείο που αναδεικνύεται και σε ανάλογες έρευνες.

INTRODUCTION: COVID-19 AND ITS CONSEQUENCES TO SCHOOLING IN GREECE

The corona virus SARS-CoV-2 was identified for the first time in the city of Wuhan in China on the 30th of December 2019. From China, the virus was spread across the world, with large immediate impact in Italy, Spain and France, while until the beginning of April more than 100 countries had to deal with it (Brouwer, Raimondi, & Moreau, 2020). On the 11th of March 2020, almost two and a half months after the appearance of the new virus, the World Health Organization (WHO, 2020a) declared the spread of the virus at the level of a global pandemic. A medical and pharmaceutical treatment of the virus was not available. The hospital and in particular the intensive care units started to be unable to deal with the situation in almost all countries of the world (WHO, 2020b).

In order to deal with the situation, one of the first measures adopted was the shutdown of industry, shops, public and private services, etc., aiming at reducing the virus transmission (Qiu, Chen, & Shi, 2020). The pandemic had enormous social and economic dimensions. The economies around the world were negatively affected, and almost half of the personnel risked losing their job. Many of the people who were fired had difficulty in surviving (WHO, 2020b).

With the pandemic outbreak, in most countries a lockdown was decided, alongside the closure of schools in order to protect children's health (Gouëdard, Pont, & Viennet, 2020). Until mid-April 2020, 94% of students around the world was affected by the pandemic (United Nations, 2020). In Greece the school closure was decided on the 10th of March 2020. After the Ministry of Education and Religious Affairs (now onwards Ministry), the suspension of all in-situ educational activities was announced and lasted until the end of May, after consecutive decisions every 15 days (Official Government Gazette 783/B/10-3-2020; Official Government Gazette 956/B/21-3-2020; Official Government Gazette 2026/B/27-5-2020).

In many countries it was decided to continue teaching, as well as other school activities, online (Kovacevic & Jahic, 2020). Governments implemented online teaching by making use of information and communications technologies (Gouëdard, Pont, & Viennet, 2020), thus forcing school digitalization and the transition to online teaching.

The government in Greece took similar decisions. Three days after the school closure (i.e. on the 13th of March 2020), the Ministry launched an announcement with guidelines about the online delivery of school courses (Ministry of Education and Religious Affairs, 2020a). A few days later, on the 20th of March 2020, the Ministry launched guidelines about online teaching, by applying all the information systems developed by the Ministry. It also invited the regional Directors of Education, who by law have the general responsibility for the administration and control of the operation of schools in their area of responsibility, to take all the necessary actions for the implementation of asynchronous instruction until the 24th of March

2020 (Ministry of Education and Religious Affairs, 2020b). School Principals, according to this directive, had to inform students' parents and guardians to register their children to the Greek School Network, an online network which provides the educational community with e-learning services, communication, and collaboration, e-government services as well as helpdesk and user support services. Education Coordinators were called to organize online meetings to provide information and pedagogical support to all the teachers of the area under their responsibility.

On the 31st of March 2020 the Ministry defined the timetable of the online instruction, that would be carried out through the online platform Webex (Circular $\Delta 2/41665$). A few days later, on the 7th of April 2020, with a new circular (Circular H2/43962), guidelines were provided for the implementation of online instruction and the use of platform. On the 14th of April 2020, with a circular published (Circular $\Delta 2/45769$) the Ministry informed for its decision for continuing online teaching during Easter holidays.

Primary schools returned to in-situ educational activities on the 1st of June 2020 and continued into a face-to-face mode of instruction (Official Government Gazette 2026/B/27-5-2020) until the 26th of June 2020, one week later than initially planned (Official Government Gazette 111 A'/12-6-2020).

ONLINE EDUCATION, LEARNING AND INSTRUCTION

Online provision of education and online learning and instruction is a modern form of education, in which educators and students are not physically present in the same space (Gentes & Cambone, 2013). The terms 'online education' and 'distance education' has been used internationally and locally («διαδικτυακή διδασκαλία»-«εξ αποστάσεως εκπαίδευση», respectively) interchangeably during the COVID-19 period, even though they have a vague different content in the international literature. In this paper, we use the term 'online teaching' and we refer to the way in-situ learning and instruction was remotely practiced during the period under discussion based on the utilization of technologies of information and communication (Gemou & Sofos, 2013) and the use of special educational material (Papandreou, 2017).

Online teaching can be both asynchronous or synchronous. Synchronous online teaching takes place in real time and both, teachers and students, participate in the educational activities at the same time. In asynchronous online teaching, students have the opportunity to follow instruction and accompanying activities and do their assignments during a time they choose and it is more convenient pace for them (Thoma, Tzovla, & Farasopoulos, 2015).

For offering online teaching, the planning of the curriculum, the material to be used, the educational and teaching methods to be implemented and the communicational techniques all need to be appropriated and adjusted to correspond to the methodology of online learning and instruction before applying it (Moore & Kearsley, 2012). Furthermore, online teaching depends on a number of factors, such as the quality of the broadband internet connection, the existence of online/distance learning platforms, the access to devices (such as laptops, tablets or phones for students at home), the availability of adapted software in their devices, etc. (Gouëdard, Pont, & Viennet, 2020).

Not all educational systems were equally prepared for the transition to online teaching and online learning (Saavedra, 2020). In some countries, computers were lent to students; in others, more traditional practices were used (e.g. printing and delivering booklets); and in others, schools collaborated with private providers of internet and educational content, etc. (Gouëdard, Pont, & Viennet, 2020). In Greece, a country which could be considered as not being well-prepared for online teaching and learning, as being explained in the following section of the paper, the Ministry accepted the donation of services and material equipment from third parties in order to facilitate the online instruction for all grades (Official Government Gazette 68/A/20-3-2020).

