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MODERN DISTANCE EDUCATION: A GLANCE INTO THE NEW DIGITAL ERA

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Abstract:

The present study addresses the conceptual clarification and delineation of Distance Education and modern Distance Education, aiming to alleviate the frequent confusion raised by a variety of popular concepts, more or less related, such as the concept of Open Education. Reference is also made to the recent, urgent global integration of modern Distance Education into curricula and the positive and negative effects recorded of its recent practical implementation in school contexts. In this context, we will also examine its prospects and challenges, particularly in view of rapid developments in technology and information. Modern Distance Education is an attractive option. However, it is not yet equally accessible and acceptable. This clearly demonstrates the need for continuous collaboration between all stakeholders and education policy-makers in order to respond more effectively to all the evolving expectations.

Keywords: modern distance education, definitions, critical evaluation, perspectives, challenges

1. Introduction

In the new post-modern era, the scientific dialogue concerning the meaning, the content, the dimensions and the essence of modern Distance Education (mDE) continues to be even more critical among researchers and educational policymakers. However, apart from focusing on the conceptualization, special emphasis is also given to the decision-

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making process and the evaluation of the available educational options. Such options include evaluating prioritization, context, type, and the degree of embedding e-Learning, Open Education, open educational resources (OER), open educational and methodological practices (OEP) and software into national curricula and the educational process. Successful integration of these elements requires designing an educational environment that is user-friendly and accessible for every learner, as well as structuring the learning content accordingly to individual needs. This minimizes the necessity for educational guidance and support while fostering a positive attitude towards learning and encouraging continuous knowledge exploration. Equally important factors for their effective embedment, however, are the resources that teachers and learners bring to the educational process, including competence in digital skills, active self-learning strategies, adept content management techniques, adequate metacognitive abilities, skills and strategies. These resources are essential for fostering lifelong autonomy and effectiveness in managing both teaching and learning pathways (Kotsaris & Katsa, 2021. Lionarakis, 2001).

The critical study that follows is divided into four main sections. The first section addresses the origins, the dimensions, the context and the various meanings attributed to the concept of Distance Education (DE), in relation to its evolution within the historical, educational, and technological contexts in which it is implemented. In the same section, the evolution of the concept of DE to mDE will be contextualized, in order to clarify its modern scope and implementation context in line with current pedagogical and technological developments. The next section provides a brief overview of the recent integration of mDE into school curricula due to the urgency of the recent pandemic. The section also includes an indicative reference to the advantages and disadvantages of its application in practice at each level compared to the traditional educational model. Furthermore, in the next section, views on the prospects and challenges that modern DE faces are presented. These are closely related to its advantages and disadvantages, as well as to technological and other environmental developments. The main conclusions of the study are briefly outlined in the final section.

2. Origins, definitions, context and dimensions

Distance Education (DE) is a revolutionary, dynamic, multiprismatic and multifaceted (Fragkaki & Lionarakis, 2009) phenomenon that has played a crucial role in opening up and democratising education, gradually expanding its reach on a massive global scale (Tait, 2018).

The origins of DE as a distinct learning experience, with specific characteristics related to lifelong learning, can be traced back to the emergence of correspondence courses in the early 18th century. These courses, which first appeared in Boston in 1728, laid the groundwork for modern forms of DE. Adults, including women, workers, and peasants without access to formal education, embraced this phenomenon. Gradually, DE evolved into an industrial-style transactional education, initially attracting passive

masses through printed textbooks and relying on a one-way teaching and communication model (Bozkurt, 2019; OECD, 2019; Tait, 2018).

Since then, DE has proliferated worldwide across all levels and types of education. It has been reformed, enriched and undergone increased interactivity in accordance with a) current ideological and pedagogical orientations, b) the deployed technological infrastructures, (c) the evolutions in pedagogical theories and methods that are shaping new roles for teachers and learners, and are redefining and reshaping the structure of the educational process and (d) the wide range of communication means and channels used for its implementation, which contribute to the constant transformation of its nature.

As a consequential result of the aforementioned evolution, a global movement for ongoing revision, redefinition, and re-contextualization of DE has emerged, depending on the dominant feature or aspect in which innovations were introduced among organizations, institutions and scholars. For this reason, the list of names given to DE and its various forms remains inexhaustible, demonstrating the dynamic nature of this multifaceted phenomenon. However, despite potential overlaps, DE and emerging concepts are distinct and should not be used interchangeably (Tzemou & Sofos, 2016).

Broadening the discussion in the above context, it's common for the terms modern Distance Education (mDE) and Open Education (OE) to be confused. While each of these terms has acquired different semantic nuances, it's important to recognize a clear distinction between them.

Open Education (OE), whether delivered face-to-face or at a distance (Kokkos,1999 as cited in Tzemou & Sofos, 2016), embodies the ideal of educational equity by ensuring equal and unrestricted access to educational opportunities, resources, and experiences (Lionarakis, 2001; Otto & Kerres, 2021; Tzemou & Sofos, 2016). OE is closely related to the theory of constructivism and emphasizes autonomous, exploratory and flexible learning tailored to the needs of the learner (Lionarakis, 2001; Otto & Kerres, 2021; Tzemou & Sofos, 2016). The concept of OE is often embraced within the framework of Open Science (OS), which sets new directions and challenges for national education policies under the agenda of international organizations (UNESCO, 2002; UNESCO, 2022).

