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Distance Education in the COVID-19 era: The example of Greece and the international opportunity to transition to the Open School of Inquiry Based Learning, Collaborative Creativity, and Social Solidarity

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Distance Education in the COVID-19 era: The example of Greece and the international opportunity to transition to the Open School of Inquiry Based Learning, Collaborative Creativity, and Social Solidarity

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Abstract
This paper reviews recent reports about the implementation of Distance Education during the Covid-19 pandemic in Greece and worldwide. In particular, it aims to determine how Educational Systems reacted to the transition to a new home-based learning environment focusing on the Greek Educational System and its plans to address the current situation. Specifically, the emerging framework of Education is outlined.
It can be concluded that Educational Systems responded to the new reality of social distancing similarly worldwide. The emphasis was mainly on ensuring equal access to Distance Education environments and remote technological support to all those involved in the educational process. This was also the case in Greece, where accessibility issues were primarily met despite existing difficulties. However, the pedagogical dimension of Distance Education was absent.
Based on these conclusions, education policy developers should consider transitioning from Phase A of Distance Education: Remote Emergency Support, to Phase B: Pedagogical Dimension, and, ultimately, to Phase C: Transition to the Open School of Inquiry Based Learning, Collaborative Creativity and Social Solidarity.

Keywords
Educational Systems, pandemic, Distance Education, technological infrastructure, Remote Emergency Support, Pedagogical Dimension, the Open School

Introduction
The new coronavirus COVID-19 invaded the lives of millions of people globally. Undoubtedly, everyone has been experiencing unprecedented situations which will have significant social, psychological, and economic consequences; the extent, intensity, and duration of which cannot yet be assessed.
While everyone is trying to protect their lives and the lives of their fellow men, all of them are forced to respond to the multiple roles they have within their relationships and activities (family, work, education, etc.) whilst held in home confinement.
All human activities have been set in "Safe Mode" or, more precisely, in "Emergency Mode" without the possibility of "reset / recovery" in the foreseeable future.
In the above context, educational systems worldwide were required to contribute to this situation to the extent appropriate to them. In the first phase, the operation of schools and universities as well as other educational structures was suspended in order

to contribute to the reduction of the dispersion of COVID-19 in response to the recommendations of experts. In the second phase, educational systems are attempting to design ways and forms of distance education so as to meet this unprecedented emergency situation.

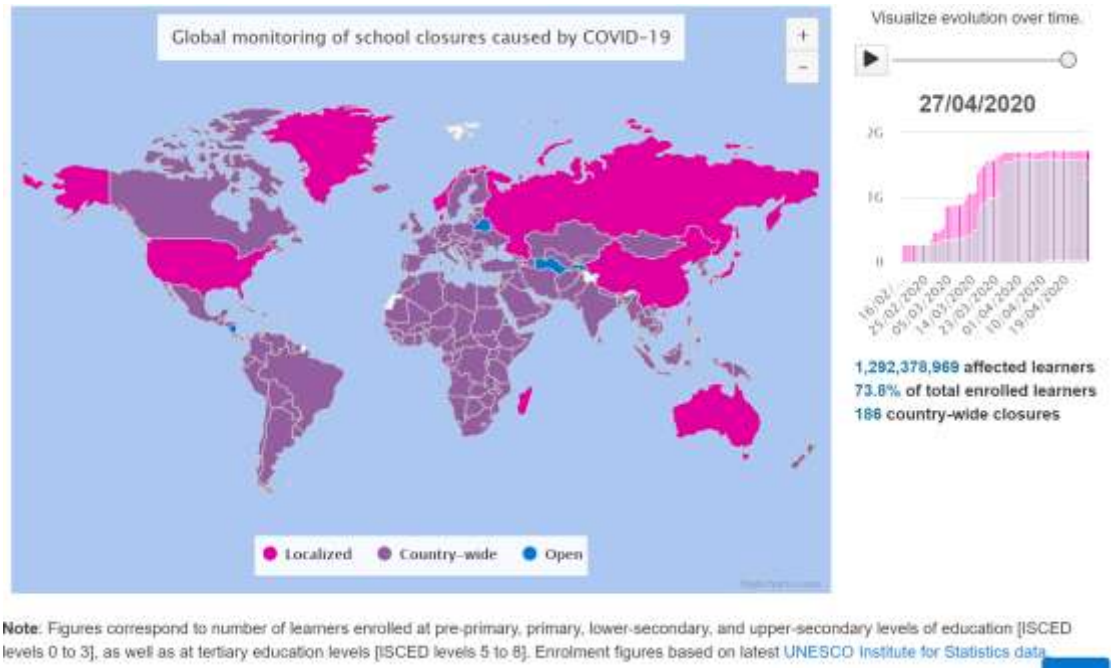
This paper has a dual purpose: on the one hand, to make a first attempt to record / capture how educational systems have been trying to address the effects of the pandemic both internationally and in Greece and on the other hand, to highlight the need to move to new learning and teaching environments which are characterized by openness, inquiry based learning, collaborative creativity and social solidarity.

The structure of the paper is as follows:

The first section attempts to record the current situation in the sector of education internationally. The second section reflects the corresponding situation in Greece with the greatest possible clarity, focusing on the depiction of the current social and economic situation with what this entails for the education sector (teachers, students, schools) in relation to the effects of COVID-19. The third section features the framework of educational planning of Greece at both levels: central planning (Ministry of Education) and planning and actions of other bodies. In the fourth section the focus is on examining the emerging framework, roles and responsibilities for students, teachers, and parents with an emphasis on the Human/Psychological Dimension, the Pedagogical Dimension, and Social Dimension. Finally, in the conclusions of the 5th section, it is propounded that the emerging educational environment should not be constrained to its supporting role within the extraordinary conditions everyone is experiencing, but should also prepare the transition to the Open School of Inquiry Based Learning, Collaborative Creativity and Social Solidarity through a three-phase plan.

1. The Sector of Education in the COVID-19 era: International Review

According to UNESCO's data (updated on the 27th of April 2020) 91.3% of the students in 188 countries around the world do not attend school or university (UNESCO ISD, 2020), (Figure 1).



Source: UNESCO Institute for Statistics data. https://en.unesco.org/covid19/educationresponse

Figure 1: Global Monitoring of school closures caused by COVID-19

Many countries are trying to address the new situation which has occurred in their educational systems with a series of measures that vary depending on: a. local and national characteristics, b. the teachers', parents' and students' level of knowledge and skills on new technologies, c. their familiarization with the philosophy of Open and Distance Education and d. issues relating to the culture and temperament of societies, especially in emergency conditions like the current one.

