

Experiences of Turkish University Students with Visual Impairments

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Abstract

This study examined experiences of Turkish university students with visual impairments. Semi-structured phone interviews were conducted with eight students with visual impairments from six universities across the country about their experiences in higher education. The qualitative data analysis techniques including classical content analysis and constant comparison were utilized. As the result, it was understood that university students with visual impairments face academic and social challenges. Academic challenges included a lack of course materials available in alternative formats, reliance on audio-recorder in following instructions, and instructors' lack of knowledge. Social challenges that the students face was identified as dependency to parents and others' rude attitudes toward them. Lastly, accommodations and support services provided to these students were explored. It was observed that a very few universities offer necessary technical equipment to these students. In addition, student disability services at universities do not work sufficiently to meet the needs of students with visual impairments. The findings of this study are parallel to what was found in the previous studies on the same topic conducted in Turkey. Therefore, as the developing country, there is an urgent need for improvement in several areas to provide equal educational opportunities to students with visual impairments at universities. Some of the suggestions for the improvement in practice are organizing professional developments for university personnel and preparing students with visual impairment starting in kindergarten for universities by teaching all the skills they would need in the future.

Keywords: Students with visual impairments, university experiences, educational accommodations, support services



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Görme Yetersizliği Olan Türk Üniversite Öğrencilerinin Deneyimleri

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Öz

Bu çalışma görme yetersizliği olan Türk üniversite öğrencilerinin deneyimini incelemektedir. Altı üniversiteden sekiz görme yetersizliği olan üniversite öğrencisi ile onların üniversite deneyimleri üzerine yarı yapılandırılmış telefon görüşmesi yapılmıştır. Sonuçların incelenmesinde klasik içerik analizi ve devamlı karşılaştırma nitel veri analizi teknikleri kullanılmıştır. Sonuç olarak görme yetersizliği olan üniversite öğrencilerinin akademik ve sosyal zorluklarla karşılaştığı anlaşılmıştır. Akademik zorluklar alternatif formatta yetersiz ders materyalleri, ders takibi için ses kayıt cihazına bağlılık ve akademik personelin yetersiz bilgisi konularını kapsamaktadır. Öğrencilerin karşılaştığı sosyal zorluklar ise ebeveynlere bağlılık ve diğer insanların kaba davranışları konuları olarak tespit edilmiştir. Son olarak, bu öğrenciler için sağlanan düzenlemeler ve destek hizmetleri incelenmiştir. Çok az sayıda üniversitenin öğrencilerine gerekli teknik ekipmanı sunduğu gözlemlenmiştir. Buna ek olarak, üniversitelerin engelli öğrenci birimleri bu öğrencilerin ihtiyaçlarını karşılama hususunda yetersiz çalışmaktadır. Bu çalışmanın sonuçları Türkiye'de bu konuda yapılmış önceki çalışmalarla paralellik göstermektedir. Bu sebepten geliştirmekte olan bir ülke olarak görme yetersizliğinden etkilenmiş üniversite öğrencilerine eşit eğitim imkanları sunmak adına bazı alanlarda acil iyileştirmeye ihtiyaç duyulmaktadır. Üniversite çalışanları için mesleki gelişim programlarının organize edilmesi ve görme yetersizliği olan öğrencilerin anaokulundan itibaren gelecekte ihtiyaç duyacakları tüm becerileri öğretmek üniversiteye hazırlama uygulamada yapılabilecek iyileştirme önerilerinden bazılarıdır.

Anahtar Kelimeler: Görme yetersizliği olan öğrenciler, üniversite deneyimleri, eğitsel düzenlemeler, destek hizmetleri



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Experiences of Turkish University Students with Visual Impairments

It is believed that higher education offers people a better life quality including more job opportunities and high-level of salary (U.S. Bureau of Labor Statistics [BLS], 2017; BLS, 2018). Pursuing higher education is more crucial for individuals with a visual impairment since the employment rate of this population during the working age (21-64 years of age) is 47.5% (Rehabilitation Research and Training Center on Disability Demographics and Statistics, 2007). Kirchner and Smith (2005) stated that a higher number of years in education closes the gap in employment rates between individuals with and without visual impairments. Therefore, it is important for education professionals to guide and encourage students with visual impairments to pursue higher education and also ensure that those who are at colleges or universities receive equal education opportunities with accommodations and special services provided by their institutions.

