



In-depth Examination of Attitudes towards Distance Education in Students Attending a Special Education Preparation Program

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Students' attitudes towards Distance Education (DE) could easily affect a relative program's success, as well as participants' satisfaction. This is why a DE provider should examine future or current participants' attitudes. The aim of the present study was to examine the attitudes towards DE in the context of an online program on the field of special education. Six hundred and ninety-one participants answered a questionnaire of 22 items and 3 subscales concerning attitudes. The results revealed slightly positive attitudes (as a whole) towards DE, slightly positive attitudes as far as the affective component was concerned, definitely positive attitudes regarding their beliefs about DE and their intention to participate in a DE program, and negative attitudes towards DE when it was compared to the traditional model. Moreover, the analysis revealed no possible impact of age and gender on participants' attitudes. Findings of the present study could be very useful in planning DE programs for special education teachers/ trainees.

Keywords: attitudes, distance education, special education, online learning, trainees

INTRODUCTION

Nowadays, more than ever Distance Education (DE) has become a crucial component of education delivery mode because of the COVID-19 pandemic crisis. Institutions and educational entities are still divided on how to continue their education practice. On one hand, DE constitutes the proper education solution to protect students in cases of crisis. On the other hand, the whole system – educational institutions/ entities, instructors and students – was not appropriately prepared, as it has been suggested by relative researches (Alomyan, 2021; Andarwulan et al., 2021; Hopcan et al., 2021).

However, DE in the context of COVID-19 crisis should be carefully examined, whereas the relative data should be properly interpreted. The whole operation of turning face-to-face education into online, technology-based, distance education emerged as an

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emergency for which both education providers and receivers were not adequately prepared. Thus, DE should not be studied only within a specific frame, but also holistically – examining gaps or challenges, success factors and participants' predisposition. In this direction, a specialized tool examining thoroughly participants' attitudes would add value in the preparation of a DE program.

Literature Review

It is generally accepted that DE is a very convenient education delivery mode since the heterogeneity of students requires flexible programs with reference to place and time in which teaching and learning take place (O'Malley & McCraw, 1999). Heterogeneity lies on marital status with or without children (Tekinarslan, 2008), work status – part-time/full-time job (Bisciglia & Monk-Turner, 2002), geographical distance (DeMario & Heinze, 2001), and students' age (Erdogan et al., 2008). Thus, as students strive to balance between enhanced obligations, i.e. study, work and family life, they tend to opt in favor of more flexible educational programs (Kemp & Grieve, 2014) feeling more motivated (Erdogan et al., 2008) towards DE.

Gender appears to be another variable that influences students' preferences. Yound and McSporrnan (2001) found that online courses favour not only older students, but also women who appear more motivated, more eager and efficient in online communication and scheduling. In contrast, males seem to struggle more than their female peers in online education (Xu & Jaggars, 2013). Hiltz and Shea (2005) attributed women's greater confidence in online learning to the formers' higher verbal skills and greater inclination toward collaborative learning environments.

Positive attitudes are intensified when special programs are realized through DE. For instance, local centres that could provide specialized programs on the field of visual impairment are scarce (McLinden et al., 2007). Indeed, online preparation programs for special education teachers confront the accessibility challenge while they give geographically distant candidates the opportunity to participate (Ottley et al., 2019).

However, it seems that DE is not fully accepted because of a series of deficiencies. It has been suggested that the main disadvantage of DE is the isolation of students and the lack of interaction among the students as well as between the students and the teachers (Leporini & Buzzi, 2007). Kim et al. (2012) found that student-student and student-faculty staff interaction was a predictor of DE participants' satisfaction. On the other hand, DE requires specific skills from the participants so that they can attend a DE program efficiently. Self-management and independent learning skills (Bernard et al., 2004), as well as self-motivation are some of them. Self-motivation, specifically, is considered the best way to achieve learning (Ghani & Deshpande, 1994), upgrade someone's knowledge and succeed (Chan & Ahern, 1999). In addition, digital literacy (Yahaya & Latiff, 2020) and the support from an e-mentor (Hopcan et al., 2021) could raise the participants readiness.