At this stage there is not sufficient number of official reports at national or international level or relevant publications in scientific journals that would allow us to study and illustrate the ways in which educational systems attempt to respond to this new reality.

According to the existing reports, the situation at an international level is as follows:

1.1 China

The Chinese government (where the first cases of COVID-19 were detected) has developed an emergency initiative called the "Suspending Classes Without Stopping Learning" (Ministry of Education of the People's Republic of China, 2020). This initiative focuses on: a. the utilization and integration of online teaching resources at national and local level, b. the development of the necessary educational material on the Internet, c. support for teachers (OnLine Teaching) and Students (Children's OnLine Learning) for online distance learning.

The above initiative is structured around the following sectors:

1. Ensuring technological infrastructure for fast and reliable Internet access so that teachers and students can participate in Online Distance Learning activities.
2. Teacher training on online teaching strategies and the use of Information Technology applications emphasizing on issues related to the epidemic and case studies adapted to local particularities (Xinhua Net, 2020).
3. In addition to the curriculum, those involved (e.g. teachers, students) are advised to emphasize on issues related to the prevention, protection and treatment of the epidemic, focusing on mental health education.

1.2 USA

The Department of Education of the USA has devised a framework for tackling the situation in schools according to which the term "On Going Learning" is introduced (United States Department of Education, 2020):

Basic directions (Table 1):

1. All states are required to provide some form of student support.
2. Particular emphasis should be placed on the issue of equal access for students and teachers (infrastructure, equipment) but also the use of alternative means of communication (television, the use of correspondence, etc.).
3. For elementary school students, daily activities should not exceed 2 hours and for older students they should not exceed 3-4 hours as the unfamiliar state of confinement and mental health issues should be taken into consideration.
4. Special reference is made to students with disabilities, children with housing problems, minors in penitentiaries, etc.

WESP (2020) category	Country	COVID-19 Cases/1M pop*	Extension of semester break	Reported campus closures^	Reported move to online teaching
Developed economies	Australia	166	No	All	All
	Germany	745	No	All	All
	Italy	1,616	No	All	All
	Republic of Ireland	530	No	All	All
	United Kingdom	288	No	All	All
	United States of America	431	No	Some	Some
Developing economies	Brazil	20	No	Some	Some
	China	57	Yes	All	All
	Chile	112	No	All	Some
	Egypt	6	No	All	All
	Hong Kong	86	Yes	All	All
	India	0.8	Yes	All	Some
	Indonesia	5	No	All	Some
	Jordan	25	No	All	Some
	Malaysia	81	No	All	No
	Nigeria	0.5	No	All	Some
	Republic of Korea (South Korea)	188	Yes	All	Some
	Singapore	144	No	Some	Some
	South Africa	22	Yes	All	Some
	United Arab Emirates	58	No	All	Some

1M pop = 1 million population. # = Worldometer, 2020 (30 March 2020). ^UNESCO, 2020 (30 March 2020)

Source: Crawford et al, 2020

Table 1: Synthesis and meta-analysis of higher education response by country

Regarding tertiary education, in particular, a significant number of universities have managed to meet the need for Distance Education according to a comparative study by Crawford et al (2020).

1.3 Europe

Based on the available data (Euridice, 2020), the national educational systems in Europe have suspended the operation of schools at all levels except for Sweden and Iceland, where only the operation of upper-secondary and tertiary education institutions has been suspended (9 April 2020).

The following map (Euridice, 2020) shows the response rate of the European educational systems to the need to suspend their operation. (Figure, 2)

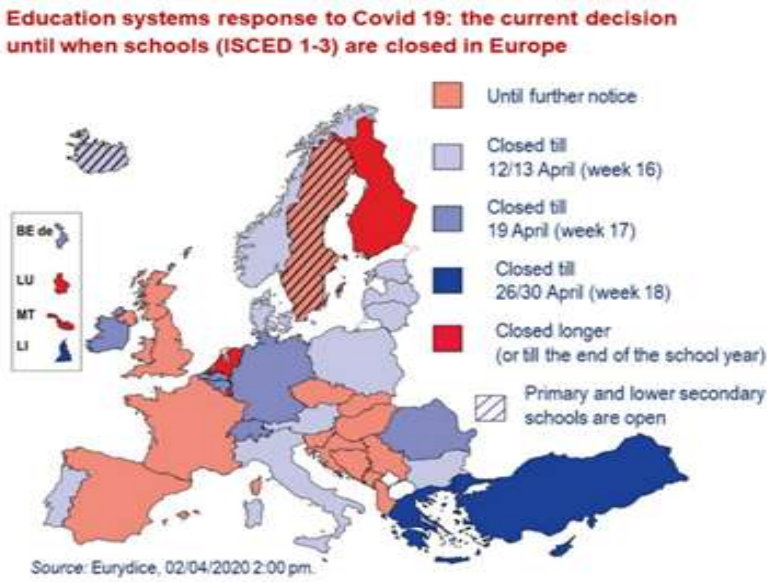


Figure 2: the response rate of the European educational systems to the need to suspend their operation

According to the same source, the educational systems have taken initiatives to support their students in various ways, after being on hold for one to three weeks:
- with printed material distributed by schools
- utilizing learning platforms (learning material, assignments) and social media for student-teacher collaboration
- courses through national television programmes

Simultaneously, serious concerns over the possibility of extending the suspension of schools. are voiced. These mainly focus on:
- university admission procedures
- the social and psychological effects on families' lives
- the impossibility of equal access to digital equipment and reliable Internet connection, especially for vulnerable social groups

……Finally, it is estimated that after having undergone this crisis, people will not return to the world as they knew it. Instead, we are now preparing our children to face the world as it will be in the future.

1.4 Independent Research

- Theoretical Inquires

As expected, the first theoretical approaches and research on how educational systems could meet these extraordinary conditions have begun to be recorded internationally.

The term "Emergency Remote Teaching, ERT" is starting to appear in international bibliography. In Greek, it could freely be defined as "distance education in an emergency". According to Hodges et al. (2020), the primary purpose of "ERT" is not to shape a new integrated educational ecosystem, but to provide a framework that will ensure immediate and reliable access to guidance and support for all those involved (student teachers, parents) as soon as possible. According to this approach, the emphasis is not on distance education but on remote support, which has been confirmed as a trend by the findings so far.