Despite the differences in the implementation of online teaching among countries during the pandemic, in most cases the following practices were applied: the use of existing platforms or the creation of new ones, the use of digital educational material and webpages, the employment of television and radio, as well as the utilization of social networks, such as Facebook. In addition, many educational systems organized webinars or created platforms in order to provide teachers with information and familiarization with the online methodology (UNESCO, 2020).

THE IMPLEMENTATION OF ONLINE TEACHING IN GREECE **DURING THE PANDEMIC**

Adopting exclusively online teaching in primary education as a necessity due to the Covid-19 pandemic consisted an unprecedented reality for all actors involved in the local Greek educational system.

Despite the existence of the official framework for the provision of both synchronous and asynchronous online teaching, the full implementation of online teaching in March 2020 found teachers and students unprepared. As it was found out, not all teachers were trained in the implementation of online teaching and

the use of online platforms. Furthermore, both teachers and students were found unequipped without all necessary means, including not having access to computers and internet connection, for the implementation of online teaching. At the same time, as elsewhere (e.g. Putra, Witri, & Sari, 2020), both teachers and students in Greece had to face the obstacle of bad quality internet connection. Bergdahl and Nouri (2020) underlined the need for massive online teaching and online work in the countries under lockdown to be accompanied by an internet upgrade.

In fact, in Greece, during the first three months of online teaching, many problems emerged. The most important ones were related to the lack of available electronic means by a large number of teachers and students, the lack of relevant training and professional development among teachers, the lack of relevant experience and training among students, the various technical problems posed by internet connection and access, student access and participation in online sessions, as well as the issue of personal data and privacy protection of both students and teachers. Correspondingly, during most of the period under discussion, many protests took place not only by parents but by teachers as well.

Should online teaching to be an efficient solution during times of emergency, like the Covid-19 pandemic, national-level interventions are needed (Chu et al., 2020). It is important to ensure national funds for the necessary technological equipment and internet access to ensure the participation of the whole student population, and it is necessary to train students and teachers on new technologies of learning and communication. Additionally, it is essential to train teachers on creating education material (Gemou & Sofos, 2013; Holmberg, 2005).

THE PRINCIPAL'S ROLE IN THE IMPLEMENTATION OF ONLINE TEACHING IN GREECE DURING THE PANDEMIC

The school principal's role is complex and multidimensional and particularly important for the efficiency of a school. The principal's role is both administrative and pedagogical (Mestry, Moonsammy-Koopasammy, & Schmidt, 2013). The principal is responsible for the organization and the administration of the school, the coordination of the members of the school community and the improvement of the educational work (Stravakou, 2003). The principal needs to maintain a balance between these two roles, in order to achieve the best possible result (Saiti & Saitis, 2012; Costello, 2015; Tingle, Corrales, & Peters, 2017).

This paper focuses on the role of primary school principals in Greece during the period under discussion (March-May 2020). It is therefore important to

point out to the international reader the role of principals described in all official documents describing this position and its jurisdictions. Indeed, according to the Greek national regulations, the role of the principals is very significant in dealing with situations of emergency, such as the Covid-19 pandemic, because they have a central role in developing strategies. Principals, in collaboration with teachers, students and students' parents and families can decide the way in which they will organize and implement the online teaching. In addition, based on the autonomy that they possess, they can take decisions about which subjects will be taught and their content, as well as the educational material to be used. The principals' role, especially during times of crisis, is crucial, because they are expected to provide instructions about the curriculum, guide teachers and most importantly contribute in maintaining the cohesion of the school community (Gouëdard, Pont, & Viennet, 2020).

In overall, schools in Greece possess a rather high level of autonomy, as far as it concerns the subjects offered and their content as well as the educational material. During the Covid-19 pandemic, the political leadership found the opportunity to provide schools even more autonomy. For instance, it was decided (Official Government Gazette 1340/16-10-2002) that it was the principal that had to coordinate with the teachers, the students, the parents, the Director of Education and the Education Coordinator for the implementation of the online teaching. In particular, during the pandemic, the principal had to inform the teachers of the school about the circulars and the decisions that concerned the school activities for the implementation of the educational programs, s/he had to collaborate with the Director of Education and the Education Coordinator in order to solve problems that school were facing and organize training programs for the teachers, as well as to collaborate with the students and their parents and families to ensure their attendance and to resolve difficulties.

RESEARCH METHODOLOGY

The overall aim of the present study was to examine the principals' role in organizing and implementing the online teaching and learning in state primary schools during the first lockdown in Greece. The more specific objectives of the present research were to examine the primary school principals' experiences and views on their collaboration with the Directorate, the Education Coordinators, and the school teachers for organizing and implementing online teaching and learning, as well as explore their experiences and views on their role in organizing and

implementing the online teaching and learning and on the efficiency of organizing and implementing it.

The data collected was gathered through an online questionnaire delivered to a sample of the total population of principals across Greece. In Greece, according to the Hellenic Statistical Authority there were 4,264 primary schools in 2020, with one principal each. In order to choose the sample, a registration list of the addresses of all primary schools in Greece was used to access all school principals. All 4,264 principals were then sent electronically the questionnaire through a google form link.

372 principals replied to the questionnaire, that is 8.72% of the total number of principals across the country. 53% of the respondents were male and 47% female, thus achieving a fair gender representativeness of the sample (according to national figures, male consist the 59% of the whole principals' population and women the 41%).

