# ASSESSMENT OF THE PROBLEMS THAT AROSE IN THE DISTANCE EDUCATION DURING THE PANDEMIC FOR THE STUDENTS AT THE GREEK PUBLIC VOCATIONAL TRAINING INSTITUTES

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## Abstract

The rapid spread of coronavirus (COVID-19) in early 2020 was an unexpected situation that affected all areas of human life, especially education and training. Distance education soon replaced classic, during the COVID-19 pandemic, due to the necessary social distancing to maintain global health.

Distance education is not an unknown form of education, as it is often used as educational tool at all levels of education. However, the sudden and exclusive use of distance education during the pandemic created concerns in members of the academic community and brought about radical changes at both, educational and psychosocial levels.

The purpose of this research is to record the degree of acceptance of distance teaching and learning methods in vocational education and training in Greece, especially in students studying at Public Vocational Training Institutes (PVTIs) and to identify potential obstacles or benefits of online learning during COVID-19.

Distance education in combination with distance e-learning is a form of distance education in which participants of the educational process, i.e., teacher and students, are in a different physical space and communicate with synchronous and/or asynchronous internet platforms.

Due to the nature of e-learning and its rapid spread in the educational community during the current pandemic, there is insufficient research examining its effectiveness in vocational education. The rapid development of mobile devices and wireless networks does not automatically mean the successful utilization and sustainability of e-learning systems.

In order to study the experience and problems of distance learning platforms, quantitative research took place among the PVTI students through questionnaire. The sample of the quantitative research consisted of 768 Greek PVTI students that have responded, and a pilot statistical processing of the received data has been done. To track the experience with the distance learning platforms, the sample has been asked to mention the potential issues faced with the platforms. Most of the respondents mentioned technical and accessibility issues. A variety of issues have been mentioned, either difficulties of the users or problems of the system. In parallel, they pointed out the advantages of personal contact and feedback from their professors. It is interesting that only a small part of the sample reported no problems at all.

The research shows moderate percentages of satisfaction from the enhancement of students' skills and from the coverage of their educational needs, while highlighting the upgraded role of asynchronous education platforms e-class, Moodle and e-classroom and of synchronous platforms Webex and Zoom.

*Keywords: Distance education, vocational education and training, e-learning platforms, pandemic, PVTIs in Greece.*

## 1. Introduction

The last two years have been marked by a particular upheaval in the field of education due to the outbreak of COVID-19. In most countries, live lessons were suspended and replaced by online courses. The new educational landscape and the needs brought by online education on such a large scale has been a challenge for the educational community around the world (Nikdel et al. 2020, Khlaif and Salha 2020 & Toquero 2020). This could not but affect vocational education, which as and the other educational levels of Greece adapted its educational plans to the needs of distance education. Although online teaching is not a new pedagogical method, it has never become necessary on such a large scale and has not been adequately evaluated for its effectiveness in achieving educational goals. Although it is generally accepted that in these circumstances the choice of distance education was a one-way street, significant

concerns raised about the quality of the educational content provided as well as the achievement of the educational objectives. Even though prior to the outbreak of the pandemic, online education had not been applied on such a large scale, there have been some studies in the literature evaluating the distance education process. For over a decade, numerous studies have recognized that online learning techniques are effective in the case of vocational education as well as increasing student satisfaction rates through interaction (Belaya 2018, Bignoux and Sund 2018). Cigdem et.al. (2014) donated the online Learning Readiness Scale (OLRS) of Hung et.al. (2010) to 725 vocational students to evaluate the effectiveness of online learning. OLRS has 18 elements grouped into five factors: computer / Internet self-efficacy (CIS), self-directed learning (SDL), student control (LC), motivation to learn (ML) and self-efficacy online communication (OCS). The study found that students surveyed were generally prepared for online learning but needed to improve themselves specifically in the CIS and OCS in order to succeed in online learning. Student characteristics (PC ownership, department, type of high school graduation) significantly affect students in some aspects of the OLRS dimension, especially in the CIS dimension. Given that online learning has gained importance in vocational education over the last 20 years, the well-known problem of high dropout rates still exists. In 2016, Stiller et.al. (2016) investigated the extent to which learners drop out of a professional online video training. It was found that the group of students who dropped out of school, reported more negative attitudes towards computers and a higher level of stress for the computer than the group of active students.

Recently, after the spread of COVID-19, many studies around the world have investigated the effect that the pandemic outbreak had on the educational process of vocational education. In 2020 Syauqi et.al (2020) studied the perceptions of Indonesian vocational students in the field of engineering in relation to online learning as a result of the effects of the COVID-19 pandemic. In this research, a structured questionnaire with Likert scale was used in a sample of 56 students. The results of this study showed that teachers in the management of online learning did not meet the expectations of students. Students believe that online learning has not provided better experience and productivity in skills acquisition but can provide motivation and ease in their learning. Some students mentioned that they had easy access to resources, but they were still reluctant to use them sustainably in the future. Almusharraf et.al. (2020) studied the learning experiences and level of satisfaction of post-secondary vocational students in Saudi Arabia, based on transformative learning theory (Mezirow J. 2000). The survey showed high levels of satisfaction with the online process as well as the Google Classroom and Moodle platforms. In a large-scale study conducted in China by Han et.al. (2020) with the participation of 270,732 vocational students, it was found that the online learning process was successful in that country and that the institutions met the challenges posed by the pandemic.

Despite the fact that, the literature review indicates that in several countries' studies have been conducted on the degree of satisfaction of vocational students with the process of online learning, no corresponding study has been conducted so far in the case of Greece. The aim of this paper is to study the degree of satisfaction of students at vocational schools in Greece from the process of online education and to investigate to what extent the educational goals and the challenges posed by the pandemic outbreak were met, respectively.