Since students with visual impairments have unique needs (American Foundation for the Blind [AFB], 2000), their experiences at higher education are quite different than their sighted peers. Therefore, several research studies were conducted by researchers from different countries. One of the earliest studies regarding services provided by universities to these students in the U.S. was conducted by Senge and Dote-Kwan (1995). The authors surveyed 18 directors of disabled student services at California State University campuses about availability of accommodations for print-disabled students who cannot read regular print. The results indicated that only seven campuses provided required textbooks in braille, and fewer campuses offered additional course materials in a braille format. It was also observed that the situation was worse in libraries since only one campus had library materials in braille, and two campuses provided documents in large-print and audio formats. Parallel to this lack of available resources in alternative formats, the researchers reported that there was a huge reliance on live readers to access university materials.

In another study, McBroom (1997) examined experiences of 102 college students with visual impairments and services available provided by 66 colleges in the U.S. The results showed that the most common accommodations provided by colleges to these students were recorded textbooks (81%) followed by large print books (41%) and braille books (33%). Related to this, almost all of the colleges (97%) offered readers to these students. Moreover, the following additional services were provided: adapted computer equipment (94%), audio-cassette recorders (83%), note takers (83%), typewriters (67%), and specialized resource rooms (57%). Recently, Correa-Torres et al. (2018) conducted a research study with 10 university students with visual impairments to understand their experiences with disability support services. One of the emerging issues was university personnel's lack of knowledge and experience on how to obtain accessible course materials for these students. The participants also reported that they had technology available, but disability support services did not usually provide trainings on how to use this equipment.

There are some research studies on this topic conducted in European countries. For instance, Athanasios et al. (2009) researched experiences of 17 university students with visual impairments at their institutions in Greece. They found that the students had difficulties finding books and course materials in an accessible format. They also reported an issue of building accessibilities. In another study, Bishop and Rhind (2011) examined experiences of nine university students with visual impairments in U.K. The authors revealed that most of the students were able to navigate around their campuses without having any problem. However, there were still some issues related to maneuvering around campus such as inadequate signage systems and a lack of indoor lightning. As far as assistive technology provided by disability services, most of the students were able to obtain pieces of equipment necessary to access the curriculum. In addition, the students were provided with a standard laptop by disability services.

Reed and Curtis (2012) conducted a research study with 70 Canadian higher education students with visual impairments and 55 staff members of student disability services. Even though there were various accommodations available for students with visual impairments such as exam accommodations (53%), note-sharer (50%), adaptive technology (49%), and e-text/taped-text (49%), 59% of the students reported that they sometimes encounter problems accessing those accommodations because of inappropriate timing, inaccessibility of some devices, unreliability, and denial by instructors. The academic barriers reported by students were “reading” (53%), “learning environment” (43%) including instructors’ reliance on visual materials, inappropriate uses of assistive technology, and unmet accommodation needs, and group works (27%).

There are several studies examining experiences of university students with visual impairments in Turkey. Some of the research studies focused on the students at one university. One of the earliest studies in this regard was conducted by Burcu (2002) with nine university students with disabilities, seven having a visual impairment, at Hacettepe University. Sari (2005) then followed by a research seeking experiences of 20 university students with disabilities, 10 having a visual impairment, at Selcuk University. Akmesel (2018) conducted a study on the same topic with 10 students with disabilities, seven having a visual impairment, at Ege University. Lastly, Mengi (2019) sought experiences of 25 university students with disabilities, six having a visual impairment, at Van 100. Yil University.

One of the common themes that all four studies highlighted was a problem with accessibility of the buildings on campus (Akmesel, 2018; Burcu, 2002; Mengi, 2019; Sari, 2005). Another issue aroused was a lack of resources and equipment available. This included a difficulty obtaining books and course materials, such as handouts and presentations, in accessible formats (Burcu, 2002; Mengi, 2019; Sari, 2005). Lastly, all four studies found that university students with visual impairments complained about a lack of accommodations in instructions and examinations. Similarly, Karakus et al. (2017) examined applications to the

student disability service received between 2009 and 2016 years at Selcuk University and found that the most common complaints were about accommodation needs in instructions (40%) and examinations (30%). As a result, some students rely on a voice recorder to follow instructions (Burcu, 2002; Sari, 2005) since they do have a difficulty taking notes (Mengi, 2019). Aksoz and Ilhan (2017) reported the same issues experienced by the first author regarding inaccessible buildings at the campus, a lack of course materials in alternative formats, a lack of equipment, such as screen reader on the computer, and a difficulty arranging accommodations for exams. They also added people's prejudice and inappropriate behavior as an issue which was also highlighted by Akmese (2018).