On the other hand, modern DE (mDE) represents a promising and evolving form of education, relying on the dynamics of social constructivism and connectivism through the formation of peer-to-peer learning communities. However, access to it may be limited by factors such as inadequacy in digital skills, financial constraints, and technological barriers. It encompasses specially planned and designed learning experiences, along with a wide variety of two-way communication channels.

Through these communication channels, efforts are made to minimize physical, psychological, and transactional remoteness among the participants. This in turn affects the level of learning engagement during interactions, including those between a) learners and trainers or facilitators of the learning activity, b) learners among themselves, and c) learners with educational materials and resources (Chen, 2023; Lionarakis, 2001' Saykılı, 2018).

In the following section, a brief description is provided of the efforts to incorporate mDE into school curricula at all levels, as well as a discussion of the positive and negative

consequences of its implementation. These consequences are examined in relation to individual needs, the wider social and economic context, and the specific characteristics of families and schools.

3. Integrating mDE into curricula: advantages and disadvantages of recent practice

At a global level, mDE with print, electronic and digital media was first encountered in formal education from the late 19th century onwards, gradually expanding rapidly, still not equally, in both developed, developing and underdeveloped countries (Scholley, 2001; Sofos *et al.*, 2015).

Over time, the evolution of the phenomenon varies from country to country as DE is implemented in different contexts and at different levels with a distinct pace and/or a purpose. However, the recent simultaneous, massive and compelling shift to mDE due to the pandemic has minimized these variations. This choice was a spasmodic but necessary undertaking, which in many cases caught the majority of the educational and learning community unprepared, especially in primary and secondary education. The implementation of the project initially proved to be very demanding, stressful and time-consuming, mainly due to the lack of digital skills and/or of the experience in creating and using software and digital content (Papadopoulou & Smyrnaiou, 2021).

Although the implementation of mDE at all levels of education has been welcomed with optimism by political leaders and institutions, it has nevertheless been met with a lot of scepticism and criticism from members of the educational community, trade unions and parents or guardians. Some of the reactions it provoked referred mainly to the adequacy of digital skills, technophobia, privacy of personal data and the serious educational inequalities that emerged for people with special learning needs, people from remote areas and people from low socio-economic backgrounds with no or partial access to technological equipment and/or to the internet (Papadopoulou & Smyrnaiou, 2021).

The contribution of mDE to educational practice is increasingly being studied by researchers, members of the scientific community and international organizations around the world in terms of its positive and negative effects on educational practice. The following are some of the advantages and benefits of the latest implementation of mDE, making it an attractive and promising educational option for many educational institutions, teachers and students. For instance, mDE:

- It is a flexible mainstream or alternative form of education capable of fulfilling a variety of educational needs, both modern and asynchronous, aligned with modern lifestyles (Kyrma & Mavroeidis, 2015. Gkiosos *et al.*, 2008).
- By its very nature, it helps to overcome geographical constraints and provides a range of alternative ways of accessing knowledge, making the social good of learning potentially available to all social groups of the population, although it is still not equally accessible to people in remote or isolated areas and to those with serious health problems (Alivizos *et al.*, 2015).
- It creates an attractive educational environment that is well-suited to the learning needs of today's "Internet generation".

- It constructively utilizes the multiple types of human intelligence (Ligoutsikou *et al.*, 2015) by using innovative, collaborative, interactive digital approaches to learning and teaching (Ligoutsikou *et al.*, 2015), providing opportunities for feedback between all those involved (Dereshiwsky *et al.*, 2017).
- By helping to differentiate teaching, it facilitates a multi-sensory approach to learning. Through eLearning, the teacher can more easily enrich, adapt and customise digital material so that it is more responsive to different cognitive levels and learning styles. This allows it to provide a richer learning experience, better adapted to the context of personalised teaching, which will help to alleviate learning difficulties and cater for a variety of learning preferences.
- It is suitable for students who need primary home tutoring or supplementary face-to-face home tutoring, and for hard-to-reach, small schools with low enrolment, frequent teacher mobility or staffing difficulties.
- It provides a flexible and open international educational context, whether stand-alone or complementing traditional education (Dereshiwsky *et al.*, 2017), which allows those involved to determine the place and time of the educational process (Kohnke & Moorhouse, 2021). As a result, the time and pace of learning are adapted to individual needs, supported by technology and a variety of learning tools (Srivastava, 2018), which further enhances the development of digital and soft skills (Hebebci *et al.*, 2020).
- It helps to transform the conventional school into a digital school and the traditional textbooks into modern ones. It contributes to the evolution of printed textbooks into digital textbooks that are constantly being enriched with new features, becoming more and more interactive, attractive and accessible to anyone, anywhere, anytime.
- It contributes to technological developments, as the need to provide equally accessible and universally attractive digital educational services for all contributes to the need for software and learning systems to evolve and be more user-friendly.
- For the smooth running of the lesson, it offers the teacher a controlled digital environment for modern and asynchronous teaching. Modern technology provides digital tools to adjust and regulate interaction, which can help to prevent instructional noise in the digital classroom and/or the occurrence of bullying.
- It supports the provision of quantitative data for the evaluation of the educational work and for the self-evaluation of the school unit.
- Students can self-monitor their progress by taking digital tests and/or receive additional feedback from teachers anytime, anywhere.
- It enables teachers to collect statistics and data on each student's academic progress electronically so that they can adapt teaching activities to meet individual learning needs.
- It facilitates access to a variety of international educational institutions, open educational resources, a wide range of databases, open access journals, a variety of digital tools, external knowledge sources, technological resources, feature-rich platforms, e-libraries, etc. It opens up many opportunities to access knowledge

that supports learning, including seamless live online connectivity and interaction from anywhere in the world (Dereshiwsky *et al.*, 2017; Ibrahim *et al.*, 2021; Picciano, 2016).