For these reasons, there is the impression that DE is not as qualitative as the traditional classroom-based education (Bernard et al., 2004), and maybe that is why many educational organizations have adopted the “blended” model (Franco, 2007).

In any case, students’ attitudes towards DE should be evaluated before their actual participation in a DE program. Otherwise, their participation might be too challenging for them to continue participating in the program. Positive attitudes can help students to manage their stress during the DE program, and tune into its requirements. Furthermore, beliefs about DE can be a positive predictor of success in DE programs (Bernard et al., 2004). On the contrary, negative beliefs may lead to higher dropout rates, limited satisfaction, and absence of a strong motivation (Mullenburg & Berge, 2005).

In this point, it is necessary to explain what the term ‘attitude’ stands for. Pant (2005) suggested that ‘attitude’ is what people feel or believe, and since it is not easy to specify these, researchers try to elicit people’s feelings and beliefs (Best & Kahn, 1989). Thus, if someone attempted to conceptualize attitude, they would probably face a multi-dimensional construct. Theorists have alleged that attitude is structured upon three axes: the cognitive, the affective and the behavioural (for a review see Shaw, & Wright, 1967). Similarly, Rosenberg and Hovland (1960) suggested that ‘attitude’ is someone’s cognitive, affective and behavioural responses towards a situation or an object, while Krech et al. (1962) considered ‘attitude’ as an enduring system of conditions, feelings and response intention for a specific object. Other theorists claimed that ‘attitude’ is composed of two components, the cognitive and the affective component [for a review see Lawton, Conner, & McEachan, 2009]. In the present study, ‘attitude’ is considered to be a complex construct where cognitive, affective, and intention/predisposition are fundamental components.

The significance of measuring the participants’ (students or faculty members’) attitudes towards distance/ online learning/ education has been recognized before, and relative instruments have been developed (Bernard et al., 2004; Mishra & Panda, 2007; O’Malley & McCraw, 1999; Tekinarslan, 2008) in an effort to raise a programs’ success. However, the use of a specialized tool for an in-depth examination of attitudes towards distance/ online education within a special education preparation program has not been detected. Special education programs focusing on the preparation of teachers address accessibility issues and examine specific aspects of education. Considering both the current situation which necessitates the education from a distance in all – general and special - subjects, and the challenges DE programs face mainly because of participants attitudes, it seems important to take a thorough look on how attitudes are formed.

Study

The aim of the present study was to examine the attitudes towards DE in the context of an online – synchronous and asynchronous – program on the field of special education. The specific objectives were:

1. The assessment of the students' attitudes as a whole and in each specific component/ subscale towards the DE program they attended.
2. The detection of a possible correlation between age and attitudes (as a whole and with reference to each specific component/ subscale).
3. The detection of a possible correlation between gender and attitudes (as a whole and with reference to each specific component/ subscale).

METHOD

Participants

Six hundred and ninety-one (691) adults took part in the research. The sample consisted of 98 males and 593 females. Their ages ranged from 23 years to 56 years ($M = 34.6$, $SD = 8.20$). The background of the participants was based on social sciences with the majority of them being educators (preschool, primary and secondary education) and a great proportion of them being psychologists. All students used personal computers at home. Participants were recruited from the 1300 students who participated in a 440-hour DE program in Special Education, organized and delivered by the University of Macedonia (in Greece). Six hundred and ninety-one (691) of the 1300 students agreed to participate in this research and responded to the questionnaire.

Instruments and Procedures

Many questionnaires have been created to investigate the attitudes (Bernard et al., 2004; Mishra & Panda, 2007; Koustriava & Papadopoulos, 2014; O'Malley & McCraw, 1999; Tekinarslan, 2008) and/or the readiness (Bernard et al., 2004; Koustriava, 2021) of the prospective participants in a DE program.