As far as the respondents' years in-service, almost three out of four respondents (73.9%) had 21 years of service or more; 13.4% had 11-20 years of service; and 2.7% had 10 or less years of service. The representativeness of the sample as far as this demographic characteristic appears to be quite consistent for the first subcategory of principals (with 21 years of service or more) with the national findings of other studies conducting studies in the same population but with smaller number of samples (Gaitanidou, 2019; Loukeri, 2019; Saiti, 2019 - 77% out of 229 respondents; 64% out of 285 respondents; and 73.1% out of 234 respondents, respectively). At the same time, it appears that the current study achieved -compared to the other studies mentioned above- an under-representation of the other two sub-groups of principals, i.e. those with 11-20 years of service (13.4% in the current study, compared to 18%, 31%, and 19.6% of the other three studies, respectively) and those with 10 years of service or less (2.7% in the current study, compared to 5% in the first two other studies and 7.3% in the third study).

As regards to the professional background and credentials of the principals who responded to the survey, almost six out of ten principals (61%) were master degree holders, 8% had a Ph.D., and almost one out of three (36%) had an additional academic degree from a discipline other than education. No robust claim can be made about the representativeness of the sample as to this demographic characteristic given that the percentage of principals holding a master degree and a Ph.D. corresponds to the percentage of the sample in the Loukeri (2019) study (67% and 8%, respectively) but not with the percentage of principals holding an additional academic degree (19%), which corresponds to the sample in the Saiti

(2019) study (35%). The sample of percentage of principals holding a master degree and a Ph.D. does not correspond the latter study and none of the sample findings of the Gaitanidou (2019) study (master holders 30%; Ph.D. holders 1%; and additional degree 6%).

Finally, as regards to the geographical region of the school that the principal respondents served, there was a fair proportional representativeness based on each region's population. In more specific, as the following table shows, the current study's sample size approximates the actual population of the regions of Makedonia and Thrace, Peloponnese, Epirus, Thessaly and the Aegean Islands, in some cases it is bigger (Ionian Islands and Crete) and in others smaller (West and Central Greece and Attica).

Table 1. Absolute (N) and percentage (%) distribution of country's schools and of schools where sample's principals served per region of the country

Country's region	Total po	pulation	Researc	h sample
	N	%	N	%
Makedonia & Thrace	1,230	28.7	105	28.4
Thessaly	339	7.9	36	9.7
Epirus	181	4.2	10	2.7
Peloponnese	255	5.9	17	4.6
Attica	901	21.0	65	17.6
Aegean Islands	315	7.3	30	8.1
Ionian Islands	103	2.4	30	8.1
Crete	313	7.3	44	11.9
West & Central Greece	656	15.3	35	8.9
Total	4,293	100	372	100

The online questionnaire included both closed-ended questions and open-ended questions. Questions were constructed according to the aim and the objectives of the research and the relative bibliography and were divided in six parts: the first four parts included questions about principals' experiences and opinions on their collaboration with the Directorate of Primary Education, the Education Coordinators, school teachers and students' parents and families for the organization and implementation of the online teaching and learning. The fifth part included questions about their experiences and opinions on their role in the organization and implementation of the online teaching and learning and the sixth part collected information on the principals' demographic characteristics.

The questionnaire was initially piloted amongst five principals. Their comments, observations and feedback were all taken under consideration for developing the questionnaire's final content and layout. The piloting of the questionnaire provided also an estimation that the duration for filling in the questionnaire was approximately 12 minutes. The questionnaire's distribution begun in May 2020 and was concluded in June 2020.

The data statistical analysis was performed with the statistical analysis software H IBP SPSS Statistics v.23. Before the statistical analysis, the normality of the data was tested with the Kolmogorov-Smirnov test for all the questionnaire's properties. The normality check indicated a significance value of $p_{\text{total}} > .05$, a fact that indicates that there has been a normal distribution of the values of the variables for the questionnaire's data. The reliability of the questionnaire was tested with the coefficient alpha indicating a Cronbach's Alpha=.087 for N=53, a fact that indicates that the scale of the questionnaire was reliable.

Then, the occurrences frequencies were calculated, as well as the corresponded relatives, the averages and the standard deviations. For the inferential statistics analysis, the parametric method of univariate variance One Way Anova was used for identifying differences in the responses of the principles based on gender, total years of service, years in service as a principal and the area of the school location. The choice of the particular method was dictated firstly by the normal distribution of the values of all variables of the questionnaire's data, and secondarily the interval variables of the questionnaire's data. Consequently, for the definition of the pairs between which there was a significant level of difference in the average prices, the post-hoc Scheffe was used.

During the online delivery of the questionnaire, all necessary ethical rules were respected and employed. A letter was sent to all principals with the link of the questionnaire, in which there were presented the most important aspects of the study and it was pointed out that their participation in the survey was voluntary and anonymous. In the questionnaire there was an introduction note, in which the research aim and objectives were outlined, alongside all information regarding the research team and how to communicate with the research team if needed. In addition, an explicit declaration that completing the data would not be used by means other than for the particular research's purposes. Finally, at the beginning of the questionnaire there was an item which was necessary to be answered by each principal indicating that s/he had understood the research aim and objectives, that completing the questionnaire was voluntary and anonymous, and that s/he consented to her/his participation. All 372 principals that filled in the questionnaire declared that they consented to completing the questionnaire and participating in the research.



RESEARCH FINDINGS

The statistical analysis of the research data is presented in this section of the paper. The views and experiences of the principals' sample on online teaching and learning in the period under study are presented below. In more specific, initially their views and experiences as regards to their collaboration with the Education Directors are presented, then their views and experiences towards the Education Coordinators, the teaching staff, the parents and families of the school, and finally their views and experiences on their role in organizing and implementing the online teaching and learning.

Principals' collaboration with the Education Directors

The principals were informed about the implementation of online teaching by the Directorates of Primary Education. The principals answered that the information from the Ministry of Education was "medium" sufficient (av.=2.82, SD=1.162). More analytically two out of five principals of the sample (41%) mentioned that the information was non-at-all or a little sufficient. Three out of ten principals mentioned that the information was medium (29%) and quite or very sufficient (30%).