- Finally, it conserves resources (financial, time, environmental, etc.) by reducing travel and by cutting building and maintenance costs (Aggraini, 2021).

In addition to the upsides, there are downsides to MDEs, resulting from several disadvantages that are potential constraints but also challenges for improvement, sustainability and inclusion. Some indicative drawbacks of the recent practice are presented below:

- Poor connection or inadequate or insufficient access to technological equipment and/or connection to the web for every member of a household, student or teacher. Factors such as geographical constraints that make it difficult to connect to the Internet, the existence of an outdated or poor technological infrastructure, or even the lack of personalised infrastructure, contributed to the fact that part of the population had insufficient or no access to the social good of learning through e-learning (Adedoyin, & Soykan, 2020; Papadopoulou & Smyrnaiou, 2021).
- The high cost of acquisition and renewal of technological infrastructure (Ross-Hain, 2020) in relation to the disposable income of each household.
- Negative attitude towards technology due to fear of possible technological malfunctions and possible exposure of personal data (Ross-Hain, 2020).
- For teachers and/or students who need more or more systematic individualised support (e.g. people with severe multiple disabilities), mDE is not the most appropriate option. Modern DE highlighted the inadequate digital skills of teachers and students during the pandemic phase, and their lack of familiarity with new technologies and educational software (Niemi & Kousa, 2020; Trust & Whalen, 2020). In addition, teachers and students with inadequate communication skills or without digital differentiation skills in teaching or without skills to transfer their knowledge to the digital classroom may have Furthermore, teachers and students who lack communication skills, digital differentiation skills, or the ability to transfer their knowledge to the digital classroom may have experienced underperformance and been challenged in terms of the quantity and quality of their knowledge and/or their ability to manage conflicts in the digital environment (Falode & Shaw, 2020; Roll & Wylie, 2016).
- As a consequence, the lack of training in the pedagogical use of ICT or the systematic updating of knowledge and skills as well as teaching, learning, soft and digital skills of teachers and students (Liakopoulou & Stavropoulou, 2021. Sfakiotaki, 2019. Sfakiotaki, 2017), in relation to the lack of relevant experience in building interpersonal, social and communication skills (Anastasiadis, 2020) in modern asynchronous, online, hybrid-mixed or even face-to-face teaching using new technologies (Keskinidou & Papadimitriou, 2021. Kohnke & Moorhouse, 2021), has led to some adverse results when applied in practice. Some examples of these are a) Teachers' difficulties and exhaustion in the planning of digital lessons due to the need for more free time for preparation, b) the sabotaging of their efforts

to contribute to the desired extent to the creation of an atmosphere of inspiration and inspiration for the learning community in the digital classroom (Hebebci *et al.*, 2020; Orhan & Beyhan, 2020; Ross-Hain, 2020) which promotes engagement within the course by cultivating healthy competition to improve learning outcomes (Bagriacik Yilmaz & Banyard, 2020). As a result, the virtual classroom is still perceived by the learning community as more limited and monotonous than the physical classroom, which provides a variety of physical stimuli and more enriching interactions (Hebebci *et al.*, 2020; Orhan & Beyhan, 2020; Ross-Hain, 2020).

- The distance formed by 'digital' face-to-face contact and 'artificial' social interaction, cut off from the richness of the contribution of paralinguistic communicative elements, limits the cultivation of communicative skills, undermining the quality and effectiveness of communication and discouraging the participation of the more reticent learners. The lack of physical face-to-face contact contributes to the digital 'transmission' of only part of each individual's temperament and personality traits into the virtual classroom, reflecting a digital individual identity in the digital community that may be distorted. This possibility can have a clear negative psychological and learning impact, as it contributes to the creation of superficial, formal or impersonal relationships that cause feelings of depersonalisation and social isolation (Di Pietro *et al.*, 2020; Lemov, 2020).
- Finally, concerns are raised regarding techno-ethical issues related to the reliability and quality of the evaluation of students, teachers and education in general. Remote monitoring does not ensure whether student work and performance are authentic or the product of plagiarism or cheating (Arkorful & Abaidoo, 2015), nor does it ensure that the quality of student work has improved. In addition, beyond quantitative and statistical data, it fails to deliver reliable information on the qualitative characteristics of the teacher and his/her work, nor realistic records of the actual time spent on the course by each student.

Below are some of the prospects and challenges addressed by mDE.

4. Prospects and challenges for mDE in the new era

The transition to the digital age due to the pandemic through online mDE is a new international reality that has contributed to the transformation of the texture of the processes of the educational process in educational institutions at all levels. A number of perspectives and challenges, inextricably linked to the advantages and disadvantages of its very nature, have emerged from these recent efforts to implement mDE. However, it is also important to note that in many cases, the boundaries between the prospects and challenges remain blurred.