Besides research studies focusing on experiences of the students with visual impairments at one university, there are a few studies conducted with university students from different universities in a same city. For example, Burcu (2004) surveyed 222 university students with visual impairments in Ankara. Kamis and Demir (2018) then worked with 17 university students with visual impairments focusing solely on their experiences with examinations at their institutions in Ankara. Lastly, Tekin (2019) conducted a research study with 15 university students with disabilities, five having a visual impairment, in Konya. All three studies found that university students with visual impairments encounter a problem with following instructions. Kamis and Demir (2018) added that there is a lack of course materials available in accessible formats. In 2015, Association of Visually Impaired in Education in Turkey (AVIET) [Eğitimde Görme Engelliler Derneği, EGED] released the report surveying 150 students with disabilities and universities' disability services. It revealed that less than 21% of the students have braille printer, computer with screen reader software and scanner at their universities which might be another reason why these students experience difficulties following their coursework.

The Purpose of the Study

As discussed above, studies that already examined experiences of Turkish university students with visual impairments focused on either one university or one city. Thus, there is a need for the further research to deeply understand the phenomenon in broader term with students from different universities across the country. The purpose of this study is to fully examine experiences of Turkish university students with visual impairments by seeking responses to the following research questions:

1. What challenges do university students with visual impairments face at their universities in Turkey?
2. What accommodations and supports are available for these students at their campuses?

Methodology

This study adopted a qualitative research approach to examine experiences of Turkish university students since “it is for exploring and understanding the meaning individuals or groups ascribe to a social or human problem” (Creswell & Creswell, 2018, p.4). In accordance with the nature of the research questions and context, qualitative case study research design was utilized in this study. A case study answers why and how type of research questions by closely examining contemporary events, groups of people, organizations, etc. in the context without manipulating behaviors. Researcher’s interest was to gain an in-depth understanding on desired phenomenon (Yin, 2014). The central phenomenon of this study was defined as difficulties and challenges occurring as well as the availability of accommodations and services for university students with visual impairments at Turkish universities. Merriam and Tisdell (2016, p. 37, 38) define a case study as “an in-depth descriptive study and analysis of a bounded system that is a single entity or unit which there are boundaries.” The boundary of the case included eight Turkish university students with visual impairments from six universities in five cities of the country.

Participants

The participants for the study were recruited by utilizing purposive sampling technique to have individuals that would best fit in the purpose of the study (Creswell & Creswell, 2018). The selection criteria included being an active undergraduate student at a university and having a visual impairment by law. To access potential participants, the researcher used a gatekeeper who also has a visual impairment and is a graduate student at a university. Eight full-time undergraduate students who have a visual impairment from six public universities in Turkey participated in this study. Seven of the participants are male, and one of them is female. Participants' ages ranged from 19 to 25 years (mean = 22 years; median = 22 years). More details regarding participants including the major area, years of study, city, and the level of visual impairment are illustrated in Table 1.

Table 1.

Participant Demographic Details

Participant Number	Major	Year of Study	City	Reported Impairments/symptoms
1	History	4	Nevsehir	Blind due to retinal detachment caused by accident
2	Turkish Teaching	4	Bartın	95% of vision loss due to albinism
3	Psychology	1	Izmir	96% of vision loss due to pre-mature birth
4	Turkish Teaching	4	Kayseri	90% of vision loss due to genetic disease
5	Counseling	1	Kayseri	90% of vision loss due to genetic disease
6	Music	4	Istanbul	90% of vision loss due to tumor on the eyes
7	History	3	Kayseri	Blind due to pre-mature birth
8	Law	5	Istanbul	Blind due to hepatitis at early age of childhood

Data Collection and Analysis

Semi-structural phone interviews that contain demographic and 20 open-ended questions on their experiences were conducted with the participants (See Appendix A). Interviews were audio-recorded, and each interview lasted about 30-45 minutes. Then, all interviews were transcribed verbatim. The data gathered from each participant were filed separately so that the researcher was able to keep track of the information pertaining to each

individual participant. As the data analysis procedure, “working data from the ‘ground up’” approach which requires a researcher to analyze data inductively was adopted since there is no theoretical foundation to rely on. More specifically, a pattern matching data analysis technique was utilized that allowed the researcher to compare data with patterns established by previous empirical studies (Yin, 2014).