For questions and clarifications regarding the implementation of online teaching, principals seemed to address the Directorate of Primary Education. The support provided as it emerges from the average of the values of the principals' responses was "medium" (av.=2.90, SD=1.158). In more specific: 38.2% of principals answered that they did not receive any support or that they received a little support; 30.4% received medium support and 31.4% enough or much support. The principals declared that they felt quite "alone" in organizing and implementing online teaching in their schools (av.=3.36, SD=1.291). In more specific: the principals' majority (58.4%) mentioned that they felt quite or very "alone" during the online teaching implementation; 23.4% felt the same at a medium degree; and 28.2% felt that they felt not-at-all or a little "alone".

Principals' collaboration with the Education Coordinators

Education Coordinators role was important in organizing and implementing online teaching. Their collaboration with the school principals appeared to be necessary.

The collaboration with the Education Coordinator was quite frequent (av.=3.77, SD=1.141). Indeed, two out of three principals of the sample (65%) answered that the collaboration with the Education Coordinator was quite or very frequent; 18% answered that the collaboration was at a medium frequency; and 17% responded not-at-all or a little frequent. Their collaboration seemed to concern issues like teachers' training (av.=3.38, SD=1.191), teachers' questions (av.=3.21, SD=1.226), students' and parents' concerns and problems (av.=3.20, SD=1.312) questions of the principals themselves (av.=3.20, SD=1.297).

The collaboration with the Education Coordinators was quite efficient (av.=3.86, SD=1.175). It appears that the majority of the sample's principals (67%) considered that their collaboration with the Education Coordinators was quite or very efficient; 17% that it was averagely efficient; and 15% not-at-all or a little efficient. In an open-ended question on the same issue answered by 70 out of 271 principals (25.7%), half of them expressed a positive opinion about their collaboration with the Education Coordinators. As indicated in the following quotes, they claimed that their collaboration was "excellent", that they received support and guidance, and that they had frequent communication.

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"His/Her support was very big". (Quest. 325)
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The other half who answered the open-ended question, the expressed opinions were negative. Some principals pointed out that they had no collaboration with the Education Coordinator; that it was too delayed; or they it was very minimal. Some principals explained that this happened because of the great number of schools that the Education Coordinators have under their supervision. Furthermore, they maintained that Education Coordinators were not informed about online teaching and they could not offer any support in any case.

[&]quot;Availability for collaboration-support, Education Coordinator's assistance for the teaching material". (Quest. 280)

[&]quot;From the first moment he/she was next to us". (Quest. 243)

[&]quot;There was no contact". (Quest. 208)

[&]quot;They should have informed colleagues from day one about the distance education and organize relative seminars". (Quest. 135).

[&]quot;He/She 'showed up' very late and without providing any serious support, guidance, information". (Quest. 94)

"The large number of schools under their responsibility at region's level caused communication problems". (Quest. 170)

"Initially Education Coordinators collaborated between them and provided general guidelines to all schools and grades they support and secondly they were occupied with personalized school groups that they support in each region". (Quest. 76)

"Communication with the Education Coordinator and other school principals that belong to her supervision was very late while it should have been step number one. In addition, we did not have any serious training about e class functions, but only one platform in which we as principals posed colleagues questions. In other words, the mountain went to Muhammed and actually through a middleman. The first contact between teachers and Education Coordinator was programmed for 7.5.2020, that is with a 2 months delay". (Quest. 143)

Principals collaboration with the teaching staff

The Teachers' Association is the decision-making institution at a school unit level. As a consequence, issues that concerned the online teaching organization and implementation, were discussed very often within the Association (av.=4.55, SD=.936). Indeed, 77% of the sample principals mentioned that the Teachers Association convened more than four times in order to discuss issues that concerned online teaching. 10% of the principals answered that three meetings took place and 13% none or two meetings. It also appears that school principals communicated and collaborated quite often with the teaching staff also at a personal level (av.=4.19, SD=.947). Almost three out of four principals (73%) mentioned that they collaborated at a personal level with all school teachers, 15% with most of them and 8% with some of them. Only 4% of the principals mentioned that they collaborated with very few teachers or a few.

The issues that principals discussed more often with the teaching staff concerned the platform use by the teachers (av.=4.28, SD=.842) and the parents (av.=4.00, SD=1.092), problems with the platform use (av.=4.19, SD=0.947), the communication with parents (av.=4.34, SD=0.833), the lack of equipment for the teachers (av.=3.92, SD=1.136) and the parents (av.=4.28, SD=.891), identifying students (av.=3.87, SD=1.250), the teaching material (av.=3.77, SD=1.074), the kind of teaching (av.=4.34, SD=.891), students' personal data (av.=3.93, SD=1.103) and teachers' participation (av.=4.06, SD=1.156).

Principals mentioned that teachers had a moderate training on online teaching issues (av.=2.63, SD=1.076). More analytically, 52% of the principals mentioned that the teachers were not at all or a little trained: 31.4% declared that teachers were moderately trained and 17% declared that they were guite or very trained. As depicted in the following quotes, principals pointed out that the teachers tried to respond to online teaching despite the fact that they were not trained.

"All teachers were very willing, but there was a huge problem of information, material and technical equipment (teachers' and parents') and totally incomplete information on distance education". (Quest. 287)

"Even though teachers training on distance education issues was not sufficient, they managed to fully correspond at the distance education demands in a very short period of time and step by step". (Quest. 24)

"There has been a great will from the teachers, but also ignorance because of improper training by the Ministry of Education and Religious Affairs". (Quest. 82)

Principals were very satisfied from teachers' response to online teaching (av.=4.57, SD=.709). It is characteristic that 92% declared that teachers collaborated at a quite or very satisfactory level with them on implementing online teaching, 6% answered moderately and 2% not at all or a little. Moreover, principals mentioned that teachers responded moderately to online teaching demands (av.=4.47, SD=.713). Specifically, 92% declared that teachers responded enough or a lot to it; 6% answered that teachers responded moderately and 2% a little. None principal mentioned that there were teachers who did not respond at all to the online teaching demands.

