The Level of Proficiency Of Special Education Teachers and their Opinions on Instructional Technologies

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Abstract

In this study, the aim is to determine the proficiency of special education teachers in terms of using instructional technologies in the TRNC. A total of 80 special education teachers from rehabilitation institutes in Famagusta, Kyrenia, and Nicosia participated in this study in the 2016 – 2017 education year, of whom 45 were women and 45 were men. The quantitative research method was used and, in terms of collection tools, a demographic information form along with an opinion survey aimed at defining their usage and skill levels of special education teachers in the TRNC related to the use of instructional technologies were used. The data were analysed with the SPSS 20.00 program. Based on the results of the analysis, it was found that the level of using educational technologies was low. According to the data which was obtained from teachers' opinions, the special education teachers were in favour of using instructional technologies in their lessons. When the results of this study are considered, it can be observed that the special education teachers who have been working in the TRNC are in favour of using instructional technologies in their classes; however, they are lacking in terms of equipment and knowledge.

Keywords: Special education, teachers, instructional technologies, skill levels

1. Introduction

The rapid development of technology has affected different areas and it has created new methods along with different perspectives. Along with technology, science has also been progressing rapidly, facilitating activities in daily life and removing the obstacles that block access to knowledge and thus expediting the process (Hacıömeroğlu, 2016). Undeniably, education is one of the departments in which technology is actively used. New educational trends have been observed as a result of the integration of technology (İzci & Eroğlu, 2016). Replacing traditional education methods, the use of instructional technologies has become widespread in education with student-centred education methods. The opinions that teachers have towards technology, their level of proficiency and also their attitude can affect the students' adaptation process. In this content, the key factor in the process of integrating technology into education is teachers (Çakır & Oktay, 2013).

The use of Instructional technologies is an approach which aims to generate permanent learning with technology and to develop education that is integrated with technology (Demirel & Yağcı, 2017). The primary aim of instructional technologies is for students to acquire knowledge effectively and permanently (Gedik, 2017). Instructional technologies have an important role in

making knowledge permanent and it provides significant opportunities for students to improve themselves through lifelong learning (Teralı & Tuğun, 2011).

Instructional technologies provide the opportunity to expedite the learning of students with the tools and materials used. These tools and materials include the Internet, projection and Microsoft Office programs (Demirel & Yağcı, 2017). Teachers largely prefer to use projection, computers and MS office programs during their lessons (Özçiftçi & Çakır, 2015). Because the technology is continually improving and growing, the tools and materials that are used in education have also changed significantly. When technology such as computers, the Internet, projection, multimedia, etc. are combined with education, the process of learning becomes more permanent and they also have an important role in enhancing the education (İşman, 2015).

Önal and Çakır (2016) defined in their study that computers and projection are the most important tools that Mathematics teachers use in their lessons. They also emphasized that it is important that they are competent in the application of MS Office software programs that they use to prepare applications to transfer knowledge via projection. It is important for teachers and candidate teachers to use instructional technologies permanently and to integrate technology successfully into education (Cabı & Ergün, 2016).

The technology that is used in education, like in all other departments, contributes significantly to the individuals who have special education requirements (Yaman Dönmez, Avcı & Yurdakul, 2016). With the help of improved technology that is becoming more widely integrated into education, this has also enabled technology to begin to be used in special education. Koehler and Mishra (2008) stated that if the special education teachers' level of proficiency in terms knowledge of content, pedagogy and technological information is satisfactory, they will find it easy to use instructional technologies and to apply them in their teaching environments.

Throughout the studies held Angeli's (2004) study on teacher candidates show that; they had been incompetent in using computers during their teaching. Additionally, Gündüz & Odabası (2004)'s study states that the teachers needed to integrate their lessons with the technology in order to grow members of the information society. On the other hand, Ulaş & Ozan (2010)'s study about classroom teachers shows that the teachers rarely used the internet-based technologies and they did not have sufficient necessary for using these technologies. Koehler et. al. (2014) emphasize that; the relationship between the teachers and pedagogical and technological knowledge has been positive in interaction in order to produce an effective teaching. Messina & Tabone (2015)'s studies observed that there had been an increase in terms of teacher self-confidence who use technological software and tools. According to many studies related to this topic; the technological tools had been enriching the media and providing fast and perpetual learning. Furthermore, these tools have been effective in terms of increasing lesson interest and student learning eagerness. (Aksal, 2011; Delen, Erhan & Bulut, 2011; Kenar, 2012; Saracaloğlu et. al.).