Zhang et al. (2020) focus on the necessity:

a. of upgrading existing Internet infrastructure in order to adequately meet the increased demand due to the epidemic.

b. for teacher support with the necessary technological means

c. for substantial training of teachers

d. of carrying out studies on supporting students in Distance Education environments.

Finally, other Chinese researchers introduced the "School's Out, But Class's On" approach (Xia, 2020), according to which students can remain active outside the classroom whilst supported not only by teachers, but also their parents. Based on this approach, the focus is on supporting students to organize their schoolwork according to schedules and improve the content of homework with the aid of their parents (both school education and family education).

Simultaneously, important issues such as the following are raised:
- The necessity for the people-centered dimension of Distance Education (Abidah, 2020) focusing on Equal Access Issues (Reich et al., 2020; Takahama, 2020; Reykdal, 2020).
- The new role of teachers: According to Camacho et al. (2020) teachers have to make all the necessary changes and adaptations to means, techniques and methods in terms of flexibility and accessibility in order for the students to gain positive learning experiences within the Distance Education framework. Teachers need time, means, training, and equipment to adapt their practices to the needs of Distance Education (Zhao et al., 2020)

-The new role of students: a new environment is emerging for students in the context of which Distance Education and Support contributes to strengthening their autonomy as students now study material via e-platforms in their own space, time and pace and interact with teachers either in a synchronous or asynchronous mode (Zhao et al., 2020).
-The new role of the family: the family and especially the parents undertake new, additional tasks regarding the support of their children in order for the latter to be able to respond to the new educational environment (Zhang et al., 2020; Bazzaz, 2020) at a time when concerns for the effects of the pandemic on mental health deepen (Reich et al., 2020).
1.5 Summary
Based on the sources mentioned above, we could summarize the above findings as follows:
a. The vast majority of educational systems internationally have suspended their operation: 91.3% of students in 188 countries around the world do not attend school/university.
b. Europe is following the international trend, except for Sweden and Iceland, where primary schools are open as a result of the governments' policy to deal with the effects of the pandemic at a national level.
c. In this first phase, the emphasis is not on distance education but on the remote support of students and teachers.
d. After a first period of awkwardness in search of solutions, lasting from one to three weeks depending on the country, the educational systems began to provide some form of support to their students focusing mainly on:
- ensuring fast and reliable Internet access
- the distribution of educational material mainly in digital form on platforms
- issues of equal access mainly for vulnerable social groups or residents of mountainous and remote areas
e. Until now, the emphasis has been on the technological dimension of the support environment but the pedagogical dimension and systematic efforts to train teachers are absent, whatever this entails.
f. Nearly all available sources clearly express strong concerns about the social and psychological consequences of the continuation of the effects of the epidemic.
g. New challenges are emerging for teachers (new roles, knowledge, and skills), students (enhancing autonomy, time management techniques) and parents (new, additional tasks)
Based on the above, a crucial question emerges:
Will the new role of Distance Education be restricted to meeting the urgent needs caused by the pandemic or will it be aimed at enriching teachers and students with knowledge and skills towards new teaching and learning horizons (Reich et al., 2020) with an emphasis on the pedagogical dimension of distance education? (Anastasiades, 2010; 2020)

2. The current situation in Greece

The following factors should be considered in order to capture the current situation in Greece:
2.1 Social and economic level: Greece has yet to heal its wounds from the economic crisis that began in 2010 and resulted in the loss of 25% of GDP and the rise in unemployment to over 20% while public debt has reached 180% of GDP (Eurostat, 2020). The extreme poverty rate, which did not exceed 2.2% in 2009, exceeded 15%

in 2015 with the highest rates being detected in children: 17.6% and young people aged 18-29: 24.4% (DiaNEOsis, 2016).

2.2 The effects of COVID-19: There is probably good news in this sector as Greece ranks 64th in the world in terms of COVID-19 spreading based on its population (Wikipedia, 2020).

2.3 In the education sector, the ten-year economic crisis has left its distinct mark. Central government expenditure on Education declined by more than 10% in 2016 compared to 2010. Similarly, household spending for education declined by 15% the same year. It is worth pointing out that significant reductions in the salaries of the teaching staff at all levels of education were recorded (Hellenic Statistical Authority, DiaNEOSis, 2019).

2.4 Internet access for households: In the last decade, despite the economic crisis, the number of households with Internet access has tripled resulting in about 8 out of 10 Greek households having Internet access in 2019. Eurostat 2020 (isoc_ci_in_h) & (isoc_ci_it_h). However, only 44% of the citizens have basic digital skills (2015) and the forecast for 2019 is 53% and for 2021 it is 60% (NATIONAL DIGITAL POLICY, 2016).

2.5 Schools, teachers, students and the Internet. In order to provide an overview of the potential of the Greek educational system to meet the requirements of Distance Education, we state the following data:

A. ICT Infrastructure in Schools: 2% of primary schools have advanced technological equipment (modern computers, fast Internet access, technical support, etc.) whereas the corresponding EU average is 37%. In secondary education, the relevant percentage is 15% on average in Greece (EU 60%) (European Commission, 2019).

B. Schools that have Virtual Learning Environments (VLE). Only 6% of Primary Schools (for students aged 6 to 12), 3% of lower secondary schools (for students aged 12 to 15) and 9% of upper secondary Schools (for students aged 15 to 18) have VLE whereas the EU average is 27%, 54% and 65% respectively (European Commission, 2019).

C. According to a study by Moreno & Gortazar (2020) in Secondary Education, Greece is ranked

- in the last zone internationally based on the availability to distance learning environments (Figure 3).

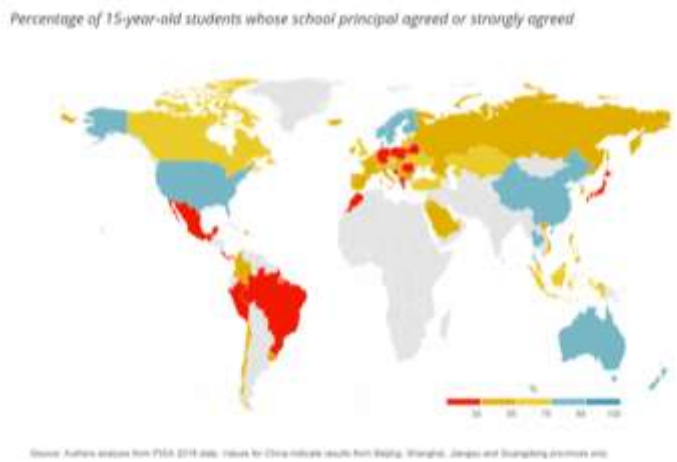


Figure 3: Availability of an effective online learning support platform

- in the 3rd zone (out of 5) in relation to teachers' necessary pedagogical knowledge and technological skills, (Figure 4).

