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CHAPTER 1

THE EFFECT OF PANDEMIC ON EDUCATION

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Introduction

Pandemics: From Past to Present

Epidemics can be said to date back to ancient times. In other saying, it is not the first time that we confront a pandemic on such a global scale, forcing us to fight the challenges in every field. This assertion can be supported by the fact that Antonine Plague, the first known plague in the history of the pandemic, broke out in circa165 and lasted about 15 years. Considering the devastating impacts of cholera and 18th century plague epidemics, it is seen that the period lingered for 106 or so. Given that microbes have always existed, the only difference between the pandemics of the past and the pandemic encountered today is that, apart from the variety of viruses, we can get access to more substantial information about a pandemic faced today, thanks to the technological means offered by the twenty-first century. This difference in technological development can also be seen in the fight against the pandemic as it manifests itself in the healthcare sector. It can be said that a wide range of options, e.g. supercomputers, artificial intelligence and algorithm software are used to focus on producing a solution to the pandemic nuisance worldwide (Alaca Sokmen, 2020, 60).

However, it can be thought that there are similar unfavourable feelings naturally that individuals have to face during this period until a vaccine that works is discovered. First of all, it is an undeniable fact that the risk of catching the virus, a new symptom of the disease emerging over time, the uncertainty about the type and course of the disease as well as the negative emotions such as desperation, anxiety and fear of death caused by such uncertainty could eventually turn into a common stress factor for every individual.

The epidemic can be classified as a pandemic based on a number of criteria such as the incidence, the rate of spread, size of the area it covers, prevalence, etc. hence, it can be asserted that some criteria will be required for a disease to be called as an epidemic, endemic or pandemic. Epidemic is the sudden outbreak of a disease in a certain region over a certain period of time, affecting more people than the number of expected cases for such disease. An example to epidemic is AIDS in Africa is. Endemic is an epidemic with a low incidence within a community, such as malaria, which is seen in some parts of the world. The pandemic, on the other hand, is the sudden outbreak and transformation of a disease into an widespread epidemic worldwide, as in the case of COVID-19.

Epidemic is a word derived from the combination of the words epi, which means *"upon*" and demos, which means "*people"* in Greek*,* while endemic is a word derived from the combination of the words eni, which means "*belonging*" and demos, which means "*people*" in Greek. Put it

differently, epidemic is upon people whereas the endemic belongs to/is for people.

Pandemic, on the other hand, is a word derived from the combination of the words pan meaning *"all", "whole"* and demos meaning *"people"* in Greek. Pandemos can be thought to correspond to the term *"all people"* (Davis, 2021; Szasz, 2020). Therefore, it can be inferred that pandemic is a contagion that can spread across a wide area and affect all people. A simple way to know the difference between an epidemic and a pandemic is to remember the letter "P" in the term 'pandemic'. This means that pandemic has a passport. The pandemic is a traveling epidemic (Intermountain Healthcare, 2020).

Timeline of the pandemics that have emerged throughout the history is as in Figure 1. As can be seen in the figure, Black Death (The Plague), smallpox, Spanish influenza, Plague of Justinian, HIV/AIDS pandemics stand out in terms of mortality rates although there have been innumerable pandemics on a global scale. Considering the conditions of the period in the Black Death, smallpox, Spanish influenza pandemics, it can be noted that it is not surprising that the mortality rates were so high especially in the Black Death, smallpox and Spanish influenza pandemics. The last one to confront was the outbreak of Corona (COVID-19) virus that emerged in Wuhan, the capital of China's Hubei region, in December 2019. It turned into a distressing process as it was declared a pandemic by the World Health Organization (WHO) on March 11, 2020, which keeps its global presence within every sector.

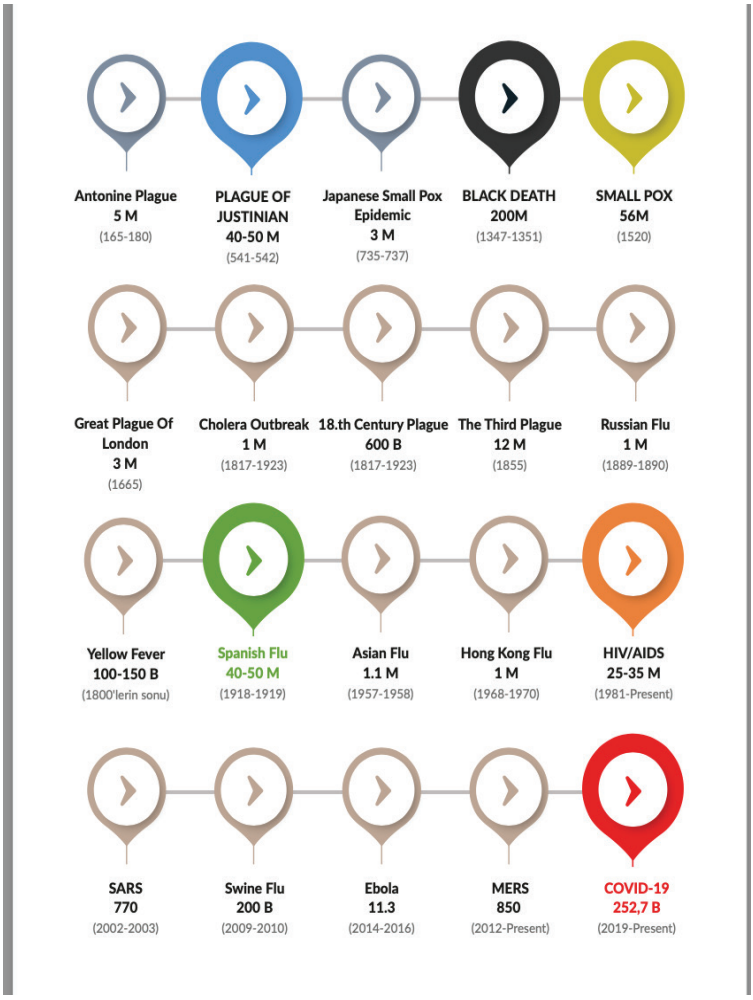

Figure 1: *Pandemics: From Past to Present*

Effects of the pandemic on education

Since the COVID-19 pandemic falls on the era of digitalization, the change in business processes has focused mostly on moving the ways of doing business to the remote environments. Therefore, the technological diversity introduced by the period was effective in moving the manners of work in the professional life from the face-to-face environment to the remote environments. Since the priorities have changed globally with the pandemic, the offices of the employees of several businesses and trades have been moved to more independent environments, with more an more priority given to 'work from home' and 'virtual meetings'. It also caused the educators to experience the same sources of stress simultaneously on a global scale, leaving behind all existing sources of stress.

The existence of any natural disasters, crises or epidemics can also have a negative impact on the dynamics of the education system. In those circumstances of uncertainty in all aspects, some situations may require taking certain measures, in an effort to prevent even the potential exposure of the children and teenagers to a damage, without facing any unfavourable experience tangibly and visibly. This one of the reasons why the countries and governments worldwide had to take decisions to shut down the schools and take some measures before any unfavourable situation occurs, tangibly and visibly, in an attempt to protect the children and young people against any negative situation they may experience due to exposure to the disease and/or the pandemic. Dryden-Peterson (2020) puts that school closures reduce the sudden losses and one of the most difficult decisions taken by the educators is to close the schools. He adds that they take these decisions when the loss caused by schools is higher than the benefits they will/is likely to produce. Therefore, protective and preventive steps can be taken to minimize the extent to which the normal flow of the lives of the children and young people is affected by keeping them safe even in the possibility of a damage, as in the pandemic period. Even though it is not possible to gather comprehensive data on the effects of past pandemics on education processes, the decision to shut down the schools can be thought to be one of the first steps taken by the government. Some cities implemented community mitigation measures such as the closing the schools, etc. during the outbreak of Spanish flu which started 1918 towards the end of the First World War in, killing 50 million people and is thought to infect one-third of the world's population (All About History, 2020) (Jordan, 2019). Similarly, it is stated that schools were shut down for a total of 8 months during the Ebola outbreak that broke out in 2014 and five million children could not access education (Chavez, 2015). It is added that an Emergency Radio Program was prepared and radio programs were broadcast for thirty minutes five days a week to ensure the continuity in education, as an another application imposed by the pandemic. Moreover, it is stated that the audience were allowed to call up and ask questions in these radio programs (Powers and Azzi-Huck 2016). There are also some points where the difficulties experienced in education during the time of Ebola epidemic are similar to those experienced in today's pandemic. The study points out that the problems experienced in accessing the education due to failure to access the internet today were experienced similarly due to the weak radio signals and/or lack of batteries at that time and that 25,000 radios were given away by UNICEF in order to contribute in accessing the education (Powers and Azzi-Huck 2016).

According to UNESCO 2021report, school closure rates due to COVID-19 in April 2020 peaked with 151 countries worldwide and 81.8% of the schooling students in all countries. Some of the countries where

schools were closed for 41 weeks or more until 2022 included India with 82 weeks, Brazil with 78 weeks, Korea with 76 weeks, the United States and Mexico with 71 weeks, Cuba with 62 weeks, Canada with 51 weeks, Turkey with 49 weeks, Australia with 44 weeks and Poland with 43 weeks. Some of the countries where schools were closed for 1-10 weeks at the lowest level are Croatia with 10 weeks, Iceland, Switzerland and Papua New Guinea with 6 weeks, and Turkmenistan with 4 weeks. UNESCO data (2020) indicate that approximately 1.6 billion students, 94% of the world's student population, were affected by the closure of educational institutions in more than 190 countries during the peak period of the pandemic. Considering the fact that there may be serious losses in learning even during short-term interruptions in education; thus, it can be set forth that almost 1-year closure is a seriously lengthy period for schools.

While it is of a top priority not to get infected with the virus during the pandemic worldwide, many people, including the teachers, students and their parents, had to face some problems such as effective function of online education, accessing and attending the online courses, having access to technological tools and internet, preparation of technological infrastructure, digital literacy, problems in adapting to new teaching and learning models, educational inequality and learning losses, etc. It can be said that the employees of education sector in Turkey have similar problems, which include, among others, that the courses delivered in distance education are mostly theoretical and some problems are encountered in applied courses, such as laboratories and apprenticeships, etc. The results of the study by Bilgic (2022) revealed that the experiences of preservice teachers over the course of the process, lack of face-to-face interaction, technical problems, lack of motivation, homework and course load are the aspects that prevented emergency distance education while the organization, methods, competency level of the teacher, regular information, continuous communication and live lessons are the aspects that supported emergency distance education. Although the students stated that they learned effectively during the process, their preferences were to continue face-to-face education. Recent research emphasizes some shortages such as the weakness of infrastructure in distance education, knowledge deficit, an environment not suitable for learning at home, equality and academic excellence in terms of higher education (Pokhrel and Chhetri. 2021. 134). This also means exposure to numerous sources of stress. Dr. Bernardino A. Vicente, a member of the Philippine Mental Health Association (PMHA), stated that stress stemming from the current situation is also a challenge for educators, students and their parents who have to cope with alternative learning delivery methods and ways of doing new things (Hernando-Malipot. 2021). Recent research shows

that information analysis, digital literacy, digital emotional intelligence, susceptibility to self-change, utilization of artificial intelligence, problem solving are among the most sought-after competencies of the digital age (Aksu. Dalkilic. 2019. 54). The process of distance education prioritized that the teachers should reskill and upskill the competencies such as digital literacy, technology follow-up, problem-solving, solution-oriented approach. On the other hand, since face-to-face communication is much more difficult in remote learning than in the regular classroom arrangement, the students, teachers, parents and schools have had to adjust the pathways to which they adhered during the COVID-19 disruption; in most countries, many teachers reported that the time spent in communicating with parents during the disruption has increased (UNESCO. 2022:85).

The fact that educational institutions had to close down during the pandemic period and transform their processes quickly into a remote teaching method caused the teachers to confront a challenging and stressful process, which did not give them the time and opportunity to prepare themselves or make any preliminary plans as required. Due to the rapid development of technology and the increasing need to integrate it into education, the teachers struggle in keeping up with the new technologies and get stressed as they try to design the pedagogical use of related technologies (Dong et al., 2019, 147). Educators had to think differently about the way the education is delivered. On the other hand, this turned into a process that required a two-fold effort for the schools. Furthermore, educational institutions had to carry on delivering a decent education while adapting the content and methods of education to the new conditions (Marti-Sañnchez et al., 2022, 1). In addition, it can be said that what has been experienced is not only for teachers, but also for students and their parents. Working remotely called for adherence to technology 24/7 naturally, leading to increased working hours, workload and time pressure. With the onset of COVID-19, educational institutions attached utmost attention on strengthening their technological infrastructure with a special focus on distance teaching and learning. COVID-19 pandemic created an unprecedented global education crisis that has disrupted millions of children's lives and learning routines around the world, pushing the teachers and schools beyond their usual limits of practice (Hofmann et al. 2021. 55). In a sense, it can be stated that game changing experiences so far have been a process of challenging for the players. The sudden transition to the distance education environment, for which some preparations were made in the past years, had to speed up, as required by the emerging necessities. It can be said that the concept of distance education actually dates back to the 1700s. It can be stated that the educational practices which would have been performed by means of letters under the conditions of the

period are based upon technology today.

The priorities arising from the situation challenged all education systems around the world and forced the educators to switch to distance education overnight (Dhawan, 2020: 5). According to the International Association of Universities (IAU) report (2020, 24), 29% of Africa, 72% of America, 60% of Asia and the Pacific, 85% of Europe had to switch from on-site education to distance education. On the other hand, it can be said that this transition also created a digital learning environment that requires the combination of technology, digital content and teaching (GOSA, t.y.) for all players involved as it makes the educational institutions and teachers face with new learning opportunities. While technology is a mechanism that can include any internet access device or any internet access and hardware; digital content is the academic materials such as interactive, adaptive software, video lessons and games offered by the technology; and teaching can be defined as a teaching process that is delivered by the teachers, with a view to offering guidance to the students (GOSA, t.y.), although their role changed owing to the technology. Therefore, it can be said that digital learning is much more than simply providing the students with materials to help them continue their studies.

Serious limitations imposed on social life in many countries and uncertainties about how to deal with the new situation of the pandemic may have affected not only teaching and learning, but also the well-being of students and teachers. Also, the research conducted by UNESCO pointed out that a number of students stated that they felt more lonely in the course of this process, the majority of them mentioned that they missed the contact with their classmates, many of them expressed that they were worried about how their future education would be affected since the pandemic already affected their learning. Many teachers across the countries reported that they were concerned about catching COVID-19 at the workplace and stated that they often felt tired, their sleep patterns were interrupted and they felt isolated while working remotely at home *(*Rožman et al., 2022:126).

In addition to all these, sudden outbreak of the pandemic caused everyone, including students, teachers and their families, to be positioned as students, forcing them to think of different types of education that have been ignored or avoided so far, as an alternative. Even though it is demanding in that sense, it can also be considered that it has had some positive effects on developing both the individuals and areas of learning.

Future of Post-Pandemic Education

Even if the current pandemic comes to an end, it seems hard to return to the regular routine, since the change and development of the education process has shifted the education significantly from the pre-pandemic

order. Reopening of schools after the restrictions are loosened will pose another challenge along with a number of new standardised operating procedures that have already been put in practice (Pokhrel and Chhetri. 2021. 133). Since all these developments in the global and educational processes bring along the need for rapid adaptation, it can be said that it is a huge source of stress and struggle for teachers in the recent years.

Even when the pandemic is completely over, providing the teachers with support for their psychological, personal and professional development in the forthcoming period is a factor that should not be ignored. Psychological support is a significant requirement for a sound psychology, but also it can help to cope with the negativities experienced in other areas of life. Therefore, with the increase in responsibilities and demands towards schools and teachers during the pandemic process, it has become an essential need to ensure a healthy mindset and maintain a mental wellbeing during the pandemic, in addition to the increase in expectations from teachers and school leaders regarding the mental health and well-being (Hofmann et al. 2021. 49).

Result

The dynamics of education are prone to be affected by the environment as it can affect the environment. It brings along different sources of stress. With the globalization, there are many developments and changes in education, social, economic, political or technological areas, etc. Competition is massive. Educational organizations, like other organizations, are dynamic environments that can gain benefit to the extent that they can adapt to these changes and developments that make themselves felt in every field.

COVID-19 is a pandemic that has been experienced in recent years, with still ongoing impacts all around the world, by disrupting the dynamics in the education sector as well as the dynamics in every field. The pandemic required the players of the system to adapt themselves to the new normal routines such as offering the education away from the physical environment of a classroom and necessity of digital literacy skills, due to the crises experienced in the education system, leaving behind a number of other priorities and sources of stress. UNICEF (t.y.) states that education for children in emergencies is more than a right to learn, adding that the schools protect children from the dangers around them and deliver psychosocial support to help them cope with the traumas they experience, further explaining that it encourages the skills of the individuals to lead a healthy life, participate in the society, ensure peace and stability and maintain balance in their lives. It can be said that the process has left the students all over the world to face certaain situations in their lives, such as communication with their social environment, friends,

participation in society, feeling threatened to continue their lives in a healthy way, changing priorities in their lives, disruption of stability and balance in their lives as well as their right to learn. As Harris (2020) put it, many children have experienced different types of teaching and learning for the first time in their entire lives. The same applies to the families and educators. It can be said that all players involved in the process have to cope with situations such as more homework, activity, ensuring that education is delivered remotely by receiving support from technology, adaptation to the requirements of what is delivered remotely, more communication and the need to support both students and each other, inequality in access to education, difficulties encountered in continuing the education, and feeling of burnout, etc. On the other hand, the process can be thought to create a unique transparency for the parents about what's going on in the classroom. Tens of millions of parents had the opportunity to observe how their children interact with their schools (Hess, 2022). Although all these experiences bring new teachings out of necessity, it is possible to turn the process into a positive one. For this purpose, drawing a road map by the system builders by working out a strategy especially for the psychological and professional development of teachers and students may have positive effects on the system players to help them put up resistance against all kinds of complications that life may bring.

With the effect of the pandemic, technology is positioned more deply in educational content and educational presentation. Due to the intense competition and the fact that educational dynamics are both affecting and affected factors, the educational institutions and educators should question how they should use the technology and how competent both the institution and they are in terms of technology. Although the current needs during the pandemic period require the introduction of emergency distance education, it can be stated that providing a permanent solution requires strengthening the infrastructure of distance education.

The quality of the education delivered, the way of delivery, the quality of the institution and its attitude to innovations and developments as well as the awareness of the institution and themselves regarding the technology infrastructure and competence are the important selection criteria for the families and their children. It is important to question all these in a timely manner and invest in the areas of development needed. When the points not questioned in time become the subject of primary questioning by the families, the satisfactory answers to be given will depend on the level of awareness of educational institutions and educators. This is a situation that needs to be turned into a positive situation for both educators and institutions. That's because competition is so intense and the emergence of alternatives that can better satisfy the needs and expectations of the families is always possible.

REFERENCES

Aksu. S. G. Dalkılıç. O. S. (2019). Competencies of The Digital Age: A View from The Framework of Employees, Human Resources Specialists and Managers. *Journal of Business in The Digital Age.* 2(2). 54-68. https://bit.ly/3uMX6mJ

Alaca Sokmen, İ., (2020). COVID-19 Küresel Salgını ve Yapay Zekâ Çalışmaları. İstanbul Arel Üniversitesi. *Stratejik Bakış Dergisi.* (1). 59-64. https://bit.ly/3alyzyu

All About History. (2020). Spanish Flu: The deadliest pandemic in history. https://bit.ly/3ww0EvJ

Bilgiç H. G., (2022). Reflections on the Emergency Remote Teaching in the Pandemic: Experiences of Pre-Service Teachers. Bartın University Journal of Faculty of Education. 11(1). 248-266. https://doi.org/10.14686/buefad.1055899

Chavez, D. (2015). Back to School after the Ebola Outbreak. https://bit.ly/3x48Ty4

Davis, C. P., (2021). Medical Definition of Pandemic. *MedicineNet.* https://bit.ly/3PVucdF

Dhawan S. (2020). Online Learning: A Panacea in the Time of COVID-19 Crises. *Journal of Educational Technology.* 49(1). 5–22. https://bit.ly/3NHUGON

Dong, Y., Xu, C., Chai, C., ve Zhai, X. (2019). "Exploring The Structural Relationship Among Teachers' Technostress, Technological Pedagogical Content Knowledge (TPACK), Computer Self-Efficacy and School Support", *Asia-Pacific Education Researcher.* 29(2). 147-157. https://doi.org/10.1007/s40299-019-00461-5

Dryden-Peterson, S. (2020). Learning and community in a time of crisis. https://bit.ly/3G7NiJb

Harris, D. N. (2020, September 29). As schools recover after COVID-19, look to New Orleans. Education Week. https://bit.ly/3LEp0ro

Hernando-Malipot. M. (2021, June 19). Pandemic Stress Also a Challenge for The Education Sector. Manila Bulletin. https://bit.ly/36JmFND

Hess., Frederick M., (2022), Education after the Pandemic, *National Affairs*, 51, https://bit.ly/3tawex8

Hofmann R. Arenge G. Dickens S. Marfan J. Ryan M. Tiong N. D. Radia B. Blaskova L. J. (2021). The Covid-19 Learning Crisis as a Challenge and an Opportunity for Schools: An Evidence Review and Conceptual Synthesis of Research-Based Tools for Sustainable Change. *Center for Educational Policy Studies Journal.* 11 (Sp. Issue). 39-66. https://bit.ly/3uLHa4d

Intermountain Healthcare., (2020, April 2). What's the difference between a pandemic, an epidemic, endemic, and an outbreak?. https://bit.ly/3lyGJG1

International Association of Universities. (2020), The Impact of COVID-19 on Higher Education Around the World: IAU Global Survey Report. https://bit.ly/3DALpUk

Jordan, D. (2019). The deadliest flu: The complete story of the discovery and reconstruction of the 1918 pandemic virus. https://bit.ly/3wAZ9eu

Martín-Sánchez. Miguel., Cáceres-Muñoz. Jorge., Flores-Rodríguez. Cruz., (2022), The Effects of the COVID-19 Pandemic on Educational Communities: Evidence of Early Childhood Education Students, *International Journal of Environmental Research and Public Health*. https://doi.org/10.3390/ijerph19084707. 19(8). 1-19

Pokhrel S. Chhetri R. (2021). A Literature Review on Impact of COVID-19 Pandemic on Teaching and Learning. *Higher Education for the Future.* 8(1). 133–141. https://bit.ly/36PxCx2

Powers S. ve Azzi-Huck K., (2016). The impact of Ebola on education in Sierra Leone. World Bank Blogs. https://bit.ly/3tdYJd8

Rožman M. Meinck S. Chen M. (2022). The Impact of the COVID-19 Pandemic on Education: International Evidence from The Responses to Educational Disruption Survey (REDS). https://bit.ly/376Iq9Q

Szasz, G., (2020). The origin of pandemic-related words, BCMJ. *BC Medical Journal.* https://bit.ly/3Mdp7KF

The Governor's Office of Student Achievement (GOSA), (t.y.). What is digital learning? https://bit.ly/3adVkV8

UNESCO. (2022). The Impact of the COVID-19 Pandemic on Education: International Evidence from The Responses to Educational Disruption Survey (REDS). https://bit.ly/376Iq9Q

UNESCO. (2021, January). Global Monitoring of School Closures Caused by COVID-19. https://bit.ly/3uQnKuN

UNESCO. (2020, June 6). UN Secretary-General Warns of Education Catastrophe, Pointing to UNESCO Estimate of 24 Million Learners at Risk of Dropping Out. https://bit.ly/3DxBajm

United Nations Children's Emergency Fund. (UNICEF). (t.y.). Education in emergencies. https://uni.cf/3lr46Bx

CHAPTER 2

THE RELATIONSHIP BETWEEN CULTURAL INTELLIGENCE AND ATTITUDE TOWARDS ENGLISH LANGUAGE: A STUDY WITH TURKISH EFL LEARNERS

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INTRODUCTION

It is known that there are numerous factors that influence language learning process. Many studies in foreign or second language learning field emphasize that certain factors should be examined to reveal the elements of effective learning. For example, McDonough (1986) suggests that students' individual characteristics are closely related to language learning success. Williams and Burden (1997) indicate that students' individual characteristics that they carried into their educational contexts influence their learning styles and the outcome of the learning process. One of these areas is the affective domain. Many researchers and scholars have investigated the impact of students' affective behaviors on foreign or second language learning. Attitude is one of students' affective characteristics about a language (Brown, 2001), and it is described as "a disposition or tendency to respond positively or negatively towards a certain thing such as an idea, object, person, or situation" (Hosseini & Pourmandia, 2013, p.63).