In the literature, it is identified that the most important factor in the process of integrating technology into education is the skills and attitudes of the teachers' towards using technology. Within this context, it of significant importance for special education teachers to follow and use technology. In this study, the aim is to define the proficiency levels of special education teachers who are working in special education schools in the TRNC related to their use of technology, their attitudes towards using instructional technologies and their opinions about technology.

1.1. Aim of the Study

The aim of this study is to determine the relationship between the level of the skills of the special education teachers who are working in special education schools and rehabilitation institutes in TRNC and their opinions about using instructional technologies in their lessons. Within this context, answers to the following questions are sought:

In regard to the special education teachers:
1. What are their proficiency levels in terms of instructional technologies?
2. What are their opinions towards using instructional technologies?

1.2. Importance

With the help of increasingly enriched educational technological software, the use of technology in education departments has become considerably more widespread. It can be clearly seen in the literature that using technologies in education has increased students' learning desire and it has made learning permanent. Special education students' interest in technological tools has revealed the importance of using technology in special education. Therefore, the special education teachers' opinions regarding instructional technologies and their efficiency in this field are of particular importance.

2. Method

2.1. Research Model

This study is a descriptive analysis and is conducted with the scanning method. In this context, the aim is to determine the nature of the relationship between the level of the skills of using instructional technologies of special education teachers who are in the TRNC as well as their opinions towards using these technologies.

2.2. Data Collection

Within this study, permission was taken from the head teachers from the special education rehabilitation institutes in Famagusta, Kyrenia, and Nicosia during the 2016-2017 academic year; subsequently, 80 special education teachers were reached, of whom 45 were female and 35 were male. Demographic information form, defining the proficiency levels of the special education teachers in the TRNC in terms of using instructional technologies, and an opinion survey regarding the use of this technology were used in this study.

2.3. Limitations

This study is limited to 80 special education teachers in Famagusta, Kyrenia, and Nicosia who were teaching during the 2016-2017 academic year.

2.4. Data Analysis

The data collected from the surveys were transferred to SPSS 20.00 program for analysis. In term of the scores for the proficiency levels regarding the use of technology, "1" referred to "insufficient", while "3" referred to "sufficient". In terms of the opinions regarding the technology, "1" referred to "strongly disagree", while "5" referred to "strongly agree".

3. Participants

In terms of gender distribution, 56.3% of the special education teachers who participated in this study were female (f=45), while 43.7% were male (f=35). Furthermore, in terms of the age ranges of the participants, 62.5% were 20-23 (f=50), while 37.5% were 24 or over (f=30).

When the teachers' occupational experience is considered, 52.5% (f=42) of them have had 2 years of experience, 20% of them (f=16) had 3-6 years, 8.8% of them (f=7) had 7-14 years and 18.8% of them (f=15) had 15 years.

When the teachers' usage of computers and mobile devices are considered, 20% of them (f=16) had used such devices for 3-6 years, 52.5% (f=42) had used them for 7-14 years and 27.5% of them had used (f=22) them for more than 15 years.

4. Results and Discussion

Table 1. The symptoms of the teachers' level of the skills of using instructional technologies of special education teachers

NO		N	Mean	SD
1	I can prepare presentations using software (such as PowerPoint, etc.) and present them in class	80	2.88	.51
2	I can prepare course notes using Microsoft Office programs (such as Word, Excel, etc.)	80	2.87	.56
3	I can download appropriate videos from the Internet according to the content of the lesson	80	2.85	.54
4	I can share my virtual course notes that I have prepared online	80	2.83	.55
5	I can record videos for the lessons and share them with the students or publish them online	80	2.88	.51
6	I can use smartboards in the classroom	80	1.51	.69
7	I can create and apply a quiz in the virtual environment	80	1.35	.65
8	I can create virtual animations according to the lesson	80	1.27	.59
9	I can prepare 3D models with augmented reality technology or download the ready/prepared models and use them in the lessons	80	1.22	.50
10	I can create e-books according to content of the lesson	80	1.22	.52

In Table 1, the responses in terms of the teachers' proficiency levels regarding instructional technologies for special education teachers were placed in order from "sufficient" to "insufficient". The teachers who participated in this study answered "**sufficient**" to the statements: "I can prepare presentations using software (such as PowerPoint, etc.) and present them in class" (M: 2.88, SD:.51); "I can prepare course notes using Microsoft Office programs (such as Word, Excel, etc.)" (M: 2.87, SD: .56); "I can download appropriate videos from the Internet according to the content of the lesson" (M: 2.85, SD: .54); "I can share my virtual course notes that I have prepared online" (M: 2.83, SD: .55); "I can record videos for the lessons and share them with the students or publish them online" (M: 2.88, SD: .51).