Moreover, in every educational and socio-economic ecosystem, there are a variety of environmental factors, favourable or inhibiting, which favour or hinder the qualitative, reliable and effective implementation of mDE and the sustainability of this educational model.

A realistic and comprehensive review of all the factors, both the strengths and weaknesses of the internal environment and the opportunities and threats of the external environment of every educational organisation, can help the authorities to take the most appropriate decisions. It is essential that this study is ongoing and collaborative, and that it reflects in a realistic way the opportunities or threats that emerge for its most effective implementation, provided that educational organizations have the necessary autonomy in decision-making and adequate funding. Some possible perspectives that could be included in the above study to further promote mDE are:

- The evolution and gradual integration of artificial intelligence in mDE. Such a perspective could potentially enhance personalised learning, the automation of educational processes, and the cultivation of collaborative skills and life skills through interactive educational environments and learning methods. In order for this perspective to flourish, it is essential to take into account the diversity of individual differences and socio-cultural patterns that have an impact on learning (Roll & Wylie, 2016).
- Modern DE can leverage the potential of digital connectivism. Through this potential, it can progressively contribute to research processes or collaborations and partnerships on a global scale and to "*meaningful and relevant changes in education… to achieve more inclusive and sustainable development for all, not just for the privileged few*" (OECD, 2019, p.6).
- Modern DE fosters lifelong learning and personal and professional development (McIntosh & Varoglu, 2005). Modern DE is a powerful tool to support lifelong learning, making it possible anytime and anywhere (McIntosh & Varoglu, 2005).
- The success mDE is based on continuous research, technological innovation and constant adaptability. In addition, autonomy, flexibility, goal-oriented redesign of courses and learning materials to successfully integrate and/or coexist with face-to-face learning (Eteokleous, 2022) and adequate funding are considered prerequisites.
- Supporting people who have not been able to realise their potential and ambitions by extending the right to access knowledge through more open educational opportunities and channels.

Modern DE faces a number of challenges, weaknesses, obstacles and constraints in addition to the above-mentioned perspectives. As well as posing a threat to mDE, these can also be seen as opportunities to develop, closely linked to the prospects outlined above. Such indicative challenges are:

- Voluntary participation by all parties in an ongoing critical dialogue and participatory decision-making regarding the implementation of appropriate measures to enhance the capacity of mDE to respond more effectively to contemporary teaching and learning needs and expectations in every classroom and educational organization. Unfortunately, so far, even through conventional education in the physical classroom, "*Intolerably high proportions of learners fail to acquire prerequisite competences for lifelong learning such as sustainable literacy, digital*

literacy, critical thinking, communication, problem solving, as well as competences for employability and for life" (Vosniadou *et al*., 2021, p.8).

- Therefore, emphasis needs to be placed on (a) exploring the potential and degree of autonomy that mDE needs to provide in order to offer real flexibility to students, (b) the individualized provision of guidance and support for students to develop and maintain internal motivation for learning and discipline, and (c) the existence and/or adequacy of skills for students to organize their studies and better manage their time (Sfakiotaki, 2017).
- Emphasis on learning rather than teaching, as well as wider opening up of education. According to UNESCO, "*The key challenge for universities is to evolve from a teacher-centered model of education to an approach that emphasizes learning productivity — and to carry students with them*", and for governments "*to develop policies for a world in which traditional funding methodologies and quality assessment processes may no longer work*" (McIntosh & Varoglu, 2005, Preface, p.ix).
- The provision of equally high-quality and socially equitable education at all levels and in all contexts is another puzzle. Modern DE is challenged to support the needs of a globalizing, inclusive educational ecosystem and to provide equal attention to the needs, capacities, traditions and values of learners of all cultural backgrounds in the context of international labor mobility and refugee flows (McIntosh & Varoglu, 2005).
- The accreditation and recognition of qualifications and diplomas is becoming increasingly complex at international level due to the ever-increasing cross-border nature of higher education (McIntosh & Varoglu, 2005).
- The institutionalized operation of private universities abroad in the field of higher education in Greece, which are already successfully implementing mDE by ensuring high quality indicators in the provision of knowledge and the development of critical thinking skills, may entice even more Greek public educational institutions to turn to mDE in order to become equally attractive and competitive (Douglass & Thomson, 2012; Thanos, 2015).
- Ethical dilemmas arise regarding the degree of integration and the essential contribution of AI to educational innovation, the use of robots (Zhang & Aslan, 2021) to replace or assist teachers, and the realistic assessment of learning outcomes.
- In order to maintain high levels of satisfaction and avoid signs of burnout, disengagement or resignation, learning objectives and practices need to be continually adapted and/or redefined to reflect the evolution of digital content and the needs of the modern digital course.
- The continuous adaptation and/or redefinition of learning objectives and practices to the evolution of digital content and the needs of the modern digital course requires that teaching and processes are positively meaningful to both teachers and learners, so that they maintain high levels of satisfaction and do not show signs of burnout, disengagement or resignation (Daniel, 2020). Therefore, after research and critical evaluation, critical decisions need to be taken. These include