Principals' collaboration with parents and students

Collaborating with parents and students was necessary in order to implement online teaching. Parents addressed many times principals for various issues that concerned the procedure of the online teaching. Such issues concerned mainly the platform use (av.=3.69, SD=1.278), platform's problems (av.=3.75, SD=1.283) and the equipment (av.=3.68, SD=1.174). On the contrary, issues that concerned the teachers were a little discussed, e.g. school-family collaboration (av.=1.57, SD=.933) and communication (av.=2.22, SD=1.166), as well as amount (av.=1.65, SD=.941) and difficulty (av.=1.91, SD=1.129) of homework. Other issues that some principals mentioned that they discussed with the parents was the completion of the curriculum for the last class, children's psychology and reservations for their children's participation in online teaching, as indicated in the following quotes:

"Parents very big difficulty and inability to enter and use the platforms due to lack of equipment or due to ignorance of technology (usually both)". (Quest. 262)

"The communication with the parents via mail because on one hand at the elementary school it is not necessary to declare an e mail address during registration and on the other many parents (mostly foreigners or poor families) did not possess one". (Quest. 301)

"Not all students had the equipment and I was concerned about this inequality but I could not solve that problem". (Quest. 315)

7% of the principals pointed out that there were students who did not participate in the online teaching. Principals mentioned that the students who did not participate came from marginalized social strata (55%), low educated families (53%), and immigrant and refugee families (41%), or that their parents were indifferent (42%) or did not want their children to participate in online teaching (32%). Similarly, Roma students (28%), low school performance students (21%), and students in rural regions (13%) or with special educational needs and disabilities (12%) did not participate in the online teaching. Only 1% of the principals answered that all their school's students participate, whereas 96% of the principals mentioned that they made efforts to identify non-participant students.

Principals' views on the main Actors Role

Organizing and implementing online teaching constituted a risk for all school community members due to the lack of any previous experience. Principals maintained that they found it quite difficult (av.=3.29, SD=1.168) to organize and implement online teaching. A bit fewer than half of the sample's principals (47%) suggested that they came across with some or a lot of difficulties in organizing and implementing it; 26% of the principals answered that they faced difficulties at a moderate level and 27% not-at-all or a little. These difficulties concerned at a medium degree the procedures involved in online teaching (av.=3.17, SD=1.272) and the material and technical infrastructure (av.=2.93, SD=1.451) and a little (av.=2.07, SD=1.128) the teachers themselves.

Principals appeared quite satisfied with the role of teachers (av.=4.43, SD= 0.768) and their contribution (av.=4.36, SD=0.671) in organizing and implementing online teaching. Indeed, nine out of ten principals (90%) were quite or very satisfied with the response of teachers in organizing and implementing online teaching; 8% were moderately satisfied and 2% a little or not-at-all. Their responses regarding their satisfaction from teachers' contribution seems, however, quite relative. 92% are quite or very satisfied, 7% enough and 1% a little.

At the same time, principals seemed to be moderately satisfied with the state's contribution (av.=2.83, SD=1.174). In particular, 39% mentioned that they are a little or not-at-all satisfied with the state's response and 30% a little or not-at-all. This was linked to the fact that principals had to work many hours to respond to the online mode of instruction. Hence, 89% of the principals answered that the work load was quite or very increased (6% moderately and 5% not-at-all or a little).

"The ministry of Education and Religious affairs faced the lack of equipment with sloppiness and the network was unable to support the project. We are very close to the capital city and we don't have internet". (Quest. 60)

"The work load was tripled and the anxiety to involve all students and teachers in the platforms without difficulties created stress and inner tension". (Quest. 78)

"I was deluded by the lack of help from the state". (Quest. 267)

"The Ministry of Education is unrealistic". (Quest. 15)

"There has been a huge effort from the teachers, a lot of working hours, enormous psychological pressure, without any help and not only there has been no recognition, but there was outrage and disapproval. Many of us feel disappointed and frustrated (mostly by the Media). It's a PITY!!!". (Quest. 54)

"The work load tripled and the anxiety to involve all students and teachers in the platforms without difficulties created stress and inner tension". (Quest. 178)

"Many working hours, even during the weekend, in order to organize everything properly". (Quest. 108)

Differentiations among Principals' Views

Principals' views were further examined in relation to their gender, their years in service as teachers, their years in service as principals, and the urbanity of the area of the school where they served.

As far as gender concerns, principals' views did not seem to present statistically significant differences with the exception of three questionnaire items. The first concerned the principals' collaboration with the Directorate of Primary Education and in particular the transfer of problems and difficulties that principals faced (p=.002). As it turns out, men principals (av.=2.93, SD=1.405) transferred at a higher degree problems and difficulties to the Directorate of Primary Education than women principals (av.=2.48, SD=1.381). In more particular, it appears that principal and Education Coordinator collaboration focused on the discussion of parents' and students' issues (p=.046). Men principals appeared to discuss more often (av.=3.24, SD=1.266) issues that concerned parents and students in comparison to their female counterparts (av.=3.15, SD=1.332). In a third questionnaire item concerning teachers' collaboration with students' parents and in particular, issues about the collaboration between parents and teachers (p=.040), men principals were found to state that students' parents addressed them "a bit often" (av.=1.66, SD=.946) about collaboration issues that they faced with the teachers, while women principals "not at all" (av.=1.46, SD=.908). The statistical significance control of the difference of these averages appear below in Table 2.

