Original Research Article

Distance Education in Greece and the Potential Challenges to it in the Post-lockdown Era

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Abstract

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The purpose of this paper is to briefly chart the current course of distance education in humanities and mathematical sciences in Greece in the post-lockdown (due to the COVID-19 pandemic) era. The questions posed examine whether distance education facilitated students in the aforementioned disciplines or not, the students' views and attitudes towards distance education, and the effects of this type of teaching / learning. In this paper, we describe distance education as an innovative way of teaching / learning, so we also posed questions regarding the potential changes in students' relationships with their University, their professors, and their fellow students. It should be noted that this paper is a continuation of the research paper on "The Effects of COVID-19 on Education, with a Focus on Distance Education: A Preliminary Study", published by the reputable *Merit Research Journal of Education and Review*, Vol. 10(9), pp.130-137, November 2022.

Keywords: Innovation, Post-lockdown era, Students' views and attitudes, Teaching / learning

INTRODUCTION

Analysis of the Variables

The scientific contributions of people such as Galileo(1564-1642), Copernicus (1473-1543), Kepler (1571-1630), Leibniz (1646-1716), and Newton (1643-1727) sealed the prevalence of the experimental method and applied mathematics in our interpretation of reality. Since then, humans have become the subject of history and have put scientific knowledge to the service of technological knowledge (Tsardakis, 1989). Since then, technology has gradually become a way of life, and beyond titles and theoretical differences, one cannot but realize the new state of things and its effects in everyday life, in education, in the future of humankind in general (Editor's Note, 2004). Educational systems and institutions have of course not remained unaffected by new technologies, and they keep being affected by them, implementing innovative changes on key matters, such

as distance education and the development of new skills, thus contributing to the emergence of new ideas, the realization of academic subjects, and collaborations through modern technology. The term "innovation" comes from the Latin word "Innovare", which means "to do something new". Every idea, presentation, or tool which differs from those that came before it in key aspects is defined as "innovation", as is the act of introducing modernity or a thing introducing modernity (Spyrou, 2018). Based on the above, we decided to place distance education under "innovations in education" and among the projects that provide students with functional learning methods (Katsikis, 1999).

Distance Education

Distance education, or any other similar method, was not

really used in Greece in Universities and in the workplace, as one might have expected, before the COVID-19 pandemic. The lack of such a necessary service had been highlighted at times by professors at Universities outside of Greece. In the post-lockdown era, distance education in humanities and mathematical sciences (our fields of experience) clashed with the established academic culture and the attitudes of both students and professors, who did not welcome this change in teaching / learning methods, which is why the majority of the students asked to dissociate themselves from this type of education as soon as it was no longer vital.

Setting the Goals of the Study

Based on the aforementioned, the author of this paper set distance education in the post-lockdown era as the basis of their study, seeking to describe students' views and attitudes towards this type of teaching / learning. Among the subjects we sought to examine were the potential problems involved in distance education, the climate of cooperation between the students, and the collaboration between students and professors and students and their Universities. It should be noted here that we also asked professors to discuss this issue through electronic means, but we received no reply. We were successful, however, in finding students from the Departments of Mathematics, Statistics, and Humanities of the University of Athens who were willing to cooperate with us and allowed us to record their views on and concerns about this new method of education. What is interesting from a literature perspective is that in Greece, as in other places, the use of new technologies in education started with projects intended for Primary Education, such as "mobile learning" and Massive Open Online Courses (MOOCs). Since then, new study programs have been established, such as the "New School", which involves direct and horizontal actions for creative learning (www.minedu.gov.gr/aei), and the "Digital School", which operates on the online services of https://e-me.edu.gr in Primary Education (Kyriakidis and Tzimogiannis, 2015).

Understanding Innovative Educational Methods

For this study we focused on distance education, which we have deemed an innovation in the field of education, in the post-lockdown (due to the COVID-19 pandemic) era. Based on the literature, we argue that professors need to take a student's performance and organizational and other skills into account, as presented in the form of the following equation:
$P = Sk \times M \times S$
where P: Performance, Sk: Skills, M: Motivation (efforts),

and S: Support.

Therefore, students' knowledge and skills need to be taken into account, for the purpose of adopting new ideas and developing a culture based on cooperation and the optimal participation in decision-making in the field of education (Saiti and Saiti, 2011). This is why innovative activities in education also require opening a dialogue with everyone as to the use of technology and training on the application of technical teaching methods, so that education may function in a more constructive manner (Zavlanos, 2008). In fact, there are some scientists who claim that the new methods are not a means to make a living but the result of a free, dignified career to offer to young scientists (Rigopoulos, 1969).

Identity of the Study

This paper concerns a quantitative study. The sample comprised 98 University students (51 female, 47 male) at the Department of Mathematics and the Department of Humanities of the University of Athens and the Department of Statistics of the University of Piraeus. Therefore, the location of the study / from which the sample was taken was the wider Athens area (Attica). Time frame of the study: September 2022 – February 2023. The questionnaires included 14 questions, ensured the students' anonymity, and were filled in by the students themselves. The program used to process the questionnaires was Microsoft Excel. The students participated voluntarily and were ensured that we would adhere to the code of ethics and that the findings of the study would be used and published strictly for scientific/research purposes.