A great body of research has investigated students' attitudes towards language and language learning for quite a long time (Abu-Snoubar, 2017; Ahmed, 2015; Assaf, 2001; Balcazar, 2003; Dalton-Puffer & Kaltenböck 1995; Gajalakshmi, 2013; Gömleksiz, 2010; Hussein, Demirok & Uzunboylu, 2009; Karahan, 2007; Karstadt, 2002; Kızıltan & Atlı, 2013; Marley, 2004; Zhou, 2002; Zulfikar, Dahliana & Sari, 2019). All these studies reveal that students' attitudes towards learning a language show close relationship with their achievement or failure in language learning. Their attitudes may have an important role in fostering or hindering learning. More specifically, while students with positive attitudes become more successful in the learning process, students with negative attitudes might fail. Krashen (1987) similarly states that attitudes could function as a barrier or bridge in language learning. Merisuo-Storm (2007) also suggests that positive attitudes towards language learning might promote learning by enhancing students' motivation.

Generally, it has been underlined in the related literature that learners having positive attitudes towards a language show better achievement in learning a new language than learners having a negative attitude (Abidin, Pour-Mohannadi, & Alzwari, 2012; Brown, 2007; Csizer & Dörnyei, 2005; Ellis, 1994; Elyıldırım & Ashton, 2006; Gardner, 1985; Garrett, 2010; Oroujlou & Vahedi, 2011; Rukh, 2014; Youssef, 2012). Therefore, students' attitudes have been found to affect their academic performance in language learning. For this reason, it is of great significance to examine language learners' attitudes towards language. For example, determining the attitudes and changing negative attitudes may help ensure students' academic success in learning a language. Additionally, by identifying

students' attitudes, necessary changes, and innovations in the context of teaching can be made.

Another significant element in learning a language is the cultural aspect. Technological developments and innovations in communication, travelling, and other different information tools have enabled to create culturally diverse societies in today's world (Lustig & Koester, 2010). With the mobility of people and the advancement in globalization and technology (Chen & Starosta, 2008), the need for students from different cultures to communicate with each other in language learning contexts has emerged.

In this sense, culture has become a significant component of language learning and teaching (Rachmawaty, Wello, Akil & Dollah, 2018). Culture started to be accepted as the fifth dimension in language teaching in addition to the four skills of reading, listening, writing and speaking since culture seems to be essential for the mastery of a language (Kramsch, 2013). Thus, it is important to include the culture of the languages in teaching since learning a language effectively gets much easier when cultural awareness is created and intercultural skills are developed (Byram, Gribbova & Starkey, 2002).

In this interconnected world, English has turned out to be an international language, and this requires awareness of the cultures of various societies that communicate using this language in addition to awareness of the target language culture (Alptekin, 2002). In foreign language teaching field, intercultural competence has been emphasized because it is thought to be necessary for students to contact with individuals from various cultures and learn how to live with them in harmony while learning a language (Meyer, 1991). European Commission also focuses on the cultural awareness and expression as one of the eight key skills (European Commission, 2018). As Thanasoulas (2001) pointed out, language is closely linked to culture; knowing different cultures contributes to having a better understanding of various contexts, messages and conversations. It is known that some individuals are more successful in such cultural interactions. When it comes to cultural issues and investigating the success of some individuals in the interactions, it seems required to identify the competence of individuals.

Today, especially after Gardner (1993) proposed multiple intelligence theory, such types of intelligence as emotional intelligence (Goleman, 1995), practical intelligence (Sternberg et al.,2000), and ecological intelligence (McCallum, 2008) were also introduced. One of them has been the concept of cultural intelligence (CQ) (Earley & Ang, 2003). Cultural intelligence is defined as "the capacity of individuals to adjust their behaviors according

to the requirements of the cultures they interact with, to communicate effectively with individuals from different cultures, and to adapt to cultural differences" (İlhan & Çetin, 2014, p.95). Cultural intelligence is based on the same root as other intelligences, but it is basically focused on the skill necessary to be influential in the multinational and globalized world (Livermore, 2011). Livermore (2011) explained that some people are more successful than other individuals in a diversity of cultures. Three levels exist in cultural intelligence: universal that includes knowledge about the world, cultural that focuses on knowledge about other cultures and the real which is about the skill to deal with different cultural situations (Soldatova & Geer, 2013). Cultural intelligence can help individuals to get rid of prejudices based on cultural differences. It could be developed and related to whether an individual is successful in intercultural interactions (Baykara & Kuzulu, 2021). Although cultural intelligence was used in business world at its beginning, today it is used in educational contexts as well and considering all these, understanding the cultural intelligence and the factors affecting it appears to be crucial in designing foreign language education programs and addressing culture in foreign language lessons.

Cultural intelligence is a multi-dimensional intelligence type. Earley and Ang (2003) define four dimensions in the scale they developed. The first dimension of the cultural intelligence scale, *cognition*, includes information that individuals get about other cultures through daily experience or formal education. People with advanced cognitive dimension of this scale are successful in understanding similarities and differences on intercultural situations. Individuals reflect the information on norms, practices, and traditions of different cultures through cultural intelligence. Problems stemming from miscommunication between cultures could be overcome with the help of cognitive dimension of cultural intelligence (İbiş, 2018). The second dimension, *metacognition*, is related to individuals' awareness of cultural knowledge during intercultural interaction and whether they have control on that knowledge. People having high metacognition level are aware of others' cultural preferences and revise their cultural knowledge while and after interaction with people from different cultures. This dimension urges people to think strategically in multicultural societies and facilitates their interpretation of different cultures. In this way, people adapt to their own cognitive process more easily and become more successful in human relationships and empathizing with others (İbiş, 2018).

Motivation dimension is about the eagerness of a person to contact with individuals from various cultures and learning new things about intercultural situations. Self-sufficiency and internal motivation are important in this dimension. People with advanced motivation dimension

trust their skills in adapting to different cultures. The last dimension, *behavior*, includes the ability of the individual to show proper verbal and non-verbal actions when confronted with individuals from various cultures. People who have high scores in this dimension are successful in adapting their verbal behaviors such as tone of voice and speech speed and non-verbal behaviors such as gesture and mimics to the needs of the cultures in which they live (Earley & Ang, 2003; İlhan & Çetin, 2014).

In especially educational contexts, students coming from different social and cultural environments live, interact, and learn together. Hence, it is vital for students to develop an understanding of other students from different nations, genders, languages, religions, socio-economic level, gender, sexual orientation, to develop intercultural competence and to have respect for such a diversity. The university campuses have been diverse today because of internationalization and migration (Guo & Jamal, 2007) and this makes universities a suitable place to search for cultural issues. With the help of cultural intelligence, living in a multicultural setting can be a lot easier to deal with. As a result, producing globally integrated and multiculturally educated students has gained much importance in the teaching and learning field (Atan, 2020). Studies on students' cultural intelligence or the relationship between cultural intelligence and different variables in language learning have been carried out especially in the last two decades (Collins, Duyar & Pearson 2016; Goh; 2012; Kahraman, 2016; Özaslan, 2017; Petrovic, 2011; Spinthourakis, Karatzia-Stavlioti & Roussakis, 2009; Şenel, 2020). The studies generally emphasized that developing cultural intelligence is a significant aspect for effective communication and qualified learning. Also, the level of students' cultural intelligence can be a good predictor of academic performance. Therefore; there is still a need to further investigate cultural intelligence of learners and better understand the factors affecting it.

Although a great number of studies have been carried out to identify the role of attitude towards English language and cultural intelligence in language learning separately, there is little research that has been conducted to investigate the relationship between learners' cultural intelligence and attitude towards English. Having noticed the scarcity of studies on this relationship, the present study attempted to contribute to filling the gap in this research area. More specifically, considering the significant role of these two important aspects of language learning, the study aimed to determine whether there is a relationship between attitude towards English language and cultural intelligence. To this end, the following research questions were addressed in the current study:

1) What is Turkish EFL learners' cultural intelligence level in terms of sub-dimensions of a) metacognition, b) cognition, c) motivation and d) behavior?

2) What is Turkish EFL learners' attitude towards English language?

3) Do Turkish EFL learners' cultural intelligence sub-dimensions and attitude towards English language differ according to a) settlement where students spent most of their lives and b) knowledge of an additional language?

4) Is there a relationship between Turkish EFL learners' cultural intelligence sub-dimensions and attitude towards English language?

METHOD

Design of the Study

The study attempted to find out whether cultural intelligence and attitude towards English are related to each other. The research also examined whether this relationship differs in terms of two variables (settlement where participants spent most of their lives and knowledge of an additional language). Accordingly, the study was designed as a quantitative research by using correlational survey model.

Correlational research is defined as "a study in which the relationship between two or more variables is examined without any intervention" (Büyüköztürk, Kılıç-Çakmak, Akgün, Karadeniz & Demirel, 2019, p.191). Defining and analyzing human behavior in both individual and social relationships is a very complex process. The way to make this process a little more understandable may be to try to understand these relationships at a simpler level. Correlational studies aim to determine these relationships (Cohen & Manion, 1998). In this regard, it can be said that correlational studies are significant since they are influential in indicating the relationships between variables, identifying the levels of these relationships, giving the required clues for high level studies on these relationships (Büyüköztürk et al., 2019).

Setting and Participants

The study was conducted in the School of Foreign Languages of a state university in the west of Turkey. The school has around one thousand EFL learners and has classes of three language levels: elementary, pre-intermediate and intermediate. The data was collected during the spring term of 2020-2021 academic year. At that time all classes were online because of Covid-19 pandemic. The data collection instruments were given to students through the social media or e-mail groups of lecturers. 146 students volunteered to take part in the study and completed the

instruments. In Table 1, there is demographic information about the participating students in the study.

Table 1.

Demographic information of the participants

Language level	Elementary: 16 Pre-intermediate: 62 Intermediate: 68
Faculty	Faculty of Engineering: 39 Faculty of Economics and Administrative Sciences: 24 Faculty of Social Sciences and Humanities: 8 Faculty of Tourism: 7 Faculty of Dentistry: 3 Other: 5
Experience abroad	No: 114 Less than 1 month: 20 1-3 months: 6 More than 3 months: 6
Settlement where they spent most of their lives	Village: 12 Town: 35 City: 31 Large city: 68
Knowledge of an additional language	No: 109 At least one language:37

As seen in Table 1, participants were usually at Pre-intermediate or Intermediate levels during the time of data collection. Most of them studied at Faculty of Engineering which was followed by Faculty of Economics and Administrative Sciences. Most of the participants (almost 80 per cent) did not have any experience in another country and even the ones with experience abroad did not stay for a long time. In terms of the settlement, almost half of the participants grew up in large cities. Three quarters of the participants did not learn another foreign language except for English. Only 37 participants stated that they knew an additional language.

Data Collection Instruments

To collect the needed data, personal information form, Cultural Intelligence Scale and English Attitude Scale were used. The personal

information form was prepared by the researchers and includes information that may be important in evaluating the research results such as students' faculty, English level, experience abroad, settlement where they spent most of their lives and knowledge of an additional language.

The Cultural Intelligence Scale was developed by Ang et al., (2007) and adapted into Turkish by İlhan and Çetin (2014). There are 20 items and 4 sub-dimensions in the scale: namely, metacognition, cognition, motivation, behavior. There is no reverse scored item in the scale. Since there are 4 items in the metacognition sub-dimension, the lowest score that can be obtained from this dimension is 4 and the highest score is 20. There are 6 items in the dimension of cognition. Therefore, the lowest score that can be obtained from this dimension is 6, and the highest score is 30. There are 5 items in the motivation dimension. Therefore, the lowest score that can be obtained from this dimension is 5, and the highest score is 25. Similarly, since there are 5 items in the behavior dimension, the lowest score that can be obtained from this dimension is 5 and the highest score is 25. Since the adaptation of the scale and its applications in other studies were made on similar samples and the reliability coefficient was found .81, this scale was considered appropriate to be used in the study.

The other scale was English Attitude Scale, which was developed by Altunay (2004) and it consists of 17 items. The lowest score that students can get from the Attitude towards English Scale is 17, and the highest score is 85. The reliability coefficient was found .96 in the development process of the scale. Because the scale was also used in similar samples in other studies, the scale was found appropriate to be implemented in the present study. In both scales, five-point Likert "(1) strongly disagree, (2) disagree, (3) not sure, (4) agree and (5) strongly agree" was used.

Data Collection and Analysis

A total of 146 participants participated in the current study. They were asked to fill out Cultural Intelligence Scale and English Attitude Scale. The scales were prepared on Google Document and implemented to the participants online, which took approximately 20 minutes.

The collected data were fed into the Statistical Package for the Social Sciences 22.0 (SPSS) and analyzed. In order to control the assumptions and the appropriateness of the analysis, firstly, the evaluation of blank data and normality test applications were performed. During the data analysis procedure, five participants who filled the scale incompletely or incorrectly were excluded from the study, and the responses of 146 participants were analyzed. The internal consistency of the responses given to the data collection tools was calculated with Cronbach alpha (α). The coefficient for the cultural intelligence scale was found to be .83

and the coefficient for the scale of attitude towards English was found to be .89. The statistical significance level was taken as $p < 0.05$ during all the analysis processes. When the skewness and kurtosis values for the total score distribution of the data collection tool were examined, it was observed that the distribution was normal (Kline, 2011). The mean and standard deviation were calculated through descriptive statistics. Independent Samples T-test was also conducted in order to determine whether there was a difference between the scores obtained from the scale of cultural intelligence and attitude towards English according to the variable of settlement where participants spent most of their lives and the variable of knowing an additional foreign language. After this stage, Pearson-Correlation Coefficient was also conducted to determine whether there was a relationship between these two variables: cultural intelligence and attitude towards English language.

Ethical Procedures

In this study, ethical procedures were followed. Firstly, the developers of the scales were contacted, and their permission was taken. Then, the researchers applied for ethical permission, and it was provided by Bartın University Social and Humanitarian Sciences Ethical Committee in 2021. The participants were told to complete the instruments on a voluntary basis, and they were given a consent form before starting the questions to inform them about the purpose of the study.

FINDINGS

Based on the analysis of the data collected through two different scales, the findings were presented in this section.

Table 2.

Mean scores and standard deviation values of Cultural Intelligence and English Attitude Scale

Scales		N	$\bar{x}$	Ss
	Sub-dimensions			
Cultural Intelligence Scale	Metacognition		15,77	1,93
	Cognition	146	19,28	3,46
	Motivation		19,56	3,52
	Behavior		18,41	2,76
English Attitude Scale		146	59,24	11,04

In Table 2, mean scores, and standard deviation values of the participants from the cultural intelligence and English attitude scale are presented. The mean score of the participants for metacognition sub-dimension of cultural intelligence scale was $\bar{x}$ = 15,77, for cognition sub-dimension was $\bar{x}$ = 19,28, for motivation sub-dimension was $\bar{x}$ = 19,56,

for behavior sub-dimension was $\bar{x}$ = 18,41. Additionally, the mean score obtained from English attitude scale was $\bar{x}$ = 59,24.

Table 3.

T-test results of Cultural Intelligence and English Attitude Scale according to the variable of settlement where participants spent most of their lives

Scales		Groups	N	$\bar{x}$	SS	t-test		
						t	df	p
English Attitude Scale		City	99	59,72	11,48	,762	144	,447
		Town	47	58,23	10,07			
Cultural Intelligence Scale	Metacognition	City	99	15,78	1,97	,126	144	,900
		Town	47	15,74	1,87			
	Cognition	City	99	19,45	3,43	,879	144	,381
		Town	47	18,91	3,51			
	Motivation	City	99	19,38	3,72	-,918	144	,360
		Town	47	19,85	3,05			
	Behavior	City	99	18,33	2,95	-,534	144	,594
		Town	47	18,59	2,34			

In Table 3, no significant difference was found between the mean scores of the participants from English attitude scale according to the variable of the settlement where participants spent most of their lives (t =,762, p> 0.05). It was also observed that there was no significant difference according to the mean scores of cultural intelligence metacognition sub-dimension (t = ,126, p> 0.05), cognition sub-dimension (t = ,879, p> 0.05), motivation sub-dimension (t = -,918, p> 0.05) and the behavior subscale (t = -,534, p> 0.05).

Table 4.

T-test results of the scores of Cultural Intelligence and English Attitude Scale according to the variable of knowledge of an additional foreign language

Scales		Groups	N	$\bar{x}$	SS	t-test		
						t	df	p
English Attitude Scale		No	106	57,98	11,17	-2,102	143	**,037**
		Yes	39	62,25	9,94			
Cultural Intelligence Scale	Metacognition	No	106	15,61	1,92	-1,569	143	,119
		Yes	39	16,17	1,93			
	Cognition	No	106	18,82	3,13	-2,437	143	**,016**
		Yes	39	20,35	3,95			
	Motivation	No	106	19,09	3,46	-2,517	143	**,013**
		Yes	39	20,71	3,37			
	Behavior	No	106	18,35	2,69	-,199	143	,842
		Yes	39	18,46	2,93			

In Table 4, according to the variable of knowing an additional foreign language, a significant difference was found between the mean scores of the participants in English attitude scale (t = -2,102, p <0.05). When the

mean scores were compared, it was seen that the mean score ($\bar{x}$ = 62,25) of the participants who spoke an additional foreign language was higher than the mean score of the participants who did not know another foreign language ($\bar{x}$ =57,98). When the participants' mean scores from the cultural intelligence scale were evaluated according to the variable of knowing an additional foreign language, no significant difference was found in the metacognitive sub-dimension (t = -1,569, p> 0.05) and the behavior sub-dimension (t = -,199, p> 0.05). However, a significant difference was found in the cognition sub-dimension (t = -2,437, p <0.05) and the motivation sub-dimension (t = -2,517, p <0.05). When the mean scores in the cognition sub-dimension were compared, it was found that the mean score ($\bar{x}$ = 20,35) of the participants who knew another language was higher than the mean score of the participants who did not know ($\bar{x}$ = 18,82). When the mean scores in the motivation sub-dimension were compared, it was found that the mean score ($\bar{x}$ = 20,71) of the participants who knew another language was higher than the mean score of the participants who did not know it ($\bar{x}$ = 19,09).

Table 5.

Correlation between Cultural Intelligence and English Attitude Scale

		N:144	English Attitude
Cultural Intelligence	Metacognition	r	,247
		p	**,003**
	Cognition	r	,294
		p	**,000**
	Motivation	r	,381
		p	**,000**
	Behavior	r	,163
		p	,050

In Table 5, based on the correlational analysis of the participants' mean scores obtained from the cultural intelligence and English attitude scale, a positive low level of significant difference was found between the metacognition sub-dimension and the attitude towards English (r =,247, p <0.05) and between the cognition sub-dimension and the attitude towards English (r=,294, p <0.05). A moderate positive difference was found between the motivation sub-dimension and attitude towards English (r =,381, p <0.05). However, there was no positive and low-level significant difference between the behavior sub-dimension and the attitude towards English (r =,163, p> 0.05).

DISCUSSION, CONCLUSION and SUGGESTIONS

This study was conducted to examine the cultural intelligence and attitude of EFL learners towards English at a Turkish university and to

see whether there was a relationship between these two concepts. It was also studied whether the settlement where participants spent most of their lives and the knowledge of an additional language played a role in cultural intelligence and attitude towards English. In the study that was designed as a correlational study, 146 students took part and completed the data collection tools. The results were shown through tables above.