In the present study, the questionnaire of Koustriava and Papadopoulos (2014) measuring the attitudes towards DE was employed. This questionnaire consists of 22 items divided into three subscales: the 1st subscale (1-9 items) refers to *Attitudes - cognitive component and intention to participate*; the 2nd subscale (10-13 items) refers to *Attitudes - affective component*, and the 3rd subscale (14-22 items) to *Attitudes - comparison between distance and traditional education*.

A 5-point Likert scale (totally disagree, disagree, don't know, agree, totally agree) was used as the response system. The positively formulated items (e.g., Q1, Q2) were scored as follows: *totally disagree* = -2, *disagree* = -1, *don't know* = 0, *agree* = 1, *totally agree* = 2. The questionnaire includes also negatively formulated items (e.g., Q3, Q7, Q13) which were scored in reverse (for example, *agree* = -1). A total score equal to zero indicated a neutral attitude towards DE. Thus, the higher the score, the more positive the

attitudes of the participants towards DE, and the lowest (negative) the more negative towards DE. *Cronbach's alpha coefficients* for the overall questionnaire and the 1st, 2nd, and 3rd subscale were: $\alpha = .87$, $\alpha = .78$, $\alpha = .69$, and $\alpha = .80$, respectively.

Initially, the participants attended a DE program in special education that combined synchronous and asynchronous learning. The 440 hours of the program were organized as follows: 22 hours to synchronous training via teleconference, and 418 were devoted to asynchronous education in the context of a self-learning framework (homework study and writing of two review papers). Educational materials included digital books, notes, journal articles, and scientific documents of the trainers. The students had, also, access to scientific journals and books that were included in international databases through the University' library.

With the completion of the synchronous education participants were explained the aim of the study and asked to participate in the research by answering to the questionnaire. The data were collected after one-month period through the tool SurveyMonkey.

FINDINGS

The first objective of the present study was the assessment the students' attitudes as a whole and in each specific component/ subscale of attitudes towards the DE program on special education they attended. For this reason, means and standard deviations (SD) of the total score and the score in each subscale were calculated and are presented on Table 1. By dividing the total score and the score in each subscale with the number of questions in each case, the mean scores per item (Mpl) for the whole questionnaire and its subscales were produced (see the last column – form left to right – of Table 1).

Table 1

Participants' minimum (Min), maximum (Max), mean score (Mean), and mean score per item (Mpl)

	Min	Max	Mean	SD	Mpl
1 st Subscale: Cognitive component and intention to participate	-7	18	8.24	4.71	0.92
2 nd Subscale: Affective component	-8	8	2.38	2.81	0.60
3 rd Subscale: Comparison between distance and traditional education	-16	14	-2.08	5.67	-0.23
Total	-22	39	8.54	11.00	.039

Considering both the mean scores and the Likert scale on which the answers were based, the participants' answers revealed slightly positive attitudes towards DE as a whole ($M = .39$), slightly positive emotions towards DE according to the affective component of attitudes (2nd subscale; $M = .60$), and slightly negative attitudes when DE is compared to the traditional model of education (3rd subscale; $M = -.23$). Furthermore, the participants' answers presented positive attitudes as far as the cognitive component of attitudes and participants' intention to participate in a DE program were concerned (1st subscale; $M = .92$).

The highest scores were detected for the item 7 ($M = 1.162$), the item 8 ($M = 1.252$), and the item 9 ($M = 1.168$):

Q7: I would not choose distance education as the mode of being educated on a subject even if there was not any other option.

Q8: I would like to participate in distance education program.

Q9: I could devote at least 2-3 hours per week to an online class.

On the other hand, the lowest mean scores were detected for the item 14 ($M = -1.022$), the item 17 ($M = -0.734$), and the item 21 ($M = -0.884$):

Q14: Distance education is more effective than the traditional education model.