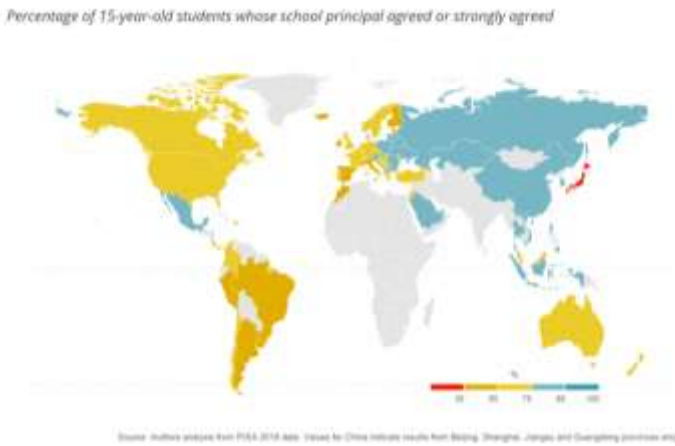


Figure 4: Teachers have the necessary technical and pedagogical skills to integrate digital devices in lessons

- in the 4th zone (out of 5) in relation to the available professional resources (training etc.) in order for teachers to learn how to effectively use digital technologies (Figure 5).

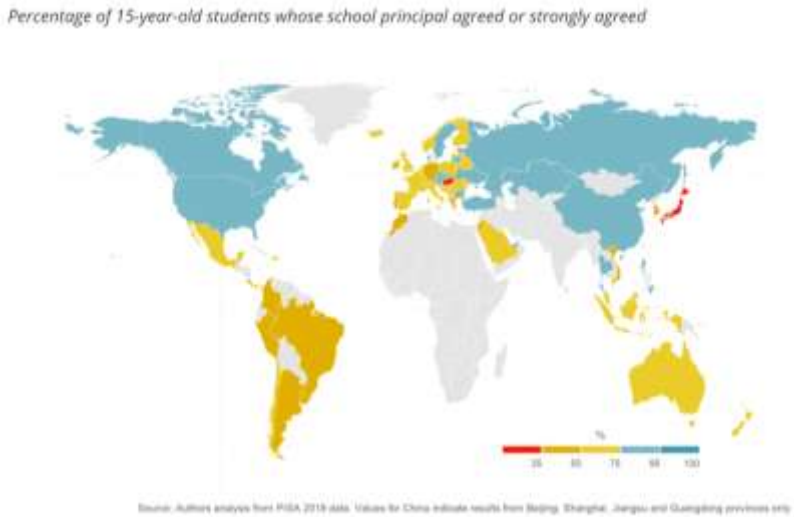


Figure 5: Availability of Effective professional recourses for teachers to learn how to use digital devices

2.6 Distance Education in Greece. The most important factor for the cultivation and dissemination of the philosophy of open and distance education in Greece is the Hellenic Open University, which has contributed decisively to the establishment of Distance Education in Greece. In its twenty years of uninterrupted operation, 46,064 people have graduated so far while there are currently more than 40,000 active students. 2,200 faculty members teach at the HOU which offers 48 undergraduate and graduate courses (HOU, 2020).

2.7 Summary

Summarizing the above findings, we could say that:

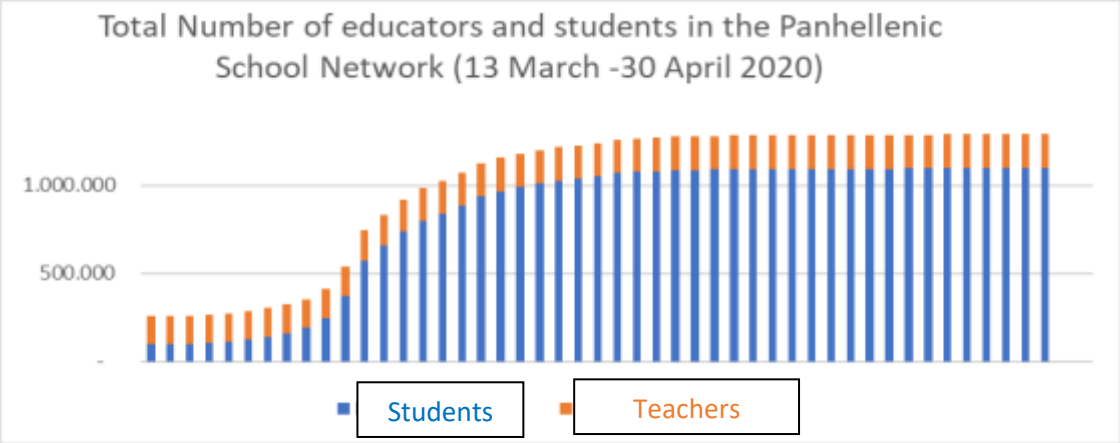
1. Greece, even before being able to recover from the painful social and economic effects of the recession that began in 2009 (25% reduction in GDP), has to face the unprecedented challenges of the COVID-19 pandemic while 15% of the population experiences extreme poverty.

2. The hitherto successful treatment of the dispersion of COVID-19 in Greece creates an atmosphere of optimism in the midst of social and occupational insecurity as after several years Greece broadcasts positive news to the rest of the world.
3. Even though 8 out of 10 households have access to the internet, less than half of the citizens have basic ICT skills and knowledge. This finding is particularly valuable at present as parents have to, among other things, support their children in order to gain access to the new remote support environment.
4. The Greek Educational System has to deal with the COVID-19 pandemic under adverse conditions (underfunding, lack of infrastructure and accessibility to online learning environments, insufficient training on the pedagogical utilization of ICT, etc.) and teachers having lost a significant part of their purchasing power in recent years.
5. The contribution of the HOU to the familiarization of about 80,000 people (a significant percentage of whom are teachers) with the philosophy of Distance Education is crucial and it is estimated that it will contribute positively to the remote support of students.
Based on the above, it is rather obvious that Greece has to mitigate the effects of the existing digital dualism in a short time and under adverse conditions, whatever this entails for the remote support of students belonging to vulnerable social and economic groups.