(a) the new curricula and timetables; (b) the technical and technological infrastructure; (c) the learning models, theoretical and methodological approaches and professional practices appropriate to enhance support, guidance, interaction, coaching and interactivity; (d) the most appropriate digital training materials, software and communication channels; (e) the time requirements and the necessary guidance on how to manage time more effectively; (f) the necessary facilities for the successful implementation of the modern role of the teacher and the learner, such as facilitating the digital literacy of all those involved in mDE; (g) the improvement of the way educational resources are organised and classified thematically and/or interdisciplinarily; (h) the credibility of systems for the assessment of teaching and learning outcomes; (i) the constraints that arise when implementing laboratory exercises for acquiring skills at a distance, such as manual, design, surgical skills, etc. (Amorgianioti, 2020. Gkiosos *et al.*, 2008. Daniel, 2020. Manousou *et al.*, 2017. Sofos *et al.*, 2015).

To conclude, the above perspectives and challenges require coordinated action by all those involved in mDE. International organizations, educational policy makers, educational institutions, teachers, parents and guardians, communication and technology providers and anyone else potentially able to influence the course of the whole project can participate in this endeavor. That requires cross-border and national cooperation at all levels and critical dialogue based on in-depth research.

A critical overview of the main conclusions of this study is provided in the next and final section.

5. Conclusion

Modern education, both nationally and globally, is constantly faced with new challenges. One of these has been the recent, imperative integration of mDE into every level of education due to an urgent need. Although mDE has contributed significantly to the seamless operation of schools with the help of modern technology and the adoption of innovative, collaborative, interactive teaching and learning practices, it has not been equally recognized or accepted by all stakeholders and in some cases has been met with scepticism, caution and criticism.

In general, from its very beginnings, unlike abroad, the added value of e-learning in our country was not perceived in time. Educational organizations, before the pandemic outbreak, focused on mDE almost exclusively for research purposes (Skoularidou & Mavroeidis, 2016). The pandemic was the transition to the other side, through a violent but necessary adaptation to the new global realities. Since then, the need to develop a holistic educational approach at the level of national educational and school policies remains, so that mDE can be integrated more coherently and less fragmentarily into national curricula to become the dominant or one of the most attractive alternative educational practices within the ideal of open and equal access to inclusive international educational, training and research opportunities and partnerships.

In conclusion, in light of the critical analysis that preceded, it emerges that the integration of modern online e-learning in all educational levels has contributed:

- opening up education internationally at every level,
- the extroversion of educational organizations,
- familiarization with e-learning,
- implementation of innovative teaching and learning practices,
- research and redesign of educational processes and materials,
- the scepticism surrounding its implementation in relation to the concerns raised about ethical, technical and ethical issues and the reliability of evaluation,
- the emergence of expectations, needs, problems and concerns about personal data,
- the need for competence in digital, communication, soft and other life skills,
- the need to become familiar with new technologies and to invest additional personal time for this purpose.

In addition, from the above critical study, it becomes evident that the integration of DE into the educational context has highlighted:

- the need for additional preparation due to the digitalisation of processes that have contributed to the transformation of the texture of the educational process, creating an additional workload,
- the need to have sufficient technological equipment and the necessary infrastructure,
- the need for cooperation between stakeholders and joint decision-making,
- the problems and constraints of equal access to knowledge,
- the strong two-way interaction between technology and mDE, both of which contribute to the development of the other,
- the dependence on technology and internet access,
- technophobia, stereotypes and negativity,
- the need for continuous research, cooperation and critical dialogue to make the most appropriate decisions in the field,
- the willingness to get involved, the concerns and subsequent satisfaction or dissatisfaction of those involved,
- the value of peer-to-peer consultation and collaborative learning at every level,
- the need for continuous professional development in an increasingly fluid and flexible technological environment.

Over time, the course of mDE has proven to be a dynamic, multidimensional and diverse phenomenon (Lionarakis, 2001) that needs continuous critical exploration at a global level by a wide range of researchers and institutions to systematically highlight good practices, so that mDE continues to be an affordable and attractive option for all, which will flexibly respond to the needs and expectations of each participant. In this way, its strengths will be enriched by systematically recording the needs, expectations, concerns, obstacles and problems that contribute to the satisfaction or dissatisfaction of those involved. The above will help to improve the prospects and challenges facing modern eLearning in order to ensure an equally attractive, accessible, socially equitable and flexible education.

Given the above context, at the micro level, particular emphasis needs to be placed on school leaders, teachers, parents and guardians. The learning community needs collective support, guidance, encouragement and nurturing to cultivate and maintain self-regulated learning skills and to engage in constructive interactive processes that are successfully implemented, fostering the development of ideas, creativity, problem solving and the success of educational goals (Vosniadou *et al.*, 2021). Focusing on voluntary engagement and collaboration between education staff, teachers and parents and guardians in this effort will achieve the "*systematic building of a community that learns how to learn to work in concert with the compass of achieving sustained school effectiveness*" (Vardiampasi, 2017, p.227) which will seek "to create visions, transform orientations and culture, and engage in collective action" (Vardiampasi, 2017, pp. 227-228).

Conflict of Interest Statement
The authors declare no conflicts of interest.

