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**Opinions of special education students on distance education certificate programs**

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**Abstract:** In this study, the opinions of the undergraduate, graduate and PhD students were taken who study in the special education department about the certificate programs opened by distance education for the individuals with physical, visual and hearing impairment. The Qualitative research method was used in the research. In this context, the researchers prepared the interview questions used in the research. 40 volunteer students from the Department of teaching who were mentally handicapped, MA and PHD programs for the special education have attended the research at the Near East University during 2015-2016-fall semester. The answers given by the students to the questions within the scope of the research were re-examined with the expert opinion and the results were later interpreted by using the induction technique. According to the results of this research, the provided education by distance education method with 24 hour access without time and space limitation gives great advantage to disabled individuals. The distance education certificate programs have also resulted in the employment opportunities for the people with hearing, sight and physical inability as enabling them to continue life without being isolated from the society. Certificate programs about surveyor training, e-marketing and working as an operator in call centers are given for the physically handicapped people. For the visually impaired people certificates are given in order to enable them to work as an operator in call centers, as translators, as online trainers. Lastly, certificates about training for sign language, graphic design, web design and programming are given to the people with hearing impairment

**Resumen:** En este estudio, se tomaron las opiniones de los estudiantes de grado, posgrado y doctorado que estudian en el departamento de educación especial sobre los programas de certificación abiertos por la educación a distancia para las personas con discapacidades físicas, visuales y auditivas. Método de investigación cualitativa se utilizó en la investigación. En este contexto, las preguntas de la entrevista utilizadas en la investigación fueron preparadas por los investigadores. 40 estudiantes voluntarios del Departamento de enseñanza para discapacitados mentales, programas de maestría y doctorado para la educación especial han asistido a la investigación en la Universidad de Oriente Próximo durante el semestre de otoño 2015-2016. Las respuestas dadas por los estudiantes a las preguntas dentro del alcance de la investigación fueron reexaminadas con la opinión de expertos y los resultados se interpretaron posteriormente mediante el uso de la técnica de inducción. De acuerdo con los resultados de esta investigación, proporcionar educación a través del método de educación a distancia con acceso las 24 horas sin limitación de tiempo y espacio brinda una gran ventaja a las personas discapacitadas. Los programas de certificación de educación a distancia también han dado como resultado oportunidades de empleo para las personas con audición, vista e incapacidad física que les permiten continuar la vida sin estar aislados de la sociedad. Los programas de certificación sobre capacitación de topógrafos, e-marketing y trabajo como operador en centros de llamadas se otorgan a las personas con discapacidades físicas. Para las personas con discapacidad visual, los certificados se otorgan para permitirles trabajar como operadores en centros de llamadas, como traductores como capacitadores en línea. Por último, los certificados de capacitación en lenguaje de señas, diseño gráfico, diseño web y programación se entregan a las personas con discapacidad auditiva

**Keywords:** Special education; Distance education; E-learning; Certificate

**Palabras clave:** Educación especial; Educación a distancia; E-aprendizaje; Certificado

## 1. Introduction

With the rapid growth of technology, the use of technology in education has now become widespread. Moreover, traditional education is being replaced by student-centered education with the use of educational technologies. The technological and scientific world is developing at such a remarkable pace that traditional teaching methods and techniques of information sharing and transferring are inadequate (Kayaduman, Sarikaya & Seferoglu, 2011; Birkollu, Yucesoy, Baglama & Kanbul, 2017). Individuals with disabilities have different characteristics in terms of their level of development. Well-programmed computer-aided teaching software enables people with disabilities to progress according to their needs. The presentation of the information and the desired responses can be arranged separately for each individual. The individual determines their working hours independently according to their needs regardless of time and place (Demirhan, 2008). The Internet has become one of the vital ways to make available resources in learning area for both teachers and students to share and acquire information (Richard and Haya 2009). This emphasizes the importance of the necessary educational training programs and strategies that use technological tools and materials (Cabı & Ergun, 2016).

It is inevitable that the developments in technology will affect every part of life, including the learning-teaching processes. The expectation of modern schools is that they should be capable of educating individuals who are equipped with the skills to access and effectively use information (Uzunboylu & Tugun 2016; Yılmaz, Uredi & Akbaşlı, 2015; Baglama, Yikmis & Demirok, 2017). The widespread use of technological support in traditional educational settings has led to the implementation of technology in special education. The use of technology in education is provided in all areas including special education, providing convenience to many field instructors and students (Elicin & Tunali, 2016). The new and more effective technological materials are being developed and used in the field of education, as the contribution of technology to education and training continually increases. The inclusion of these materials into the education process reduces the time spent on accessing information (Bal & Bicen, 2016). The rapid development of modern technology also plays an important role in the education of people with disabilities (Goker, Ozaydin & Tekedere, 2016; Yilmaz & Naci, 2017).