The researcher followed two qualitative data analysis techniques: constant comparison and classical content analysis. Glaser and Strauss (1967) defined a constant comparison as chunking data into meaningful smaller portions, labeling them as codes, and then grouping those codes as themes. Classical content analysis, on the other hand, is basically counting how often pre-determined codes occurred (Leech & Onwuegbuzie, 2007). Therefore, the codes created from constant comparison analysis were used in this phase of the data analysis. At the end, emerging themes from both data analysis techniques were discussed for each research question.

Trustworthiness

Erlandson et al. (1993) said, “Trustworthiness is established in a naturalistic inquiry by the use of techniques that provide truth value through credibility, applicability through transferability, consistency through dependability, and neutrality through confirmability” (p. 132). The following techniques were utilized to build the trustworthiness of the study. First, credibility was established by examining the findings of the previous studies and offering thick description of the phenomenon. Second, transferability was guaranteed by providing background data and a detailed description of the research questions. Third, dependability was constructed through a detailed explanation of the research method as well as audit trail which “provides the documentation and a running account of the process” (Erlandson et al., 1993, p.35). Finally, confirmability was ensured by admitting the researcher’s biases and recognizing limitations of the study. Beside all these techniques, the researcher used the data

analysis triangulation technique which is applying more than one data analysis strategies to increase rigor and trustworthiness of the study (Leech & Onwuegbuzie, 2007).

Findings

In response to the first research question which is about challenges of Turkish university students, the researcher identified two main categories: academic and social challenges. Results of each category are explained in detail in the following first two subheadings. Similarly, the results for the second question of the study which is what type of accommodations and supports are available for these students at their universities are discussed with details under the third subheading called “Accommodations and Supports Provided.”

Academic Challenges

One of the common themes that emerged from data was students’ reliance on an audio recorder to follow instructions and prepare for exams. For instance, participant five (P5) shared the following comment: “Even though I have a braille notetaker, I still prefer to use a voice recorder to follow the instructions since most of the instructors talk too fast to take notes with braille notetaker.” None of the participants were provided with textbooks and handouts in braille except one student. Parallel to this, only one student out of seven reported that he was given class notes or presentations in digital format. He (P3) said, “My professors provide me with their presentations and handouts in PDF or Word format. Even, they give me some of our textbooks in digital format which makes my study performance much better.”

Regarding accessibility, some students said that they were able to access digital books through electronic libraries, but they reported that there are a very limited number of textbooks available. Related to this, P5 stated that he uses his personal scanner to scan his textbooks, turn those in digital format, and then listens relevant chapters of the books by using his screen reader software on his computer. For other students, there is no scanner available provided by their universities. For example, P8 stated that the university offers a scanner, but

the computer that the scanner connected to does not have screen reader software. So, he is unable to use the scanner provided at this point.

In regard to following instructions, one student (P1) declared that his professors sometimes forget to tell the students what is being written on the board. He continued, as a result, "I ask my friends sitting next to me for more information." Another student (P7) reported that some professors ignore students' requests regarding accommodations since they would prefer to avoid these situations. Lastly, some of the students stated that they are not good at using a computer to prepare their assignments or projects. For instance, one student (P2) said one time he needed his father's help to make his PowerPoint presentation.

Social Challenges

The initial realization that the researcher had was that out of the eight participants in this study only one student lives away from his parents. This situation might promote their dependency to family members as seen in the following example. P3 said that "If I need something from outside, my parents generally take care of it for me." Moreover, this dependency directly may influence their social abilities as another student (P2) stated: "I have a difficulty involving in a group of friends since they want a friend who lives with them at their dorm." On the contrary, all the students reported that they have a good relationship with people around the campus even though some of their peers are reluctant to interact with them at first. An interesting issue that aroused the researcher's attention was that one student (P5) said that sometimes employees working at student union building prefer to talk to his friend instead of him directly about his preference or order.

One of the most common social issues emerged is attitude of bus drivers. They reported that every time when they ride on a bus, bus drivers treat them rudely since they ride buses without paying due to their disability. As another problem with bus drivers, one student (P4) said: "I am afraid of asking bus drivers about the bus number or the route of the bus since they reprimand them by yelling don't you see the number of the bus on the windshield." One

other unacceptable behavior demonstrated by the staff and professor was described by the student (P6) as the following:

When I went to the university to take skill exam for entering in music major, I gave all of my documents necessary for the exam to the staff. The staff said we do not accept students with disabilities here. I was shocked! Later, I wrote a letter to the administration of the university. Then, they were convinced to test my skill, but again at the end of exam, one professor said nobody will help me here.