Table 2. Averages and Standard Deviations of the principals' answers about their collaboration with school communities and institutions

Principals' answers	N	1en	Wo	men	Stati	stical sign test χ²	
	av.	SD	av.	SD	df	F	Sig.
Difficulties about which they addressed the Directorate of Primary Education	2.93	1.405	2.48	1.381	1	9.653	.002
Issues that concerned teachers about parents	3.24	1.266	3.15	1.332	1	4.017	.046
Collaboration issues between parents and teachers	1.66	.946	1.46	.908	1	4.257	.040

As far as years in service in primary education, principals again were not found to present major differences between them at a statistically important level as regards to their views. Exceptions included the questionnaire items concerning the issues that principals discussed with teachers: the platform use by teachers, teachers' and students' material and technical equipment, students' and teacher's participation. Similarly, a statistically significant difference was found as regards to principals' views on teachers' sufficient training in online teaching, teachers' difficulties, and the discussion with parents on evaluation issues. In all these cases, the differentiation was observed among principals who have more than 21 years in service and principals who have either until 10 years in service or until 11 years in service (Table 3).

Table 3. Averages and Standard Deviations of principals' responses about online teaching implementation during the first period of school closure due to the pandemic according to years in service.

Questionnaire items	<10	<10 years	11 until 20	til 20	21+	21+ years		Statistical	_ :	Binary comparisons:
	II SE	in service	years in service	's In rice	ın se	in service	sign	significance test anova	test	lesting of statistically significant correlations
	av.	SD	av.	SD	av.	SD	₽	ш	Sig.	
Principals' and teachers' discussion about issues that concern platform use by parents	2.91	1.446	3.78	1.298	4.07	1.020	2	7.458	.001	Between: until 10 years in service and 21+ years in service
Principals' and teachers' discussion about issues that concern teachers' material equipment	2.91	1.514	3.00	1.325	4.11	.992	2	28.825	000.	Between: until 10 years in service and 21+ years in service
Principals' and teachers' discussion about issues that concern parents' material equipment	4.36	608.	3.98	1.204	4.33	.827	2	3.355	.036	Between: 11 until 20 years in service and 21+ years in service
Principals' and teachers' discussion about issues that concern students' participation	3.18	1.834	3.26	1.523	4.00	1.141	2	9.656	000	Between: 11 until 20 years in service and 21+ years in service
Principals' and teachers' discussion about issues that concern participation in distance education	3.09	1.700	3.86	1.246	4.13	1.103	2	5.227	900.	Between: until 10 years in service and 21+ years in service
Teachers' sufficient training in distance education	3.18	1.250	2.98	1.348	2.56	1.006	2	4.896	.008	Between: 11 until 20 years in service and 21+ years in service
Principals' and teachers' discussion about issues that concern evaluation	2.18	1.601	1.60	.904	1.51	.860	2	3.168	.043	Between: until 10 years in service and 21+ years in service
Difficulties that concern teachers	2.36	1.362	3.06	1.361	3.22	1.247	2	5.931	.003	Between: 11 until 20 years in service and 21+ years in service

Questionnaire items	<8 y in se	<8 years in service	9 un' yea in se	9 until 16 years in service	17+ v	17+ years in service	Signi	Statistical significance test anova	test	Binary comparisons: Testing of statistically significant correlations
	av.	SD	av.	SD	av.	SD	df	щ	Sig.	
Principals' and parents' discussion about platform problems	3.92	3.92 1.233	3.74	3.74 1.281 3.26 1.330	3.26	1.330	2	5.700 .004	.004	Between: until 8 years in service and 17+ years in service
Principals' and parents' discussion about platform use	3.85	3.85 1.255	3.69	3.69 1.263 3.23 1.296	3.23	1.296	2	5.118 .006	900.	Between: until 8 years in service and 17+ years in service
Identification of students who did not 1.06 .247 participate in distance education	1.06	.247	1.05	.214 1.16	1.16	.368	2	3.876 .022	.022	Between: 9 to 16 years in service and 17+ years in service

Questionnaire items	R a	Rural area	Semi- ar	Semi-urban area	, e	Urban area	s sign	Statistical significance test anova	test	Binary comparisons: Testing of statistically significant correlations
	av.	SD	av.	S	av.	SD	₽	ш	Sig.	
Collaboration frequency with the Education Coordinator	3.55	1.219	3.98	1.155	3.73	1.083	2	3.118	.026	Between rural and semi-urban areas
Principals' and teachers' discussion about platform use by parents	4.01	1.312	3.90	1.034	4.05	1.041	2	6.483	000.	Between urban and rural areas
Discussion with teachers about students' identification	3.48	3.48 1.577	3.98	1.092	3.95	1.182	2	3.132	.026	Between urban - rural areas and rural semi-urban areas
Discussion with teachers about the kind of teaching	4.20	4.20 1.106 4.40 0.759	4.40	0.759	4.36	4.36 0.863	2	3.088 .027	.027	Between rural and semi-urban areas
Discussion with parents about the platform use	4.06	4.06 1.211	3.66	3.66 1.249	3.59	1.299	2	2.978 .031	.031	Between rural and semi-urban areas
Discussion with parents about the evaluation	1.64	1.014	1.36	.703	1.60	.934	2	4.795	.003	Between rural and semi-urban areas

As regards statistically significant difference in principals' views according to their years in service as principals, again, such a difference was found only in three questionnaire items: principals discussion with parents on problems, the platform use, and students' participation in online teaching. The difference was noticed among principals with 17 and more years in service as a principal and principals with either with up to 8 years in service or from 9 to 16 years (Table 4).

As far as the urbanity of the school's area, principals' views were found to present a statistically significant difference in 5 questionnaire items. These concerned discussions with teachers and parents about the platform use by the parents, the mode on online teaching, students' identification and evaluation. A statistically significant difference was also found in the questionnaire item on principals' communication frequency with teachers. These differences, in their majority, were noticed among principals who served in rural and semi- urban areas (Table 5).