The educational environment is particularly important for students with visual, hearing and physical disabilities. In the same manner as their social lives and the educational lives of people with disabilities are also limited by certain obstacles. The educational needs of these individuals can vary according to their disability. The occurrence of these difficulties stems from the lack of suitable learning environments for students with inadequacies. In this context, when assistive technologies are effectively used for individuals with various disabilities, it enables independent special education individuals to receive training independently, without any assistance (Lee & Templeton, 2008). The inability to hear causes individuals to not to perceive the word warning from the environment, and this situation leads to the lack of understanding and comprehension of vocabulary (Kaya, 2002). Along with the rapid development of technology and the increase of new technological devices for individuals with disabilities, the use of technology in the education of individuals with various inadequacies has increased (Sagirani, Ferdiana & Kumara, 2013). The most important benefit for visually impaired students is the use of auditory and verbal concepts (Kuzu, Odabasi & Girgin, 2011). It has been found that hearing-impaired learners learn more vocabulary from storybooks they read in digital multimedia than from traditional printed books (Donne & Briley, 2015).

As education and training are conducted with the support of process technology, technology is used effectively and adapted to the digital medium of organizing and sharing pedagogical information (Hu, 2012). In parallel with this rapid progress in the digital platform, it has become inevitable that the term distance education has emerged as a result of the increase of the individual's philosophy of independent and lifelong learning, it is the philosophy without the necessity to adhere to a certain time or place in the education and training process (Ozkanal &

Ozgur, 2017). Audio-visual environments are very important for the permanence of learning. The more sensory organs are mobilized during instruction, the more effective learning is. Training technologies shorten the teaching time, keep interest alive, embody abstract concepts, provide realistic experiences and create more learning will (Çakir, Çetin & Abidin, 2013). Distance education is an educational model in which education and training are implemented by using digital course materials, along with various visual and auditory instruments in a manner that is not dependent on time or place in accordance with determined targets and plans (Alkan,1987). The aim of distance education is to provide lifelong learning and to ensure that education and teaching can be provided students without requiring them to physically attend the school or to adhere to a fixed timetable. In this respect, it emphasizes the importance of the students who continue their education in the contexts in order to carry out their teaching activities afterwards (Ekici, 2003).

Distance education is realized by the sharing of information between educator and the student in the virtual environment. This form of education is not only important in terms of general education school but it is also relevant to certification programs and has increased in popularity. Distance education and certification programs are realized through online training sessions (Natarajan, 2015). Distance Education Certificate Programs use teaching management systems, such as e-educator, diverse blogs, live diaries, discussion groups, videos, chat forums and virtual classroom activities and these have acquired a different educational dimension. Distance education certificate programs are implemented as online training programs conducted by Distance Education Center units from various universities in Turkey (Fidan, 2016; Ozturk, Eyikara & Baykara, 2017).

Certification programs, which are realized with distance education, adopt the philosophy of learning by all individuals and living individually (Gulbahar & Karatas, 2016; Yalcinkaya, 2012) According to Tao et al. (2006), this new environment for learning that is centered on electronic networks, has allowed learners to receive individualized support and also to have learning schedules that is more suitable to them as well as separate from other learners. E-learning in students which is characterized by the use of multimedia constructs, made the process of learning more active, interesting and enjoyable (Arkorful & Abaidoo, 2015). By using the opportunities provided by information technologies, learning environments and learning materials that are suitable for the needs of hearing-impaired individuals can be arranged and their disadvantaged situations can be minimized according to their normally developed peers (Kuzu, Odabaş & Girgin 2011). In this context, integrating the education to the technology has played an important role in strengthening students' learning so that it enables them to discover their abilities (Bicen & Uzunboylu, 2013; Laborda, Uzunboylu & Ross, 2016). The training given within the scope of the distance education certificate programs is designed by preparing training programs with the aim that applied and institutional information can be learned from a distance. After completing the program successfully, individuals can find job opportunities in their desired professions (Erguney, 2015; Yuzer, Firat & Dincer, 2016).

When integrating technology with special education, it is necessary to set educational targets for the needs of individuals with disabilities, also to create online training programs, to monitor and apply rapidly changing technology, and to provide opportunities for every student to have equal access to technological resources (Eliçin & Tunalı, 2016). Visually impaired individuals should be able to live together with the society, to be educated on an equal basis as everyone, and to use technology to create jobs in many different areas. With the help of computer technology, the visually impaired person can read his own book without the need for another person, can use the internet to prepare his own notes, or even she or he can be a computer programmer (Emiroğlu, 2008). As a result, information technology has become a highly important sector in terms of employment. In this area, barriers can be overcome through allowing individuals with disabilities to be employed in these areas (Catalano, 2014; Baglama & Demirok, 2016). Steps have been taken to improve the education of visually impaired individuals and students, such as the creation of audio libraries with technology (Aydin, 2012). People who use tablets with

auditory stimuli have increased levels of learning. In particular, the development of voice services has improved accessibility for visually impaired individuals. Furthermore, it is important that the graphical interface has improved. With the touch and swipe technique, it is possible for these students to follow the vibrations and to access the desired resources by entering their handwriting (Emiroglu, 2008). Individuals with hearing impairment are at a disadvantage compared to other individuals due to their inadequate oral and written communication (Kara & Ciftci, 2008).