The results indicated that the mean scores of the participants of this study for the sub-dimensions of cultural intelligence were similar in terms of metacognition and motivation dimensions considering the maximum score that could be reached in these dimensions whereas the levels for behavior and cognition dimensions were lower respectively. Likewise, the study by Rachmawaty, Wello, Akil & Dollah (2018) emphasized that motivation and metacognition were the dominant dimensions that made up the level of cultural intelligence. İlhan & Çetin (2014) also found in their study that metacognition dimension was the highest whereas the cognition dimension was the lowest for university students, which was in harmony with the results of this study. Similarly, in the study of Yoğurtçu (2015), metacognition was found to be the most dominant dimension. Higher levels for metacognition are especially regarded as good because it triggers active and critical thinking. This dimension could help people to have cultural awareness while learning a language. Therefore, the results about metacognition might indicate that students could use mental processes effectively in reaching cultural information and understanding it. Yoğurtçu (2015) stated that in the learning environments where intercultural interaction was high, students could restructure their metacognition cultural intelligence skills. In this study, participants had been active in intercultural interaction because of the nature of the foreign language field when the data was collected, and the foreign language classroom environment might have caused the emergence of higher results for metacognition. The higher level about motivation dimension is also important because it is related to intrinsic motivation and has the potential to increase the level for the attitude towards English as well (Kahraman, 2016). The lower levels about cognition dimension could be interpreted as the lack of knowledge on norms, traditions, and values of different cultures. In this study, students were subject to online education at the time of data collection and results for the absence of information on different cultures' norms and traditions could be evaluated regarding this situation. Hüseyinoğlu (2020) also emphasized in her study that cognition dimension of cultural intelligence had the lowest score compared to other sub-dimensions.

Spending some time in another country and an abroad experience are discussed in the literature in terms of cultural intelligence development.

Almost 80 percent of the participants in this study had no experience of abroad. This could have affected their cultural intelligence levels, too. Likewise, Kahraman (2016) claimed that the absence of an abroad experience might have caused the decrease in cultural intelligence levels in his study. Özaslan (2017) also explained that students with overseas experience had better scores in all four levels of cultural intelligence in her study. Baykara & Kuzulu (2021) found in their study that students who joined Erasmus exchange program showed higher levels for motivation dimension and Köse (2016) stated that students with Erasmus experience showed better cultural intelligence levels than the ones who did not join this program. All these studies indicate that experience of the participants in another country might have changed the results of this study.

The results for the attitude towards English showed that students had a mean score of 59 out of 85, which could be interpreted as moderate. Yaşar & Yıldız (2017)'s and Coşkun (2016)'s studies also had similar results in terms of the attitude level of students towards English. The moderate level for attitude towards English could be because of positive and negative emotions for the target language, physical and psychological atmosphere of the class (Yaşar & Yıldız, 2017). Özaslan (2017) explained that attitude levels could change depending on experience in an English-speaking country as her study revealed it. The absence of experience in another country might have caused moderate levels in the attitude towards English in this study.

The results of this study showed that the settlement type where participants spent most of their lives did not make a significant difference in terms of cultural intelligence and attitude towards English. The participants of this study mostly had city experience. Ekici (2017) found that students who grew up in an environment where there were different cultures showed better scores in the motivational dimension of cultural intelligence. However, metacognition, cognition and behavior dimensions were found not to differ in terms of settlement type, as in this study. Ergün & Güzel (2017) found the metacognition cultural intelligence levels of students who lived in city for a long time higher than the ones who spent most of their lives in a village or a town. This could be because of the existence of different cultures in city life and students' adaptation to living with people from different cultures. However, the effect of settlement type was not observed in the results although students in this study also had more experience of living in cities.

In this study, the knowledge of an additional language except for English was examined to see whether it had an effect or not on the levels of cultural intelligence and attitude towards English. The results showed that there was a significant difference in English attitude scale, indicating that

students who knew another language had higher scores for attitude towards English. Deniz & Ilıcalı-Koca (2018) also stated that students with more than one foreign language knowledge had lower foreign language anxiety levels which could be interpreted as the facilitation of the knowledge of an additional language for learning a new language. It was also revealed in the findings of this study that the knowledge of an additional language made significant differences for the cognition and motivation dimensions of cultural intelligence whereas it did not make any difference for metacognition and behavior dimensions. These results indicated that students had higher scores in terms of cognition and motivation when they knew another language. Likewise, Köse (2016) found in her study that students who knew more than one language showed better cognition and motivation levels in cultural intelligence although there was not a difference in terms of metacognition and behavior dimensions. Urnaut (2014) also stated that students had better cultural intelligence scores when they knew more than three languages compared to the ones with one or two foreign languages. This indicates that the number of foreign languages might also affect cultural intelligence level. On the other hand, Hüseyinoğlu (2020) stated that there was a significant difference between any dimensions of cultural intelligence and knowledge of multi languages so the insignificant results of this study in metacognition and behavior dimensions have similar results to her study.

Lastly, the correlation between the attitude towards English and sub-dimensions of cultural intelligence was examined in this study. The results showed that there was a positive low level of significant difference between the metacognition and cognition sub-dimensions and the attitude towards English and a moderate positive difference between the motivation sub-dimension and attitude towards English. A correlation between the behavior sub-dimension and the attitude towards English was not observed. There was only one study in the literature that examined the correlation of these two concepts and the results of that study (Kahraman, 2016) were similar to this study because he also found a positive moderate correlation between cultural intelligence and attitude towards a language. Another similar study by Rachmawaty et al. (2018) searched for the correlation between cultural intelligence, language learning strategies and English language proficiency. They found no significant correlation between those three concepts although the results showed that there was a meaningful difference between cultural intelligence and language learning strategies. Presbitero (2020) found that cultural intelligence could help reduce the foreign language anxiety. The results of this study showed a moderate positive difference between the motivation cultural intelligence and attitude towards English, so this is actually in compliance with other studies since

motivation is the most important dimension in terms of attitude towards English. The lack of correlation between behavior dimension and attitude towards English could be interpreted in terms of the lack of intercultural interactions because of the online classes.

This study suggests that there is a correlation between cultural intelligence and attitude towards English and more studies in different contexts are needed to examine this relationship. This study also investigated the effect of only two variables: the knowledge of an additional language and settlement type. Therefore, this relationship between cultural intelligence and attitude towards English could be studied in terms of other variables. Moreover, a similar study could be conducted using a mixed method design because qualitative findings on cultural intelligence and attitude towards English might reveal different findings regarding this topic. This study shows the potential of cultural intelligence in learning a foreign language, so it seems important to design activities that aim to increase students' cultural intelligence levels in foreign language classes. Lastly, EFL learners could also be provided with more chances to have an abroad experience since this might increase their cultural intelligence levels.

REFERENCES

Abidin, M. J., Pour-Mohannadi, M., & Alzwari, H. (2012). EFL students' attitudes towards learning English language: The case of Libyan secondary school students. *Asian Social Science*, 8(2), 119-134.

Abu-Snoubar, T. K. (2017). An evaluation of EFL students' attitudes toward English language learning in terms of several variables. *International Journal of English Language Teaching*, *5*(6), 18-34.

Ahmed, S. (2015). Attitudes towards English Language Learning among EFL Learners at UMSKAL. *Journal of Education And Practice*, *6*(18), 6-16.

Alptekin, C. (2002). Towards intercultural communicative competence in ELT. *ELT Journal, 56*(1), 57-64.

Altunay, U. (2004, July). *Üniversite İngilizce hazırlık öğrencilerinin İngilizceye yönelik tutumlarıyla, sınavlar, okulun fiziksel koşulları ve ders programları ve uygulanışı ile ilgili görüşleri arasındaki ilişkiler.* Sözlü Bildiri, XIII. Ulusal Eğitim Bilimleri Kurultayı, İnönü Üniversitesi Eğitim Fakültesi, Malatya.

Assaf, A.S. (2001). Palestinian students' attitudes towards Modern Standard Arabic and Palestinian City Arabic, *RELC Journal*, 32(2), 45-62.

Atan, D. (2020). Cultural intelligence levels of pre-service teachers. *Eğitim ve Yeni Yaklaşımlar Dergisi*, 3(1), 50-65.

Balcazar, I. H. (2003). *Language shift and language attitudes of Kaqchikel Maya adolescents*. Paper presented at the 4th International Symposium on Bilingualism, Arizona State University.

Baykara, S.T. & Kuzulu, E. (2021). A brief research on cultural intelligence levels and program experiences of Erasmus study mobility students. *Avrasya Uluslararası Araştırmalar Dergisi, 9*(26), 110-126.

Brown, H. D. (2001). *Teaching by Principles: An interactive approach to language pedagogy (2nd ed).* San Francisco Public University.

Brown, H. D. (2007). *Principles of language learning and teaching (4th ed.)* Pearson Education Inc., White Plains, NY.

Büyüköztürk, Ş., Kılıç-Çakmak, E., Akgün,Ö.E., Karadeniz, Ş., & Demirel, F. (2019). *Eğitimde bilimsel araştırma yöntemleri (27.basım).* Ankara: Pegem Akademi.

Byram, M., Gribkova, B. & Starkey, H. (2002). *Developing the intercultural dimension in language teaching: a practical introduction for teachers*. Strasbourg: Council of Europe.

Chen, G.& Starosta, J. W. (2008). Intercultural communication competence: A synthesis. In M. K. Asante, Y. Miike, & J. Yin (Eds.), *The global intercultural communication reader*, (pp. 215-237). New York: Routledge.

Cohen, L. & Manion, L. (1998). *Research methods in education (4th ed.).* London: Routledge.

Collins, K., Duyar, D., & Pearson, C.L. (2016). Does cultural intelligence matter: Effects of principal and teacher cultural intelligence on Latino student achievement. *Journal for Multicultural Education*, 10(4), 465- 488.

Coşkun, G. (2016). The relationship between code-switching beliefs of the university students in English classes and their attitudes towards English. *Unpublished master thesis,* Abant İzzet Baysal University, Turkey.

Csizer, K., & Dörnyei, Z. (2005). The internal structure of language learning motivation and its relationship with language choice and learning effort. *The Modern Language Journal*, 89, 19-36.

Dalton-Puffer, C., Kaltenböck, G., & Smit, U. (1995). Language attitudes of L2 learners to native and nonnative varieties of English. *VIenna English Working papers*, 76.

Deniz, F. & Ilıcalı-Koca, F. U. (2018). Foreign language anxiety: an investigation on Marmara University School of Foreign Languages preparatory students. *International Journal of Languages' Education and Teaching, 6*(1), 292-304.

Earley, P.C., & Ang, S. (2003). *Cultural intelligence: Individual interactions across cultures*. Palo Alto, CA: Stanford University Press.

Ekici, F.Y. (2017). Cultural intelligence levels of pre-service pre-school teachers and their attitudes towards multicultural education. *Kastamonu Education Journal*, 25(5), 1941-1956.

Ellis, R. (1994). *The study of second language acquisition.* Oxford: Oxford University Press.

Elyıldırım, S., & Ashton, S. (2006). Creating positive attitudes towards English as a foreign language. *English Teaching Forum*, 4, 2-11.

Ergün, G., & Güzel, A. (2017). Evaluation of cultural intelligence levels of female university students according to negative automatic thoughts and some other variables. *Gümüşhane University Journal of Health Sciences, 6*(4), 30-43.

Gajalakshmi, V. (2013). High school students' attitude toward learning English language. *International Journal of Scientific and Research Publications*, *3*(9), 1-7.

Gardner, R. (1985). *Social psychology and second language learning: the role of attitude and motivation*. London: Edward Arnold.

Gardner, H. (1993). *Multiple intelligences: the theory in practice*. New York: Basic Books. A Division of Harper Collins Publishers.

Garrett, P. (2010). *Attitudes to language*. New York: Cambridge University Press

Goh, M. (2012). Teaching with cultural intelligence: developing multiculturally educated and globally engaged citizens. *Asia Pacific Journal of Education*, 32(4), 395-415.

Goleman, D. (1995). *Emotional intelligence: Why it can matter more than IQ?* New York: Bentam Books.

Gömleksiz, M. N. (2010). An evaluation of students' attitudes toward English language learning in terms of several variables. *Procedia-Social and Behavioral Sciences*, *9*, 913-918.

Guo, S. & Jamal, Z. (2007). Nurturing cultural diversity in higher education: a critical review of selected models. *Canadian Journal of Higher Education*, *37*(3). 27-49.

Hosseini, S.B. & Pourmandnia, D. (2013). Language learners' attitudes and beliefs: brief review of the related literature and frameworks. *International Journal on New Trends in Education and Their Implications*, 4(4), 63-74.

Huseyinoğlu, M. (2020). Turkish pre-service ELT teachers' level of cultural intelligence: A mixed method study. *Unpublished master thesis*, Bursa Uludağ University, Turkey.

Husseın, G., Demirok, M., & Uzunboylu, H. (2009). Undergraduate student's attitudes towards English language. *Procedia-Social and Behavioral Sciences*, *1*(1), 431-433.

İbiş, T. (2018). Çokkültürlülük ve kültürel zeka. *Yeni Düşünceler, 10*, 20-35.

İlhan, M. & Çetin, B. (2014). Kültürel Zekâ Ölçeği'nin Türkçe formunun geçerlik ve güvenirlik çalışması. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi (H. U. Journal of Education)*, 29(2), 94-114.

Kahraman, M. (2016). The examination of the factors affecting cultural intelligence in foreign language context. *Unpublished master thesis*. Eskişehir Osmangazi University, Turkey.

Karahan, F. (2007). Language attitudes of Turkish students towards the English language and its use in Turkish context. *Çankaya Üniversitesi Journal of Arts and Sciences*, 7, 73–87.

Karstadt, A. (2002). Standard Englishes: What do American undergraduates think? *English Today*, 18,3, (2002), pp. 38-45.

Kiziltan, N., & Atlı, I. (2013). Turkish young language learners' attitudes towards English. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, *28*(28-2), 266-278.

Kline, R. B. (2011). *Principles and practice of structural equation modeling (3rd ed.)*. New York, NY, US: Guilford Press.

Köse, N. (2016). The role of the demographic properties of the Erasmus program in the effect of cultural intelligence. *Unpublished master thesis*, Hasan Kalyoncu University, Turkey.

Kramsch, C. (2013). Culture in foreign language teaching. *Iranian Journal of Language Teaching Research 1*(1), 57-78.

Krashen, S. (1987). *Principles and practice in second language acquisition*. UK: Prentice Hall International Ltd.

Livermore, D. (2011). *The cultural intelligence difference special ebook edition: Master the one skill you can't do without in today's global economy*. New York: AMACOM.

Lustig, M.W. & Koester, J. (2010). *Intercultural competence: Interpersonal communication across cultures* (6th ed.). Boston: Pearson.

Marley, D. (2004). Language attitudes in Morocco following recent changes in language policy. *Language Policy*, 3, 25-46.

McCallum, I. (2008). *Ecological intelligence: Rediscovering ourselves in Nature*. Golden, Colorado: Fulcrum Publishing.

McDonough, S. H. (1986). *Psychology in foreign language teaching*. London: Unwin Ltd.

Merisuo-Storm, T. (2007). Pupils' attitudes towards foreign-language learning and the development of literacy skills in bilingual education. *Teaching and teacher education*, *23*(2), 226-235.

Meyer, M. (1991). Developing transcultural competence: case studies of advanced foreign language learners. In D. Buttjes & M. Byram (Eds.), *Mediating languages and cultures*. Clevedon: Multilingual Matters.

Oroujlou, N., & Vahedi, M. (2011). Motivation, attitude, and language learning. International Conference on Education and Educational Psychology. *Procedia - Social and Behavioral Sciences*, 29, 994 – 1000.

Özaslan, A. (2017). The relationship between social intelligence, cultural intelligence, anxiety, attitude levels and willingness to communicate in English. *Unpublished master thesis*, Erciyes University, Turkey.

Petrović, D.S. (2011). How do teachers perceive their cultural intelligence? *Procedia Social and Behavioral Sciences*, 11, 276–280.

Rachmawaty, N., Wello, M. B., Akil, M., & Dollah, S. (2018). Do cultural intelligence and language learning strategies influence students' English language proficiency? *Journal of Language Teaching and Research*, *9*(3), 655-663.

Rukh, S. (2014). Students' attitude towards English language learning and academic achievement: A case of business students in Punjab. *European Academic Research*, *2*(4), 5596-5612.

Soldatova, G. & Geer, M. (2013). "Glocal" identity, cultural intelligence, and language fluency. *Procedia - Social and Behavioral Sciences, 86*, 469-474.

Spinthourakis, J.A., Karatzia-Stavlioti, E., & Roussakis, Y. (2009). Pre-service teacher intercultural sensitivity assessment as a basis for addressing multiculturalism. *Intercultural Education*, 20(3), 267–276.

Sternberg, R.J., Forsythe, G. B., Hedlund, J., Horvath, J.A., Wagner, R.K., Williams, W.M., Snook, S., & Grigorenko, E.L. (2000). *Practical intelligence in everyday life*. New York: Cambridge University Press.

Şenel, M. (2020). Investigation of the cultural intelligence levels of the Turkish university students at foreign language departments. *International Journal of Language Education*, 4(3), 361-377.

Thanasoulas, D. (2001). The importance of teaching culture in the foreign language classroom. *Radical Pedagogy*, *3*(3), 1-25.

Urnaut, A. G. (2014). Education for successful international communication and cultural intelligence. *Journal of Economic and Social Development, 1*(1), 63-73.

Williams, M. & Burden, R. L. (1997). *Psychology for language teachers*. Cambridge: Cambridge University Press.

Yaşar, G. C. & Yıldız, S. (2017). The relationship between code-switching beliefs of university students in English classes and their attitudes towards English. *Uluslararası Eğitim Programları ve Öğretim Çalışmaları Dergisi, 7*(13), 111-129.

Yoğurtçu, G. (2015). Çokkültürlü eğitim ortamlarında kültürlerarası iletişim ve kültürel zekâ: Kırgızistan üniversite öğrencileri üzerine bir araştırma. *International Journal of Social Sciences and Education Research,1*(3), 791-806.

Youssef, A. M. S. (2012). Role of motivation and attitude in introduction and learning of English as a foreign language in Libyan high schools. *International Journal of Linguistic*, 4 (2), 366- 375.

Zhou, M. (2002). The spread of Putonghua and language attitude changes in Shanghai and Guangzhou China, *Journal of Asian Pacific Communication*, 11(2), 231-253.

Zulfikar, T., Dahliana, S., & Sari, R. A. (2019). An exploration of English students' attitude towards English learning. *English Language Teaching Educational Journal*, *2*(1), 1-12.

CHAPTER 3

THE IMPACT OF EXPOSURE TO SCREEN MEDIA DEVICES SUCH AS TELEVISIONS, COMPUTERS, TABLETS AND SMARTPHONES ON CHILDREN'S HEALTH AND COGNITIVE DEVELOPMENT

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Introduction

Scientific and technological advances in our modern society have both led to developments and innovations in the field of communication and media, and also diversified and increased communication styles, media and devices. Within the home environment, young children are increasingly exposed not only to traditional fixed media screen devices such as televisions and desktop computers, but also to newer mobile screen devices such as smartphones and electronic tablets (Paudel, Leavy & Jancey, 2016). Increasing use of communication devices and internet access within households is becoming more widespread. For instance, internet access for Australian households with children increased from 72 % in 2004-2005 to 97% in 2016-2017. Compared to households without children, the average number of devices employed to access the Internet was 44% higher in households with children (Reus & Mosley, 2018, p. 12). The present review aims to address and explore the influence of screen media exposure on children from birth through age five and its association with health and developmental outcomes in children.

Exposure to screen media, which means viewing the screen for a certain period of time and using digital media, can be a source of entertainment for young children as well as obtaining and sharing information. In order to protect children against the harmful impacts of exposure to screen media, the American Academy of Pediatrics has recommended guidelines applicable for screen media viewing of children. Accordingly, children under the age of two should not to be exposed to screens at all, and those between ages 3 through 5 should not exceed one hour per day (AAP, Council on Communications & Media, 2016). Although such guidelines and recommendations still exist, they have remained stereotyped or commonplace, and daily screen media exposure of infants and toddlers has steadily increased (Duch, Fisher, Ensari, & Harrington, 2013).

The early childhood has been considered as an important period for brain development. The environment, in which children model the behaviors of their parents they interact with and are exposed to, has exerted a strong influence on children's brain development (AAP, Council on Communications and Media, 2016). It has been asserted that excessive exposure to all forms of screen media such as televisions, tablets, smartphones or computers has the potential to affect children's health and development (Masur, Flynn & Olson, 2016). Children could determine for themselves neither the time they spent using the screen media nor its content, and they were left vulnerable and negatively affected, especially by the parents' or primary caregivers' screen time applications (Schoeppe, Vandelanotte, Bere, Lien, Verloigne, Kovacs & Van Lippevelde, 2016). So as to prevent the increase of exposure to screen media in the home environment and its

negative effects on children, it is important and necessary especially for the health and development of young children to determine the conditions and factors that lead to screen media exposure of children and to change these conditions. Considering the fact that the negative impacts of exposure to screen media on the health and development of children as well as ways to protect children from these negative impacts are pretty important, the author has taken interest in this literature review and become motivated to undertake such a study. The objective of this study is to explore the potential adverse impacts of screen media exposure on children's health and developmental outcomes. It is important and necessary for the health and development of young children to encourage and develop effective interventions to prevent the harmful influences of screen media exposure and to protect children from its harmful impacts and also to improve outcomes for affected children.

The review focuses on the effects of children's exposure to screen media on their health and development, and deals with children between birth and age five who receive care services from the Maternal and Child Health Care institution. This literature review provides parents or caregivers with education-based evidence and offers them advice and recommendations to protect children from the harmful impacts of screen media exposure during early childhood, which is thought to be important for brain development and the formation of lifelong health practices or habits. The review can provide parents or caregivers with guidelines to be followed in order to improve the adverse health and developmental outcomes of exposure to screen media in children (Duch, Fisher, Ensari & Harrington, 2013).