DISCUSSION

After China, Covid-19 was gradually spread in all the countries of the world and it became a pandemic. In order to slow down the virus transmission a lockdown was decided in most parts of the world (Qiu, Chen, & Shi, 2020), as well as the school closure in most educational institutions in order to protect children's health but also the health of all members of the school community (Gouëdard, Pont, & Viennet, 2020). Until mid-April 2020, 94% of students around the world were affected by the pandemic (United Nations, 2020).

Education is one of the most important institutions of the society and performs important functions, such as knowledge transfer, socialization, childcare and others (Thanos et al., 2017). With the school closure parents had to ensure that their children were taken care and engaged at home. This, however, was not so easy for parents and families. Continuing the education of the students from home and their school engagement at home seemed a one-way road. Thus, in many countries, as in Greece, it was decided to continue teaching and instruction online by implementing methods of online teaching and distance learning (Christakis, Van Cleve, & Zimmerman, 2020; Daniel, 2020; Putra, Witri, & Sari, 2020; Scarpellini et al., 2021; Circular H2/43962). For the transition to online teaching information and communications technologies were used (Gouëdard, Pont, & Viennet, 2020).

The transition to online teaching was sudden with no previous preparation. As a principal respondent in this study reported in the questionnaire "...Online teaching

got suddenly in our school life and without any previous preparation" (Quest. 76). Not all countries were equally prepared for the implementation of online teaching and online learning. The richer countries were more prepared than the others (Saavedra, 2020). Furthermore, not all families were equally ready to support their children with online teaching. Some families did not have internet access, computers, camera, speakers, etc., or they could not help their children to use the platform and new technologies in general. As P. Bourdieu refers, it is not enough for someone to have the material objects but he needs to possess all the necessary knowledge in order to utilize these objects (Thanos et al., 2017). These difficulties concerned, mainly, students from lower social strata. With the school closure and the adoption of online teaching, social inequalities among students were evident and affected their participation in education (Saavedra, 2020). School had to deal with these inequalities, which suddenly appeared and hindered some students' education, especially coming from lower social strata.

In situations of emergency in the school, the principal's role is very significant. In emergencies, the principal role is to provide instructions, to guide teachers, students and parents and to try to contribute in maintaining the cohesion of the school community. In addition, s/he collaborates with the members of the school community in order to develop strategies to deal with the crisis. In this specific emergency, the collaboration between the principal and the teaching staff had to aim to support the online teaching through various actions. At this point, the level of autonomy of the school community to make decisions has a significant part (Gouëdard, Pont, & Viennet, 2020).

In Greece, during the pandemic, the political leadership gave more autonomy to the school community (CEDEFOP, 2020). The principal's role was catalytic in organizing and implementing online teaching. According to the Greek legislation (Official Government Gazette 1340/16-10-2002), the principal has a pedagogical and administrative role in the organization and the school's activity. In order to achieve the educational goals, the principal applies the guidelines of the ministry, collaborates with the Director of Education and the Education Coordinator of the region the school belongs, the teaching staff, the students and the students' parents/guardians.

Indeed, primary school principals according to the law (Official Government Gazette 1340/16-10-2002) had to implement all the relative guidelines of the Ministry of Education that they received through the Directorate of Primary Education for the implementation of online teaching. The sample of the principals that responded to the questionnaire presented in this paper referred to the information they received from the Ministry of Education and the problem-solving information from the Directorate of Education as not satisfying. This made them feel that they are "alone" in all this procedure to organize and implement online teaching.

The principals, within their administrative and scientific-pedagogical role (Saitis, 2008; Tingle, Corrales, & Peters, 2017; Costello, 2015), had to coordinate all the actions to organize and implement the online teaching of their school. Firstly, they had to take all necessary actions so that the teachers possess the necessary knowledge and competences that concern, on the one hand, the online teaching methodology, and on the other hand, the use of technologies, mostly of the platform that would be used and the appropriate resources (Gouëdard, Pont, & Viennet, 2020). Principals had frequent collaboration with the Education Coordinators concerning teachers' training. In addition, principals collaborated successfully with the Education Coordinators on solving questions that teachers, students and themselves faced.

Principals maintained that they received great support from the Education Coordinators. As a principal refers, the Education Coordinators "...were aside us from day one" (Quest. 238). However, there were some principals who pointed out that Education Coordinators were not themselves trained: "He/She was not enough informed. He/She learned with us" (Quest. 283).

During the pandemic, principals had to advise and guide the teachers (Gouëdard, Pont, & Viennet, 2020) for the online teaching implementation. It was thus necessary for principals to collaborate frequently and effectively with the teaching staff at a collective or individual level. Discussion issues concerned mostly the platform use and the required equipment for teachers but also parents. The majority of teachers were not trained in the platform use and generally in online teaching: "A great number of teachers was not familiar with the digital tools and they felt weak and insufficient" (Quest. 156). Furthermore, many teachers had a problem with the equipment because at the same time both the students and themselves had to participate in online teaching. Parents faced similar problems: "... There was a huge information problem, material-technical infrastructure problems (for teachers and parents) and a totally lack of information-training on distance education" (Quest. 97). These findings highlight the significance of the teachers' knowledge and their competences in information and communications technologies, in order to implement the online teaching (Gouëdard, Pont, & Viennet, 2020).