Demographics and Questions

The questionnaires were processed by analyzing specific questions-answers

Demographics of the sample: As the table below shows, the sample comprised 51 female students and 47 male students. Out of those 98 students, 64 were aged 18-23, 22 were aged 24-28, and 12 were over the age of 29. The first question to follow those concerning the demographics of the sample was whether the participants agreed with distance education in the current, post-lockdown situation, with 44% disagreeing, 9% strongly disagreeing, and 31% maintaining a neutral status. We characterized distance education as innovative in another question, with 5% of the sample strongly disagreeing with this view, 39% disagreeing, 29% maintaining a neutral status, 24% agreeing, and 1% strongly agreeing. When asked whether distance education emerged in universities during the lockdown, 50% disagreed, 14%

agreed, and 19% were neutral. When asked whether the realization of distance education during the previous two semesters was able to bridge the gap between teaching / learning *in situ* (at the University) and remotely (outside the University), 17% of the participants answered that they strongly disagreed, 41% that they disagreed, and 22% maintained a neutral status. The question concerning whether distance education provided students with the opportunity to develop new skills, thus fostering the inception of new ideas and the development of collaborations assisted by modern technology, was answered negatively by 15% of the sample – 3% strongly disagreed and 12% disagreed – and positively by 31% of the sample – 11% strongly agreed and 20% agreed – while the majority – 53% – remained neutral. Another question about whether the 21st century and the information society required flexible and productive universities that adapt to technological changes and new forms of education was answered by 3% strongly disagreeing, 15% disagreeing, 17% being neutral, 51% agreeing, and 12% strongly agreeing. We also asked whether professors who still apply traditional forms of teaching need to adapt and change, to which 5% of the participants answered that they strongly disagree, 8% that they disagree, 5% were neutral, 70% that they agree, and 10% that they strongly agree. We then asked whether innovation in education may face increased difficulties in being implemented and whether changes adopted by the University would improve such situations, with 18% strongly disagreeing, 38% disagreeing, 30% maintaining a neutral status, 10% agreeing, and 2% strongly agreeing. When asked whether they believed that graduates could use a remote working system once they have completed their studies, 16% of the sample strongly disagreed, 40% disagreed, 32% were neutral, 9% agreed, and 1% strongly agreed. The participants' views on the issues of the current environmental degradation and increasing social inequalities being unlikely to be resolved without innovations in education were quite balanced, with 4% strongly disagreeing and 39% disagreeing, 20% strongly agreeing and 25% agreeing, and 10% remaining neutral. When asked whether they agreed with statements about distance education being boring, monotonous, and lacking a sense of immediacy as regards to the relationship with the professor, thus being uninteresting, the majority agreed – 40% strongly agreeing and 29% agreeing – while 11% remained neutral, 14% disagreed, and 4% strongly disagreed. Finally, the participants were asked whether there are University Schools planning distance education as an alternative to conventional education, and 18% of them answered that they strongly disagree, 28% that they disagree, 10% that they agree, and 3% that they strongly agree, with the majority – 39% – maintaining a neutral status.

Anonymous Questionnaire

The available answers were based on the Likert scale: Strongly Disagree – Strongly Agree – Neutral – Agree – Strongly Agree.

Demographics Questions

1. Size of the sample: 98 students
2. Gender: 51 female – 47 male
3. Age: 18-23 (64 individuals), 24-28 (22 individuals), >29 (12 individuals)
4. Schools attended by the participants: Department of Mathematics, University of Athens (37 individuals), Department of Statistics and Insurance Science, University of Piraeus (28 individuals), Department of Humanities, University of Athens (33 individuals)