3. Education during the COVID-19 era: The example of Greece

3.1 The policy of the Educational System in Greece
After a short period of justified awkwardness, which followed the decision to close schools, the Ministry of Education set primary goals to strengthen the technological infrastructure for primary and secondary education nationally (registration management environment, synchronous and asynchronous learning environments) while granting free access to the services and applications of the Panhellenic School Network from mobile phones.

Chart 1: Total Number of educators and students (April, 2020) Source: Panhellenic School Network, 2020



The response of teachers and students exceeded all expectations (Panhellenic School Network, 2020) as by the 27th of April 2020:
- 166,000 out of 180,000 teachers had enrolled (92%) (permanent and substitute teachers) and approximately 1,040,000 students out of 1,448,916 (75.8%).

- Approximately 115,001 teachers (63.8%) created their personal digital classroom in asynchronous learning environments in which 739,192 students have enrolled (51.7%).
- 70,351 teachers (39%) and 355,381 students (34%) have enrolled in the e-me environment (Digital Educational Platform e-me, 2020).

In a very short time, the educational radio and television undertook the support of distance education for all grades of primary school by producing and broadcasting videotaped lessons, while ensuring free access to all available digital services for viewing them on demand as well as their integration into learning environments on the Internet (Papadimitriou, 2020).

By Friday 24th of April 2020, 51 lessons had been broadcast for Primary School: 1st grade: 10 lessons, 2nd grade: 15 lessons, 3rd grade: 13 lessons, 4th-5th-6th grade: 13 lessons. The courses started with Greek Language and Mathematics and were extended to: Physics, Environmental Studies, English, Music, and Art (Papadimitriou, 2020). Provisions have been made for deaf and hearing-impaired students so that they can watch all the courses interpreted in the Greek Sign Language.

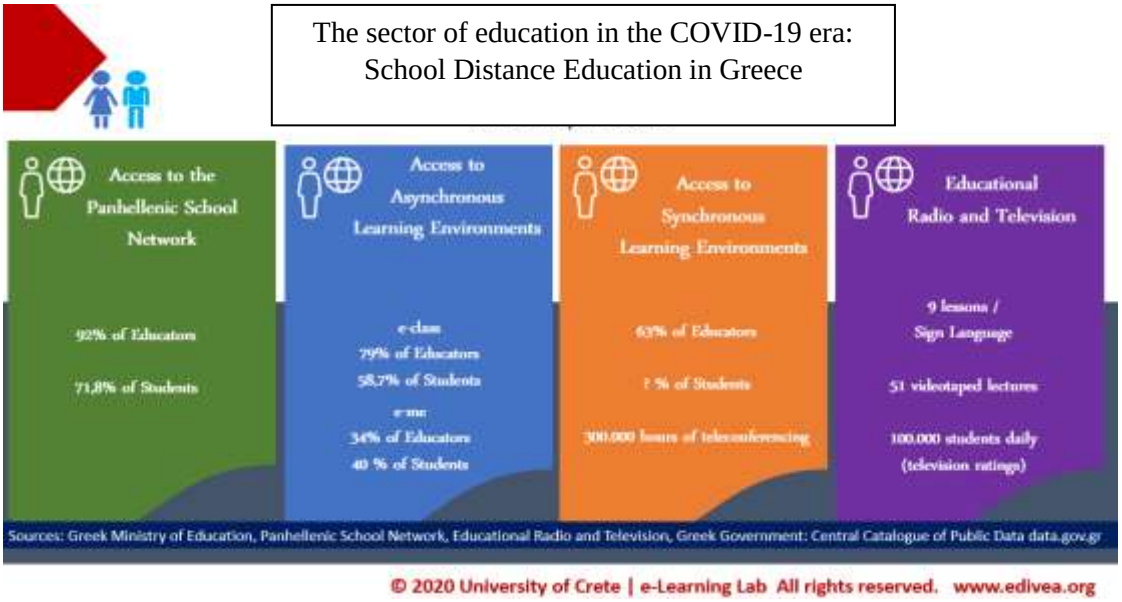


Figure 6: The sector of education in the COVID-19 era: School Distance Education in Greece

During these first forty days, the necessary provisions (fast-track teacher training, writing guidebooks, indicative educational material, etc.), which would allow the pedagogical support of teachers in order to meet the requirements of the new educational environment, were not made. As a result, the first phase was spent mostly on remote technological support for students rather than on their distance learning.

At the time of writing this paper, the Ministry of Education announced its intention to hold a fast-track teacher training seminar on distance education while distributing the first tablets to students whose families belong to vulnerable social groups.

In Tertiary Education, universities, based on their own structures and procedures, promptly responded to the challenge on a national scale as 96.7% of the courses are offered through distance education (Greek Ministry of Education, 2020).

3.2 Plans and actions of other bodies

The contribution of the University of Crete, in particular the "Laboratory for Advanced Learning Technologies in Lifelong and Distance Education (e-Learning Lab)", to teachers' support is significant.

Four distance training seminars were held without any financial burden on the beneficiaries between March and April 2020:
1. School Distance Education-Introduction, Practical Teaching Tips. Beneficiaries: Primary and Secondary Education Teachers
2. The challenge of Distance Education for our Schools. Beneficiaries: Primary and Secondary Education Teachers
3. School Distance Education-Principles of Designing Educational Material: from theory to practice. Beneficiaries: Primary Education Teachers
4. Distance School Education: The New Role of Parents and Students. Beneficiaries: Parents with children in Primary and Secondary Education
Simultaneously, interactive educational material was designed using the method of Distance Education (www.edivea.org/elschools.html) and it is available to the whole educational community in Greece.
In the framework of the above actions in March-April 2020:
- 20 teleconferences were held in which 1560 trainees/teachers participated.
- 6 Live Streaming Sessions were held with the participation of 15,000 people in the "main room" and 25,000 people from shared posts.
- 42,000 individuals visited the site with the educational material (www.edivea.org).