Another important issue that principals discussed with the teachers concerned the communication with parents, students' participation and personal data protection. As a principal mentioned (Quest. 220), "...we noticed that parents

registered on line classes and then they projected them in social media along with various comments". Hence, there were teachers who had expressed their opposition to the online teaching implementation. As a principal claimed (Quest. 192), "...the majority is negative about distance education (synchronous - asynchronous) and they consider it unconstitutional, while their participation is minimum". Other issues concerned students' participation. There were students, mostly from the socially vulnerable groups, who did not participate in the online teaching period. Teachers in their discussions with principals pointed out that students, like Roma, or those coming from socially and financially deprived families did not have the required equipment nor the necessary knowledge to use the platform and participate in the online teaching. Indeed, the digital divide was indicated as one of the negative consequences of the school lockdown (Kovacevic & Jahic, 2020). The negative consequences were not the same for all children, but it appears that they were present in a significant proportion of students from the lowest socioeconomic backgrounds (Saavedra, 2020).

During the pandemic online teaching, the collaboration of the principals with the parents appeared to be important (Gouëdard, Pont, & Viennet, 2020) in order to support the children and to reveal their needs, such as their knowledge on the use of technologies, the adequacy of the necessary equipment (e.g. computer), the internet connection and its quality, etc. (Saavedra, 2020). During the communication with the parents, it seems that Greek principals discussed issues that concerned the platform use and the technical equipment. The lack of training in the use of new technologies and the absence of technological equipment appears to having reproduced and expanded the already existing social inequalities (Van Deursen & Van Dijk, 2016). This is also confirmed by the fact that principals reported that 7% of students did not participate in online teaching. Most of these students come from socially, economically and culturally vulnerable groups: Roma students, students from rural and poor families with parents of a low educational level, students with special educational needs and/or disabilities. This fact confirms the reproductive role of the school (Thanos et al., 2017). Although online teaching aims to mitigate social inequalities, in this case it seems that it contributed to their increase because of the way it was implemented. The issue of school drop-out and the mitigation of inequalities among students was one of the issues emerging in the center of the discussion and the reflections on the school lockdown (United Nations, 2020; Hattie, 2020; Saavedra, 2020).

Replacing face-to-face teaching and instruction with online one without any previous plan, made principals face difficulties during its organization and

implementation, which concerned the procedure itself and the required material and technical infrastructure. Indeed, online teaching and distance education implementation requires special planning, adequate teaching material and the necessary material and technical equipment (Moore & Kearsley, 2012). Hence, Greek principals' work load was increased. A principal pointed out that "... endless late nights were needed, in order to live up to the circumstances" (Quest. 40). Principals' collaboration with teachers was satisfying in contrast with the administration that was not satisfying, because there was no plan (Moore & Kearsley, 2012). As a principal pointed out: "Teachers were very willing (...) but there was very incomplete information-training on distance education" (Quest. 206). Principals declared that they were satisfied with their contribution in organizing and implementing the online teaching. Principals' collaboration with Education Coordinators, parents and teaching staff contributed to the implementation of online teaching during the first lockdown in Greece (spring 2020).

Principals' views do not present between them major statistically significant differences, except in some cases that concern, mostly, their discussion with teachers and parents about the platform use and the technical equipment.

CONCLUSIONS

School closure to prevent and deal with the pandemic led to online teaching implementation in all grades of the educational system of Greece. Online teaching was applied from the 29th March to the 29th May 2020 in primary education and its organization and implementation constituted a totally new experience for all members of school society but also for society, in general. Principals' role in organizing and implementing the online teaching was central. They had to collaborate with the educational administration, the Education Coordinators, the teaching staff, parents and students. In sum, according to principals' views who took part in this research:

- The Ministry of Education and the Directorate of Primary Education provided the school principals with incomplete information about the online teaching implementation.
- Solving questions and providing principals with clarifications was insufficient from the Directorate of Primary Education.
- Communication and collaboration between teachers and Education Coordinators was frequent and effective.
- Principals discussed with Education Coordinators about the teaching staff's and

their own concerns, the problems faced by parents and students, and teachers' training.

- The collaboration between principals and the teaching staff was achieved at a collective and individual level and it was frequent and effective. Issues that principals discussed with the teaching staff concerned the platform, the material and technical infrastructure, students' participation and the teaching material.
- A part of the teaching staff did not possess any knowledge on online teaching and the use of new technologies.
- A part of the teaching staff had insufficient equipment in order to be able to participate in online instruction.
- Collaboration between principals, parents and students concerned platform function and use, as well as relevant problems faced, and the sufficiency of the required equipment.
- Some principals claimed that students' participation in online teaching was low.
- Students who did not participate in the online classes came mainly from socially, economically and culturally vulnerable groups.
- Principals considered that their role in organizing and implementing online teaching was effective.

Even though the size of the sample of principal which responded to the survey is satisfying, since it constitutes the 8.72% of the total population, it might face some bias in its selection given that it constituted the principals who responded to the email invitation for participation. In addition, the distribution of the sample by gender approaches but it is not completely proportionate to the general population. Similarly, the distribution of the sample by school's geographical area is not in all cases respective to the general population. Unfortunately, the Hellenic Statistical Authority does not publish data about years in service and principals' additional studies yet. Therefore, the findings of this study are cautiously reported as regards to their representativeness and hence any conclusions concern the views of the principals' sample.

The findings of this study have a significant contribution to the Greek educational system as this is the only study reported on the issue to-date. At the same time, it may contribute to the international mapping and reflection on the school lockdown during the Covid-19 pandemic. The local and international discussion of the findings of the study reported in this paper and their comparison with other researches' findings might be of significant importance for facing emergency situations as the pandemic was. More research with more representative principal samples in Greece and internationally in primary and secondary education would thus be useful. Further research questions could also be considered, for instance, at what grade teachers complemented asynchronous with simultaneous online teaching prior to the pandemic and if they would be willing to use it in their teaching in the future. Similarly, views of other school members could be studied (Education Coordinators, teaching staff, parents and students), as well as the content of teachers' training on online teaching and new technologies between different educational systems.

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