Thematic Questions

5. We are currently post-lockdown. Do you agree with distance education as regards to your classes? Figure 1
6. We, among others, characterize distance education as an innovation. Do you agree with this view? Figure 2
7. Do you believe that distance education emerged in Universities during the lockdown? Figure 3
8. Did the distance education of the past two semesters manage to bridge the gap between teaching / learning *in situ* (at the University) and remote teaching / learning (outside the University)? Figure 4
9. Distance education gives students the opportunity to develop new skills, since it fosters the inception of new ideas and the development of collaborations assisted by modern technologies. Figure 5
10. The 21st century and the information society require flexible and productive universities that adapt to technological changes and new forms of education. Figure 6
11. Should professors who use traditional teaching methods – lectures, two recommended books – and traditional assessment methods – midterm examinations, written tests – change these methods? Figure 7
12. The implementation of innovations in education may be met with a high degree of difficulty, however, if the University adopts certain changes, such innovations will be beneficial. Figure 8
13. Will graduates be able to use a remote working system once they have completed their studies? Figure 9
14. The current environmental degradation and increased social inequalities cannot be resolved without innovations in education, since education can be conducive to positive changes through said innovations. Figure 10
15. Distance education during the lockdown was boring, monotonous, and lacking a sense of immediacy as
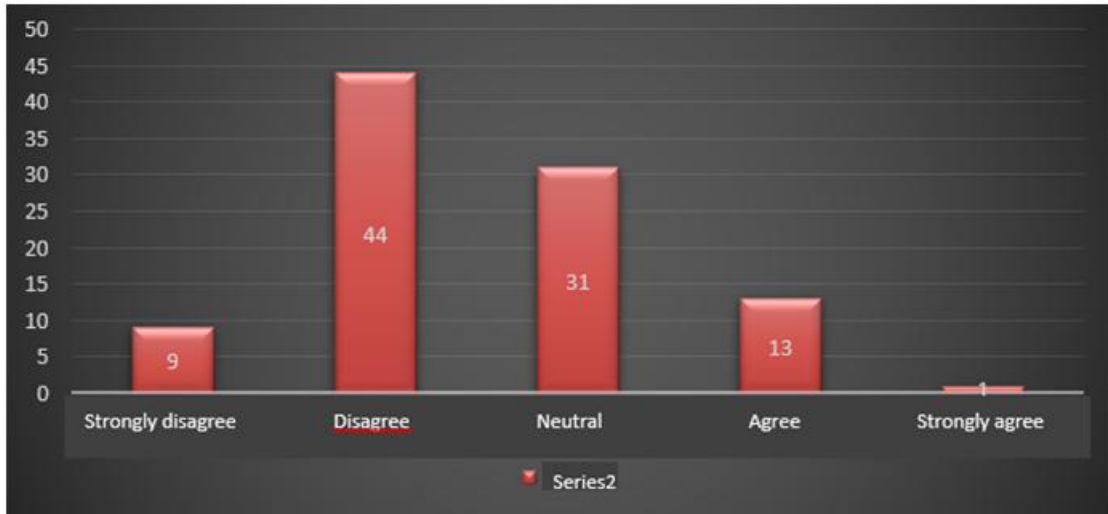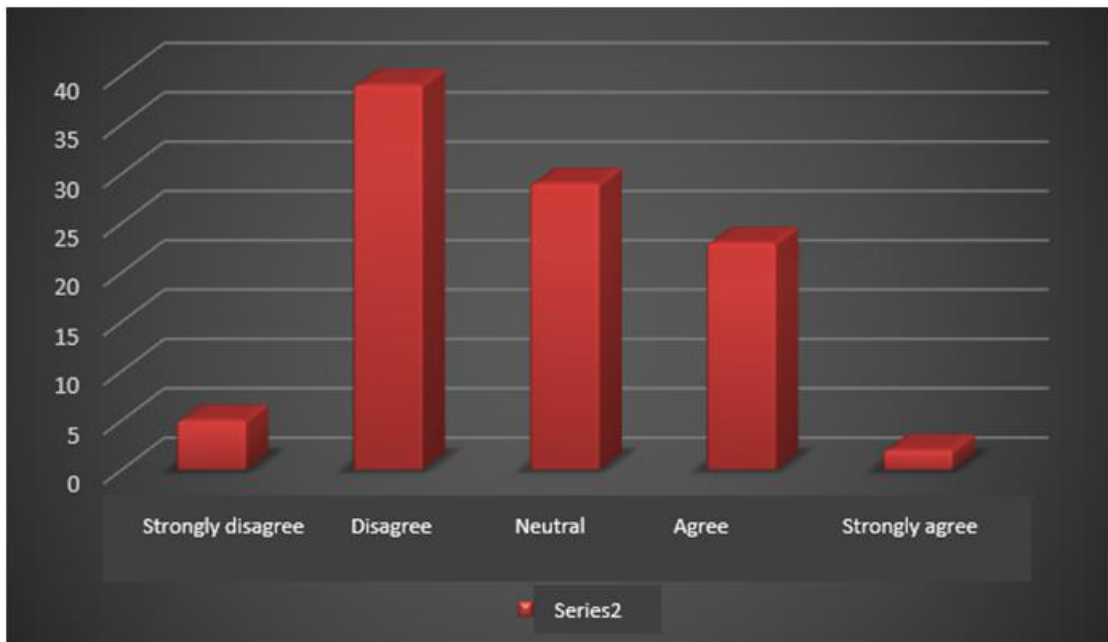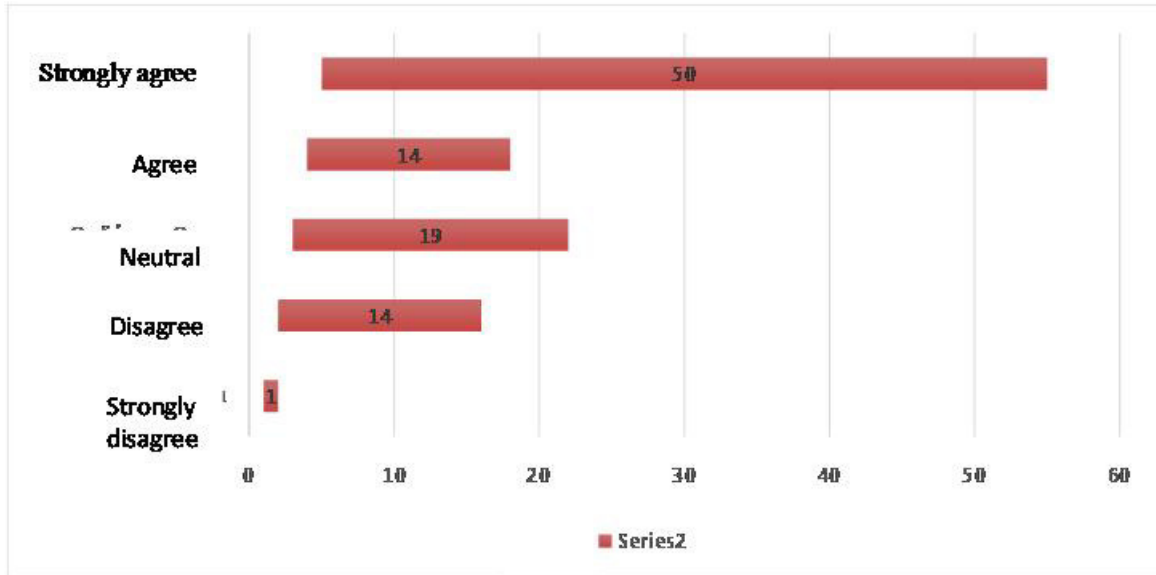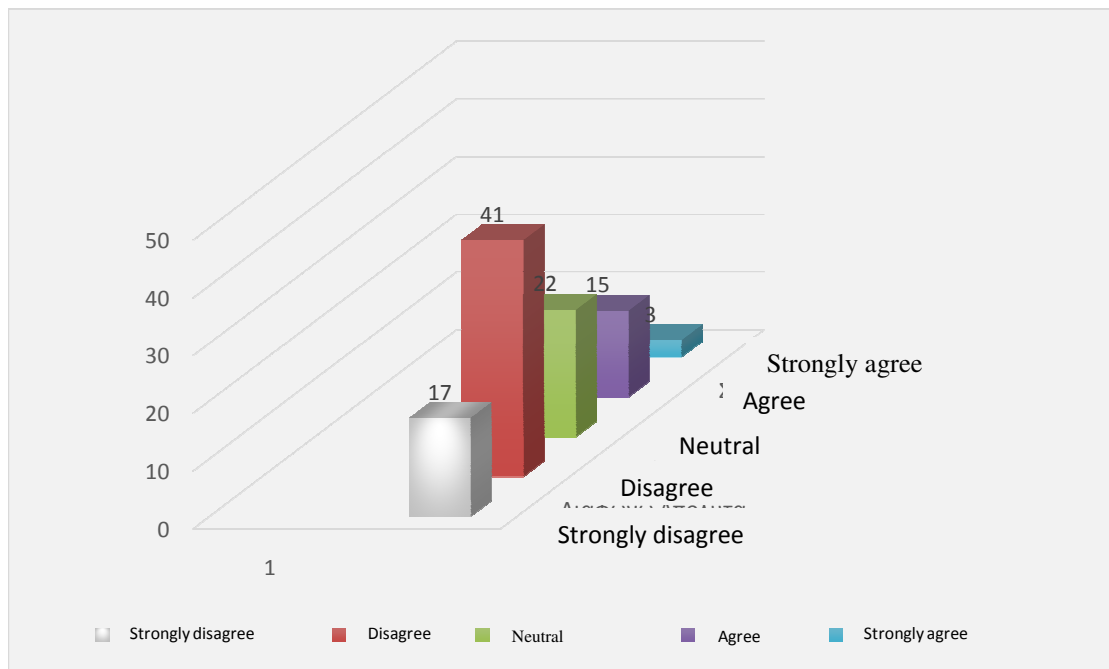
Figure 1