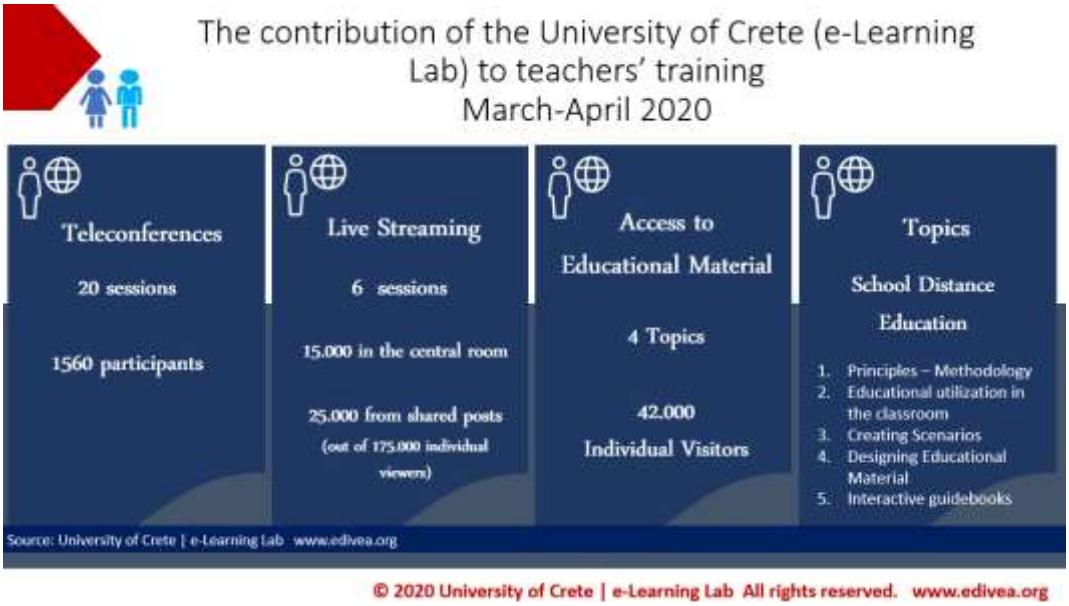


Figure 7: The contribution of the University of Crete (e-Learning Lab) to teachers' training: March - April 2020

In addition, it would be important to point out that for the first time under the responsibility of the University of Crete - in the framework of the programme "ODYSSEAS" (Anastasiades, 2003; 2009; 2010; 2016) 2 conferences were held between two primary schools in Crete, in order for students to collaborate and explore issues related to the safe use of the Internet from their homes, thus contributing to the pedagogical dimension of School Distance Education.
The school counselors of the Ministry of Education, who acted on their own initiative and without prior training trained teachers in small groups within their scope of responsibility, played an important role in supporting teachers.
A milestone in this effort was the webinar organized by the Union of School Counselors of Greece on "Distance Education and School Reality" on 25-26 April 2020 in which 35,000 teachers participated.

It is important to mention the voluntary actions of teachers who, using social media, showed initiative for creating groups and pages which were an important step in exchanging experiences, good practices, and mutual support among teachers.

3.3 Summary

The Greek Educational System, despite the unfavorable economic and social conditions and the lack of infrastructure, has responded well to the challenges of the current period.

In compulsory education, the first phase of actions on behalf of the Greek Ministry of Education focused on ensuring the maximum possible accessibility of teachers and students:

- to the required technological infrastructure ensuring free access from mobile devices,
- to asynchronous Distance Education environments,
- to synchronous Distance Education environments
- to broadcasts and actions of educational radio and television

and finally

- to a number of tablets for vulnerable social groups of the population.

Following Phase A, there should be an emphasis on the training of teachers in relation to the pedagogical dimension of Distance Education.

The universities, based on their infrastructure and the procedures of their collective bodies, acted promptly in offering almost all of their courses remotely (both in synchronous and asynchronous mode).

The contribution not only of universities (e.g. University of Crete), school counselors, , but also numerous teacher initiatives on social media, which were an important step in exchanging experiences and mutual support among teachers, is highly significant.

4. Discussion

4.1. Human/Psychological Dimension

The human psychology, in times as unprecedented as the ones everyone is experiencing today, is fragile resulting in disorders in the daily lives of students, teachers, and parents being the norm.

This means that the necessary transition should be made in a coordinated manner, but with considerable latitude in harmonizing the proposed framework based on the triptych: Empathy-Counseling-Flexibility.

a. Empathy

- Teachers should put themselves not only in the place of their students and their parents but also their colleagues while giving them the necessary time for the transition to the new educational environment with careful and solid steps in order to play a supportive and consultative role.
- Students should put themselves in the place of their teachers and parents because they also try to respond to unprecedented conditions of social, occupational, and emotional insecurity in such a short time.

-Parents should put themselves in the place of their children and their children’s teachers. As Parents support their children by focusing on their ability to integrate the new rules and roles they need to meet. They should work with their children's teachers, they should not hesitate to ask for help in case they do not know something. In any case, they must not forget that they are on the same side.

b. Flexibility

It would be appropriate for teachers to take small and steady steps in shaping the new eLearning/Distance Learning environment by focusing on flexibility in the space, the

time and the pace of their students. Therefore, during the first introductory period, perhaps it would be better to focus on asynchronous Distance Learning activities aimed at the students' emotional engagement and allowing them to remember parts of the taught material through a small number of activities with escalating difficulty and flexibility in delivery dates. Over time and based on the needs of their students, teachers should combine synchronous and asynchronous activities with the aim of teaching them how to learn.

c. Counselling

Within this new environment of Distance Education, teachers' prime role is to counsel and support the students and their families in order to meet the new requirements.

4.2. Pedagogical Dimension

Our schools, face-to-face teaching in the classroom, playing in the playground and the unique student-teacher relationship are not replaced by Distance Education. The role of Distance Education is to complement and enrich face-to-face teaching.

In times of asymmetric threat, like the current one, the crucial role of Distance Learning is not to let the flame of learning be extinguished.

In practice, this means that Distance Learning needs to:

a. act as a bridge between students and teachers (emotional involvement, social presence)

b. gradually contribute to the restoration of students' communication with each other (social-psychological climate of the e-classroom),

c. support students in their effort to reconnect with the important sections of the curriculum (cognitive field) through revisions, delving into the subjects and critical review with an emphasis on teaching them how to learn.

4.3. Social Dimension

1. The new educational environment of Distance Education should be accessible to all students. Particular emphasis should be given on vulnerable social groups, those in mountainous and remote areas, etc.