However, the items "I can use smartboards in the classroom" (M: 1.35, SD: .69); "I can create and apply a quiz in the virtual environment" (M: 1.35, SD: .65); "I can create virtual animations according to the lesson" (M: 1.27, SD: .59); "I can prepare 3D models with augmented reality technology or download the ready/prepared models and use them in the lessons" (M: 1.22, SD: .50); "I can create e-books according to content of the lesson" (M: 1.22, SD: .52) were answered as "**insufficient**" on average. In the study by Çelik and Gündüz (2015), the results showed that the knowledge of the teachers regarding software and technology for using smartboards was insufficient. They identified that in-service training about the use of instructional technologies must be given to the teachers. According to the data in Table 1, it can be seen that although the special education teachers are able to use MS Office programs, they are insufficient in adapting themselves to new instructional technologies.

In Table 2, the opinions of the teachers were put in order from "strongly disagree" to "strongly agree". The special education teachers answered "**strongly agree**" to the statements "The content of the lessons is up to date" (M: 4.38, SD: .92); "They are memorable/catchy" (M: 4.27, SD: .89); "it provides repetition/double check" (M: 4.27, SD: .82); "It increases the interest in the lesson" (M: 4.26, SD: 1.05); "It facilitates learning" (M: 4.25 SD: .90) in relation to the use of instructional technologies. However, they answered "**agree**" to the statements "It expedites learning" (M: 4.19, SD: .89); "It encourages active participation in the lesson" (M: 4.11, SD: .95); "It enables interactive learning" (M: 4.12, SD: 1.04); "It motivates the students who are bored during the lesson" (M: 4.11, SD: .95); "It facilitates access to materials" (M: 4.11, SD: 1.04), "It

increases the effect of individual learning" (M: 4.10, SD: 1.06); "its easy accessibility increases its utilization" (M: 4.10, SD: 1.06); "It removes the restrictions of space and time" (M: 3.98, SD: 1.01); "It provides learning supported by games" (M: 3.96, SD: 1.08), "It provides cooperative learning" (M: 3.80, SD: 1.19).

Table 2. Special education teachers' Opinions on Instructional Technologies

NO		N	M	SD
1	The content of the lessons is up to date	80	4.38	.92
2	They are memorable/catchy	80	4.27	.89
3	It provides repetition/double check	80	4.27	.82
4	It increases the interest in the lesson	80	4.26	1.05
5	It facilitates learning	80	4.25	.90
6	It expedites learning	80	4.19	.89
7	It encourages active participation in the lesson	80	4.17	1.04
8	It enables interactive learning	80	4.12	1.04
9	It motivates the students who are bored during the lesson	80	4.11	.95
10	It facilitates access to materials	80	4.11	1.04
11	It increases the effect of individual learning	80	4.10	1.06
12	its easy accessibility increases its utilization	80	4.03	1.06
13	It removes the restrictions of space and time	80	3.98	1.01
14	It provides learning supported by games	80	3.96	1.08
15	It provides cooperative learning	80	3.80	1.19

1-Strongly Disagree, 2-Disagree, 3-Neutral, 4-Agree, 5-Strongly Agree

In the study conducted by Sakız, Özden, Aksu and Şimşek (2014), the results demonstrated that using instructional technologies and smartboards in science and technology lessons makes learning more effective and permanent. In the questions asked in the survey, the respondents stated that using smartboards increases enjoyment and facilitates learning, which are similar results to the present study.

5. Conclusion and Further Studies

According to the opinions obtained from this study, when the special education teachers' use of instructional technologies is considered, it was found that they use Microsoft Office programs and prepare presentations, and they also prepare and share their course notes. However, the special education teachers who were able to record or share videos with a variety of tools are unfortunately insufficient in using smartboards, creating e-books and virtual animation videos with augmented reality and 3D technologies. When the special education teachers' opinions are considered, it can be seen that they gave positive feedback about increasing their knowledge on up-to-date educational methods, that technology would increase student interest in lessons, it facilitates and expedites learning, it removes the concept of space and time, and also it provides cooperative learning. Future research should be conducted in experimental studies in which the special education teachers will be given in-service training related to their insufficiencies in new instructional technologies that are used in education.

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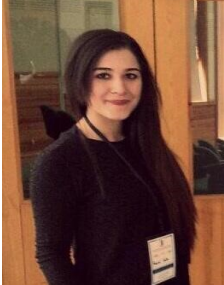
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