Figure 2

Figure 3

Figure 4
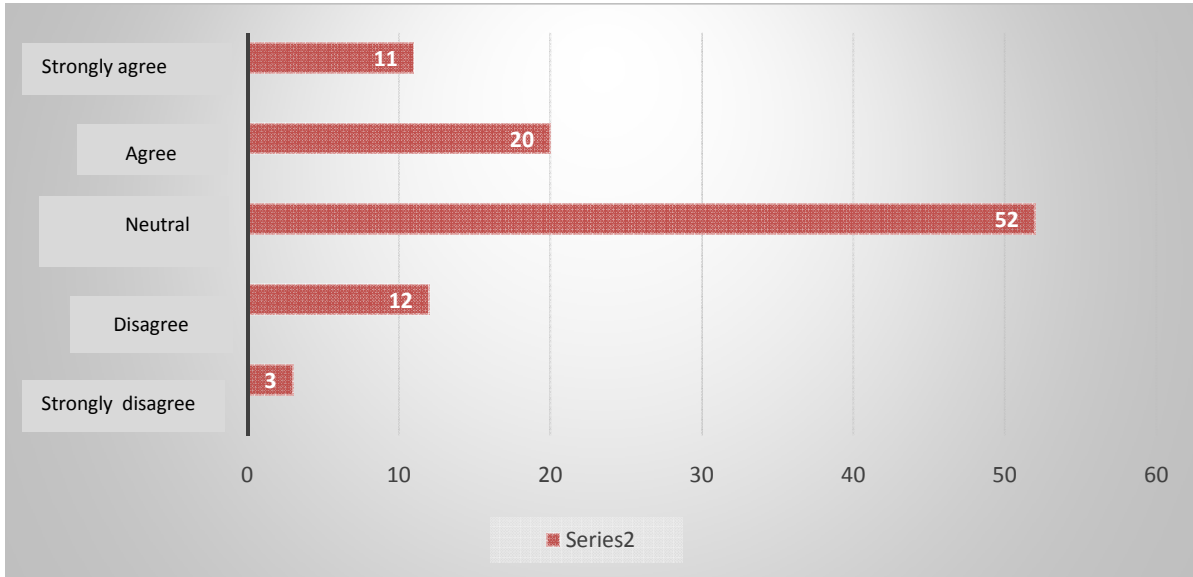
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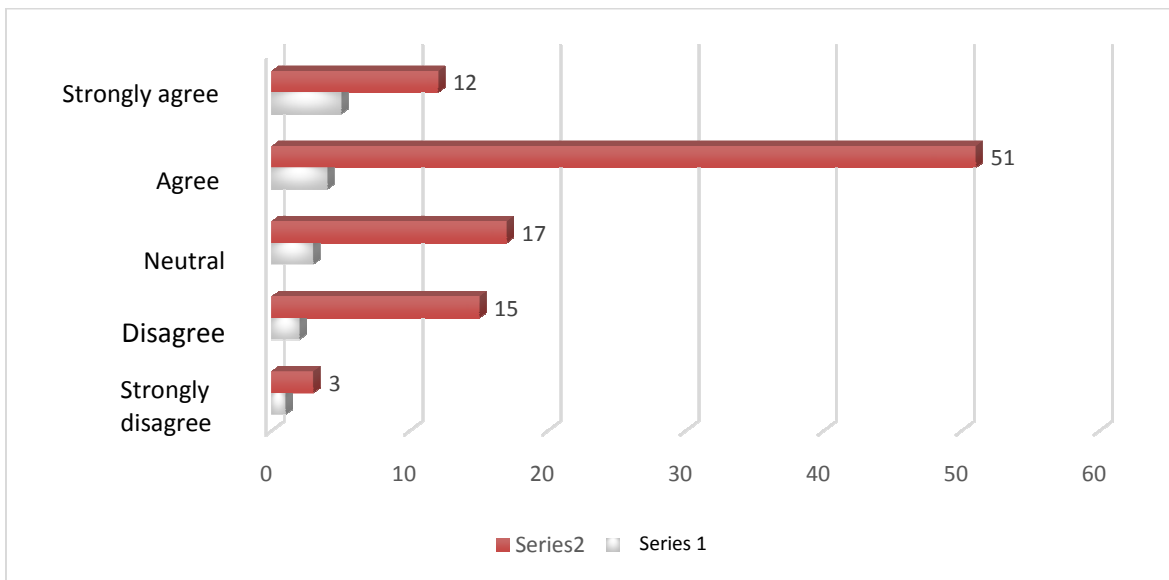