Accommodations and Supports Provided

First of all, all students reported that their universities provide them with extra time and live readers for examination as accommodations. None of the students except two were able to take their exams in alternative format. Among those two students, one (P2) said his university gives him large-print papers for exams, and the other student (P6) said her university allowed her to use her computer to take the exam for the first time in this fall semester so that she was able to listen and answer the questions on her computer by using screen reader software. Secondly, the data shows that university libraries do not usually offer materials in different formats, such as digital and audio books, to the participants except the ones who are at universities with a higher number of students. Similar to this, only two students reported that their libraries have braille printers, and only one student stated there is a computer dedicated to them to use.

The findings suggested that student disability services at universities do not provide any special equipment to these students. Their services are available only when an individual encounters an issue. Moreover, accommodations and services offered are very limited to a few options as described above. For instance, two students said they requested an orientation program from this department when they first went to their universities for the admission. However, there was no orientation program provided. Another student (P1) reported that a person who is in charge of student disability service is a professor in molecular biology

department, and he does not know what to do since he is not familiar with the field. In addition, services they provide depend on that professor's attitude towards the issues and his/her availability. Thus, he felt that how this department is administered is not efficient.

Discussion

This study researched experiences of Turkish university students regarding the challenges they usually face and the type of accommodations and services that are provided to them. Students' challenges were examined in two categories, academic and social. In academic challenges, it is noted that most of the students with visual impairments rely on auditory inputs to follow instructions since course materials including notes, presentations, and textbooks are not provided to them in alternative formats such as digital, braille, and voice recorded. This finding mirrors results from previous studies conducted in Turkey (Aksoz & Ilhan, 2017; Burcu, 2002; Mengi, 2019; Sari, 2005) as they also reported a limitation of providing materials in accessible formats to these students. The lack of equipment offered to them to make those materials accessible even makes this condition worse which was also seen in another study (AVIET, 2015).

Additional issues reported under academic challenges category include instructors' heavy reliance on visual presentations and more importantly their reluctances to make necessary accommodations. Visual reliance of the instructors was also highlighted in Athanasios et al. (2009)'s and Reed and Curtis (2012)'s studies. However, instructors' reluctances to provide any necessary accommodations were not reported by any studies conducted in developed countries. This might be contributed to instructors' lack of knowledge on how to modify their courses to meet the needs of these students as seen in Sari (2005)'s study. Even though there is a law that holds universities accountable to provide accommodations and services to students with visual impairments, implementation of this law is not sufficient as described in the findings section. It is observed that student disabilities services at universities make an effort to help these students with accommodations and

support, but they do not know how to do so as seen in the following excerpt from one participant (P1): “I remember that one time, the professor who is the head of student disability service asked me to tell him what he needs to do for me since he does not know anything about my disability and needs.” This issue was also seen in the Correa-Torres et al. (2018)’s study in the U.S. where students with visual impairments claimed that staff of the student disability service do not know to obtain accessible materials, neither lack they knowledge on how to use technologic equipment.

As the other category under challenges, some social issues were reported. For instance, most of the students live with their parents. There is no study reporting proportion of university students with visual impairments living with their families in the developed countries. However, it is estimated to be lower than the one in Turkey. Thus, a lack of independence of these students might be attributed to this fact since some of the students reported that they cannot use their computers independently to do their assignments. Relevant to their dependences, there is no expanded core curriculum (ECC) (Hatlen, 1996) in place that aims to teach necessary skills to these students to make them more independent when they attend a university in Turkey. One student (P6) reported that she is planning to attend independent living skills courses after she graduates from university since she lacks some of the skills necessary to live independently. So, it is understood that these students do not leave high schools with all skills that they need to learn for their future life. On the other hand, in Correa-Torres et al. (2018)’s study, university students with visual impairments in the U.S. believe that they are trained well on independent living and organization skills at their high schools.

Another social issue revealed by data is inappropriate attitudes toward individuals with a visual impairment. It is also reported by Akmese (2018), Aksoz and Ilhan (2017), and Tekin (2019) in their studies. For example, bus drivers do not treat them appropriately since they do

not pay for tickets. Being able to compare bus drivers in U.S. and Turkey makes the researcher more worried after seeing extra care and attention provided to these individuals in public. Moreover, unacceptable instructor's behaviors, such as the one reported above in the result section warning the student that she will not get any help at her university if she is accepted to the program, are good indicator for a need to offer professional development to professors at universities about how to treat these students and what accommodations they need to provide to meet students' needs.