2. The new educational environment of Distance Education should be accessible to all teachers. Solidarity among teachers within schools and across schools can, under certain conditions, compensate for the flaws and delays of central planning.

4.4. The new roles in the emerging environment of Distance Education

Based on the above context, the emerging environment of Distance Education holds new roles for teachers, students, parents and the educational material.

4.4.1. The teacher

Teachers play a key role in the new Distance Learning environment as without them there is no form of educational process. But their role is now different from the one they had in face-to-face teaching.

a. The centre of gravity shifts from teaching to counseling their students in order to interact with the educational material through specially designed activities.

b. Most of the teachers' time is now devoted to designing activities based on which the students explore and discover the important aspects of the existing educational material.

c. Until now, the main focus of the schoolwork and activities has been on student assessment based on learning objectives. In the emerging environment of Distance Education schoolwork and activities are now means of learning and not so much a means of assessment. In other words, the activities help the students learn how to learn through educational material and other additional resources that the teachers will help them discover.

d. Teachers are now the ones who encourage and support their students emotionally and psychologically in order for them to find their pace and finally discover their own paths to achieve their goals.
Important Points
a. All of the above are integral elements of the student-centered approach
b. All of the above necessitate the teachers' training in the emerging environment of Distance Education focusing on the pedagogical dimension of the project.
c. Teachers need practical support from the central administration, their colleagues and parents in order to fulfill their new duties. Above all, it is necessary that teachers' efforts be recognized in a clear and generous way.

4.4.2. The Student: The emerging environment of Distance Education holds new roles for students of all levels.
a. The student at the focal point of education: students are now away from the classroom, away from teachers and classmates, confined in their homes with all that entails for learning which is, above all, understood as a social process.
This means that the needs of the student are at the heart of this approach in an authentic and unmediated way, no longer as a choice but as an inescapable need.
b. The student researcher: the student is asked to study the material as well as additional sources, to answer questions and specially designed activities that focus not on memorization but on understanding, interpretation, comparison, and problem solving with the ultimate goal of encouraging inquiry-based learning, critical thinking, and creativity.
c. The student recklessly flirts with self-regulation: the importance of discipline towards third parties (teachers, classmates) recedes and the need for self-regulation emerges. Priorities are no longer the same: keeping a class schedule is no student's priority. Based on the new framework, students are asked to develop new skills in order to manage their time in the best possible way under the supervision of their families from morning to night (planning, implementation, self-assessment, improvement)
d. Students will freely negotiate with their unbearable addiction to screens and the Internet: a very difficult and unequal battle since all of a sudden and in a magical way students are justified to be constantly in front of the screen of their mobile phones or PCs and to invoke Distance Learning so as to navigate the virtual worlds of their childhood or adolescence while defying the effects (physical and/or mental) on their health. The skill of self-regulation is now emerging as a necessity.
Important Points:
a. All of the above can under pedagogical conditions contribute to the student-centered approach by focusing on enquiry-based learning.
b. All of the above converge on the need to cultivate critical social skills (problem solving, empathy, self-regulation, time management).
c. Students need the practical support of teachers and parents in order to fulfill their new duties. Above all, recognition of their efforts is required in a clear and generous manner.

4.4.3 Parents
Parents' contribution to the success of the whole endeavor was decisive, especially for Primary Education:
1. They dealt with their children's registration in the Panhellenic School Network.

2. They made sure their children had access to the synchronous and asynchronous education environments.
3. They did everything possible to ensure that their children had the necessary technological infrastructure so as to participate in Distance Education activities.
4. They provided technical support in both synchronous and asynchronous Distance Education environments.

5. Conclusions - Future research

5.1 Economic and Social Framework

Never before have so many people in such a short time had to change so much in the way they teach and learn. And all this happened in a regime of asymmetric threat to their health, traffic ban, and confinement, emotional, social, and occupational insecurity.

Teachers, students, and parents deserve the utmost respect and recognition of their contribution in these difficult times.

Especially in the case of Greece, the above finding is particularly important as Greece had to deal with the effects of the pandemic before it could recover from the shock of the economic crisis, which resulted in an unprecedented cut in government budget spending, whatever this entails in infrastructure and accessibility to education, working conditions of teachers, the economic and social situation of students and parents.

The effective response to the effects of the pandemic in Greece has enabled it to send positive messages to the international community by boosting citizens' self-confidence and strengthening social mutual support and solidarity after many years.

5.2. The responsiveness of the educational system in Greece: a first account

The educational system of Greece managed to meet the technological requirements (infrastructure, access, platforms, services, etc.) of the new educational reality in a short period of time (40 days) and under adverse economic and social conditions.

The responsiveness of the teachers of all levels exceeded all expectations despite the technical difficulties e.g. inability of infrastructure to meet increased demand. It should be noted that the parents' contribution was extremely important as they were the critical link between teachers and students in the first difficult period.

We could define this period as Phase A: "Remote Emergency Support".

The purpose of Phase A was to provide students and teachers with access to infrastructure and to familiarize themselves with the tools and applications available. The first attempts to assign tasks to the students, initially via email and gradually through asynchronous Distance Education environments, emerged timidly. Finally, a small number of teleconferences were held, mainly for reasons of emotional involvement, reconnection, and revision of the curriculum.

Figure 8: Phase A: «Remote Emergency Support».

5.3. The necessity of the transition from the Phase A: technological infrastructures, to Phase B: Pedagogical dimension of Distance Education

The educational systems and developers of educational policy need to plan the next day. This policy consists of the need to move from Phase A of "Remote Emergency Support", in which the emphasis was on technological infrastructure, to Phase 2: "School Distance Education-Pedagogical Dimension", in which the emphasis should now be on the pedagogical dimension of Distance Education.

This means that teachers need to be trained

- in the basic principles and methodology of Distance Education, with emphasis on the student-centered approach, the exploration and discovery of knowledge and the collaborative construction of knowledge in authentic learning environments.
- in the pedagogical utilization of asynchronous Distance Education environments: design of special educational material, types and forms of interaction and cooperation. (Hayashi et al., 2020; Anastasiades, 2018; Wittich et al., 2017; Ali & Smith, 2015).
- in the required skills for the utilization of synchronous Distance Education environments (Hayashi et al., 2020; Wu & Tsai, 2019; Anastasiades, 2009; 2010; 2016; Hrastinski, 2008).