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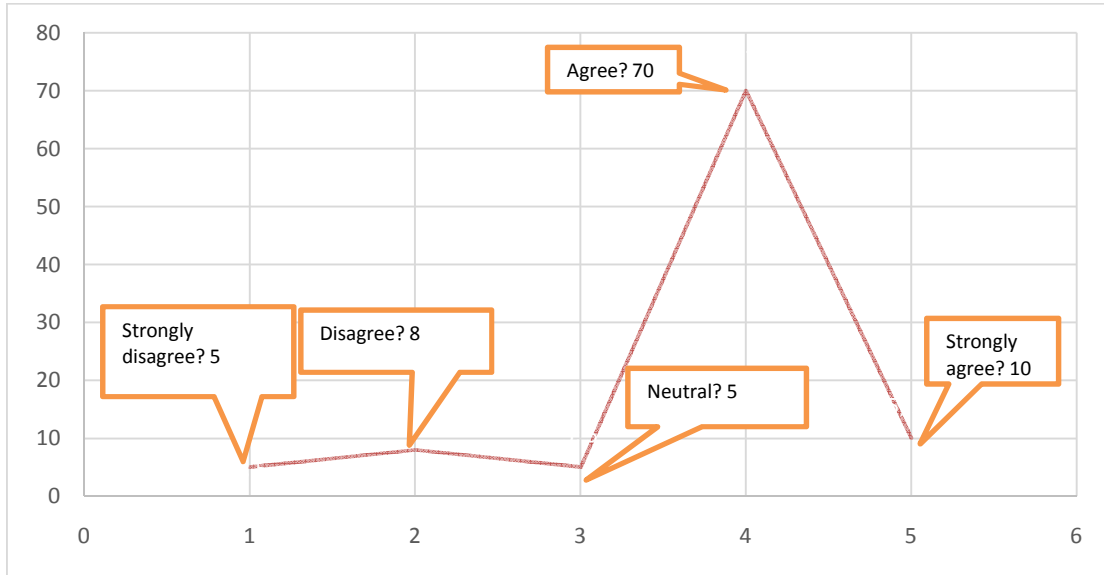
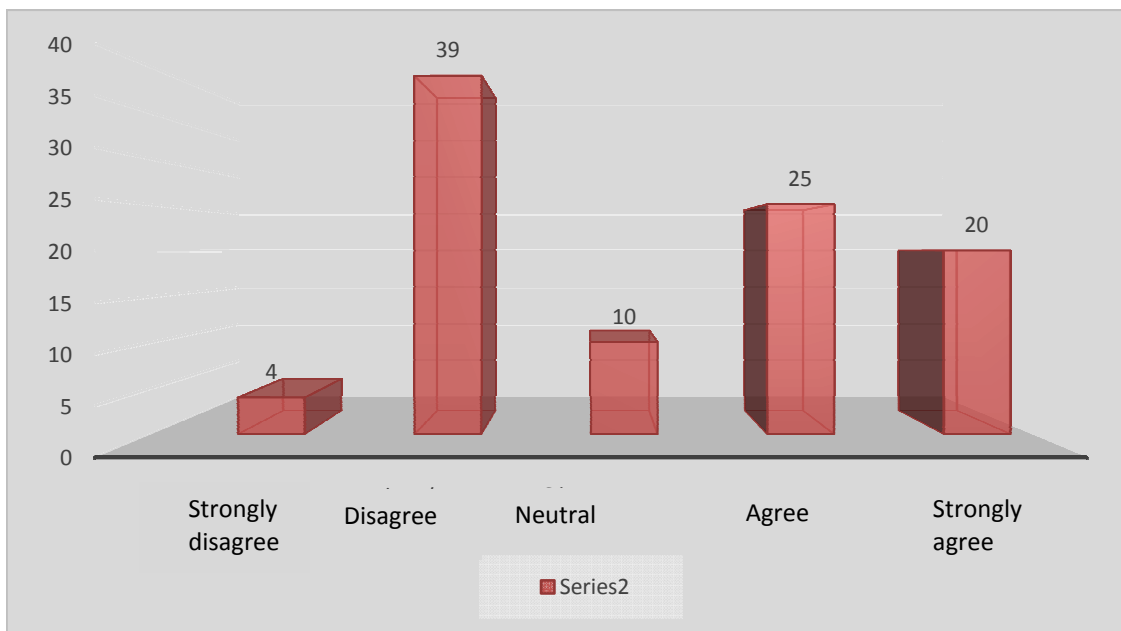**Figure 7**