Lastly, as opposed to previous studies in U.S. and U.K. (Bishop & Rhind, 2011; McBroom, 1997), it is found that there is limited number of accommodations available for these students in Turkey such as only providing extra time and readers for examination. In addition, there is a lack of equipment offered to these students to use with the fact that only two students out of eight have braille printer at their universities. These findings highlighted the same issues as AVIET (2015)'s results. Even if some universities provide equipment, they do not consider how students with visual impairments can utilize these devices independently. For example, one student reported that the library has a scanner for them to use at his university, but the computer that is connected to the scanner does not have screen reader software. Therefore, he cannot use the scanner by himself. It is understood that universities do not have personnel who know how to make equipment accessible for these students.

Limitations

This study has some limitations to report. While this case study did provide a rich description of the context of the study which allows for possible transferability, due to the nature of the study that includes a small sample size and the lack of randomization of participants, the results of this study are not generalizable to the population. Secondly, the data was collected from students who represents only one side of the phenomenon. Thus, gathering data that represents views of all the stakeholders such as administrators, staff, and

instructors on the same research topic might help the researcher draw a full picture of the phenomenon studied. Thirdly, regarding the data collection, this study solely relied on the interviews with participants, and did not have any other types of data such as observations and document reviews. Therefore, the data triangulation is missing which would have provided the researcher with an opportunity to collect different types of data on the same phenomenon and then determine if data from the different sources converge (Oliver-Hoyo & Allen, 2006).

Lastly, the researcher' bias about the topic should be recognized. Since the researcher did not have a chance to have personal and occupational experiences working with students with visual impairments in Turkey, and he was studying in the U.S. where educational opportunities and regulations for students with visual impairments have a higher standard, the researcher had a negative prejudgment about the services and accommodations offered to these students in Turkey prior to the study. However, during the research, the researcher did not include his own personal thoughts or beliefs other than reflecting what the participants said about the specific questions or topics. The researcher's aim with this study was to identify challenges that Turkish university students with visual impairments face at their institutions and take an active role to solve those problems by reporting the results of the study along with some recommendations to the policy makers, education professionals, and administrators.

Implications for Practice

The finding of this study showed that there is an urgent need to address pressing issues reported to ensure that equal educational opportunities are provided to students with visual impairments at universities in Turkey. First of all, it is crucial to design and implement professional development sections for academic and administrative personnel of universities to educate them on characteristics of students with visual impairments and what accommodations can be provided to these students to address their needs. Secondly,

universities need to take an action to obtain equipment needed for students with visual impairments, such as braille printers, scanners, or braille notetakers, to increase quality of the education provided and also improve academic performance of these students. Thirdly, student disability services at universities might be more efficient if they hire professionals who are familiar with the field and work in a proactive base not reactive.

Fourthly, education for students with visual impairments from kindergarten to 12th grade should be more intentional to teach all the necessary skills that these students would need at universities, such as assistive technology, independent living, and social interaction skills. Otherwise, we would probably see more university students with visual impairments who rely on their parents to prepare their works or do not know how to self-advocate for their needs. More importantly, providing practical and specific education to students with disabilities in Kindergarten through 12th grade would encourage more students with disabilities to pursue higher education. With the fact that only 0.5% of the people with disabilities are represented at Turkish universities (Council of Higher Education, 2019) whereas 6.9% of the total population has at least one type of disability in Turkey (TurkStat, 2011), it is highly crucial topic to focus on. This gap is much smaller in developed countries such as the U.S. where 26% of the population has a disability (Centers for Disease Control and Prevention, 2020), and 19.4% and 11.9% of this population is represented at undergraduate and graduate level, respectively (National Center for Education Statistics, 2018). Lastly, workshops for society to increase their consciousness and awareness toward people with disabilities would help reduce instances of prejudice and inappropriate behaviors toward this population. Regarding that, organizing social events and activities where people with and without disabilities interact and share with each other would be beneficial to build the respect and trust in society.