Research Method

The current literature review selected and included research articles published between 2012 and 2018 that addressed the impact of screen media exposure on children from birth to age five and the health and developmental outcomes for children. In the studies included in the review, the samples consisted of children from birth to five years of age, whose health and development might be affected by various degrees of exposure to different forms of screen media, irrespective of socioeconomic status, ethnic or racial background, or place of residence. Children may be exposed to both traditional screen media devices such as televisions, DVDs, computers, video games, and newer touch-screen media technology in the form of tablets and smartphones. The current literature review examines the potentially modifiable links and outcomes of exposure to all forms of screen media, whether traditional or newer communication technologies, on health and development.

The studies included in this literature review were examined in terms of their objective, method, sample size and age of the participants, and data were obtained from these categories. The current research sought to uncover information and findings about the frequency, level, and duration of exposure to screen media such as televisions, DVDs, computers, video games, and touch-screen technology devices, as well as subsequent health and development links and outcomes.

Description and Analysis of Research Articles

Research Articles Included in the Review (Authors)	Research Design	Research Objective	Sample Size
1. Alloway, Williams, Jones, & Cochrane, (2014)	Cross-sectional Survey	Exploring the potential impacts of television viewing habits on vocabulary skills in children at key developmental stages	30 children aged 2-3 years
	General Findings		
	Watching educational programs on television did not have any positive impact on children's vocabulary skills. Reading educational books to children has contributed to their vocabulary performance.		
2. Byeon, & Hong (2015)	**Research Design**	Research Objective	Sample Size
	Cross-sectional Survey	Addressing and exploring the relationship between television exposure and language delay in 2-year-old children	1778 children aged 24-30 months
	General Findings		
	In the research sample, 32% of toddlers exceeded the screen time guidelines and recommendations of the American Academy of Pediatrics (AAP) to avoid harmful impacts of daily screen exposure (Byeon, & Hong, 2015, p. 6). The presence and prevalence of language delay was found to be higher in toddlers with more than 3 hours of TV viewing time per day.		
3. Carson, Kuzik, Hunter, Wiebe, Spence, Friedman, Hinkley (2015)	**Research Design**	Research Objective	Sample Size
	Experimental and other designs	Exploring the correlation between sedentary behavior and cognitive development during early childhood based on observational and experimental research	Children from ages 0 through 5 are included in the research. Sample sizes are arranged from 10 to 2335.
	General Findings		
	In 27 observational studies, 19 (39 %) of 49 associations reported between total television watching, video/computer games, and overall screen time and cognitive development were found to be statistically significantly harmful (Carson, et al., 2015, p. 118). 38 % of the associations discovered throughout the studies showed a harmful and negative relationship between increased time spent to view screen media and cognitive development outcomes, whereas 25 % of associations indicated a harmful and negative relationship between child-specific television content and adult-specific television content and cognitive development outcomes (Carson, et al., 2015, p. 119). Harmful and negative associations reported between reading and cognitive development outcomes were found to be 0 %. On another note, 6 % of the associations discovered pointed to a beneficial and positive relationship between increased time spent to view screen media and cognitive development outcomes, while 3 % indicated beneficial and positive correlations between child-specific television content and adult-specific television content and cognitive development outcomes. A relatively large percentage of the associations, like 60 %, displayed that there was a beneficial and positive relationship between reading and cognitive development outcomes (Carson, et al., 2015, p. 118).		

4. Carson, & Kuzik (2017)	**Research Design**	Research Objective	Sample Size
	Cross-sectional Survey	Exploring the correlation between *demographic variables and sedentary behavior* and *physical activity among* children between ages 12 to 35 months	149 Canadian toddlers aged 19 months and their English-speaking parents
	General Findings		
	It was found that toddlers from families of lower socioeconomic status, toddlers from ethnic minority groups, and older toddlers engaged in significantly more screen time and television watching. Girls also engaged in significantly more screen time compared to boys.		
5. Cheung, Bedford, Saez De Urabain, Karmiloff-Smith & Smith (2017)	**Research Design**	Research Objective	Sample Size
	Cross-sectional Survey	Exploring the association between frequency of daily touch-screen use and sleep in infants and toddlers aged 6-36-months	715 children aged 6-36 month and their parents
	General Findings		
	A significant relationship was found between frequency of daily touch-screen use and reduced sleep and longer sleep onset in infants and toddlers.		
6. Cliff, McNeill, Vella, Howard, Santos, Batterham, & de Rosnay (2017)	**Research Design**	Research Objective	Sample Size
	Cross-sectional Survey	Exploring adherence to 24-Hour movement recommendations for the early years and relationships with social-cognitive development	248 children from low, middle, or high socioeconomic status and with a mean age of 4.2 years as well as 243 preschoolers
	General Findings		
	While large proportions of children met the physical activity (93.1%) and sleep (88.7 %) recommendations, the percentage of children meeting the screen time guideline decreased and dropped to 17.3 % . Overall, a lower proportion of children (14.9 %) met all three combined recommendations, namely physical activity, screen time and sleep (Cliff et al., 2017, p. 207). Adhering to and meeting all three recommendations has been associated with better socio-cognitive development**.**		
7.Domingues-Montanari (2017)	**Research Design**	Research Objective	Sample Size
	Review Article	Reviewing new evidence on the physiological and psychological effects of screen media exposure in children	Children of many nationalities arranged from 400 to 2000
	General Findings		
	More frequent and excessive television viewing was found to be linked to both lower physical strength, enhanced likelihood of obesity, higher consumption of fatty and sugary foods, and less sleep, enhanced risk of language delay at ages 2-2½, and decreased psychological well-being. It was proposed that watching television and video games accompanied by an adult was most beneficial, depending on the content; however, it was emphasized that it could improve visual attention skills in children.		
8. Duch, Fisher, Ensari & Harrington (2013).	**Research Design**	Research Objective	Sample Size
	Systematic Analysis of Comparable Cohort Surveys	Exploring the association between the use of screen media such as television, DVDs and video games by children under age 3 and their cognitive and language development and body mass index	Children under 3 years of age
	General Findings		
	It was revealed that a large percentage of children (68%) under age 3 use screen media, such as television, DVDs and video games. Research suggested that enhanced screen time in young children was associated with negative health outcomes. When young children were exposed to screen media such as television, DVDs and video games reduced their cognitive and language development and academic success and enhanced their body mass index. Increased media use was found to be associated with maternal distress or depression, the mother's television viewing time, maternal cognitive stimulation and ethnic minorities.		

9. Hinkley, Salmon, Okely & Crawford (2013)	**Research Design**	Research Objective	Sample Size
	Correlational Research	Exploring the individual, social and physical environment factors and preschool children's compliance with Academy of Pediatrics screen guidelines.	935 children with a mean age of 4.54 years of whom 54% are male
	General Findings		
	It was determined that children who prefered watching television and playing video games over being active are less likely to comply with the guidelines of the American Academy of Pediatrics. It was revealed that families from all socioeconomic status exceeded and deviated from the guidelines of the American Academy of Pediatrics.		
10. Hinkley, Teychenne, Downing, Ball, Salmon & Hesketh (2014)	**Research Design**	Research Objective	Sample Size
	Systematic review of cross-sectional and cohort surveys	Exploring both observational and intervention research on the potential association between children's physical activity and sedentary behavior and their psychosocial well-being during early childhood	Participants aged between 4 months and 5.2 years, with sample sizes ranging from 44 to 13470
	General Findings		
	It was argued that there was no consistent evidence that increased physical activity and decreased sedentary behavior could have a beneficial and supportive effect on children's psychosocial well-being. Few studies existed to show that increased physical activity and decreased sedentary behavior had any impacts on early childhood psychosocial well-being.		
11. Lin, Cherng, Chen, Chen & Yang (2015)	**Research Design**	Research Objective	Sample Size
	Cohort Survey Designed with Control Group	Exploring television exposure and its impacts on developmental skills	150 children aged 15-35 month, 75 children comprising the control group and 75 children exposed to television
		General Findings	Sample Size
	Watching television enhanced the risk of delayed cognitive, language, and motor developmental skills in children who were frequently exposed to television compared to the control group comprising children who were not or infrequently exposed to television. Cognitive, language, and motor delays in young children were significantly associated with the amount of time they spent watching television. Mothers and non-maternal caregivers with lower levels of education allowed children to watch television more. Care providers played an important role in determining children's television exposure.		
12.Linebarger, Barr, Lapierre & Piotrowski (2014)	**Research Design**	Research Objective	Sample Size
	Cross-sectional Survey	Exploring whether parenting style mediates exposure to different types of media content	788 children aged 2-5 years and their parents
	General Findings		
	It was discovered that parenting style moderated the risks of exposure to background television on executive functioning for high-risk preschool-age children. As background and foreground exposure to television increased, executive function skills of high-risk preschoolers decreased. Viewing educational television programs served a protective shield for high-risk school-age children to avoid the harmful effects of screen media. These findings were consistent with the American Academy of Pediatrics recommending that television should be turned off when a child was in the room and suggested that exposure to high-quality content across television could be beneficial.		

13. Masur, Flynn & Olson (2016)	**Research Design**	Research Objective	Sample Size
	Cross-sectional Survey	Examining whether routine exposure to background television during dyadic play is associated with slower vocabulary acquisition in infants aged 13 and 17 months	25 infants aged 13-17 months 14 girls and 11 boys from English-speaking middle-class white (Caucasian)families and their mothers
	General Findings		
	Associations between background television during mother's playing toy with infant and subsequent maternal speech characteristics and infant vocabularies were revealed. Effects of background television during mother's playing toy with infant were highlighted and an operating television in the room impaired and disrupted maternal communicative behaviors crucial for infants' vocabulary acquisition. It was determined that there was an relationship between increased background television exposure of infants during dyadic play at age 1 month, and their expressive language and speaking skills at 17 months. A significant and negative association was found between infants' exposure to background television at age 13 months and the variety and number of "mother" word types they produced at 17 months.		
14. Napier (2014)	**Research Design**	Research Objective	Sample Size
	Correlational Literature Survey	Exploring the impact of *television viewing* and using touch-screen and electronic media devices on the parent-child interactions	Children aged 0-3 years and their parents
	General Findings		
	Exposure to screen media affected the emotional development of infants. It was determined that television, in particular, had a destructive and disruptive impact on parent's interacting quantitatively and qualitatively with child, which were essential and important for the development of secure attachments. It was argued that increased use of screen media, especially television, by younger children, plays an effective and prominent role in reducing emotional and language development in children, resulting in children spending time alone and not interacting. It was concluded that viewing television offered no advantage to brain development for children under two years of age. It was also determined that exposure to television increased more among children who lived in homes with lower socio-economic status and those who had less educated mothers.		
15.Nathanson, Alade, Sharp, Rasmussen & Christy (2014)	**Research Design**	Research Objective	Sample Size
	Cross-sectional Survey	Exploring the *associations between four indicators of television exposure* during the *preschool* years and the development of *executive function*	107 preschool children with a mean age of 53 months and their parents
	General Findings		
	It was discovered that the executive function of the children with higher levels of overall television viewing was weaker compared to children who watched less television. It was revealed that higher-quality television content that did not include commercials was positively associated with executive function in children.		
16. O'Connor & Fotakopoulou (2016)	**Research Design**	Research Objective	Sample Size
	Cross-sectional Survey	Illustrating what 0–3-year-olds are doing with touch-screen devices in UK families and investigating how parents perceive the advantages and disadvantages of their infants' using new technology	226 children aged 0–3 years in the UK and their parents
	General Findings		
	It was indicated that 66% of children under 3 in middle-class homes in the UK used screen media daily to play games, looked at photographs and watched video sources. Benefits parents perceived for their young children using touch screens included learning new skills, keeping them engaged, entertaining them in addition to other educational benefits. However, it was reported that most parents expressed concern for their young children's using screen media.		

17. Poitras, Gray, Janssen, Aubert, Carson, Falkner & Tremblay (2017)	Research Design	Research Objective	Sample Size
	Systematic Review	Examining the relationships between sedentary behaviour and health indicators in early years (0 to 4 years)	195,430 participants from 33 countries aged one month to 4.99 years
	General Findings		
	Depending on its duration and the level of parental support, screen viewing behavior was found to have a negative influence on health and development of children. It was indicated that findings supported the importance of reducing screen time for intervening on the frequency of screen media exposure in the early years, and highlighted the potential benefits of non-screen-based interactions and behaviours such as reading and storytelling for cognitive development		
18. Radesky, Silverstein, Zuckerman & Christakis (2014)	**Research Design**	Research Objective	Sample Size
	Cross-sectional Survey	Exploring prospective associations between parent-reported early self-regulation problems in childhood and exposing to media at 2 years	7450 children aged 9 months to 2 years
	General Findings		
	It was determined that self-regulation problems in early childhood were associated with mildly increased media exposure. It was indicated that children viewed an average of 2.3 hours of media per day at age 2 years. It was found that infants and toddlers who were exposed to television at 2 years of age experienced difficulties and had lower levels of self-regulation. The association between greater exposure to television and self-regulation problems was stronger in lower socioeconomic status families. Children from low socioeconomic status households were more exposed to television and experienced more self-regulation problems.		
19. Robinson, Banda, Hale, Shirong Lu, Fleming-Milici, Calvert, & Wartella (2017)	**Research Design**	Research Objective	Sample Size
		Exploring the relationships between exposing to screen media and obesity in children	Participants of the review article were not specified.
	General Findings		
	A relationship was found between exposing to screen media and enhanced risks of obesity in children. It was determined that exposing to screen media resulted in obesity in children and adolescents through enhanced eating and drinking while viewing. It was highlighted that marketing for high-calorie, low-nutrient foods and beverages influenced preferences, buy wishes, consuming habits; and diminished sleep duration of children. It was found that eating increased throughout the use of screen media, since feelings of fullness or satiety were ignored when viewers were distracted while using screen media. It was revealed that as the level of using screen media rose, eating and sedentary behavior increased.		
20. Santos, Zhang, Pereira, Sousa-Sa, Cliff & Okely (2017)	**Research Design**	Research Objective	Sample Size
	Cross-sectional Survey	*Exploring the association* between *compliance* with *24-hour movement guidelines* for *early years* and children's *weight status*	202 Australian children between ages 12 and 28 months
	General Findings		
	Physical activity, sleep and sedentary time in toddlers were assessed using accelerometers. Toddlers who met two or all three of the recommendations were found to have lower body mass indexes. It was asserted that strategies to develop adherence to the 24-hour movement recommendations in toddlers, particularly to reduce screen time, had the potential to ensure children a strong base for lifelong physical and mental health, and thus enhanced health-related behaviors in early childhood.		

21. Sijtsma, Koller, Sauer, & Corpeleijn (2015)	**Research Design**	Research Objective	Sample Size
	Cross-sectional Survey	Investigating the association between screen time, sleep duration, outdoor play, television in the bedroom, and the number of television sets per household with the body mass index between the ages of 3 and 4.	759 children between ages 3 and 4
	General Findings		
	It was found that having a television in the bedroom or more TV sets at home was found to be associated with more frequent screen media viewing in children, reduced sleep duration, and increased body mass index. The time children spent viewing screen media was inversely related to their outdoor play. When children viewed screen media more frequently, they spent less *time playing outdoors*, their sleep duration declined and their body mass index increased.		
22. Simonato, Janosz, Archambault & Pagani (2018)	**Research Design**	Research Objective	Sample Size
	Cross-sectional, Longitudinal Survey	Estimating how toddler television viewing at age 2 is subsequently associated with eating habits, body mass index, overall TV viewing and student engagement at age 13.	1985 children (986 girls and 999 boys) between ages 2 and 13 years
	General Findings		
	It was found that excessive toddlerhood television viewing was associated with poor health outcomes and increased consumption of unhealthy foods. Beyond recommendations, more television viewing predicted less favorable health-related lifestyle habits in adolescence.		
23. Taylor, Monaghan & Westermann (2018)	**Research Design**	Research Objective	Sample Size
	Correlational Cohort Survey	Investigating the association between exposing to screen media and vocabulary development in children aged 6-36 months	Children aged 6-36 months and their parents
	General Findings		
	In the sample, it was determined that 82 % of the children viewed television, and 49 % used mobile touch-screen devices on a daily basis (Taylor et al., 2018, p. 60). It was found that the use of television and mobile touch-screen devices in families with middle and high socioeconomic status and families with high parental education who used the screen media moderately did not have a positive or harmful effect on language learning and language acquisition. It was indicated that there was no direct relationship between general television watching and using mobile devices and language development in view of the fact that exposure to television and mobile devices was low in these families. Reading to children was found to be positively associated with their vocabulary size. It was emphasized that as long as time children spent engaging with reading, television and mobile touch-screen activities was not reduced, their vocabulary size was not adversely affected when they were exposed to screen media.		
24. Xu, Wen, Hardy & Rissel (2016)	**Research Design**	Research Objective	Sample Size
	Longitudinal Data Analysis	Identifying factors predicting outdoor play and screen-time in 2- to 5-year-olds during early childhood	Three groups including 497, 415 and 369 mothers and their children aged 2, 3½ and 5, respectively
	General Findings		
	It was found that the increase in daily screen-time of mothers was associated with the increase in daily screen-time of children. It was also determined that mothers' awareness of the benefits of physical activity level before pregnancy was positively associated with the increase in outdoor playtime of children. It was observed that mothers had an impact on outdoor play and screen-time of children during the first years of life. It was also found that children exposing early daily to screen devices was related to their later screen-time. It was indicated that early interventions aimed at increasing physical activity and sedentary behaviour of young children focused on developing physical activity of pregnant women, awareness of playing with their child and diminishing their own screen-time after giving birth.		

Association between Screen Media Exposure and Physical and Mental Health Outcomes

Association between Screen Media Exposure and Obesity in Children

Research has studied the relationship between screen media exposure in early childhood and obesity (Poitras, Gray, Janssen, Aubert, Carson, Falkner & Tremblay, 2017; Robinson, Banda, Hale, Shirong Lu, Fleming-Milici, Calvert & Wartella, 2017; Santos, Zhang, Pereira, Sousa-Sa, Cliff & Okely, 2017; Sijtsma, Koller, Sauer & Corpeleijn, 2015; Simonato, Janosz, Archambault & Pagani, 2018). In these studies, the relationship between screen media exposure and obesity was investigated using various research designs, such as cross-sectional research, longitudinal research, and systematic review based on expert consensus. The systematic review explored the relationship between screen media exposure and obesity by searching 60 studies (Poitras et al., 2017). Three studies found that screen media exposure exceeding and deviating from the American Academy of Pediatrics' recommendations for protection against the harmful effects of screen media was associated with greater increase in body mass index in young children. Compared with children who did not meet the PAA of screen media viewing and physical activity, those who met PAA recommendations had lower body mass index (Robinson et al., 2017; Sijtsma et al., 2015; Simonato et al., 2018). Poitras et al. (2017) discovered that screen media exposure in children was significantly negatively associated with body mass index.

Association between Screen Media Exposure and Physical Activity in Children

Six studies including a cross-sectional survey (Carson & Kuzik, 2017; Cliff, McNeill, Vella, Howard, Santos, Batterham & de Rosnay, 2017; Sijtsma et al. 2015), a cohort survey with a control group (Xu, Wen, Hardy & Rissel, 2016), and a systematic review (Hinkley, Teychenne, Downing, Ball, Salmon and Hesketh, 2014; Poitras et al., 2017) explored the relationship between early childhood screen media exposure and physical activity. In a study they conducted on 149 children, Carson & Kuzik (2017) found that girls from ethnic minority groups and from lower socioeconomic status households were exposed to significantly more screen media viewing and engaged in significantly less physical activity. Cliff et al. (2017) examined children's exposure to screen media and adherence to physical activity guidelines and found that only 14.9 % of children adhered to screen time and physical activity guidelines Cliff et al., 2017, p. 207). In their review, Xu et al. (2016) and Sijtsma et al. (2015) indicated that when children's screen media exposure in the home

increased, their outdoor physical activity decreased. Similarly, Hinkley et al. (2014) found that physical activity and exposure to screen media were negatively or inversely associated, and that as children's exposure to screen media enhanced, their outdoor physical activity decreased.

Association between Screen Media Exposure and Sleep in Children

Two cross-sectional reviews explored the relationship between early childhood screen media exposure and sleep. In their review conducted on 759 children aged three to four years, Sijtsma et al. (2015) found that exposure to screen media viewing, especially television viewing, was associated with reduced sleep duration in children. On the other hand, in their research on children aged 6 to 36 months, Cheung et al. (2017) discovered a significant relationship between increased daily exposure of children to touch-screen devices and reduced sleep duration and a longer sleep onset.

Association between Screen Media Exposure and Cognition in Children

Studies have examined the influence of early childhood screen media exposure on cognition and the relationship between screen media exposure and cognitive develpment. In this study, five reviews using various research methodologies and designs, including a cross- sectional research, a literature review, and systematic reviews, focused on exploring the relationship between children's exposure to screen media and their cognitive development. In their systematic reviews, Poitras et al. (2017) and Carson et al. (2015) determined that the adverse relationship between exposure to screen media and cognitive development in young children was significant. In six of the 27 studies they reviewed, Carson et al. (2015) discovered beneficial relationships between screen media exposure and cognition, depending on the screen and media content on the screen. In their literature review, Domingues-Montanari (2017) pointed out that there was evidence to support the cognitive benefits of video games in certain television programs. Researchers highlighted that the cognitive benefit levels of certain television programs and video games depend on the interaction of parents or caregivers with children during viewing as well as on the content of the screen media being viewed. Lin et al. (2015) discovered that increased exposure to television between the ages of 15 and 35 months led to poor outcomes such as delayed cognition. Similarly, Cliff et al. (2017) found that preschool children who behaved in compliance with the guidelines or recommendations to avoid the harmful effects of screen media exposure achieved better cognitive outcomes compared to children who failed to do so.