## 2. Methods

Cohort: In this study, a total of 768 learners were called to anonymously complete a concise and customized questionnaire of total duration about 10 minutes, as provided by Google forms.

The sample demographics are presented in Table 1.

*Table 1. Sample demographics.*

| Variable | Groups | N | Percent |
|---|---|---|---|
| **Gender** | Male | 238 | 31 % |
| | Female | 530 | 69 % |
| **Age group** | 18-25 | 274 | 35,4 % |
| | 26-35 | 138 | 17,8 % |
| | 36-45 | 198 | 25,6 % |
| | 46-55 | 128 | 16,5 % |
| | 55 or more | 36 | 4,7 % |
| **Higher level of education completed** | Higher education | 432 | 56,1 % |
| | Technical education | 176 | 22,9 % |
| | BSc | 138 | 17,9 % |
| | MSc | 24 | 3,1 % |

| | | | |
|---|---|---|---|
| **Family status** | Married | 284 | 37,5 % |
| | Not Married | 398 | 52,5 % |
| | Other | 76 | 10 % |
| **Children in family** | One | 76 | 24,4 % |
| | Two | 162 | 51,9 % |
| | Three | 50 | 16 % |
| | Four | 16 | 5,1 % |
| | More than four | 8 | 2,6 % |

Questionnaire: The questionnaire consisted of 28 questions, including both closed-ended and open-ended questions to facilitate the evaluation of the experience earned by distance learning, in a more holistic way.

Specifically, most questions, 23 out of 28, were closed-ended questions, of which 5 questions were about the attendants' demographic characteristics, 2 questions were about the by public Institutes of Vocational Training, 4 about the exploitation of asynchronous education platforms, 4 about the exploitation of synchronous education platforms, 2 about their general usage, and finally 6 of them were about the evaluation of the total experience of distance-learning.

On the other hand, the remaining 5 open-ended questions exhorted attendants to write down their opinions suggesting methods to optimize the efficiency of distance-learning.

Statistical Analysis: All the answers given by the 768 attendants were selected, processed, and statistically analyzed, exploiting the Statistical software of SPSS version 24.0 (2016).

## 3. Results

Participants showed moderate levels of satisfaction both in terms of whether they enhanced their skills through the online learning process and whether their need for online training was met. The results are depicted on Figure 1.

*Figure 1. Evaluation of skills' enhancement and training satisfaction.*
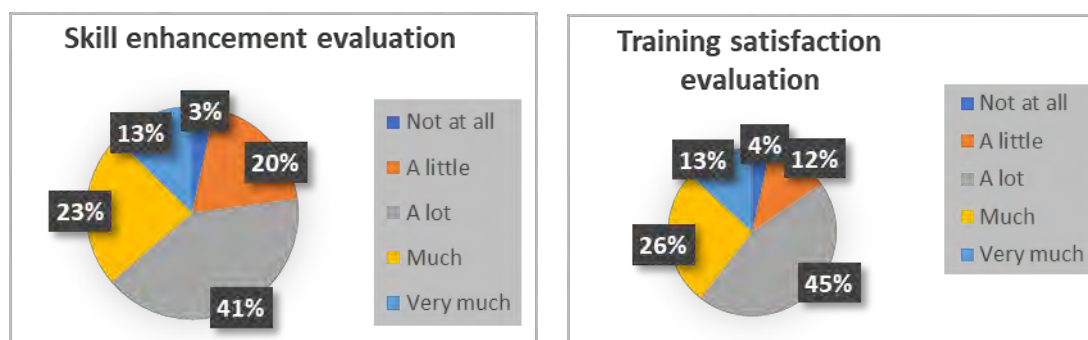


As far as the synchronous training platforms are concerned, most of the participants state that they mainly use the Webex platform at a rate of 91%, followed by the Zoom platform at a rate of 62%. In addition, the five-pointed scale of satisfaction using the Webex platform achieved a score (mean ± sd) = 4.00 ± 1.193 while the corresponding score for the Zoom platform was 3.57 ±1.312. On the other hand, in terms of asynchronous training platforms the majority of participants used the e-class platform at a rate of 74%, while lower percentages received platforms such as the Moodle and the Google Classroom with percentages of 28.6% and 27.8% respectively. Regarding the corresponding user satisfaction ratings, the scores were 3.28 ± 1,218, 1.47 ± 0.936, and 1.68 ± 1.194 for each one of the above-mentioned asynchronous platforms, respectively.

Furthermore, participants were asked to state how frequently they used the above-mentioned platforms before the pandemic. In addition to that, they reported their familiarity with the usage of these platforms before and after the period of the pandemic. The results of these questions showed a low-level in the use of these platforms before the pandemic, while regarding the familiarity of usage results indicated that it has been raised from 2,6 to 4,12.

## 4. Discussion

This study aims to evaluate the degree of satisfaction of students at vocational schools in Greece obtained from the process of online education and to investigate the extent to which the set educational

goals were met and the extent to which the challenges posed by the pandemic outbreak were met. The research shows moderate percentages of satisfaction from the enhancement of students' skills and from the coverage of their educational needs. This result suggests that the respective curricula need to be redefined in order to be able to meet the new challenges dealing with the modern digital education environment. Nevertheless, the trainees showed a high adaptation to the new digital environment of synchronous and asynchronous online education and a high rate of adaptation to the new conditions. Future research efforts should include a larger sample and investigate whether the weaknesses and failures of online education identified in the present study during the pandemic, have been mitigated.

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