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References

a. International

Adedoyin, O. B., & Soykan, E. (2020). COVID-19 pandemic and online learning: the challenges and opportunities. Interactive Learning Environments, 1–13. Retrieved from https://doi.org/10.1080/10494820.2020.1813180

Aggraini, I. (2021). Students' perceptions of online learning English during the COVID-19 pandemic, Thesis, University Islam Negeri. http://dx.doi.org/10.30650/ajte.v7i2.4499

Arkorful, V., & Abaidoo, N. (2015). The role of e-learning, advantages and disadvantages of its adoption in higher education. International Journal of Instructional Technology and Distance Learning, 12(1), 29-42. https://www.itdl.org/Journal/Jan_15/Jan15.pdf#page=33

Bagriacik Yilmaz, A., & Banyard, P. (2020). Engagement in distance education settings: A trend analysis. Turkish Online Journal of Distance Education, 21(1), 101–120. http://dx.doi.org/10.17718/tojde.690362

Bozkurt, A. (2019). From Distance Education to Open and Distance Learning: A Holistic Evaluation of History, Definitions, and Theories. In S. Sisman-Ugur & G. Kurubacak (Eds.), Handbook of Research on Learning in the Age of Transhumanism (pp. 252–273). Hershey, PA: IGI Global. https://doi.org/10.4018/978-1-5225-8431-5.ch01

Chen, L. (2023). Transactional Distance and College Students' Learning Engagement in Online Learning: The Chain Mediating Role of Social Presence and Autonomous Motivation. Psychology Research and Behavior Management, 16, 2085–2101. Dovepress. https://doi.org/10.2147/prbm.s409294

Daniel, J. (2020). Education and the COVID-19 pandemic. Prospects, 49, 91–96. https://doi.org/10.1007/s11125-020-09464-3

Dereshiwsky, M., Papa, R. & Brown, R. (2017). Online Faculty Teaching, Novice to Expert: Effective Practices for the Student Learner. USA: NCPEA. Retrieved from https://www.educationalleaderswithoutborders.com/uploads/1/6/0/6/16068700/online_faculty_teaching_final.pdf

Di Pietro, G., Biagi, F., Costa, P., Karpiński, Z. & Mazza, J. (2020). The likely impact of COVID-19 on education: Reflections based on the existing literature and

international datasets. Luxembourg: Publications Office of the European Union. https://dx.doi.org/10.2760/126686

Douglass, J., & Thomson, G. (2012). Poor and rich: Student economic stratification and academic performance in a public research university system. Higher Education Quarterly 66(1), 65-89. https://doi.org/10.1111/j.1468-2273.2011.00511.x

Eteokleous, N. (2022). Blended Learning Pedagogical Framework for Conventional Programs of Study in Higher Education. Διεθνές Συνέδριο για την Ανοικτή & εξ Αποστάσεως Εκπαίδευση, 11(1A), σσ. 40-53. https://doi.org/10.12681/icodl.3320

Falode, E. & Shaw, B. (2020). The Rise of E-Learning in the Wake of a Pandemic: The Future of Learning-Online Learning, Learn Anywhere! Independently published.

Hebebci, M. T., Bertiz, Y., & Alan, S. (2020). Investigation of views of students and teachers on distance education practices during the Coronavirus (COVID-19) Pandemic. International Journal of Technology in Education and Science (IJTES), 4(4), 267-282. https://doi.org/10.46328/ijtes.v4i4.113

Ibrahim, N. K., Al Raddadi, R., Al Darmasi, M., Al Ghamdi, A., Gaddoury, M., Al Bar, H. M., Ramadan, I. K. (2021). Medical students' acceptance and perceptions of e-learning during the COVID-19 closure time in King Abdulaziz University, Jeddah. Journal of Infection and Public Health, 14(1), 17–23. https://doi.org/10.1016/j.jiph.2020.11.007

Kohnke, L., & Moorhouse, B. L. (2021). Adopting HyFlex in higher education in response to COVID-19: Students' perspectives. In The Journal of Open, Distance and E-Learning, 1-14. https://doi.org/10.1080/02680513.2021.1906641

Lemov, D. (2020). Teaching in the Online Classroom: Surviving and Thriving in the New Normal, John Wiley & Sons Inc. Retrieved from https://eric.ed.gov/?id=ED611836

McIntosh, C., & Varoglu, Z. (Eds.). (2005). Perspective on Distance Education: Lifelong Learning & Distance Higher Education. Commonwealth of Learning/UNESCO Publishing. Retrieved from https://unesdoc.unesco.org/ark:/48223/pf0000141218

Niemi, H. M., & Kousa, P. (2020). A case study of students' and teachers' perceptions in a Finnish high school during the COVID pandemic. International Journal of Technology in Education and Science (IJTES), 4(4), 352-369. https://doi.org/10.46328/ijtes.v4i4.167

OECD. (2019). OECD Future Education and Skills 2030 OECD Learning Compass 2030 A Series of Concept Notes Well-being 2030 Action. OECD. Retrieved from https://www.oecd.org/content/dam/oecd/en/about/projects/edu/education-2040/1-1-learning-compass/OECD_Learning_Compass_2030_Concept_Note_Series.pdf

Orhan, G., & Beyhan, Ö. (2020). Teachers' perceptions and teaching experiences on distance education through synchronous video conferencing during the Covid-19 pandemic. Social Sciences and Education Research Review, 7(1), 8-44. Retrieved from https://sserr.ro/wp-content/uploads/2020/07/SSERR_2020_7_1_8_44.pdf