Consequently, researchers have shown increased interest in recent years regarding how technology can be used effectively in the education of individuals with special needs. This research aims to determine the opinions of prospective teachers regarding the use of distance education systems in the education of individuals with visual, hearing and physical disabilities.

### **1.1. Purpose of the research**

The purpose of this study is to determine the views of undergraduate, graduate and doctoral-level special education students on the use of distance education systems for individuals with hearing, vision and physical disabilities.

Answers to the following questions are sought in order to achieve this aim:

1. Distance education systems for individuals with hearing, vision, and physical disabilities;
  - a) What are the advantages?
  - b) What are the disadvantages?
2. Do distance learning certificate programs provide employment opportunities for individuals with hearing, vision and physical disabilities?
3. What distance education certificate programs can be offered for people with hearing, vision, and physical disabilities?

## **2. Materials and methods**

### **2.1. Model of the research**

Three qualitative interview questionnaires were created and conducted. The research is based on an interview-based inductive analysis model for qualitative research.

### **2.2. Working group**

The study group of this research was composed of 40 volunteer students studying at the graduate and doctoral level in the field of special education at Near East University. In total, 35 of these students were undergraduate students and 5 of them were doctoral students. Although the interview questions given for the study were distributed equally to undergraduate, graduate and doctorate level students, the number of interviews obtained was 40 and understandable.

### **2.3. Development of data collection tools**

An opinion form prepared by the researcher was used. This form consists of demographic information, and 3 open-ended questions. Expert opinion was taken to ensure the validity of the data collection tool and the final form was thus established.

### **2.4. Analysis of data**

The answers given by the students to the interview questions developed by the researcher were examined by taking expert opinion and the obtained results were interpreted by using the

induction technique. Expert opinion was employed throughout the study to improve the reliability of the obtained data.

## 2.5. Results

In this section, answers were given by the participants to the question 'What are the advantages and disadvantages of the distance education system for individuals with hearing, sight and physical disabilities?' were evaluated and interpreted.

As a result of the interviews, the data in [Table 1] and [Table 2] can be interpreted to determine whether the distance education system for individuals with hearing, sight, and physical disabilities is advantageous or disadvantageous for special education doctorate and graduate students. It can be said that the majority of participants believed that distance education systems would be advantageous. The disadvantage of the participants is that distance education systems enable socialization and the cost of the technology products required for distance education is emphasized.

**Table 1.**

Opinions on the advantages of distance education systems for individuals with hearing, sight and physical disabilities of 40 special education students participating in the research

<b>Advantage</b>	<b>F</b>	<b>%</b>
Easy access	35	87.5%
24-hour access	30	75%
Convenience of location	40	100%
Instant support	38	95%
Attention collection	20	50%
Ability to repeat the lesson	25	62.5%

**Table 2.**

Opinions on the disadvantages of distance education systems for individuals with hearing, sight and physical impairments of 40 special education students participating in the research

<b>Disadvantage</b>	<b>F</b>	<b>%</b>
Lack of education (in the use of technology)	20	50%
Economic inadequacy (problems with supplying a computer)	38	95%
Internet access problems	38	95%

In this section, the answers given by the participants to the question 'Is it possible to provide distance education certificate programs for people with hearing, sight, and physical disabilities?' are evaluated and interpreted.

As a result of the interviews, according to the opinions of the 40 participants, it is understood from the data in [Table 3] that 35 of them stated that individuals with disabilities have greater possibilities to find employment and they can easily apply for a job over the Internet. However, five of the participants stated that the certificate programs provided online, would be inadequate and that individuals would subsequently encounter difficulties in the business environment.

**Table 3.**

Opinions of 40 special education students who participated in the research on providing employment opportunities to individuals with hearing, sight, and physical disabilities through distance education systems

Can job opportunities be provided?	F	%
Yes	35	87.5%
No	5	12.5%

Providing education through the Internet for individuals who experience mobility problems and providing them with employment opportunities, can be particularly beneficial. Distance education reduces the problems that individuals with disabilities face in their daily lives, which also increases their self-confidence.

In this section, the answers given by participants to the question 'Which distance education certificate programs can be opened for individuals with hearing, sight and physical disabilities?' are assessed and interpreted.