Implications for Future Research

Since the results of this study solely retrieved from university students with visual impairments, conducting a qualitative research study with different groups of participants would better help the field understand all the challenges occurred and accommodations or services provided for students with visual impairments in higher education. It would also highlight different aspects of the phenomenon such as viewpoints of university personnel which would provide meaningful recommendations to solve problems faced. On the other hand, a quantitative research study with a large number of participants consisting of university students from every part of the country would prove if the results of this study are generalizable to the population. Lastly, a mixed methods research study where both research designs explained above take place together would provide comprehensive responses to the research questions of this study.

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REFERENCES

- Akmese, P. P. (2018). Yuksekogretim kurumlarına devam eden engelli öğrenciler ile engelli personelin sorunları ve yüksekogretim engelliler danışma ve koordinasyon yönetmeliği hakkındaki görüşlerinin incelenmesi. *The Journal of Academic Social Sciences*, 6(64), 214-232.
- Aksoz, M. & İlhan, G. O. (2017). Üniversitede görme engelli olmak. In Arıcı, A. F., Aydın, S., & Kole, M. (Eds.), 4. *Yıldız Sosyal Bilimler Kongresi* (199). İstanbul: Yıldız Teknik Üniversitesi.
- American Foundation for the Blind [AFB]. (2000). *Educating students with visual impairments for inclusion in society: A paper on the inclusion of students with visual impairments*. Retrieved from <http://www.afb.org/info/teachers/inclusive-education/35>
- Association of Visually Impaired in Education in Turkey [AVIET]. (2015). *Üniversitelerde engellilere yönelik erişilebilirlik hususunda mevcut durum analizi 2014-2015*. Ankara, Turkey: Emre Tasgin.
- Athanasios, K., Konstantinos, P., Doxa, P., & Eleni, K. (2009). *Students with visual impairments in higher education institutes*. 7th European Conference of ICEVI.
- Bishop, D., & Rhind, D. J. (2011). Barriers and enablers for visually impaired students at a UK Higher Education Institution. *British Journal of Visual Impairment*, 29(3), 177-195.
- Burcu, E. (2002). Üniversitede okuyan ozurlu öğrencilerin sorunları: Hacettepe-Beytepe Kampüsü öğrencileri örneği. *Hacettepe Üniversitesi Edebiyat Fakültesi Dergisi*, 19(1), 83-103.
- Burcu, E. (2004). Görme ozurlu öğrencilerin eğitimlerine ilişkin düşünceleri ve sorunları: Ankara örneği. *Ufku Otesi Bilim Dergisi*, 4 (2), 23-47.
- Centers for Disease Control and Prevention, (2020). *Disability impacts all of us*. Retrieved from https://www.cdc.gov/ncbddd/disabilityandhealth/documents/disabilities_impacts_all_of_us.pdf
- Correa-Torres, S. M., Conroy, P., Rundle-Kahn, A., & Brown-Ogilvie, T. (2018). Experiences of students who are visually impaired receiving services by disabilities support services (DSS) offices in Higher Education Institutions. *Journal of Blindness Innovation and Research*, 8(2). Retrieved from <https://nfb.org/images/nfb/publications/jbir/jbir18/jbir080205.html>.
- Council of Higher Education, (2019). *Yüksekogretimde engelsiz ufuklar çalışması ve engelsiz üniversiteler ödül töreni*. Retrieved from https://www.yok.gov.tr/Documents/Yayinlar/Yayinlarimiz/2019/engelsiz_ufuklar_calistayi_ve_2019_engelsiz_universiteler%20odul_toreni_raporu.pdf
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th Ed.). Thousand Oak, CA: Sage Publications.
- Erlanson, D. A., Harris E. L., Skipper, B. L., & Allen, S. D. (1993). *Doing naturalistic inquiry: A guide to methods*. Newbury Park, CA: Sage.
- Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Chicago: Aldine.