Association between Screen Media Exposure and Language Development in Children

Designed in various forms, such as cross-sectional reviews, a cohort survey involving a group control, and literature reviews, seven studies focused on the association between screen media exposure and language and explored the influence of screen media exposure on language development in early childhood. In a review they conducted on children aged 24 to 36 months Byeon and Hong (2015) found that screen media exposure exceeding and deviating from the American Academy of Pediatrics' recommendations for protection against the harmful effects of screen media led to language and speech delays in children. Masur et al. (2016) revealed in their review that exposure to television during dyadic play with parents or caregivers had a negative and detrimental association with language development in young children. Alloway et al. (2014) examined the impact of increasing frequency of television viewing on vocabulary skills in young children. Parents indicated that their children's television watching habits were in different genres, such as educational programs, cartoons, baby DVDs and adult entertainment. Researchers highlighted that skills involving short-term memory in verbal and visual-spatial form and reading fiction and educational books were effective for vocabulary development and acquisition. Koolstra and van der Voort (1996) argued that television could typically instill and arouse the least intellectual desire in the children, causing them to have and maintain the lowest level of interest, desire, and motivation for intellectual engagement. Regarding leisure habits, it was pointed out that spending more time watching educational programs was associated with spending less time reading actual books. It is believed that educational programs provide a reliable source for conveying learning content, and parents state that such programs replace reading. In his literature review, Napier (2014) determined that television had a devastating and disruptive impact on parent interacting quantitatively and qualitatively with child, which were essential for the development of secure attachments between children and parents. Increased exposure to television might inhibit child-parent or child-caregiver interaction, cause young children to speak using fewer words, and reduce language acquisition.

Association between Screen Media Exposure and Executive Functioning and Social- Emotional Development in Children

Designed in various forms, such as cross-sectional research, literature review, or systematic review, seven studies explored the association between screen media exposure during early childhood and executive functioning and social-emotional development. Researchers determined that when children's early television viewing increased, their executive

functioning was negatively affected (Nathanson, Alade, Sharp, Rasmussen & Christy, 2014; Radesky, Silverstein, Zuckerman & Christakis, 2014). It was also found that as high-risk preschool age children's television viewing increased, their executive functioning decreased. It was indicated that parenting styles mediated the risk of exposure to background television on the executive function of high-risk preschoolers. As background and foreground exposure to television increased, executive functioning of high-risk preschoolers decreased. It was suggested that watching educational television programs was a way of avoidance and protection from the harmful effects of screen media for high-risk school-age children. Researchers recommended that background television should be turned off when a child was in the room and suggested that exposure to high-quality content across multiple media platforms might be beneficial (Linebarger, Barr, Lapierre & Piotrowski, 2014). In his literature review on the impacts of screen media exposure on the emotional development of infants, Napier (2014) asserted that television, in particular, had a devastating and disruptive influence on parent interacting quantitatively and qualitatively with child, which were essential for the development of secure attachments between children and parents. The increasing use of screen media negatively affected the emotional and language development of younger children, making them increasingly uninteractive. Napier concluded that viewing television offered no advantage to brain development for children under two years of age, and television was not advantageous for brain development. They also found that children of less educated mothers and lower socioeconomic status families were more exposed to television. Domingues-Montanari (2017) affirmed that computer use, playing video games, owning devices such as tablets and smartphones were increasing among young children, and especially watching television was negatively related to the development of physical and cognitive abilities, which could increase obesity, sleep problems, depression, concern and anxiety. Poor health and developmental outcomes associated with screen time and different types of screen and media content had an adverse impact on physiological and psychological development of children. Similarly, Poitras et al. (2017) also discovered that relationships between screen time and indicators of cognitive development or obesity, motor development and psychosocial health in children were primarily unfavorable, while relationships between reading/storytelling and indicators of cognitive development in children were favorable. Hinkley et al. (2014), on the other hand, asserted that preschool children should be supported to be less engaged in screen media use, and that parents benefited from their education and parenting skills to protect children from the harmful impacts of excessive screen media viewing.

Parents' Perceptions of Children's Watching Screen Media and Parental Modeling

Research designs, such as cross-sectional research, literature review, and cohort survey containing a control group, examined the associations between early childhood screen media exposure and parental perceptions and modeling. In their research on children from birth to three years of age, O'Connor and Fotakopoulou (2016) underlined parents' or caregivers' belief that early childhood exposure to screen media had both beneficial and harmful effects on children. Despite the fact that 66 % of parents or caregivers expressed concern about the harmful impacts of screen media exposure on development of children, they reported that they let their young children to employ screen media on a daily basis (O'Connor and Fotakopoulou, 2016, p. 239). Napier (2014) discovered that positive beliefs of parents or caregivers about the benefits of watching screen media increased the likelihood of children's watching screen media.

In their study, Duch et al. (2013) indicated that a large percentage (68 %) of children under the age of 3 used screen media such as television, DVDs and video games, which resulted in decreased cognitive and language development, lower academic success and increased body mass index (Duch et al., 2013, p. 1). They also highlighted increased screen media use was also associated with both maternal distress or depression, and televiewing time and cognitive stimulation of the mother in the home environment. As the mothers 'maternal screen media exposure increased, so did young children's. On the other hand, Xu et al. (2016) determined in their research that mothers had a crucial role in both the length of their children's screen time and outdoor playtime during the first years of life. Both screen time during pregnancy of maters and daily screen-time of children at age 1 year predicted daily screen-time of children from ages 2 to 5 years. On another note, mother's physical activity level and being informed about playing with child predicted outdoor playtime of children across ages 2 to 5 years. The enhance in mothers' daily screen media use was associated with the enhance in children's daily screen time. As for the mothers, being informed about the benefits of physical activity before pregnancy was significantly associated with outdoor playtime of children. Another study indicated that mothers who watched television more were less likely to meet the recommended guidelines to protect their children from the harmful impacts of screen media (Hinkley, Salmon, Okely & Crawford, 2013).

Discussion

The current literature review aims to explore research findings on the health and developmental outcomes of children's screen media exposure

from birth to age five. The majority of studies used cross-sectional research designs. The most common impacts and outcomes stemming from exposure to screen media in the literature were related to health and development. Viewing screen media was associated with health and development outcomes including cognitive development, executive functioning, language development, social emotional development, sleep, obesity and physical activity in children as well as parental modeling.

The review showed that frequent and excessive screen media use was associated with increased body mass index. Previous studies revealed similar findings and showed that young children were more likely to consume unhealthy foods and beverages when exposed to screen media. More frequent television viewing was found to be associated with higher consumption of fatty and sugary foods and increased likelihood of obesity. When children used screen media, they focused on the screen and thus were more likely to ignore feelings of fullness and satiety (Domingues-Montanari, 2017; Santos et al., 2017). Instead of expending energy during physical activity, children spent more time sitting still and consumed more high-calorie foods during screen media use. This review highlighted the relationship between greater exposure to screen media and decreased physical activity in young children, and asserted that younger children's physical activity decreased when their exposure to screen media increased. On the one hand, when children did not waste energy by not doing physical activity and spent more time sitting still in front of the screen media, on the other hand, when the screen media attracted their attention, which resulted in more consumption of higher-calorie or unhealthy foods and beverages, ignoring the feelings of fullness or satiety, risk factors for being overweight or obese in their first and later childhood or adulthood might be increased (Poitras et al., 2017).

This review revealed that more frequent and excessive screen media use was associated with longer sleep onset latency and mitigated sleep duration in young children. This was consistent with findings from previous studies. Research conducted by Galpin and Taylor (2018) established that exposure to screen media disrupted pre-sleep and sleep patterns of children the most through excessive emotional arousal. It was expressed that young children needed to relax and unwind cognitively before they could fall asleep. Magee, Gordon and Caputi (2014) highlighted the relationship between sleep patterns and cognitive development and discovered that young children with disturbed sleep patterns had negative cognitive development outcomes.

Studies revealed an inverse relationship between children's excessive exposure to screen media and their cognitive development. However, theorists and researchers argued that viewing and watching screen media

had a beneficial impact on children's cognition, depending on the media content. Conversely, the literature suggested that exposure to evidently fast-paced and overstimulating educational content led to poor cognitive consequences (Kostyrka-Allchorne, Cooper & Simpson, 2017). The current review indicated a negative relationship between exposure to screen media and language development. Lin et al. (2015) compared the language skills of two groups of children aged 15 to 35 months who were similar in terms of age and gender. The participants comprised a group of children who were frequently exposed to television for 137 minutes and another group of children who were comparatively more infrequently exposed to television for 16 minutes on a daily basis. Televiewing enhanced the risk of delayed language and speech skills in children who were more frequently exposed to television. A comparison of children who watched television for 117 minutes and their peers who watched television for 53 minutes per day revealed that children with speech and language delay tended to spend more time watching television than their peers who typically developed speech and language skills. Chonchaiya and Pruksananonda (2008) compared television watching habits of 2-year-old children with speech and language delays and a control group of normal children. Normal children started watching television when they were 12 months old and spent 0-1 hours per day watching television. Children with language and speech delay started watching television as young as 7 months, and spent relatively more time viewing television, between 1 and 3 hour per day. Television content was inversely associated with language development in children. In their research, Masur et al. (2016) highlighted the immediate impacts of background television during mother-infant toy play and discovered that an operating television in the room impaired or disrupted the mother's speech and communication skills and behaviors, crucial in the vocabulary development and acquisition of infants. Researchers determined a relationship between increased background television exposure of infants during dyadic play at age 1 month, and their expressive language and speaking skills at 17 months. They also found that a significant and negative relationship existed between infants' exposure to background television at age 13 months and the variety and number of "mother" word types they produced at 17 months. Then again, Taylor et al. (2018) found in their research that 82 % of children at 6-36 months viewed television and 49 % used mobile touchscreen devices (Taylor et al., 2018, p. 60). They concluded that spending less than 20 minutes a day employing mobile devices generally did not have an intense effect on language development and acquisition. The review highlighted that television and mobile touchscreen device use in medium and high socioeconomic status families or highly educated families did not have a positive, or a detrimental, impact on language learning and acquisition. Given the low

probability of exposure to television and mobile devices in these families, no direct relationship was found between television and mobile device use and language development. Taylor et al. found that reading to children was found to be positively associated with their vocabulary size. Researchers argued that as long as time children spent engaging with reading, television and mobile touch-screen activities was not reduced, their vocabulary size was not negatively affected when they were exposed to screen media.

Studies revealed that enhanced exposure to screen media was generally related to executive functioning and social emotional development in children. Linebarger et al. (2014) discovered that executive function skills of high-risk preschoolers decreased as background and foreground exposure to television increased. At this point, parenting style moderated the potential risks of exposure to background television on executive functioning for high-risk preschool-age children. Complex patterns of associations and interactions were emphasized between cummulative risk, parenting qualities, and exposure to television during early childhood. Parents were able to provide positive parenting practices and encouraged their children to watch educational television programs. Viewing educational television programs served as a protective shield for high-risk school-age children to avoid the harmful effects of screen media that could reduce their executive functioning. These findings were consistent with the American Academy of Pediatrics recommending that background television should be turned off when a child was in the room and suggested that exposure to high-quality content across media may be beneficial.

The present review displayed contradictory aspects of parental modeling and parents' or caregivers' beliefs about screen media viewing of children as well as its adverse impacts on children. Although parents or caregivers continued to be concerned about the unfavorable outcomes of screen media exposure, a large proportion of young children exceeded and deviated from screen guidelines recommended for avoiding the harmful impacts of screen media. Previous studies also supported these findings and revealed that screen media could often be used to calm children when they exhibited disruptive behaviors or needed to be kept entertained. This often resulted in uncontrolled use of screen media, thus allowing exposure to potentially unfavourable media content (Kostyrka-Allchorne et al., 2017; Xu et al., 2016).

The review focused on the impacts of children's screen media exposure on children between birth and age five, particularly children of certain ages receiving care services from Maternal and Child Health institution, as well as links and outcomes related to health and development. This aspect of the review has been accepted as its major strength. The review offers detailed information that can be used to train parents or caregivers concerned with

the health and developmental consequences of screen media exposure. Attempts to explore the impacts of all screen devices on health and development require a focus on screen devices, eitheer traditional or newer technology.

Future Research

Considering that the limitations stemming from the fact that children between birth and five years of age are too young to show the negative connections and outcomes that may occur over time in the development process (Cheung et al., 2017; Lin et al., 2015), future longitudinal studies are needed to investigate the impact of all screen media devices from childhood to adolescence and adulthood. The effect of screen media exposure on health and development, or causal relationships between screen media exposure and its health and development consequences should be determined using better quality research designs. Future research should be able to use objective, reliable and valid measurement instruments to minimize or eliminate potential misconceptions, and should include larger representative samples to provide generalizable findings (Carson et al., 2015; Cliff et al., 2017; Duch et al., 2017). The role, importance and benefit of education and expert advice should be explored, and parents or caregivers should be trained so as to prevent the harmful effects of screen media exposure.

Conclusion

The current literature review has determined that the impacts of screen media exposure on children's health and development occur mostly during the crucial period of brain and neural development. The research has revealed that excessive exposure to screen media by exceeding and deviating from the current guidelines and recommendations to protect children against the harmful effects of screen media exposure is negatively associatied with cognition, language, executive function, social emotional development, obesity, physical activity, sleep, parental perceptions and modeling. Further research is necessary to confirm the reliability of literature findings supporting the arguments in favor of the benefits of screen media exposure. It is important to identify robust and powerful causal relationships, as well as evidence, between exposure to screen media and health and developmental outcomes by employing higher-quality research designs and objective, reliable and valid research instruments. The findings obtained from the present literature review can be a basis for preparing an educational package for parents or caregivers on the impacts, outcomes and guidelines related to young children's screen media exposure in order to protect them from the harmful effects of screen media.

REFERENCES

Alloway, T.P., Williams, S., Jones, B. & Cochrane, F. (2014). Exploring the impact of television watching on vocabulary skills in toddlers, *Early Childhood Education Journal* 42(5), 343-349.

American Academy of Pediatrics, Council on Communications and Media (2016) Media and young minds, *Pediatrics* 138(5), 1-6.

Byeon, H & Hong, S (2015). Relationship between television viewing and language delay in toddlers: Evidence from a Korea national cross-sectional survey, *Plos/one* 10(3), 1-12.

Carson, V., Kuzik, N., Hunter, S., Wiebe, S.A., Spence, J.C., Friedman, A., … Hinkley, T (2015). Systematic review of sedentary behaviour and cognitive development in early childhood, *Preventive Medicine* 78,115-122.

Carson, V. & Kuzik, N. (2017). Demographic correlates of screen time and objectively measured sedentary time and physical activity among toddlers: A cross-sectional study, *BMC Public Health* 17(1), 187-198.

Cheung, C.H.M., Bedford, R, Saez De Urabain, I.R., Karmiloff-Smith, A. & Smith, T.J. (2017). Daily touchscreen use in infants and toddlers is associated with reduced sleep and delayed sleep onset, *Scientific Reports* 7 (46104) 1-7.

Chonchaiya, W. & Pruksananonda, C. (2008). Television viewing associates with delayed language development. *Acta Pædiatrica*, 97, 977-982.

Cliff, D.P., McNeill, J, Vella, SA, Howard, S.J, Santos, R., Batterham, M., … & de Rosnay, M. (2017). Adherence to 24-hour movement guidelines for the early years and associations with social-cognitive development among Australian preschool children, *BMC Public Health* 17(Suppl 5):857, 207-215.

Courtney, M. & McCutcheon, H. (2009). *Using evidence to guide nursing practice*, 2nd edn, Elsevier, Sydney, NSW.

Domingues-Montanari, S. (2017). Clinical and psychological effects of excessive screen time on children, *Journal of Paediatrics and Child Health* 53(4), 333-338.

Duch, H., Fisher, E.M., Ensari, I. & Harrington, A. (2013). Screen time use in children under 3 years old: A systematic review of correlates, *Duch et al. International Journal of Behavioral Nutrition and Physical Activity* 10, 1-10.

Galpin, A. & Taylor, G. (2018). *Changing behaviour: Children, adolescents and screen use*, The British Psychological Society.behaviourchange/uk.org.bps.w

Higgins, J.P.T., Altman, D.G., Gotzsche, P.C., Juni, P., Moher, D., Oxman, A.D., … Sterne, J.A.C. (2011). The Cochrane Collaboration's tool for assessing risk of bias in randomised trials, *British Medical Journal* 343(5928), 1-9.

Hinkley, T., Salmon, J., Okely, A.D. & Crawford, D. (2013). The correlates of preschoolers' compliance with screen recommendations exist across multiple domains, *Preventive Medicine* 57(3), 212-219.

Hinkley, T., Teychenne, M., Downing, K.L., Ball, K., Salmon, J. & Hesketh, K.D. (2014). Early childhood physical activity, sedentary behaviours and psychosocial well-being: A systematic review, *Preventive Medicine* 62, 182-192.

Koolstra, C., & van der Voort, T. (1996). Longitudinal effects of television on children's leisure time reading: A test of three explanatory models. *Human Communication Research* 23, 4-35.

Kostyrka-Allchorne, K., Cooper, N.R. & Simpson, A. (2017). The relationship between television exposure and children's cognition and behaviour: A systematic review' *Developmental Review* 44, 19-58.

Lin, L., Cherng, R., Chen, Y., Chen, Y. & Yang, H. (2015). Effects of television exposure on developmental skills among young children, Infant Behavior & Development 38, 20-26.

Linebarger, D.L., Barr, R., Lapierre, M.A. & Piotrowski, J.T. (2014). Associations between parenting, media use, cumulative risk, and Children's executive functioning, *Journal of Developmental & Behaviour Pediatrics* 35(6), 367-377.

Magee, C.A., Gordon, A. & Caputi, P. (2014). Distinct developmental trends in sleep duration during early childhood *Pediatrics* 133(6), e1561-1567.

Masur, E.F., Flynn, V. & Olson, J. (2016). Infants' background television exposure during play: Negative relations to the quantity and quality of mothers' speech and infants' vocabulary acquisition, *First Language* 36(2), 109-123.

Napier, C. (2014). How use of screen media effects the emotional development of infants, *Primary Health Care* 24(2), 18-25.

Nathanson, A.I., Alade, F., Sharp, M.L., Rasmussen, E.E. & Christy, K. (2014). The relation between television exposure and executive function among preschoolers, *Developmental Psychology* 50(5), 1497-1506.

O'Connor, J. & Fotakopoulou, O. (2016). A threat to childhood innocence or the future of learning? Parents' perspectives on the use of touch-screen technology by 0–3 year-olds in the UK, *Contemporary Issues in Early Childhood* 17(2), 235-247.

Reus, E.J. & Mosley, I.T. (2018). The health and development correlates of screen media exposure in children 0–5yrs: an integrative literature review, *Australian Journal of Child and Family Health Nursing* 15(2), 12-21.

Paudel, S., Leavy, J. & Jancey, J. (2016). Correlates of mobile screen media use among children aged 0-8: Protocol for a systematic review, *Systematic Reviews* 5(91), 1-5

Poitras, V.J., Gray, C.E., Janssen, X., Aubert, S., Carson, V., Falkner, G., … & Tremblay, M.S. (2017). Systematic review of the relationships between sedentary behaviour and health indicators in the early years (0–4yrs), *BMC Public Health* 17(5), 65-89.

Radesky, J.S., Silverstein, M., Zuckerman, B. & Christakis, D.A. (2014). Infant self-regulation and early childhood media exposure, *Pediatrics* 133(5), e1172-e1178.

Robinson, T.N., Banda, J.A., Hale, L., Shirong Lu, A., Fleming-Milici, F., Calvert, S.L. & Wartella, E. (2017). Screen media exposure and obesity in children and adolescents, *Pediatrics* 140(2), S97-S101.

Santos, R., Zhang, Z., Pereira, J.R., Sousa-Sa, E., Cliff, D.P. & Okely, A.D. (2017). Compliance with the Australian 24-hour movement guidelines for the early years: Associations with weight status, *BMC Public Health* 17(5), 199-205.

Schoeppe, S., Vandelanotte, C., Bere, E., Lien, N., Verloigne, M., Kovacs, E., … Van Lippevelde, W. (2016). The influence of parental modelling on children's physical activity and screen time: Does it differ by gender?, *The European Journal of Public Health* 27(1), 152-157.

Sijtsma, A., Koller, M., Sauer, P.J.J. & Corpeleijn, E. (2015). Television, sleep, outdoor play and BMI in young children: The GECKO Drenthe cohort', *European Journal of Pediatrics* 174(5), 631-639.

Simonato, I., Janosz, M., Archambault, I. & Pagani, L.S. (2018). Prospective associations between toddler televiewing and subsequent lifestyle habits in adolescence, *Preventive Medicine* 110, 24-30.

Taylor, G., Monaghan, P. & Westermann, G. (2018). Investigating the association between children's screen media exposure and vocabulary size in the UK, *Journal of Children & Media* 12(1), 51-65.

Xu, H., Wen, L.M., Hardy, L.L. & Rissel, C. (2016). 5-year longitudinal analysis of modifiable predictors for outdoor play and screen-time of 2-to-5-year-olds, *International Journal of Behavioural Nutrition and Physical Activity* 13(1), 96-105.

CHAPTER 4

ANALYSIS OF THE STUDIES ON ENGLISH LANGUAGE TEACHING/LEARNING FOR GIFTED STUDENTS: A META-SYNTHESIS[1]

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1. Introduction

The concept of second language takes part in every area of the global world and it bacomes a neccesity from the perspective of professional life and culture as well. It is essential to learn at least a second language since the communication with other professions from science, technology, art and commerce are getting developed day by day. Recently, learning English as a second language is of great importance and it is certain that English is an international language most commonly used in every field so that it becomes crucial to teach English to the children at schools from puberty, with the newest techniques in the most appropriate environments with the qualified teachers.

In Turkey, Ministry of National Education (MEB) generally aims to develop students at all levels and in all aspects in order to gain effective characteristics as well as cognitive and psychomotor skills while preparing English language teaching curriculum. However, to prepare an appropriate curriculum for GT student (see more information in 1.1 section) can be forceful because of the barriers and uncertainity of who they are, to what aspect do they learn, with which techniques the teachers could use and to what extent the language learning and teaching can be expanded.