**Table 4.**

Certificate programs for individuals with Hearing Disabilities, Vision Disabilities and Physical Disabilities

Individuals with hearing impairment	F	%	Individuals with visual disability	F	%	Individuals with physical disability	F	%
Sign language instructor	38	95%	Online Instructor	38	95%	Training of trainers	25	62.5%
Sign language interpreter	30	75%	Interpreter-ship	35	87.5%	Graphic design	35	87.5%
Online Instructor	15	37.5%	Computer operator	26	65%	Marketing	30	75%
Microsoft Office programs	36	90%	Call center operator training	38	95%	Call center operator training	40	100%
Graphic design	30	75%	Diction and effective speaking	30	75%	SPSS Trainer	10	25%
Web design and programming	35	87.5%				Web design and programming	15	37.5%
Interpreter-ship	20	50%				Interviewer training	20	50%

### 3. Conclusion and future studies

In the present study, research was conducted on the advantages, disadvantages, and also the benefits of the use of distance education in the teaching of visually, hearing and physically disabled individuals according to students on special education teaching programs.

This is particularly important when it is considered that technology is thought to facilitate the learning and daily lives of individuals in need of special education (Brodin & Lindstr, 2003).

In the computer aided teaching method, individualized educational materials are offered to students to learn according to their abilities and speed. Students with disabilities can learn

according to individual learning pace in specially organized computer-aided learning environments (Çiftçi, 2009).

In the context of this study, according to the special education teacher candidates; the participants identified a disadvantage that some individuals may not be adequate in using the technology materials, while claiming that transportation was an advantage, in response to the question: What are the advantages and disadvantages of distance education for individuals with special needs?.

We received a special group from a private group with distance education that can be taken 24 hours a day and can be connected from home with great advantage for disabled people. In this way, foreign education certificate increases the possibility of finding a job for disabled individuals. Programs that can be taken with distance education include certificates, online trainer, web design and programming, sign language education. (Süzen & Taşdelen, 2013).

Furthermore, the teacher candidates expressed the view that 24-hour information accessibility, lack of dependence on time or location, educational support and opportunities to repeat lessons continuously were the benefits. Zeng, Miao & Weber (2015) stated that assistant technology facilitated the life of the individuals with special needs by providing them with increased employment opportunities.

Çolak, Yüksel, Sunguray & Gümüş (2013), in their study of motion-based technologies, said that using such technologies in the education of individuals with special needs; the learning process of these individuals can be facilitated and the permanence of the learners can be achieved. They also stated that by joining 'distance education' and 'certificate programs' from any location of their choice, they would be able to find future employment with the certificates obtained from these programs without adhering to a specific place and they could also easily apply for employment opportunities through the Internet. Some participants stated that the certificate programs designed to be conducted on the Internet would be inadequate and the individuals would experience difficulties when entering to the business environment.

Providing education on the Internet for individuals who have transportation difficulties and creating employment opportunities, is a significant benefit. Distance education reduces the problems that individuals with disabilities face in their daily lives. This, on the contrary, increases the individual's self-confidence (Süzen & Taşdelen 2013). While these settings are in use, it is necessary to determine the degree of learning and how to evaluate the disabled individuals and also the individual differences should be taken into account according to the degree of deprivation and the degree of disability (Halimi, 2017; Menzi-Cetin, Alemdag, Tuzun & Yildiz, 2017).

As a result of the answers to the research questions given by the study participants, it is evident that certificate programs can be opened based on these findings. The rapid growth in technology, both in the educational environment and in the business environment, has become one of the most important aspects of modern life. The use of technology in our lives plays a significant role in adapting to the problems faced in society (Şemseddin & Odabaşı, 2004)

Distance education, which provides education without the limitation of time and space for individuals with various inadequacies, offers job opportunities by taking training in the field which they want (Tanyeri & Tüfekçi 2010). We can say from this study that we have resulted that the individuals who have hearing and physical disability can easily benefit from these certificate programs which are given with distance education without being adhering to a certain place and that employment opportunities with these certificates can increase. Distance education, which provides education to individuals with various disabilities without the limitations imposed by time and space, creates employment opportunities by enabling these individuals to receive training in their chosen field (Gurbulak & Esgin, 2016). The results of this study indicate

that individuals who have hearing or physical disabilities can easily benefit from these kinds of certificate programs that are given through distance education and that employment opportunities based on this certification can increase.

Education targets should be determined based on the needs of individuals with disabilities, online education should be established, new technologies must be observed and implemented, and moreover every student and individual should have equal access to technological resources (Gurbulak & Esgin, 2016). Based on the findings of this study, certification programs based on the interests of these individuals and the professions in which they can be employed; can be opened by providing the necessary technological support based on the needs of individuals with physical, visual and hearing impairments. According to the related literature, it can be suggested that the studies on the education of individuals with visual disturbance and hearing loss by distance education should be increased.

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