Otto, D., & Kerres, M. (2021). Deconstructing the virtues of openness and its contribution to Bildung in the digital age. In D. Kergel, M. Paulsen, & J. Garsdal (Eds.), Bildung

in the Digital Age: Exploring Bildung through Digital Media in Education (pp. 47–63). Routledge. https://doi.org/10.4324/9781003158851-5

Papadopoulou, M., & Smyrnaiou, Z. (2021). Digital History and History Teaching in the Digital Age. ArXiv.org. https://doi.org/10.48550/arXiv.2103.00473

Picciano, A.G. (2016). Online Education Policy and Practice: The Past, Present, and Future of the Digital University. Routledge. https://doi.org/10.4324/9781315672328

Roll, I., & Wylie, R. (2016). Evolution and Revolution in Artificial Intelligence in Education. International Journal of Artificial Intelligence in Education, 26(2), 582–599. https://doi.org/10.1007/s40593-016-0110-3

Ross-Hain, L. (2020). Transitions In Tumultuous Times: Teachers' Experiences With Distance Learning Amidst The COVID-19 Pandemic. Thesis. University of North Dakota. https://commons.und.edu/theses/3387

Saykılı, A. (2018). Distance Education: Definitions, Generations, Key Concepts and Future Directions. International Journal of Contemporary Educational Research, 5(1), 2–17. https://files.eric.ed.gov/fulltext/EJ1207516.pdf

Scholley, S. E. (2001). Distance Education at the Elementary and Secondary School Levels (USA, Nevada Legislative Counsel Bureau, Assembly Committee on Education). NV

Srivastava, P. (2018). Advantages & disadvantages of e-education & e-learning. Journal of Retail Marketing & Distribution Management, 2(3).

Tait, A. W. (2018). Education for Development: from distance to open education. Journal of Learning for Development, 5(2). https://doi.org/10.56059/jl4d.v5i2.294

Trust, T. & Whalen, J. (2020). Should Teachers Be Trained in Emergency Remote Teaching? Lessons Learned from the COVID-19 Pandemic. Journal of Technology and Teacher Education, 28(2), 189-199. https://docs.edtechhub.org/lib/MEIKQJP5

UNESCO. (2002). Open and Distance Learning: trends, policy and strategy consideration. Paris: UNESCO.

UNESCO. (2022). An introduction to the UNESCO Recommendation on Open Science. United Nations Educational, Scientific and Cultural Organization. https://doi.org/10.54677/xoir1696

Zhang, K., & Aslan, A. B. (2021). AI technologies for education: Recent research & future directions. Computers and Education: Artificial Intelligence, 2(100025), 100025. https://doi.org/10.1016/j.caeai.2021.100025

b. Greek

Alivizos, S., Kostas, A., & Paraschou, V. (2015). Online ex apostaseos ekpaidefsi: Apo ti theoria stin praxi. Athina: Syndesmos Ellinikon Akadimaikon Vivliothikon.

Amorgianioti, E. (2020). O rolos tou ekpaideftikou sti scholiki ex apostaseos ekpaidefsi tin epochi tou Covid-19. Poiotiki Prosengisi sti Defterovathmia Ekpaidefsi. International Journal of Educational Innovation, 2(7), 63-73.

Anastasiadis, P. (2020). I Scholiki Ex Apostaseos Ekpaidefsi stin epochi tou Koronoiou COVID-19: to paradeigma tis Elladas kai i proklisi tis metavasis sto «Anoichto Scholeio tis Dierevnitikis Mathisis, tis Synergatikis Dimiourgikotitas kai tis

Koinonikis Allilengyis». Anoikti Ekpaidefsi: to periodiko gia tin Anoikti kai ex Apostaseos Ekpaidefsi kai tin Ekpaideftiki Technologia, 16(2), 20-48.

Vardiampasi, Z. P. (2017). Igesia, scholiki koultoura, axiologisi kai scholiki veltiosi: Mia grammiki schesi Sto P. Georgogiannis (epim.), 22o Diethnes Synedrio me krites Typoi, Morfes, Efarmoges Kai Apotelesmatikotita Tis Ekpaidefsis, Koinoniki Paidagogiki, Diapolitismikotita, Symvouleftiki kai Eidiki Agogi, 21-23 Oktovriou 2016, Veroia: Praktika (ss. 215–231). Patra https://doie.org/10.1208/2023129285

Vosniadou, S., Lawson, MichaelJ., Stepherson, H., & Bodne, E. (2021). Didaskontas tous mathites pos na mathainoun: Thetontas ti vasi gia mia dia viou mathisi (E. Skopeliti, S. Douklia, & A. Kyriakopoulou, Trans.). UNESCO International Bureau of Education, International Academy of Education. https://unesdoc.unesco.org/ark:/48223/pf0000378839_gre.locale=en

Gkiosos, I., Mavroeidis, I., & Koutsoumpa, M. I. (2008). I erevna stin apo apostasi ekpaidefsi: anaskopisi kai prooptikes. Anoikti Ekpaidefsi: to periodiko gia tin Anoikti kai ex Apostaseos Ekpaidefsi kai tin Ekpaideftiki Technologia, 4(1), 49. https://doi.org/10.12681/jode.9724

Thanos, Th. (Epim.) (2015). I Koinoniologia tis Ekpaidefsis stin Ellada. Erevnon Apanthisma. Athina: Gutenberg.