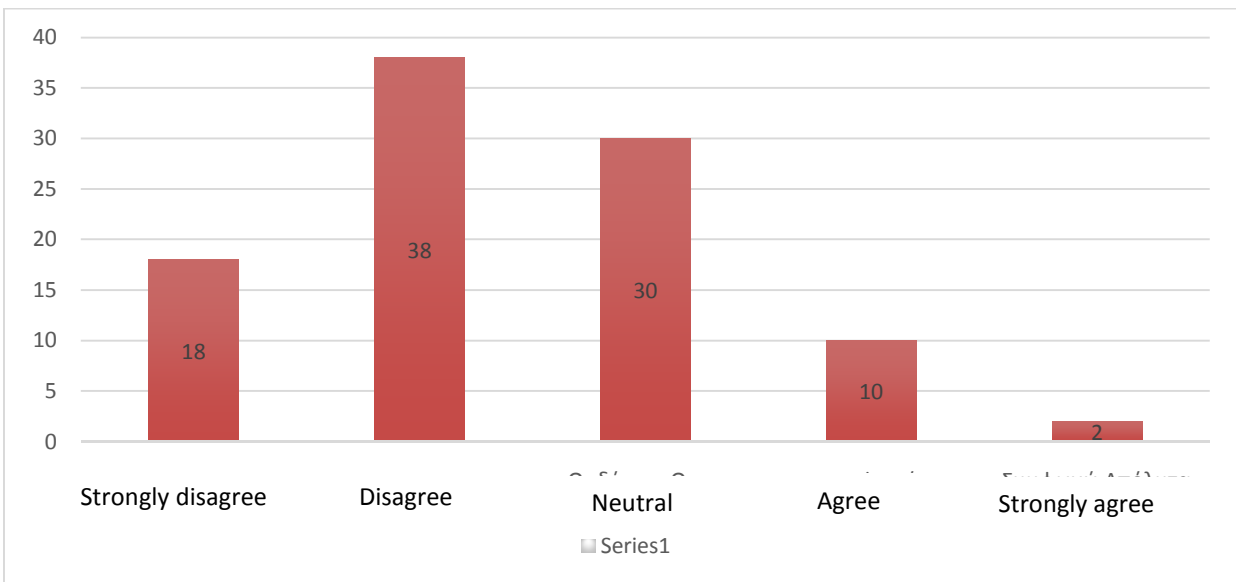
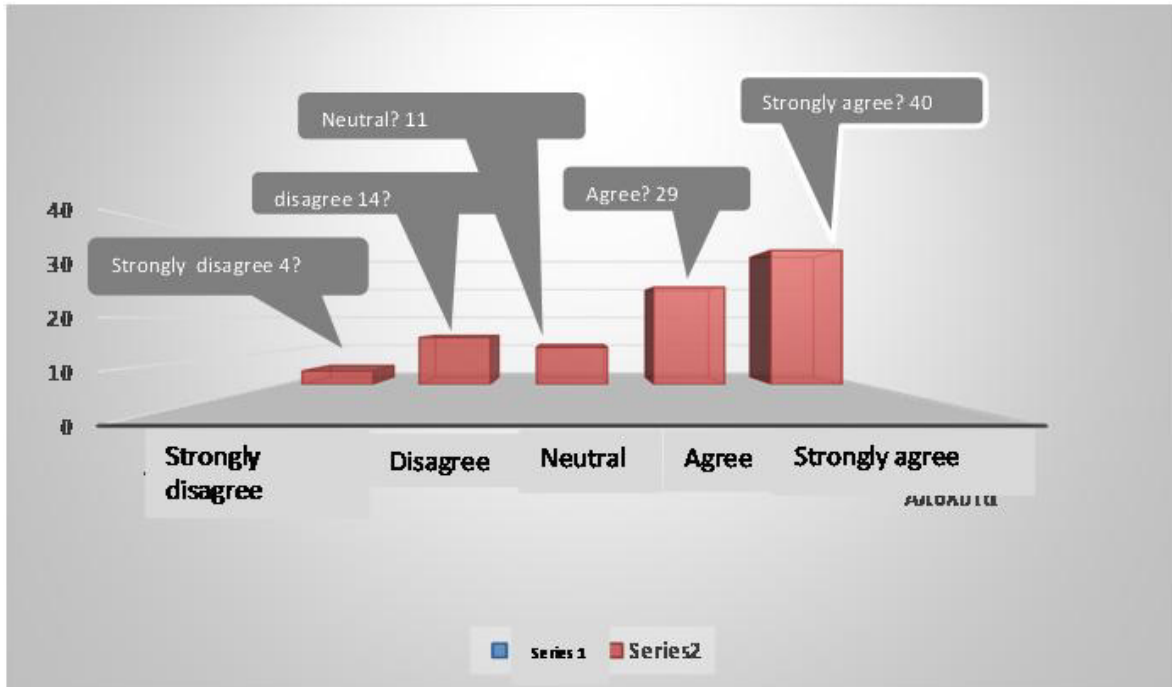**Figure 8**
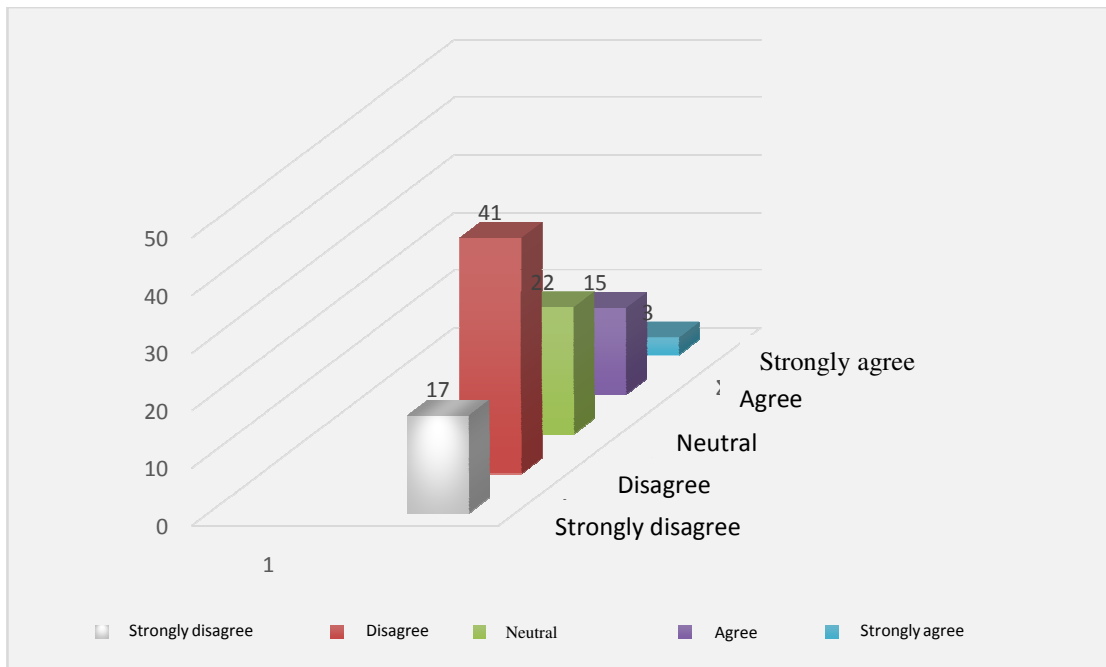
Figure 9