Q17: I prefer distance education to the traditional education model.

Q21: I believe that face to face contact with the teacher is necessary for an effective education.

In addition, the impact of the students' age on their attitudes (as a whole and with reference to each specific component/ subscale) has been set as the second specific objective of the present study. For this reason, correlation analysis was implemented to examine if there is an impact of the participants' age on their attitudes.

The analysis did not yield any statistically significant correlations between the variable "age" and the mean score for the total questionnaire or the mean score for each subscale separately. It should be mentioned, however, that the positive correlation between the age and the mean score for the 1st subscale was close to significant ($r = .071, p = .062$). The analysis on item level yielded statistically significant positive correlations between the age and the mean score of the item 4 ($r = .079, p < .05$), the item 7 ($r = .109, p < .01$) and the item 20 ($r = .079, p < .05$). These three items are presented below (for the total items of the questionnaire see Koustriava & Papadopoulos, 2014):

Q4: The combination of the traditional education model with distance education in the same program might have positive results.

Q7: I would not choose distance education as the mode of being educated on a subject even if there was not any other option.

Q20: Distance education would enable me to attend classes more frequently than traditional education.

Thus, the greater the age of the participants the higher their opinions' convergence on the declaration "*the combination of the traditional education model with distance education in the same program might have positive results*", and the declaration "*distance education would enable me to attend classes more frequently than traditional education*". On the other hand, the greater the participants' age the higher their opinions' divergence on the declaration "*I would not choose distance education as the mode of being educated on a subject even if there was not any other option*".

Moreover, the third specific objective of the present study was the examination of the students' gender as a variable that could possibly influence their attitudes towards DE. In this direction, t-tests were implemented to examine the impact of the participants' gender on their attitudes. The differences between male and female participants were not statistically significant. Further analysis on item level yielded statistically significant differences ($t(689) = 2.215, p < .05$) only for the item 13 "*Distance education intimidates me*", where the male presented higher scores compared to female participants.

DISCUSSION

Based on the analysis of the data collected to cover the first specific objective of the present research, the participants had slightly positive attitudes towards DE. The attitudes of the participants based on attitudes' affective component were slightly positive, while their beliefs about DE and their intention to participate in a DE program were definitely positive. Thus, according to the results, the participants appeared to be positive towards DE. The participants appeared to believe in DE, they wanted to participate in similar programs – they were willing to devote much of their time (at least 2-3 hours per week) to DE – and they felt positively in this perspective.

As mentioned before, it is necessary to study DE within and outside a specific frame. In general, and according to previous researches, people are positive towards web-enhanced teaching (Erdogan et al., 2008), internet-based learning (Tekinarslan, 2008), online learning (O'Malley & McCraw, 1999) and multimedia approaches to teaching (Pant, 2005) when this is provided in the context of higher, continuing or lifelong education. However, DE has turned into the main education delivery mode during the COVID-19 pandemic for all education grades, mainstream and special education. Initially, the whole system of education providers, teachers and students was not prepared not only psychologically (Alomyan, 2021), but also with reference to technical equipment, adapted educational material, and the required skills both for educators and students (Alomyan, 2021; Hopcan et al., 2021; Andarwulan et al., 2021). In the present study, the participants appeared positive though the research took place into the COVID-19 era. However, the research took place more than a year after the introduction of DE as the main education modality. This means that society was more familiar with DE and the whole system was better prepared. In addition, the participants of the present study were also graduates of higher education and took the course/ seminar that was provided in the context of lifelong learning and vocational expertise. This means that they were more motivated and, mainly, self-motivated. It is for the same reason why the participants of the Yahaya and Latiff's (2021) research found DE during the pandemic useful enough. They specifically mentioned that the improvement of skills in technology usage, and digital literacy increased their acceptance of DE.