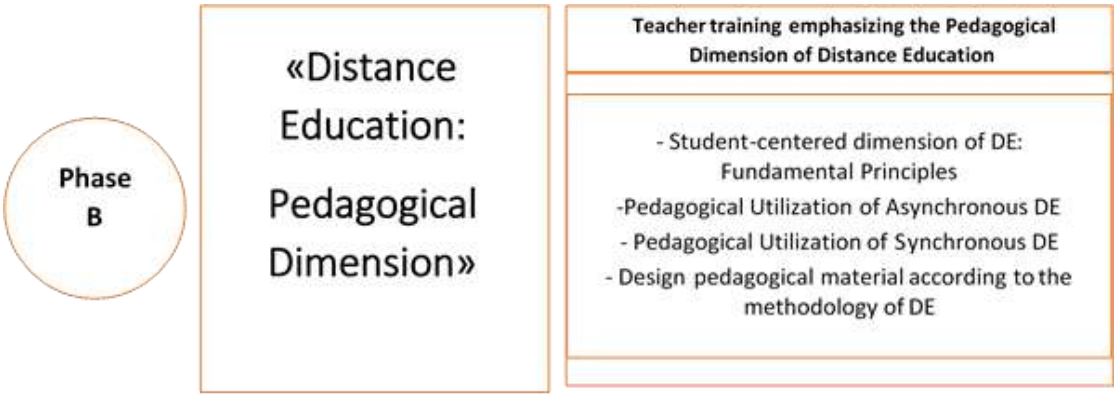


Figure 9: Phase B: «Distance Education–Pedagogical Dimension».

In Phase B, in which the emphasis will be on the pedagogical dimension of Distance Education, teachers will experience the philosophy, principles, and methodology of Distance Education, which is by nature student-centered as it focuses on supporting the students who are in geographical distance from their teachers. The role of the teacher in the context of the pedagogical approach of Distance Education is to consult and support the students in their efforts to interact with the specially designed educational material which is at the heart of the learning process. At the same time,

the written assignments are primarily a means of learning and secondarily a means of assessment in the philosophy of Distance Education.

5.4 The great challenge: Phase C: "Transition to the Open School of Inquiry-based Learning, Collaborative Creativity, and Social Solidarity".

Many things will have changed by the time everyone returns to their schools:

- The adventure everyone is experiencing will probably make them wiser as they will appreciate things, situations and events which may not have been given much attention because they were taken for granted in the unbearable lightness of our daily lives.
- "social distancing" may be a feature of the new lifestyle whatever this entails for social relations

-teachers, when returning to school, will be able to graft what they have learned but especially what they have experienced in the educational process as a result of the experience they gained throughout the previous period:

a. their familiarization with tools and applications (Phase A)

b. the critical integration of fundamental principles of the pedagogical dimension of Distance Education (Phase B): student-centered approach, inquiry-based learning, collaborative construction of knowledge, design of educational material with emphasis on cultivating critical thinking and encouraging creativity, thus adding a new dimension to face-to-face teaching!

-Students, after returning to school having already acquired critical social skills that they incorporated in an experiential way during their containment at home (following a learning path, empathy, self-regulation, time management, etc.), can contribute to the construction of the "Open School of Inquiry-based Learning, Collaborative Creativity and Social Solidarity".

-Parents, having experienced the adventure of the pandemic in their own way, will be more receptive to the harmonization of the school's educational practices with the requirements of a new emerging reality, which is characterized by constant navigation in uncharted waters!

The educational systems, developers of education policy and, above all, the academic community and Departments of Education are facing a major challenge: Instead of going back to the school they knew, they are NOW planning to move to the “Open School of Inquiry-based Learning, Collaborative Creativity, and Social Solidarity".

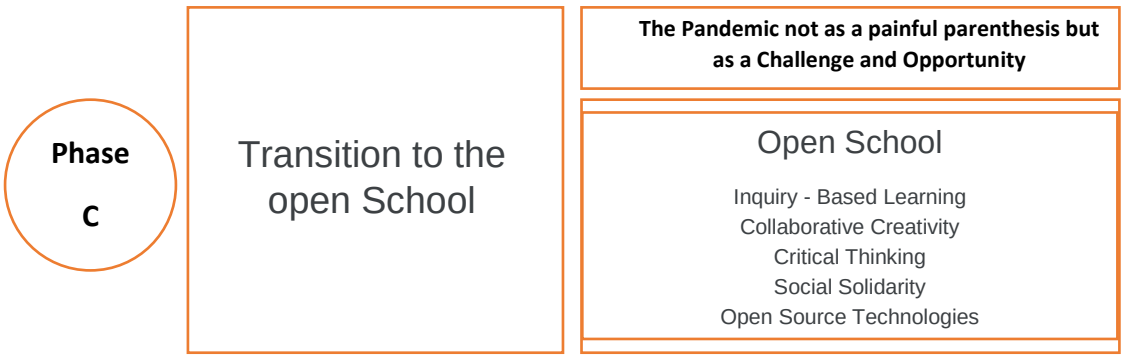


Figure 10: Phase C: "Transition to the Open School of Inquiry-based Learning, Collaborative Creativity and Social Solidarity"

-Open School: open to diversity, open to ideas and methods, but also an open embrace for those who need it (that is, for everyone).

-Enquiry-based Learning: in order for the school to be able to support the perpetual effort of man to navigate uncharted waters, especially after the pandemic of COVID-19.
-Collaborative Creativity: as in conditions of asymmetric threat people must work with imagination, originality and deviant thinking as their weapons, giving the required space to all art forms to be able to express themselves in many different ways and ultimately overcome their fears and create their own future with the aid of critical thinking.
-Social Solidarity: as in times like the current one either instinct and absolute disaster will prevail or the universal values of peace, democracy, freedom, equality and social justice will emerge again.
- Open Technologies as "education, as well as any other area of our lives, is our source code, which will only work best when it is open" (Free and Open Source Software- Greece, 2020).
The most important challenge, which lays ahead, is to view the adventure of the pandemic countries are experiencing today in their educational systems not as a painful parenthesis but as an unexpected opportunity to plan the transition to the "Open School of Enquiry-based Learning, Collaborative Creativity and of Social Solidarity ".
Future research should focus on ways in which the fundamental pedagogical principles of Distance Education can help construct a new environment for learning and collaborative creativity.

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