Figure 10

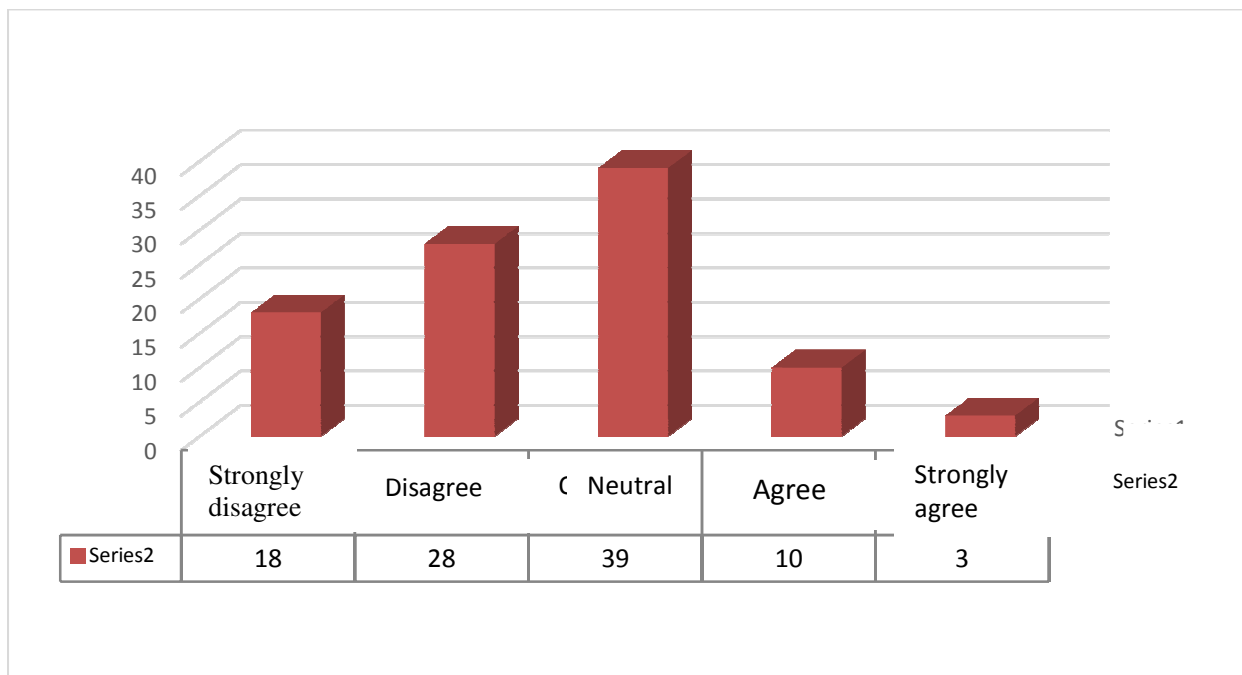**Figure 11**

Figure 12

regards to the relationship with the professor, thus uninteresting overall. Figure 11

16. Are there Schools currently planning distance education as an alternative to conventional University education? Figure 12

GENERAL ASSESSMENTS BASED ON THE FINDINGS

We conducted our study after the lockdown was lifted, and the questions we posed to the participants primarily

concerned their views on distance education as regards to their classes. The majority (53%) was against it (44% "Disagree" and 9% "Strongly Disagree"), and the percentage of those who remained neutral was not insignificant (31%), leaving few with a positive attitude towards distance education. It was also a minority of the participants who viewed distance education as innovative (only 27% agreed or strongly agreed), as it was a minority who believed that distance education was able to bridge the gap between education in *situ* and remote education, possibly showing a negative predisposition towards the subject. The negative reaction of 50% of the participants to the emergence of distance education during the lockdown is also difficult to understand. Moreover, the majority are still uncertain about the potential development of new skills by students due to distance education (52% "Neutral"), although the percentage of participants who believe that it does foster new ideas and collaborations (31%) is double to that of those who do not (15%). The majority (63% – 51% "Agree" and 12% "Strongly Agree") also recognized the need for Universities to adapt to technological changes and new forms of education while living in the 21st century and the information society, with only 15% disagreeing and 17% maintaining a neutral status, which makes us wonder how it is possible for them to keep rejecting distance education. Apparently, 35 out of the 98 participants did not understand the question. The vast majority of the students who participated in the study also agreed (70% "Agree" and 10% "Strongly Agree") that professors need to update their teaching (lectures, two recommended books) and assessment (midterm examinations, written tests) methods, with only 13% disagreeing (8% "Disagree" and 5% "Strongly Disagree") and 5% remaining neutral, which further emphasizes the incomprehensibility of their generally negative attitude towards distance education. Complicating the matter further, the majority disagreed with (38% "Disagree" and 18% "Strongly Disagree") or maintained a neutral status (30%) towards the statement that innovations in education will be beneficial, provided that universities make the necessary changes to improve their originally difficult implementation, with only 2% strongly agreeing and 10% agreeing, which should be interpreted as them preferring traditional teaching / learning methods. The majority also seem to reject the system of remote working, as 40% disagree and 16% strongly disagree that they would be able to use it after they graduate and 32% are uncertain ("Neutral"); those who view it as an option post-graduation do not exceed 10%, with only 1% strongly agreeing. The situation was more balanced in the case of innovations in education being conducive to addressing environmental degradation and social inequalities, with 45% agreeing with this view (25% "Agree" and 20% "Strongly Agree"), 43% disagreeing (39% "Disagree" and 4% "Strongly Disagree"), and 10% being somewhere in the middle. The overwhelming

agreement with the statement that distance education was boring, monotonous, lacking immediacy with the professors, and overall uninteresting (69% – 29% "Agree" and 40% "Strongly Agree") and the doubts that Schools plan to have distance education as an alternative to conventional education may help us reach conclusions regarding the participants' conflicting attitudes.

Suggestions

This study follows the study titled "The Effects of COVID-19 on Education, with a Focus on Distance Education: A Preliminary Study", published by *Merit Research Journal of Education and Review*, Vol. 10(9), pp.130-137, November 2022, with this one being conducted in the post-lockdown era. Both studies showed an unwillingness to fully adopt distance education. We believe that more professors should embrace this teaching method and that students should be able to choose between teaching / learning methods, depending on the curriculum of each University. The fact is that the competent authorities for the country's educational system have been making efforts – with varying levels of success – to place students at the center of new teaching / learning methods, listening to their particular educational needs so as to accommodate both students and professors through the development of structured programs (Vitanzakis, 2005). We suggest that the Ministry of Education plans for the distribution of relevant material to inform students and professors on distance education. In this society of rapid technological developments, we believe that it is only a matter of time before interest in practical applications of distance education increases (Baltatzis and Kelesidis, 2000).

Online Publications

www.minedu.gov.gr/aei
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