In this study, the articles published from 2009 to 2021 were analyzed from the perspective of learning and teaching English for GT sudents. The examined articles were chosen from different databases such as Google Academic search engine, TÜBİTAK ULAKBİM DergiPark, EBSCOhost-ERIC and SPRINGER. The main goal of this study is to analyze and exhibit the articles about language learning and teaching for GT students from the aspects of the aim, the participants, the data collection tools, the distribution of the publishing years, keywords, the methods and the results.

1.1 Being GT in Language Learning

According to Renzulli (2016), giftedness emerges when three behavious, different from one another, interact. These behaviours are self-motivation, creativeness and ability above average. In other words, giftedness is not the ability to solve the most difficult mathematics problems or discover a law of physics which is previously undiscovered, but also consists of art and creativity. GT students have the ability to learn, to correlate the concepts and to interpret faster.

Giftedness can be said that organizes the control and the use of distinctive natural abilities, called aptitudes, in at least one ability overpowering, to a degree that rises an individual at least among the top 10% of the individuals at the same age (Gagné, 2008). Some of these major abilities of being GT are being intellectual, creative, social, perceptual,

muscular and motor control ay a higher level than the others. Generally, the meaning of being gifted or talented is defined by some expressions such as; aptitude and achievement, potential and performance, natural traits and systematically trained ability, or origin and outcome. On the other hand, GT is not a symbol of a typical model of behaviour and development. Among the various areas, a distinctive improvement in one of them exhibit an ability as GT. Therefore, an individual or a student who has a lack of ability in science, may has the ability in learning languages, for instance. When the students have the latent ability or exhibit higher abilities during their childhood, it is necessary to state that those students need to get an appropriate and sufficient education in the same line with their talent. This can be observed by parents, by teachers or by the experts of behavioural sciences. In other words, the students who demonstrate a significant difference from their peers in terms of developmental and individual characteristics and educational qualification need special education (Ataman, 2003; Baglama, Yikmis, & Demirok, 2017).

GT education opens a way for GT students to support their potential intelligence to the highest level and inspires them to study independently. Adequate and efficient education, appropriate mentoring and tutoring, and motivation improve the potential of GT students (Demirok & Ozcan, 2016; Turalbayeva, Sultanbek, Utyupova, Aidarov, Uaidullakyzy, Zhumash & Uzunboylu, 2017). Thus, it can be said that language teaching environment, tools, teachers and the curriculum are important constituents for GT students as.Moreover, they frequently intend to have a higher linguistic ability from birth, and this talent gives way them to organize the first or second language in an impressive way in comprehending, interpreting and expressing information (Yunus, Sulaiman, & Embi, 2013). As stated in the study of Al-Khasawneh and Al-Omari (2015) that GT students are mostly motivated to learn English. It is found out that GT students know the necessity of learning English as a second language to achieve in all of the areas since the importance of being efficient in English language (Harris, Rapp, Martínez, & Plucker, 2007).

In language learning for GT students, as mentioned before, utilizing a high level of different kinds of skills such as questioning, critical thinking, problem-based teaching & learning, and creativity as well as motivating gifted students to perform non-finalised activities is of great importance (Kronborg & Plunkett, 2015; Zeidner & Matthews, 2017).

1.2 Research Questions

This study aims to examine some of the basic questions as follow:

1. What are the aims of the studies?
2. What kind of methods are used in the studies?

3. Who are the participant groups of the studies?

4. What are the results of the studies?

5. What are the data collection tools of the studies?

6. How is the distribution of the studies according to the publishing years between 2009-2021?

7. What are the keywords of the studies?

2. Method

This is a meta-synthesis including thematic content analysis which consists of finding out the similarities or differences among the previous studies in a specific area such as language learning and teaching for GT students. Only the articles carried out about English language learning or teaching for GT students are included to analyze with different methods and to examine the tendency of the mentioned aspects of the previous studies from 2009 up to 2021.

2.1 The Criteria of Data Collection and Including Process

Content analysis consists of analysis of the different units of materials about the aimed phenomenon. In the same line of the aim of this study, Google Academic search engine, TÜBİTAK ULAKBİM DergiPark, EBSCOhost-ERIC and SPRINGER databases were used in order to examine the trends in the current studies on English language learning and teaching for GT students. The necessary data were collected through scanning the publications in the relevant databases which revealed 30 articles but not dissertations or thesis. Some of the certain keywords were used during scaning such as; English language learning, English language teaching, Gifted students, Talented students and Giftedness. The metadata of these articles were analyzed based on the criteria involving the aim, the participants, the data collection tool, the distribution of the publishing years, keywords, the methods and the results. The obtained data were analyzed with the content analysis based on the criteria as mentioned above. Similar types of the data were brought together within the determined themes and contents. In 30 studies, scientific research published between 2009-2021 about the English language learning or teaching for GT students are grouped according to the mentioned criteria. Table for numbers were presented as the data.

2.2 Coding Process

Firstly, every detail of the studies were read and the data were tranferred to the computer. The articles were investigated according to the aim of this study and coding was formed. Additionally, in order not to lead confusing numbers, each study was coded and used like 1,2,3….30.

3. The Results

Table 1. *The Data According to the Aim of the Studies*

Themas	**Sub-themas**	**f**
Techniques / Models / Methods	Teaching	1,6,7,9,15,22,29,30
	Learning	3,8,13,18,26
Skills	Metacognitive & Critical thinking skills	12,20
	Metacognitive & cognitive skills	10
	Language skills (reading, writing, speaking and listening)	14,21,28
Motivation	Difficulties	2,12
	Experiences	4
	Motivation	5,23,24,27
	Attitudes	9,11
	Anxiety	19
Identification		16,17,25

*Some of the studies have multiple aims.

As can be seen in table 1, the aims of the articles examined, were categorized according to the themas such as different techniques, models an methods, skills, motivation ans identification. 8 of the articles included in this study, aimed to find out the different techniques, models and method of teaching English language, on the other hand 5 of the articles aimed to find out the learning methods, techniques and models of English language. Among skills category, 2 of the articles aimed to investigate metacognitive and critical thinking skills, 1 of them about metacognitive and cognitive skills and 3 of them about language skills. Under the thema of motivation; 2 of the articles searched about the difficulties of learning language, 1 of them about the experiences, 4 of them about the motivation of the students, 2 of them about the attitudes to learning English language and 1 of them about the anxiety. About the identification of the GT students, 3 of the articles researched.

Table 2. *The Data According to the Methods of the Articles*

The Methods of the Articles		f
Quantitative	Case study	3,5,24,26,27,30
	Contrastive	14,21
	Experimental	20,29
Qualitative	Case study	2,4,7,8,13,16,17,18,25
	Phenomenology	11
Mixed Method		1,9,10,15,19,22,23

Literature Review	1,12,28
Analysis of Documentation	6

*Some of the articles used multiple methods.

In Table 2, it is understood that the methods of the articles are categorized as; quantitative, qualitative, mixed method, literature review and analysis of the documentation. 6 of the articles examined used the case study as a method, 2 of them used contrastive method and 2 of them used experimental method for their research. On the other hand, 9 of the articles preferred to use case study and 1 of them used phenomenology method. Moreover, 7 of them collected the data according to the mized method, and 3 of them used literature review method. 1 of the articles favored for analysis of documentation method.

Table 3. *The Data According to the Participant Groups*

The categorization of the participants	f
Pre-school	21
Primary school	6,16,20,21,22,25
Secondary school	4,10,11,13,14,24,29
High school	5,9,12,18,19,23,27,30
University	15
Teachers / professors / experts	1,7,17
Others (non-defined)	2,3,8,26,27,28

*Some of the articles used more than one participant group.

As cen be seen in table 3, the participant groups were formed according to the age of school such as pre-school, primary school, secondary school, h,gh school, university, teachers / professors and experts, and finally the non-defined participant groups. 1 of the mentioned articles preferred to study with pre-school students, 6 of them studied with primary school students, and 7 of them studied with secondary school students. 8 of the articles collected the data by studying with high school students, 1 of them investigated the university students. On the other hand3 of the articles preferred to study with teachers, professors and experts, and there is not any specific dinformation about the participant groups in 5 of the articles.

Table 4. *The Data According to the Results*

The Results of the articles		f
Positive	Anxiety, motivation, attitude, experiences	4,5,11,12,17,19,23,24,27
	Development of skills	3,10,14,20,21,26
	Success of the techniques, methods, models	1,7,8,13,18,15,22,28,29,30

Neutral	Difficulties in learning and teaching	2,9
	Identification & representation of the GT students	16,26
Negative	Disproportional representation	6
	Lack of resource and time	17
	Barriers for identification of GT students	25

*Some of the articles share more than one result category.

As can be seen in table 4, the results of the articles were seperated into three categories such as positive, negatice and neutral results. Among the first group, 9 of them found out positive results in motivation, anxiety, attitude and experience, 6 of them found out the development in language skills, and 10 of them using the different techniques, models and methods, provided success in a good manner. In the second part of the results (neutral results), 2 of the articles stated the difficulties about learning and teaching English to GT students, and 2 of them informed about the identification and representation of the GT students. For the final category (negative results), 1 of the articles found out disproportional representation, 1 of them stated that there needs to be more resource and time for teaching GT students, and 1 of them resulted that there are certin kinds of the barriers for identification of the GT students.

Table 5. *The Data Collection Tools of the Articles*

The Categorization	f
Questionnaire (included the open-ended questionnaire)	1, 3,5,15, 18,19,20, 23,24, 30,4, 7, 9,29
Interviews	2,4,7,8,16,13,17,19,23,25
Tests	6,9,11,21
Observation	9,13
Others (repertory grids, written accounts, teaching strategies, maps and games)	11,12,14,22,29,15,28

*Some of the studies shared more than one data collection tool.

According to Table 5, most of the articles (14 of them) used questionnaires and open-ended questionnaires as a data collection tool. In 10 of the articles, interviews were used with the participants, on the other hand 4 of the articles preferred to use tests and 2 of them used observations. The rest of the articles (7 of them) used different data collection tools such as repertory grids, written accounts, different teaching strategies. maps and games.

Table 6. *The Distribution of the Publishing Years*

Years	f
2009	1,24,25
2010	none
2011	none
2012	30
2013	2,3,6
2014	21
2015	4,5,27,29
2016	20,28
2017	6,7,8
2018	9,12,13,22
2019	10,11
2020	14,16,17
2021	15,18,19,23

*No articles found in 2010 and 2011.

According to the table 6, the distribution of the publishing years of the studies can be seen. As it is understood from tha table 6, most of the articles were published in last six years which means that the studies about learning or teaching English language for GT students were highly current.

Table 7. *The Keywords of the Studies*

The Keywords		f
English Language Teaching / Learning	strategies	3,12,24,26,29,23,30
	differentiated instruction	7,9
	mobile device	8
	repertory grid technique	11
	direct instruction	13
	bilingual writing	14
	using games	15
	speech perception	21
	concept mapping	22
GT students	gifted students/talented students	1,2,3,4,5,6,7,10,11,12,16,17,18,19,20,23,24, 26,27,28
	difficulties	2
	motivation	5,15,17,27
	critical thinking	10,20
	underrepresantation	16
	social learning platform	18
	anxiety	19
English language learners		6,14,17
None		25

*Some of the articles share more than one keyword category.

As can be seen from table 7, the mostly researched keywords of the mentioned studies are GT students. According to the sub-categories, mostly the studies preferred to have keywords such as strategies of teaching or learning of English, and the motivation of the GT students.

4. Discussion and Conclusion

This study is a meta-synthesis which includes content analysis of the articles published from 2009 to 2021 about English language learning and teaching for GT students. The results indicated that most of the studies included the GT students from the secondary and high school which means that between 11-18 aged GT students were mostly favored as a participant groups. Furthermore, the studies on English language learning and teaching for GT students used questionnaires and interviews mostly as a data collection tool. According to the result of the study, the majority of the articles aimed to find out some of the learning and teaching techniques, models and methods. It is also seen that as a method of the studies, most of the studies were carried out by consisting methods such as mostly qualitative and mixed methods. Moreover, the results of the studies showed positive effects about the anxiety, motivation, attitude and experiences, besides, on the success of the techniques, methods and models used in learning and teaching of English language. As keywords, most of the studies preferred to use GT students and English language learningand teaching. To finalize, most of the studies were published in last six years which means that the studies were highly current.

In conclusion, this study provided a framework for some categories in the field of GT students' learning and teaching of English language for researchers and practitioners in the related field. There is a limited quantity of such studies in the literature, this study possibily guides the further investigations.

REFERENCES

Al-Khasawneh, F. M., & Al-Omari, M. A. (2015). Motivations towards learning English: The case of Jordanian gifted students. *International Journal of Education*, 7 (2).

Ataman, A. (2003). *Özel gereksinimi olan cocuklar ve özel egitim [Children with special needs and special education]*. Ankara: Gündüz Egitim ve Yayıncılık.

Baglama, B., Yikmis, A., & Demirok, M. S. (2017). Special education teachers' views on using technology in teaching mathematics. *European Journal of Special Education Research, 2*(5), 120-134.

Demirok, M., & Ozcan, D. (2016). The scale of teacher perception of gifted students: A validity and reliability study. *Croatian Journal of Education, 18*(3), 817-836.

Gagné, F. (2008). *Building gifts into talents: Overview of the DMGT.* 10th Asia Pacific Conference for Giftedness, Asia-Pacific Federation of the World Council for Gifted and Talented Children, Singapore, 14–17 July 2008.

Harris, B., Rapp, K. E., Martínez, R. S., & Plucker, J. A. (2007). Identifying English language learners for gifted and talented programs: Current practices and recommendations for improvement. *Roeper Review, 29*(5), 26-29. https://doi.org/10.1080/02783193.2007.11869221.

Kronborg, L. & Plunkett, M. (2008). Curriculum differentiation: An innovative Australian secondary school program to extend academic talent. *Australasian Journal of Gifted Education*, 17(1), 19-9.

Renzulli, J. & Piaget, J. (2005). The three ring conception of Giftedness: A developmental model for promoting creative productivity. *Conceptions of Giftedness*.

Turalbayeva, A. T., Sultanbek, M., Utyupova, C. E., Aidarov, B. Z., Uaidullakyzy, E, Zhumash, Z., & Uzunboylu, H. (2017). The general preparation of the training of elementary school and the family and the education of gifted children school in cooperation principles. *Ponte, 73*(4), 239-251.

Yunus, M. M., Sulaiman, N. A., & Embi, M. A. (2013). Malaysian gifted students' use of English language learning strategies. *English Language Teaching, 6*(4), 97-109. https://doi.org/10.5539/elt.v6n4p97

Zeidner, M., & Matthews, G. (2017). Emotional intelligence in gifted students. *Gifted Education International*, 33(2), 163-182.

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Appendix

1. Tseng, C. C. (2020). Principles of programme development in English for gifted and talented senior high school students in the context of Taiwan.

2. Yunus, M. M., Sulaiman, A., Kamarulzaman, M. H., & Ishak, N. (2013). Language learning difficulties among Malaysian gifted students. *Asian Social Science, 9*(15), 130-137. https://doi.org/10.5539/ass.v9n15p130

3. Yunus, M. M., Sulaiman, N. A., & Embi, A. E. (2013). Malaysian gifted students' use of english language learning strategies. *English Language Teaching, 6*, 97-109. https://doi.org/10.5539/elt.v6n4p97

4. Ispınar Akçayoglu, D. (2015). Voices from magic brains: Gifted language learners and their foreign language learning experiences. *International Journal of Arts & Sciences, 8*(6), 639-650.

5. Al-Khasawneh, F. M. & Al-Omari, M. A. (2015). Motivations towards learning English: The case of Jordanian gifted students. *International Journal of Education*, *7*(2), 306-321.

6. Coronado, J. M., & Lewis, K. D. (2017). The disproportional representation of English language learners in gifted and talented programs in Texas. *Gifted Child Today*, *40*(4), 238-244.

7. Kamarulzaman, M., Azman, H., & Zahidi, A. (2017). Differentiated instruction strategies in English language teaching for gifted students. *Journal of Applied Environmental and Biological Sciences*, *7*(1), 78-90.

8. Ibrahim, A. R., Yusoff, N. M. R. N., Zakaria, Z. B., bin Ahmad Hilmi, A. B., & bin Spawi, M. (2017). Teaching foreign languages to gifted and talented students using tablets. *Journal of Global Business and Social Entrepreneurship (GBSE)*, *1*(4), 112-122

9. Aitbayeva, A., & Olzhayeva, A. (2018). Implementation of tiered instruction in reading contributing to the needs of gifted learners in teaching English at Nazarbayev intellectual schools, Kazakhstan. *European Journal of Foreign Language Teaching*, *3*(4), 25-38.

10. Ceylan, Ö., Ermiş, G., & Yıldız, G. (2018). Attitudes of special talented students towards science, technology, engineering, mathematics (STEM) education. In G. Akkaya & P. Ertekin (Eds.), Proceedings of the International Congress on Gifted and Talented Education (pp. 64-75). Malatya: Inonu University.

11. Yıldırım, R., & İspinar Akcayoglu, D. (2019). A study of young gifted learners' and their teachers' perceptions of effective EFL learners. *Journal for the Education of the Gifted*, *42*(1), 85-104.

12. Shemuda, M. (2018). Strategies for teaching gifted students English grammar. *Advanced education*, 9, 107-113.

13. Utami, H., & Ashadi, A. (2018). Direct EFL instruction for gifted students: A case study. *Celt: A Journal of Culture, English Language Teaching & Literature*, *18*(2), 333-347.

14. Danzak, R. L. (2020). Bilingual gifted and talented students' expository writing: Exploring academic language features in English and Spanish. *Journal for the Education of the Gifted*, *43*(4), 405-431.

15. Hashemi, A. (2021). The effects of using games on teaching vocabulary in reading comprehension: A case of gifted students. *Journal for the Education of Gifted Young Scientists*, *9*(2), 151-160.

16. Gubbins, E. J., Siegle, D., Peters, P. M., Carpenter, A. Y., Hamilton, R., McCoach, D. B. & Long, D. (2020). Promising practices for improving identification of English learners for gifted and talented programs. *Journal for the Education of the Gifted*, *43*(4), 336-369.

17. Svegreus, S. (2020). Are we forgetting the gifted students? How English teachers work with gifted students in Swedish upper secondary schools.

18. Zakaria, Z., Bakar, A. Y. A., Harun, H., Manap, M. R., Spawi, M., Ali, M. Z. M., & Usop, R. (2021). Promoting language enrichment activities through social learning platform among Malaysian gifted students. *Creative Education*, *12*(8), 1805-1817.

19. Kasap, S. (2021). Foreign language anxiety of gifted students in Turkey. *Pegem Journal of Education and Instruction*, *11*(4), 169-176.

20. Sayı, A. K., & Emir, S. (2016). Farklılaştırılmış yabancı dil öğretiminin üstün zekâli öğrencilerde eleştirel düşünmeye etkisi. *Uluslararası Eğitim Bilimleri Dergisi*, 8, 13-31.

21. Kömürcü, B. (2014). Assessing the Auditory Perceptual Skills of Gifted and Non-Gifted Turkish-Speaking Child L2 Learners of English. *Teaching English to Speakers of Other Languages*, 179.

22. Marzetta, K., Mason, H., & Wee, B. (2018). Sometimes they are fun and sometimes they are not: Concept mapping with English language acquisition (ELA) and gifted/talented (GT) elementary students learning science and sustainability. *Education Sciences*, *8*(1), 13.

23. Do, M. H., & Thi Thu Ai, N. (2021). Gifted high school students' needs for English learning in Vietnam contexts. *Arab World English Journal (AWEJ), 12*.

24. Zuhal, O., & Duygu, P. (2009). Gifted students perceptions of learning English as a foreign language. *Educational Research and Reviews*, *4*(4), 117-126.

25. Harris, B., Plucker, J. A., Rapp, K. E., & Martínez, R. S. (2009). Identifying gifted and talented English language learners: A case study. *Journal for the Education of the Gifted*, *32*(3), 368-393.

26. Yunus, M. M., Sulaiman, N. A., & Embi, M. A. (2013). Malaysian gifted students' use of English language learning strategies. *English Language Teaching*, *6*(4), 97-109.

27. Al-Khasawneh, F. M., & Al-Omari, M. A. (2015). Motivations towards learning English: The case of Jordanian gifted students. *International Journal of Education*, *7*(2), 306-321.

28. Yurtbaşı, M. (2016). Nasreddin Hodja Tales may inspire Turkish foreign language gifted and talented students to speak better English. *Journal for the Education of Gifted Young Scientists*, *4*(2), 59-86.

29. Yildirim, R., & Akcayoglu, D. I. (2015). Strategy-based English language instruction: The impact on the language proficiency of young gifted learners. *Education*, *43*(2), 97-114.

30. Vu, P., & Vu, L. (2012). Teaching English as a foreign language major to gifted students. *3L, Language, Linguistics, Literature*, *The Southeast Asian Journal of English Language Studies, 18*(2). 57-66.

CHAPTER 5

WOMEN COMPOSERS' SOLO PIANO WORKS IN TURKEY[1]

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1 This study was obtained from Eda Nergiz's doctoral thesis named "The Usability of Women Composers' Solo Piano Works with The Flipped Learning Model in Piano Education".

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1. Introduction

It is thought that it is significant to recognize the relevant literature, as well as to create the repertoire chosen in instrument education from the works that are appropriate for the technical level of the student and contribute to his/her musicality. Furthermore, it is stated that the diversity of the work and the student's playing works in different styles are equally important in the selection of course materials (Ertem, 2011). In terms of the curriculum, there is the information that the works produced by female composers are very limited in the concert programs and curricula in Turkey and around the world (Makal, 2020). It is thought that various social changes in the historical process are responsible for the creation of this situation.