On the other hand, when DE was compared to the traditional delivery mode of education the present study participants' attitudes appeared slightly negative. They highlighted the fact that they did not consider DE to be more effective than traditional model, they

found face-to-face interaction significant enough for an effective educational practice, and, thus, they would never prefer DE over the traditional model.

The above described results coincide with the results of O'Malley and McCraw's (1999) research, where participants clearly stated that they did not think that distance learning could be more effective than the traditional model, they would not choose distance learning over traditional courses since they found the latter more effective as far as learning was concerned. Moreover, the importance of face-to-face interaction (Tekinarslan, 2008) or the increased interaction in the context of on campus education compared to the more reduced interaction of DE (Kim et al., 2012) is a strong factor for preferring the traditional model.

Another factor that might have an impact on attitudes towards DE is age and that is why the investigation of its impact on participants' attitudes was set as the second specific objective of the present research. According to previous researches, increased familial or vocational obligations (Tekinarslan, 2008) and enhanced motivation (Erdogan et al., 2008) that normally appear in elder students who strive to balance between various obligations (i.e. study, work and family) (Kemp & Grieve, 2014) make them more positive or successful in DE. In the present study, age was not found to affect attitudes (as a whole and in each subscale). This is in line with the research of Erdogan et al. (2008) where no statistical significance was found between age and attitudes. However, in the study of Tekinarslan (2008) the elder participants were more positive towards DE. This seemingly deviates from the findings of the present study, but it can be well justified. In the former research, the statistically significant divergence occurred between the groups with the lower (17-21 and 22-26 years old) and the groups with the higher age (27-56 as a total). This means that after the age of 26 the deviations between the age groups are reduced since people aged more over 26 present more common characteristics, such as marital status, work demands, career orientation and increased motivation. This could easily explain the lack of correlation between age and attitudes (as a whole and in each subscale) of the present research where the younger participant was 23 years old and the mean age of the sample was 34,6 years. This could, also, explain the correlation between the age and the participants declaration that a DE program would help them to be more punctual in their attendance in the class.

Finally, based on the third objective, the present research aimed at examining the impact of gender on participants' attitudes. To this goal, the analyses conducted revealed no correlation between attitudes and gender. Female and male participants appeared to agree with each other. As in the variable of age (see above), this result is in line with the results of Erdogan et al.'s (2008) research, but deviates from the findings of Tekinarslan's (2008) research where male learners proved to be more positive than female. It should be noted, however, that in the latter the group of male participants was numerically much greater than the group of female participants, while the present study presents a reverse disproportion. Besides, in the research of Tekinarslan (2008) statistical significance was found only for the subscales of affective and communication components of attitudes. In the present study, also male and female participants differed in their declaration of DE intimidating them, with the male participants feeling less

intimidated. This, comes, also, in contradiction with the findings of previous surveys, which suggested that female students feel more confident and motivated in online courses (Hiltz & Shea, 2005; McSporrán, 2001; Xu & Jaggars, 2013). Again, the lack of male and female sub-groups' numerical equation in the present study could count for the reverse results. A number of male participants closer to the number of female participants could possibly present different attitudes towards DE as a whole or in its different components.

Suggestions and Implications for practice

Findings of the present study could be very useful in planning DE programs in special education. This study supports the idea that attitudes are more positive when there is the necessary motivation to the participants, and providers of DE programs should work towards this direction. Traditional model appears superior to DE even in the COVID-19 era, which means that a lot of work needs to be done to close the gap between these two delivery modes, especially towards interaction and communication issues in the field of DE. Future researches should try to provide solutions and elaborate such mechanisms.

LIMITATIONS

The present research includes an unbalanced sample of participants with reference to gender. A more balanced sample might have led to more concrete results regarding female and male participants' attitudes towards DE. Furthermore, a more qualitative approach of participants' attitudes would have shed light on hidden aspects of attitudes, such as what attributes of the program would have raised its effectiveness or participants' satisfaction.

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