- Hatlen, P. (1996). The core curriculum for blind and visually impaired students, including those with additional disabilities. *RE:view*, 28(1), 25-32.
- Kamis, Ö., & Demir, E. (2018). Gorme yetersizligi olan lisans ogrencilerinin sınıf ici olcme-degerlendirme sureclerinin incelenmesi. *Ankara Universitesi Egitim Bilimleri Fakultesi Ozel Egitim Dergisi*, 19(3), 423-450.
- Karakus, O., Kalayci Kirlioglu, H. I., Kirlioglu, M., & Baser, D. (2017). Universitelerde engelli ogrencilerin egitim alaninda karsilastiklari sorunlar: Selcuk Universitesi ornegi. *Journal of Human Sciences*, 14(3), 2577-2589.
- Kirchner, C., & Smith, B. (2005). Transition to what? Education and employment outcomes for visually impaired youths after high school. *Journal of Visual Impairment & Blindness*, 99(8), 499-504.
- Leech, N. L., & Onwuegbuzie, A. J. (2007). An array of qualitative data analysis tools: A call for data analysis triangulation. *School psychology quarterly*, 22(4), 557-584.
- McBroom, L. W. (1997). Making the Grade: College Students with Visual Impairments. *Journal of Visual Impairment & Blindness*, 91(3), 261-70.
- Mengi, A. (2019). Engelli ogrencilerin universite egitimi surecinde karsilastigi guclukler: Van 100. Yil Universitesi ornegi. *YYU Journal of Education Faculty*, 16(1), 147-170.
- Merriam, S. B., & Tisdell, E. J. (2016). *Qualitative research: A guide to design and implementation* (4th ed.). San Francisco, CA: Jossey-Bass.
- National Center for Education Statistics, (2018). *Digest of education statistics*. Retrieved from https://nces.ed.gov/programs/digest/d18/tables/dt18_311.10.asp
- Oliver-Hoyo, M., & Allen, D. (2006) The use of triangulation in qualitative educational research. *Journal of College Science Teaching*. 35(4), 42-48.
- Reed, M., & Curtis, K. (2012). Experience of students with visual impairments in Canadian higher education. *Journal of Visual Impairment & Blindness*, 106(7), 414-425.
- Rehabilitation Research and Training Center on Disability Demographics and Statistics. (2007). *2006 Disability Status Report*. Ithaca, NY: Cornell University.
- Sari, H. (2005). Selcuk universitesinde ogrenim goren bedensel engelli ve gorme engelli ogrencilerin karsilastiklari sorunlar ve cozumune yonelik çagdas oneriler. *Selcuk Universitesi Sosyal Bilimler Enstitusu Dergisi*, 13, 335-355.
- Senge, J. C., & Dote-Kwan, J. (1995). Information accessibility in alternative formats in postsecondary education. *Journal of Visual Impairment & Blindness*, 89(2), 120-128.
- Tekin, H. H. (2019). Engelli universite ogrencilerinin egitim yasamindaki sorunlari: Konya ornegi. *Manas Sosyal Arastirmalar Dergisi*, 8 (2): 1531-1548
- TurkStat, (2011). *Population and housing census*. Retrieved from <https://ailevecalisma.gov.tr/media/5677/nufus-ve-konut-arastirmasi-engellilik-arastirma-sonuclari.pdf>
- U.S. Bureau of Labor Statistics [BLS]. (2017). *Usual weekly earnings of wage and salary workers second quarter 2017*. Retrieved from https://www.bls.gov/news.release/archives/wkyeng_07192017.pdf
- U.S. Bureau of Labor Statistics [BLS]. (2018). *The employment situation—April 2018*. Retrieved from https://www.bls.gov/news.release/archives/empsit_05042018.pdf.

Yin, R. (2014). *Case study research: Design & methods*. Thousand Oaks, CA: SAGE Publications, Inc.

APPENDIX A

Interview Questions

RQ1: What challenges do university students with visual impairments face at their universities in Turkey?

1. How has your experience been with following lectures?
2. How has your experience been with preparing for and taking an exam?
3. How has your experience been with working in the library for your classes?
4. How has your experience been with working in group projects, individual assignments?
5. How has your experience been with enrolling classes and working with your class advisor?
6. How had your experience been when you came to the campus for your admission?
7. How had your experience been at the campus on your first day of class?
8. How has your experience been with your classmates?
9. How has your experience been with your professors or instructors?
10. How has your experience been with staff for paperwork or procedures?
11. How has your experience been with your roommates?
12. How has your experience been with society around the campus or your home?
13. Have you attended extracurricular activities at your university? What kind of activities? How often? With whom?
14. What do you do in your spare time for relaxing or fun?
15. How do you cope with school stress?
16. How have your relationships been with your parents and siblings? Have they helped you with your education journey?
17. What is toughest/easiest part of being an undergraduate student who has a visual impairment?

RQ2: What accommodations and supports are available for these students at their campuses?

18. What kind of class/campus/exam accommodations have been offered to you? (Reading, taping lectures, etc.)
19. What kind of equipment have been provided to you? (CCTV, magnifier, enlarged prints, etc.)
20. Do you think classrooms/campus/cafeteria/library have been modified in order for you to access?

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