1.1. Women in the Context of Music History and Composition

It is remarkable that the significant breakthroughs in the history of music were generally substantiated by male composers and performers. "In the literature of music history, important musical performance, composition and musical creativity appear as a field that is mostly associated with men, and it is seen that many social, cultural and economic factors have caused women to be involved less place in these fields." (Yazıcı & Topalak, 2014, p. 45). Furthermore, it is commonly recognized that the studies on women and music began to be written and published at the end of the 19th century.

> Despite the increasing number of female composers in the 19th century, there had been a slow-down rather than increase dictionaries and historical studies are … Between 1870 and 1910, cultural feminism generated its first products in fields such as music history. As the title of 'Women in Music' started to be used in dictionaries, articles were also written about 'women's studies in music' (Ersoy Çak and Beşiroğlu, 2018, p. 52).

Besides these studies on the role of women in music life, it is clear that these studies, especially in composition, commenced especially in the 19th century.

> The idea that women have innate shortcomings that prevent them from being equal to men as composers, was supported by the 19th century male thinkers and was a frequent topic in their texts, and many academics – and especially the psychologists – put forward theories about the shortcomings of female composers in the historical scene due to gender difference, giving a 'pseudo-scientific' support to this 'social' myth…The biological theories and experiments put forward in the relevant literature to 'explain the historical absence of great female composers' illustrate that there is no answer to the question 'why are there no great female composers?' because

> the answer lies not only in biology, but in the social and cultural status of women, and this particular situation does not comply with the conditions required to make music (Özkişi, 2018, p. 67- 79).

Even though the studies in question emphasize that women appear late in the field of composition due to their role in social life, when the relevant international literature is surveyed, it is clear that the female composers have come to exist since the Early Middle Ages (Women Composers by Time Period, 2021). According to Altaras (2018) "… the mother of opera is a woman, a nun, a saint: Hildegard von Bingen (1098-117).

Hildegard, a Benedictine nun, wrote a musical theater play in 1151, which she called 'Ordo Virtutum- (The Virtues)', for which she wrote both the lyrics and composed the music - which we would call a musical today." (Altaras, 2018, pp. 242-243). Furthermore, in the 17th century, it is clearly seen that the female composers became prominent in various fields of creation. "In the Renaissance and early baroque, on the other hand, the women artists had a chance to exist in two ways; either as a nun or as a courtesan… They were also, in a sense, the pioneers of today's economically independent, modern woman… Among these courtesans, the creation of Venice-born Barbara Strozzi (1617-1664?) was extraordinary in both content and quantity." (Altaras, 2018, p. 243).

Sarıkaya and Özer summarize the position of female composers from the Baroque Period to the Romantic Period as follows:

> The training of women in the field of music dates back to the 16th century. It is indicated that in addition to their success in the field of composition, woman turned to the field of opera, especially towards the end of the 16th century, and took on an interest in opera composition as well as performance. The first half of the 18th century was an era that generated such great music masters as Haydn, Mozart, Beethoven. In this period, the rise of female musicians was at its peak. Especially in Italy, France, Germany, Austria and England, many women earned success as composers, performers, pianists and educators. They produced many works that revealed their artistic talents in their works (Tunçdemir, 2004, p. 7; cited by Sarıkaya & Özer, 2015, p. 101).

Despite their early appearance as composers in music history, the admission of women into composition classes seems to have taken place almost in the early 20th century. "… the fact that women were not admitted to theory and composition courses lasted until the beginning of the twentieth century in European conservatories: In Leipzig Conservatory, which was founded in 1843 and hosted the famous musicians of the time such as Felix Mendelssohn and Robert Schumann, while all the male students had to take composition and theory courses, a 'shortened' theory curriculum that did not include composition training was implemented to

the women who had to take composition and theory courses." (Phillips, 1979, p. 128; cited in Özkişi, 2018, p. 85).

> Looking at modern times, on the other hand, it was emphasized that most of the composers who significantly led the way were men, and it is clear that the first women that spring to mind in this regard were the French sisters Nadia and Lili Boulanger, the Finnish Kaija Saariaho, the Israeli Chaya Czernowin, the American Pouline Oliveros and the Russian Sofia Gubaidulina. Furthermore, it is stated that the northern European countries of Sweden, Norway and Finland were the countries where the female composers were seriously encouraged (Altaras, 2018, p. 245).

When we examine the geography of Turkey and Anatolia, as well as the academic European music, it is seen that the women were involved in the musical traditions of various civilizations. "The women as music creators have always existed within Anatolia in Turkey, in the Neolithic cultures of Çatalhöyük, in the Ancient Sumerian civilization of Mesopotamia, and throughout the Roman Empire…" (Chiti, 2019, p. xix). It was stated that the women were involved in the field of singing in these civilizations. "It is seen that the female singers were significant in the Hittite music, the female singers both sang and played musical instruments… choirs consisting of female singers and a total of 162 female singers were listed." (Masalcı Şahin, 2020, p. 167-173-174). Moreover, it is commonly recognized in the archaeological materials that there were the tambourine-playing and singing women, and this tradition still continued in certain regions in Anatolia, and that the women lamenting under the name taptara were lamenting (weskanzi) during the funerals (Masalcı Şahin, 2020, p. 39-261).

As far as the information obtained is concerned, it is seen that the first female composition recorded on the Anatolian lands appeared at the end of the 17th century, and it is understood that the composer lived during the Ottoman Period. Beşiroğlu (2018) explicated this issue as follows:

> The oldest work we can identify belonging to our female musicians is the peşrev in the saba maqam recorded as Saba-i Reftar found in the manuscript 'Kitab'ül İlmü'l Musiki ala Vechü'l Hurufat' written by Kantemiroğlu in the last half of the 17th century and at the beginning of the 18th century (Kantemiroğlu, 2000, p. 135). Thanks to this name, it is possible to accept that it was composed by a lady named Reftâr. However, Ali Ufki recorded this peşrev as Dilnuvaz without using the word Reftâr in Mecmua-i Saz-ı Söz (Ali Ufki, [Prepared by Prof. Dr. Şükrü Elçin], 1976, p. 175). This work, which is also available in the Hekimbaşı journal and the Kevseri journal, was recorded as Reftar's work in the Saba interlude (Aksoy, 1999, p. 790). This supports the fact that Reftâr is a female name. Suphi Ezgi, on the other hand, mentioned that Reftar was a composer who lived during the reign of Sultan Mehmed IV (Ezgi, 1933, C. IV, pp. 14-16). Among the works in the

> collection of İsmail Hakkı Bey, registered in the name of Reftar Kalfa, on the Ankara Radio, there are peşrevs and saz semais in Rast, Hicaz, Nigar, Şehnazbuselik, Muhayyersünbüle, Arazbarzemzeme, Zirgüle maqams, and Saba Peşrev and Evcbuselik saz semai (Kip, Tarık: The TRT Turkish Art Music Repertory of Instrumental Works) (cited in Beşiroğlu, 2018, p. 158).

In the Ottoman era, it is commonly known that the participation of common women in the arts was limited in public spaces; however, the women in the palace and the palace entourage had more opportunities. "With the turn of the 19th century, the development of the new music branch in the Ottoman Empire was also instrumental in the training of female musicians in this field. In fact, every sultan who was the ruler cared about the training of his wives, daughters and harems in the field of Ottoman Western Music style, and imported international teachers and Western music instruments for their training." (Kutlay, 2017, p. 163). It is clearly seen that one of the indicators of the western music tradition within the palace was the orchestra founded by women.

> The members of the women's orchestra in the harem, whose foundations were laid during the reign of Sultan Abdülmecid, took the piano lessons in addition to these efforts, and the journeymen trained by Donizetti, especially Dürr-i Nigar Hanım, gave piano lessons and wrote compositions. Abdülmecid's bride, Arife Kadriye Sultan, also had compositions for piano… The female sultans and princesses wrote compositions in Western music forms and performed Western music instruments such as the piano and harp. In addition to dance forms such as polka, mazurka, skotish, cadrill, waltz and galop, which were also the favorites in Europe in the 19th century, they produced works in such forms as marches and fame. For instance, Hatice Sultan, the eldest daughter of Sultan Murad V, was a composer and composed a 'Waltz' dedicated to her father. Fehime Sultan, the sister of Hatice Sultan, was also a good pianist, and she wrote many compositions. One of her famous works was 'Galop da Canstitution'… (Kutlay, 2017, pp. 164-166). When we examine the modernization process, it is clear that there were such composers as lady Leyla (Hanımefendi), Nazife Aral-Güran and Yüksel Koptagel, whose musical personalities developed and produced works in the process of institutionalization of polyphonic music and the spread of music education in successive periods from the Tanzimat (Reform) Period of the Ottoman Empire to the Republic of Turkey in the 1980s (Atalay, 2021).

Among the composers in question was Nazife Güran (Avniye Nazife Aral Güran), a female composer-musician who was born in the Ottoman Period and spent most of her life in the Republican Period, who was in a position to represent the transition to the Republic in the Ottoman Period.

Lady Nazife (Hanım), who was born in Vienna in 1921 due to the official duty of her foreigner father, took her first music lessons from her

mother, and when she returned to Istanbul, she became a student of Cemal Reşid Rey. When his father was appointed to Berlin, she was admitted to the Berlin music academy. Among the works of Nazife Güran, who composed many works in Ottoman Western music forms, can be listed as the composition of Abdülhak Hamid's Tekbir-i Milli for choir and orchestra, the Sphinx Sonata and the Mehlika Sultan Concert Study (Kutlay, 2017, p. 172).

In the post-Republican period, on the other hand, if we examine specifically writing compositions in addition to performing, it is seen that the women started to take composition training and take part in the profession of composition, with equal opportunities at every step of training. "We can talk about Yüksel Koptagel as the only recorded female composer who grew up in Turkey during the Early Republican Period and wrote works in the field of Classical Western Music." (Ece, 2006; cited by Gülün, 2019, p. 63). Today, the number of Turkish female composers with composition training provided at the universities in Turkey has been increasing day by day. Despite this, it is noteworthy that the names of Turkish female composers are less visible in both international and national literature. It is seen that a total of 789 female composer names are listed in the Grove Music Online Archive on the Oxford Music Online site (Women Composers by Time Period, 2021). Clearly that there are only 2 Turkish female composers in this list. These names are Nazife Güran (Avniye Nazife Aral Güran) and Yüksel Koptagel.

According to the results of the interviews conducted by Özkişi (2018), the Turkish female composers did not think that they and their works "… were deservedly included within the music encyclopedias, educational books, music history books, the repertoire followed in instrument education, etc., but they stated that this situation was improving day by day." (p. 429). Furthermore, this situation makes one think about how often the female composers are included in the performance in Turkey. According to Özkişi, "there is a lack of literature in Turkey based on the experiences of female composers, especially focusing on European Academic Music." (Özkişi, 2009, p. 1). In addition, it is emphasized that female composers rarely take part in concert programs in Turkey (Makal, 2020, 757).

It is considered that the lack of literature mentioned is also reflected in piano education, and it is anticipated that the recognition and study of solo piano works of female composers by undergraduate students will contribute to the piano education literature. Accordingly, it is thought that identifying the solo piano work lists of female composers is the first step to solve this problem.

2. Body of Literature

When we survey at the books about women musicians and composers, it is clearly seen that there are books on the place of women in music, the history of women's music in Turkey, women in Ottoman music and women composers in the Republic of Turkey, and a dictionary of Turkish women composers (Chiti and Gülün, 2019), as well as books (Koloğlu, 2019) consisting of interview texts with 21 female musicians living in Turkey. Furthermore, the Turkish female composers are visible in the book of İlyasoğlu (2007) and the catalog of Antep (2006), which are on Turkish composers. Besides, in Taşan's (2000) comprehensive study, it is seen that the names, biographies and lists of works of 184 female composers from the Ottoman era were compiled. In the book of Ersoy Çak and Beşiroğlu (2018), various studies on the effects of gender roles on female musicians were compiled; it is clear that the status of female composers have also been dealt with in these works.

Based on the idea of increasing the recognition of music by female composers in Catherine Roma's (2006) book titled "The Choral Music of Twentieth Century Women Composers- Elisabeth Lutyens, Elizabeth Maconchy and Thea Musgrave", it is seen that the it was aimed to create a significant repertoire for the choral music performed by women and provide materials for both students and conductors. Therefore, biographies, composition processes and originality in choral works of three female composers, Elisabeth Lutyens, Elizabeth Maconchy and Thea Musgrave, who stood out in the British music repertoire, were revealed. It is seen that the data were obtained through literature review, interviews and musical analysis of the composer's works. Consequently, musical analyzes of Elisabeth Lutyens' five choral works, Elisabeth Maconchy's four choral works and Thea Musgrave's eight choral works were obtained. Furthermore, in the last part of the book, it is seen that contributions of the contemporaries of these three female composers, Nicola LeFanu, Judith Weir, Phyllis Tate, Grace Williams and Priaulx Rainier to the choral repertoire were also briefly discussed.

In the chapter of Siobhan McAndrew and Martin Everett's (2014) book titled "Symbolic versus Commercial Success among British Female Composers", the identification of how gender affected music composition and the career paths chosen by British female composers in the twentieth century were discussed. In line with the qualitative data obtained from the sources of biographies and interviews, it is seen that the female composers were exposed to explicit discrimination until recently, and women married to musicians took a back seat in relation to their spouses due to institutional sexism, social restrictions and family obligations. Moreover,

suggestions were made that offering mentoring services and providing realistic financing could be beneficial interventions for female composers.

When the academic studies conducted in Turkey are examined, it is seen that the biographical studies and work reviews are more common in the field of Turkish maqam-style music. There are studies examining the biography and works of the composer named Neveser Kökdeş (Çakarlı, 2017; Akalın, 2015; Duran, 2012), a study examining the works of Melahat Pars (Yağcı, 2019), a study containing the identification and analysis of the works of female composers in Turkish Music from the seventeenth century to the present (Torunoğlu, 2016). In the study of Çınar (2013) in the field of Turkish folk music, it is seen that the music produced by 15 living female minstrels and their minstrel identities were examined, and the elements of Çınar's (2016) works produced by the female minstrels were identified.

When we look at the field of polyphonic music, there are studies dealing with the subject of the role of women in music, which is rarely seen in the music history literature such as the short biographies of Hildegard von Bingen, Fanny Mendelssohn-Hensel, Carlotta Ferrari, Ethel Smyth, Amy Beach, Nadia Boulanger, Lili Boulanger and Elisabeth Lutyens (Yazıcı and Topalak, 2014), the study on the analysis of Fanny Hensel's life and composition "Das Jahr" and its contribution to the literature (Sarıkaya, 2016), two female composers, Fanny, who touched on the place of women in the Romantic Period, the study, which dealt with the musical lives of Mendelssohn Hensel and Clara Wieck Schumann (Sarıkaya and Özer, 2015), and the study, which aimed to contribute to the literature by examining the composition techniques in the works of women composers, and in this direction, the analysis of 11 works of 9 Turkish women composers was examined, and 4 women composers were interviewed (Özkişi, 2009). In another study by Özkişi (2013), it is seen that the effects of gender and gender roles judgments on women's access to composing education and their composing careers were investigated using the literature review method.

In the study of Laura Artesani (2012), it is seen that it is aimed to include the achievements of female composers and performers in general music lessons in order to provide a comprehensive and balanced curriculum; therefore, it is seen that a draft was presented for a unit emphasizing the seven American female musicians who were the pioneers, and short biographical information and work introductions about 7 female musicians were included. In another study (Harley, Praeder, & Pomey, 2000), there is the mention of a study examining the lives and musical productions of three nineteenth-century female composers who personally knew and interacted with Chopin. Similarly, in Moody's (2011) study,

Kassia, who was accepted as the first female composer, was reported to be one of the greatest hymn composers based on the Sequentia approach applied in the Greek Orthodox tradition, and her similarities to Hildegard were from time to time emphasized. Furthermore, the musical features of the piano piece "Vocation" were mentioned. In his study, Géliot (2007) aimed to deal with the life of a French woman composer named Mel Bonis in the context of composition, and it was concluded that the vocal fields were very wide in vocal works and their works were sung willingly by the singers. Khumalo (2018) included an interview with the South African composer Clare Loveday in her work. In line with the information obtained from the interview, it was concluded that Clare Loveday's works were influenced by C. Debussy's style and jazz. It is also seen that the composer used the post-tonal elements in her works.

Furthermore, one of the studies that summarized the biographical features and compositional status of women composers in general is the study of Fiaschi (2021) in which the French woman composer named Élisabeth Jacquet de La Guerre was examined. Similarly, the study examining the composition life of Japanese composer Makiko Nishikaze was also included in the literature (Entress, 2010). In the study, which examined the biography and composition of the Dutch composer named Henrietta Jacoba Witsen, Clement and Clement (2007) examined the composition status with examples from two piano works of the composer.

Moreover, Schweitzer (2004) discussed the biography of the 18th century female composer named Madame Ravissa de Turin and her position as a composer in the history of music. Metzelaar (1990), in his article, emphasized that the 19th century Dutch female composers was not given much attention in the literature, and the biography and compositional characteristics of Josina Boetzelaer, one of the Dutch composers, were examined. As a result, it was concluded that the musical environment in which Josina Boetzelaer worked as a court lady was extremely rich, some families provided employment and encouraged composition and broadcasting. Furthermore, the analysis of some works belonging to the composer was also mentioned in the study. In another article, there was an analysis of an interview with the Russian composer Sofia Gubaidulina. In the study by Lukomsky and Sofia Gubaidulina (1998), it is seen that the work named "Bla, a cry, bla, a moan" was also examined.

In her article on the Brazilian composer named Chiquinha Gonzaga, Tonella Tüzün (2019) concluded that exclusion or inclusion factors were directly related to economic independence, that the monetary power obtained by Clara Schumann and Chiquinha Gonzaga enabled them to stay on the stage longer than Fanny Mendelssohn, how the works named 'Palace on the Field', 'Cursed' and 'Cut-jackfruit' revealed how female

creative power was approved by a conservative society, how they rose above the male composers and how they created a new music profile, and how women's creative power was gradually included in the history of music.

In this study, which was conducted under the titles of female composers in Turkey and in the world, female orchestra musicians, female concertmasters and principals, salary differences between women and men in the orchestra in Turkey and in the world, harassment of female musicians, female conductors and directors, Makal (2020) investigated the education lives and careers of 6 female composers who worked in the field of composition in Turkey. It is clearly seen that the study concluded that the names in question completed a significant part of their composition training in important educational institutions abroad and that they mainly continued their artistic lives abroad. Besides the studies describing the status of female composers in terms of due diligence, composer biographies, and musical piece identifications, there are also interview analyzes related to the subject, collaborative studies across different disciplines and practices in music education.

In their study in which they investigated the careers and identities of female art music composers, Bennett, Hennekam, Macarthur, Hope, and Goh (2018), as a result of interviews with female composers, revealed such issues as the "disadvantage of gender in music composition" in relation to composer identities, "gender-coping strategies" in relation to the codes of concealment and revealing strategies, and the "use of both strategies". Furthermore, it was concluded that many female composers used different and simultaneous performance management strategies, and it was further revealed that the methods of emphasizing gender and minimizing / hiding identity were frequently utilized.

In another study by Hennekam, Bennett, Macarthur, Hope and Goh (2019), on the other hand, it was aimed to reveal, within the framework of their knowledge about the careers and careers of female composers, how women composers worked, how they entered the industry, how they were recognized and supported their practices, and how they managed their careers. Therefore, the data were obtained qualitatively and quantitatively from the survey responses of 225 international female composers. A significant part of the findings was analyzed by content analysis. The findings revealed the need for more grant and funding opportunities for women's music composing careers, the need to increase the composers' visibility, use the online space effectively in order to find support, a collaborative effort and reduce the gender inequality within the industry. Moreover, it is suggested that more semi-structured interviews or focus groups should be conducted in order to strengthen the findings.

It is recommended that the future studies explore these differences and similarities, particularly by including the composers located in less researched geographical areas.

In their study, Hennekam, Macarthur, Bennett, Hope, and Goh (2020) aimed to investigate how female composers used the online practice communities while working outside their hierarchical structure. The data were obtained through an online questionnaire and 27 semi-structured interviews. The findings were analyzed with content analysis and interpretive phenomenological analysis. At the end of the study, it was concluded that the female composers could find support, mentorship, increase their visibility, use the online environment as a supportive and safe space for them to develop their career agency and make use of it as a tool to overcome some persistent sexist challenges.

In another article, which argued that the works by women composers should be included in the training process, based on Lindeman's (1992) idea that the contributions of female composers were ignored in the primary school music classes and that young girls needed role models, it was observed that it was aimed to offer ideas in an attempt to add the female composers, conductors and artists into the primary school music curriculum. As a result of the study, in which the data were obtained through literature review, these two strategies of adding the female composers into the primary school music lessons were created and presented as examples.

In Mittner's (2018) study, it was aimed to deal with a project prepared to include the female composers in the curriculum in 2015 in order to create a gender-balanced curriculum in secondary music education in England. The study was based on a qualitative interview with Jessy McCabe. Qualitative data emphasized the importance of the teacher as a role model and the effectiveness of the student as a co-researcher in the process. It was concluded that the curriculum transformation could be an appropriate and important tool to obtain a more balanced curriculum in terms of gender perspective. As a result, some suggestions were offered on how teachers in music education could strengthen their students in critical thinking, how the teachers could encourage their students to discover new repertoire, and how the women composers could use music samples and balanced reference lists in exams.

Focusing on the literature of wind instruments, in a study that aimed to investigate whether there was an inequality against female composers in music programming, publishers' offers and university programs, it is found that the female composers were less preferred than male ones in programming and publishing, and that the emphasis of "female composer" was not preferred by the female composers (Boeckman, 2019).

Furthermore, the examples from the list of works for wind instruments by female composers, a list of publishing houses and various organizations that published works by women composers were presented as examples in order to assist the research and advocacy of music composed by women.

Similarly, when we survey at the studies examining the use of the works of international female composers in instrument education in Turkey, we realize that within the framework of the articles written about Sofia Gubaidulina and her works, magazines, books, theses, video recordings, sound recordings, interviews, it is seen that Gubaidulina's Ten Preludes for Solo Cello were analyzed in line with written themes. It is seen that the work was explained in line with its emergence and the period when the composer wrote it, every part of the work was examined in detail from a technical point of view, and there were results that facilitates the perception of the concepts of "intuitiveness" versus "mentality" in interpretation (Yatkın, 2018).