Keskinidou, A. S., & Papadimitriou, S. (2021). I ex apostaseos ekpaidefsi os meso epangelmatikis anaptyxis ton ekpaideftikon protovathmias ekpaidefsis. Diethnes Synedrio gia tin Anoikti & ex Apostaseos Ekpaidefsi, 11(6A), 75-98.

Kotsaris, Ch., & Katsa, M. (2021). O rolos tis Ex Apostaseos Ekpaidefsis stin epimorfosi ton ekpaideftikon. MUSED: Mouseio–Scholeio–Ekpaidefsi, 2(1), 99–112. https://doi.org/10.26220/mused.4217

Kyrma, A., & Mavroeidis, I. (2015). Distance education: panacea or barrier for conventional higher education? Anoikti Ekpaidefsi: to periodiko gia tin Anoikti kai ex Apostaseos Ekpaidefsi kai tin Ekpaideftiki Technologia, 11(1), 20. https://doi.org/10.12681/jode.9818

Liakopoulou, E., & Stavropoulou, E. (2021). Ex apostaseos ekpaidefsi sto elliniko scholeio kata tin periodo tou covid - 19: provlimatismoi, dyskolies kai analiftheises energeies antimetopisis tous. 1o Diethnes Diadiktyako Ekpaideftiko Synedrio Apo ton 20o ston 21o aiona mesa se 15 imeres, (1), 331-341.

Ligoutsikou, E., Koutsoumpa, M., Koustourakis, G., & Lionarakis A. (2015). I Theoria tis Pollaplis Noimosynis os kinitirios dynami energopoiisis kai mathisiakis exelixis stin Anoikti kai ex Apostaseos Ekpaidefsi me tin axiopoiisi ton TPE. Sto A. Lionarakis, S. Ioakeimidou, G. Manousou, M. Niari, T. Chartofylaka & S. Papadimitriou (Epim.), 8o Diethnes Synedrio gia tin Anoikti kai ex Apostaseos Ekpaidefsi. Kainotomia kai Erevna. 7-8 Noemvriou 2015, 43-57. http://eproceedings.epublishing.ekt.gr/index.php/openedu/article/view/16

Lionarakis, A. (2001). Gia poia «ex Apostaseos Ekpaidefsi» milame; Sto: A. Lionarakis (epim.), Praktika Eisigiseon tou 1ou Diethnous Synedriou gia tin Anoikti kai ex Apostaseos Ekpaidefsi, Tomos A΄, 185-194. Athina: Propompos.

Manousou, E., Kontogeorgakou, V., Georgiadi, E., & Kokkali, A. (2017). Paidagogiko yliko stin scholiki ex apostaseos ekpaidefsi. Meleti Periptosis: to ex apostaseos ekpaideftiko Kentro tis Viktoria stin Afstralia. Anoikti Ekpaidefsi: to periodiko gia tin Anoikti kai ex Apostaseos Ekpaidefsi kai tin Ekpaideftiki Technologia, 13(1), 5-25. https://doi.org/10.12681/jode.13912

Skoularidou, E., & Mavroeidis, I. (2016). Sympliromatiki scholiki ex apostaseos ekpaidefsi me chrisi mathisiakon antikeimenon apo to Panellinio Apothetirio Mathisiakon Antikeimenon – Fotodentro. Anoikti Ekpaidefsi: to periodiko gia tin Anoikti kai ex Apostaseos Ekpaidefsi kai tin Ekpaideftiki Technologia, 12(2), 56-72. https://doi.org/10.12681/jode.10862

Sofos, A., Kostas, A., Paraschou, V. (2015). Online Ex Apostaseos Ekpaidefsi-Apo ti Theoria stin Praxi. Athina: Kallipos. https://repository.kallipos.gr/handle/11419/182

Sfakiotaki, K. (2019). Epidraseis kai efarmogi tis ex apostaseos ekpaidefsis sti symvatiki tritovathmia ekpaidefsi. 10o Diethnes Synedrio gia tin Anoikti & ex Apostaseos Ekpaidefsi, 10, 94-105. Athina.

Sfakiotaki, K. (2017). O rolos tis organosi meletis stin ex apostaseos ekpaidefsi. Diethnes Synedrio gia tin Anoikti & ex Apostaseos Ekpaidefsi, 9(2A), 14. https://doi.org/10.12681/icodl.1365

Tzemou, Ch., & Sofos, L. (2016). I Anoikti kai Ex apostaseos Ekpaidefsi sti Defterovathmia Ekpaidefsi se diethnes epipedo. Paragontes pou epireazoun tin ekplirosi tou ideodous tis Anoiktis ekpaidefsis. Diethnes Synedrio gia tin Anoikti & ex Apostaseos Ekpaidefsi, 7(3A). https://doi.org/10.12681/icodl.614

Fragkaki, M., & Lionarakis, A. (2009). I koinoniko-politiki kai ithiki diastasi ton TPE mesa apo ena ex Apostaseos Polymorfiko Montelo. 1o Ekpaideftiko Synedrio "Entaxi kai chrisi TPE stin ekpaideftiki diadikasia", Volos, Panepistimio Thessalias.