In her study which was among the studies examining the effects of the works of female composers, and which aimed to reveal the thoughts and perceptions of the students about women as composers by adding the music of female composers to the repertoire of the high school orchestra, Bonnycastle (2018) conducted a practice in which the works of female composers were performed for one semester in the orchestra of a girls' high school consisting of 48 female students. The data were obtained through semi-structured interview questions. It is obvious that the female composers influenced the students as role models, the idea of low self-sufficiency for composition in students changed to "a possible composer personality" and this effect in question also came to the fore in terms of being a possible scientist.

It is clearly seen that Bennett, Macarthur, Hope, Goh, and Hennekam (2018) investigated the issue of gender in music composition and offered practical suggestions for a more gender-balanced music curriculum in higher education. As a result of the surveys and interviews, the themes of "The effects of gender", "Relations and networks", "Practicing and learning", "Getting rooted" and "Context" were obtained. A large number of composers who took part in the survey stated that the female composers were underrepresented in curricula.

When we analyze the studies, we encounter studies focusing on the place of female composers in the music literature and music education, as well as compilation studies examining the style characteristics and biographies of each composer, various book reviews written on these subjects, interview analyzes, different interdisciplinary collaborative studies and experimental applications in music education. As far as

the results are concerned, it is seen that some suggestions were made to enhance the visibility of female composers in concert programs and include the female composers in the curriculum in general music education and instrument training. It is observed that the studies in question on the piano literature are limited.

3. Problem Statement and Purpose

It is commonly thought that performing musical works in different styles in music education and instrument training will make a contribution to the students. It is also considered that the lack of literature on female composers mentioned in academic studies is also a part of this diversity, and this problem is reverberated in the piano literature as well. Accordingly, it is predicted that the recognition and performance of solo piano works of female composers by the undergraduate students will contribute to the piano education literature. It is also deliberated that identifying the solo piano work lists of female composers is the first step in order to resolve this problem. Therefore, it was aimed to identify the list of solo piano works of the Turkish female composers.

4. Method and Data Collection Process

In the present study, the document analysis method, one of the analytical study methods, was utilized. "Analytical study is a research method by addressing, examining and coding the existing records and documents related to the problem situation of the study subject in accordance with the structure of the problem." (Çepni, 2010; cited in Aydoğdu, Karamustafaoğlu & Bülbül, 2017, p. 559). It is observed that the document review comprises the analysis of written materials containing information about the facts and cases that are aimed to be investigated (Yıldırım and Şimşek, 2018, p. 189).

> Document analysis is the process of collecting existing records and documents related to the study to be conducted and coding them according to a certain norm and system. Document analysis is also defined as documentary observation or documentary scanning… Syntheses made through document analysis have the feature of classifying all the works made in that field according to certain characteristics. As a result of this process, even though it is difficult to obtain new information or make a new discovery in this way, the existence of general tendencies, alternative thoughts and ideas, based on what has been done, becomes a little clearer.

In line with the purpose of the present study, the data were collected through literature review and personal interviews in order to identify the solo piano works of Turkish female composers. "… articles, documents, maps, pictures, photographs, etc. written on the relevant subject must be

collected and analyzed. The process of collecting and examining these documents according to a certain systematic is called literature review." (Çepni, 2012, p. 153).

In the literature review for the problem of the study, it is clear that the names of 344 Turkish female composers were identified (Nergiz, 2022). It was established that 20 composers worked in the field of Turkish Folk Music, 40 composers in the field of popular music, 186 composers in Turkish Classical Music, and 93 composers in the field of polyphonic music, and there were 4 composers whose field information was not obtained. From this list, 75 living composers out 93 who were identified to have produced works in the field of polyphonic music and whose contact information was available were sent e-mails and asked whether they had solo piano works. Responses were received from 28 composers. In addition to the so-called personal interviews, the solo piano work lists of the composers for whom personal interviews could not be done were also reached through the literature review. The works of the deceased composer named Avniye Nazife Aral Güran were accessed through the musicologist Nejla Melike Atalay. In line with the data obtained, the list of solo piano works of 30 Turkish female composers were tabulated.

5. Results

In order to identify their solo piano works, it was aimed to obtain the list of Turkish female composers. It is seen that 344 Turkish female composer names obtained from the sources such as "Women and Music in Turkey" (Chiti and Gülün, 2019), "Women Composers" (Taşan, 2000), "Women Living with Music" (Koloğlu, 2019), "Turkish Composers Work Catalogue: A Work Created by Contemporary Turkish Music Composers List" (Antep, 2006), "71 Turkish Composers: 71 Turkish Composers" (İlyasoğlu, 2007), "Women Composers in Turkey in the Context of Gender: Women Composers and their Works in the Ottoman Empire and the Republic of Turkey from the Tanzimat to the Present" (Özkişi, 2009), "Contemporary Female Âşıklar and Âşık Music Tradition of Turkey" (Çınar, 2013), "Music Conversations" (Kızıltuğ, 2015) and "The Rhythmical Elements Used by Young Turkish Composers in the Process of Creating Works" (Bulut, 2007) were listed (Nergiz, 2022).

It was identified that 20 composers in the aforementioned list produced works in the field of Turkish Folk Music, 40 composers in the field of popular music, 186 composers in Turkish Classical Music, and 93 composers in the field of polyphonic music, and there were 4 composers whose field information was not obtained.

A list of solo piano works was obtained from 93 living composers who were identified to have produced works in the field of polyphonic music and whose contact information was available was obtained. The solo piano lists of the composers for whom personal interviews could not be conducted were obtained from online sources, online pages of the composers and various compilation books. The list of Turkish female composers' solo piano works is presented in Table 1.

Table 1

The List of Turkish Female Composers' Solo Piano Works

Rank No.	Name-Surname	Solo Piano Pieces
1	Avniye Nazife Aral-Güran (1921-1993) (Chiti and Gülün, 2019, p. 116).	1. 3 Concert Etudes for Piano (Trip in the Bosporus, Bayram, Dantel) [Piyano İçin 3 Konser Etüdü (Boğaz İçinde Gezi, Bayram, Dantel)]. 2. Mehlika Sultan Ballad for Voice and Piano (1981) [Mehlika Sultan Ses ve Piyano için Ballad] (Chiti and Gülün, 2019, p. 118).
2	Aysim Dolgun (Özkişi, 2009).	1. No:1 from Four Piano Pieces (April Dance) [Dört Piyano Parçası'ndan No:1 (Nisan Dansı)] 2. No:2 of Four Piano Pieces (Solitude and the Sea), (Less than 5 minutes...) [Dört Piyano Parçası'ndan No:2 (Yalnızlık ve Deniz), (5 dakikadan az süreli...)] (Dokuz Eylul University Academic Personnel Search Page, 2020).
3	Ayşegül Kostak Toksoy (1977-…) (Antep, 2006, p. 326).	1. Theme and Variations [Tema ve Varyasyonlar] 2. Sonatine [Sonatin] (Antep, 2006, p. 326).
4	Ayşe Önder (1973-…) (İlyasoğlu, 2007, p. 326).	1. Three Pieces [Üç Parça], (1990). 2. Three Preludes [Üç Prelüd], (1992). 3. Three Pieces [Üç Parça], (1992). 4. Piece for Piano [Piyano İçin Bir Parça], (1994). 5. 5 Humoresques [5 Neşeli Beste], (1995). 6. Three Etudes [Üç Etüt], (1995). 7. The Sea [Deniz], (1996). 8. A Prelude [Prelüd], (1998) (İlyasoğlu, 2007, p. 328).
5	Ayşe Tütüncü (1960-…) (Chiti and Gülün, 2019, p. 255).	1. The Lydian Woman (Passages, Part 3) [Lidyalı Kadın (Pasajlar 3. Bölüm)] (Personal interview, 20 May 2020).
6	Banu Kanıbelli (1966-…) (Chiti and Gülün, 2019, p. 183).	1. Kar'a, (1997) (from the album "Children's Songs for Kar'a "Kar'a's solo piano version) (Personal interview), 24 March 2020).
7	Beste Özçelebi (1983-…) (Chiti and Gülün, 2019, p. 215).	1. "Dance of the House Dwarfs" for Piano [Piyano için "Ev Cücelerinin Dansı"], (2009) 2. Two pieces for piano [Piyano için iki parça], (2009) 3. Suite for Piano [Piyano için Süit], (2008) 4. Four pieces for piano [Piyano için dört parça], (2008) (Chiti and Gülün, 2019, p. 216).

8	Çiğdem Borucu Erdoğan (1969-…) (Chiti and Gülün, 2019, p. 127).	1. Silver Moon 2. Montenegro 3. Soldiers on Train 4. Balkan Women 5. Streets of old Cairo 6. Migration 7. Elazığ 6.8 (Personal interview, 15 April 2020).
9	Deniz Arat (1978-…) (Chiti and Gülün, 2019, p. 118).	1. 3 Parts for Piano [Piyano İçin 3 Bölüm], (2000) (Chiti and Gülün, 2019, p. 120).
10	Deniz İnce (1965-…) (İlyasoğlu, 2007, p. 282).	1. Air [Hava], (1989). 2. Like, Like Not [Sevmek, Sevmemek], (1996) (İlyasoğlu, 2007, p. 284).
11	Deniz Özdemir Tunçer (1977-…) (Chiti and Gülün, 2019, p. 217).	1. Anecdote [Anekdot] 2. Three dances [Üç Dans] 3. Dream [Rüya] (Chiti and Gülün, 2019, p. 217).
12	Dürr-İ Nigar Kalfa (? -?. It is believed that she lived during the reign of Sultan Abdülmecid). (Chiti and Gülün, 2019, p. 145).	From the piano compositions “Polka”, “Mazurka” Some of her works, such as “Pieces for Piano “ are in western music style (Chiti and Gülün, 2019, p. 145).
13	Ebru Güner Canbey (1974-…) (Antep, 2006, p. 365).	1. Nightmare [Kabus], (2003). 2. Monday Morning [Pazartesi Sabahı], (1995) (12 Tones). 3. Passport [Pasaport], (1996) (Atonal). 4. Contradiction [Çelişki], (1997) (Polimodal). 5. Prometheus Dance [Prometheus Dansı], (1998) (Polimodal). 6. Vide, (2000). 7. Egg-Rag, (2001). 8. Magnetic Blue/B, (2002). 9. Vac/ancy [Boş/luk], (2003). 10. Fugue No.2 [Füg No.2], (2011). 11. Si, (2012). 12. Fugue No.1 [Füg No.1], (2013). 13. Invention No:1 [Envansiyon No.1], (2013). 14. Invention No:2 [Envansiyon No.2], (2013). 15. Invention No: 3 [Envansiyon No.3], (2013). 16. Invention No:4 [Envansiyon No.4], (2013) (Piano). 17. Hello to Interrupted Rhythms Album (Five Pieces for Solo Piano) [Aksak Ritimlere Merhaba Albümü (Solo Piyano İçin Beş Parça)], (2019) (Personal interview, 04 March 2021).
14	Ece Merve Yüceer (Özkişi, 2009).	1. Scream [Avaz], (2007) 2. Resentment against Probabilities [Olasılıkların Zıtlığına Sitem], (2008) 3. More sorrowful than Before [Öncekinden Daha Hüzünlü], (2010) 4. Images for Piano I [Piyano İçin Görüntüler I], (2008) 5. Mehlika Sultan (2007) (Personal interview, 20 May 2020).

15	Esin Gündüz (1983-…) (Chiti ve Gülün, 2019, p. 170).	Two Partridges for solo piano, (2014), (Variations on a Turkish folk song. for Friends of Vienna Inc. performance by pianist Stephen Manes.) Five Movements for Piano for solo piano, (2006), (On the different ways of experiencing things: flying on, streaming, swaying, touching or just gazing at a universe comprised of five fingers at a hand, a realm that enables experiences beyond human's earthly capacities. performance by pianist Alana Cushing) (Gündüz, 2020).
16	Gökçe Ağ Karcebaş (Özkişi, 2009).	Corona Days (Day 1, Day 2, Day 3, Day 4) [Korona Günleri], (2020) 10 Little Piano Pieces for Kids [Çocuklar İçin 10 Küçük Piyano Eseri], (2011) Waves [Dalgalar], (2011) Betrayal [İhanet], (2011) Crinoline Skirts [Kabarık Etekler], (2011) Caricature [Karikatür], (2011) Piano Dreams [Piyano Rüyaları], (2011) Clown [Soytarı], (2011) Adagio (2010) Fugue (No. 1, No. 2) [Füg (No. 1, No. 2)], (2007) Schizophrenic Piano Sonata [Şizofren Piyano Sonatı], (2003-2004) Mysterious Stranger [Gizemli Yabancı], (2003) Inventions (No. 1, No. 2) [Envansiyonlar No. 1, No. 2)], (2002) Theme and Variations [Tema ve Varyasyonlar], (2002) Dream [Rüya], (2001) Wind [Rüzgar], (2001) Pantanal [Pantonal], (2000) (Personal interview, 04 June 2020).
17	Hamide Ayşe Osmanoğlu (1887-1960) (Chiti and Gülün, 2019, p. 97).	Memorial March (Hatıra Marşı), a lullaby for piano (Chiti and Gülün, 2019, p. 98).
18	Hatice Sultan (1879-1938) (Chiti and Gülün, 2019, p. 174).	He is a pianist and composer. Polyphonic Marches, which he composed in a Western style, are among his important works. (Chiti and Gülün, 2019, p. 174).
19	İlkim Tongur (1977-…) (Chiti and Gülün, 2019, p. 251).	Prelude (The Impression) and Fugue, 2011 Six Scenes, 2018 4 miniatures on 4 miniatures, 2020 4-Avalanche [Çığ], 2020 (Personal interview, 18 February 2021).
20	İpek Mine Sonakın Altınel (1966-…) (İlyasoğlu, 2007, p. 288).	1. Variations [Çeşitlemeler], (1988) (İlyasoğlu, 2007, p. 290).

21	Meliha Doğuduyal (1959-…) (İlyasoğlu, 2007, p. 233).	1. Night Stories – IV [Gece Hikayeleri- IV], (2014) 2. Night Stories – I/II/III [Gece Hikayeleri- I/II/III], (2004) 3. Rhetorical Questions [Retorik Sorular], (2003) 4. Two Short Pieces [İki Kısa Bölüm], (2000) (Görevlendirildi-Commissioned) 5. Unsent Letters [Gönderilmemiş Mektuplar], (2000) 6. Perge [İlerleyiş], (1999) 7. Name-Less [Adsız], (1993) 8. Distortion [Çarpılma], (1986) (Doğuduyal, 2016).
22	Nejla Melike Atalay (1985-…) (Chiti and Gülün, 2019, p. 121).	1. On the other hand [Auf der anderen Seite], (2007) 2. The Nightingale in the Golden Cage [Altın Kafesteki Bülbül] 3. Invention [Envansiyon], (2008) (Chiti and Gülün, 2019, 122).
23	Nihan Atlığ-Sımpson (1960-…) (Antep, 2006, p. 497).	1. Sonatine [Sonatin], (1983) (First Vocalization: TRT-1984) (Chiti and Gülün, 2019, p. 123-124).
24	Özge Gülbey Usta (1978-…) (Bulut, 2007, p. 47).	1. Seven [Yedi/Sette], (2006) (Piano sequence) 2. Motif Sketches [Motifsel Skeçler], (2005) (Piano sequence) 3. Stories [Hikayeler], (2003) (Piano sequence) 4. Three Senses [Üç his], (2000) (Preludes for piano) (Performed at the Bilkent University Concert Hall, Pianist Teymur Şemsiyev). 5. Fifteen Preludes for Piano [Piyano İçin On Beş Prelüd], (2000) (Birol, 2016)
25	Perihan Önder-Ridder (1960-...) (İlyasoğlu, 2007, p. 246).	Invitation I [Çağrı I], (1976-77) Invitation II [Çağrı II], (1976-77) Invitation III [Çağrı III], (1976-77) Preacher [Vaiz], (1978) (for piano and the pianist/ piyano ve piyanist için) (Personal interview, 27 March 2020).
26	Renan Koen (1971-…) (Chiti and Gülün, 2019, p. 194).	Miracle (2006) Delicate Storm (Agustos 2009) Crystals [Kristaller], (2011) Three ermanikas era [Tres ermenikas eran], (2013, İstanbul) Morenika a mi me yaman, (2013, İstanbul) Pasharo d'ermozura (2013, İstanbul) My sad soul [Mi alma triste], (2013, İstanbul) (Koen, 2020).
27	Selen Elif Gülün (1972-…) (Antep, 2006, p. 528).	1. Sea by the Sea [Deniz Deniz Kenarında], (2011) 2. Combined Piano Pieces No. 1.2.3. [Karma Piyano Parçaları No.1, 2, 3], (2001-2003) (Gülün, 2016).
28	Sıla Çevikce Shaman (1970-…) (Chiti and Gülün, 2019, p. 136).	Songs of Imagination (2015) (Personal interview, 11 April 2020).

29	Yüksel Koptagel Kerven (1931-…) (İlyasoğlu, 2007, p. 126).	1. Tamzara, (1957) (Turkish Dance /Türk Dansı) 2. Schumanniana (1957) 3. Three Pieces [Üç Parça], (1957) (danse melancol-ique, dans rituelle, danse rustique) 4. Antique Suite [Fosil Süiti], (1957) 5. Toccata, (1958) 6. Marcia Funebre /Funeral March [Cenaze Marşı], (1958) 7. Dance of the Mice [Farelerin Dansı], (1959) 8. Sonata Minorca [Minorka Sonatı], (1959) 9. Epitafio [Kitabe], (1959) 10. Etude [Etüd] (1961) 11. Prelude on the Murmur of a River [Prelüd], (1961) 12. Lullaby [Ninni], (1964) 13. Antique Suite [Fosil Süiti], (1973), (five movements version/ beş bölümlük versiyonu) 14. Little Brian's Diary [Küçük Brian'ın Günlüğü], (1973) 15. Pastorale [Pastoral], (1991), (Arranged from the orchestra version /orkestradan uyarlama) (İlyasoğlu, 2007, p. 129).
30	Zeynep Gedizlioğlu (1977-…) (İlyasoğlu, 2007, p. 349).	1. Along the wall [Duvar Boyunca/Die Wand entlang], (2008), (World Premiere: Festival 100 Jahre Olivier Messiaen, Karlsruhe 2008, Yannick Wirner) 2. Pentagrams [Pentagramlar/Pentagramme], (2003), (World Premiere: Within the framework of Moritz Eggert's Hammerklavier Project, Saarbrücken 2004, Raoul Jehl) 3. Anonymous I [İsimsiz I], (1996), (World Premiere: Contemporary Turkish Female Composers Concert, Istanbul 2001, Metin Ülkü) 4. Anonymous II [İsimsiz II], (1997), (World Premiere: Contemporary Turkish Female Composers Concert, Istanbul 2001, Metin Ülkü) 5. Suspicion [Kuşku], (1995), (World Premiere: Istanbul 1996, Neslihan Schmidt) 6. Mediterranean [Akdenizli], (1991) (Gedizlioğlu, 2021).

As is clearly illustrated in Table 1, as a result of the literature review done through the written and online sources as well as personal interviews, a list of 134 solo piano works by 30 Turkish female composers was obtained.

6. Conclusion

The process in which women began to appear in the history of music, which is parallel to the social transformations in world history, is explicated as follows:

> … even in ethnomusicology, which examines music within a social structure, the inclusion of women in studies only began in the 20th century… McClary also touched on the same issue and said, "Before 1970, very little was known or remembered about women in music history. In concert programs, on library shelves, or textbooks, women were not visible…" (1993, p. 399; cited by Doğuş Varlı, 2018, p. 105).

It is seen that it was at the beginning of the 20th century when the women began to receive education in the field of composition (Phillips, 1979, p. 128; cited in Özkişi, 2018, p. 85). In the light of this information, as far as the Anatolian geography is concerned, it was acknowledged that the first work identified belonging to female composers was found in the late 17th and early 18th centuries (Beşiroğlu, 2018, p. 158). Furthermore, it is known that throughout the Anatolian civilizations (Masalcı Şahin, 2020) and from the Ottoman period to the present time, there have been women who have come to compose music in these lands (Ersoy Çak and Beşiroğlu, 2018; Makal, 2020; Chiti and Gülün, 2019; Kutlay, 2017). Even though there have been female composers appearing on the stage of history, "There is a lack of literature in Turkey based on the experiences of female composers, especially focusing on the European Academic Music." (Özkişi, 2009, p. 1).

In the previous academic studies, it is clear that suggestions are offered to women composers to be involved in the music industry and enhance their visibility (Hennekam, Bennett, Macarthur, Hope, & Goh, 2019). Similarly, there are also those studies that include the female composers in the curriculum in general music education and instrument education (Bonnycastle, 2018; Bennett, Macarthur, Hope, Goh, & Hennekam, 2018; Lindeman, 1992; Mittner, 2018; Yatkın, 2018).

Furthermore, in order to enhance the visibility of the works of female composers in the literature, there is a study that presents examples of the list of works, publishing houses that print works of female composers, and various organizations that perform their works (Boeckman, 2019). It is thought that a similar situation is reverberated in the piano literature, and considering the fact that performing different styles in instrument education mentioned in the introduction part will benefit the students (Ertem, 2011), it was aimed, in terms of this diversity, to establish the works of Turkish female composers. As a result of the literature review and personal interviews, 134 solo piano work lists of 30 Turkish female composers out of 93 who composed in the field of polyphonic music and have still been currently composing were tabulated. It is deliberated that the recognition and performance of the list of solo piano works of Turkish women composers by the students who receive piano education, the educators who give piano education and the performers will contribute to the literature on piano education. It is possible to suggest that the works of women composers be performed more frequently on the stage, works be reproduced, the hierarchical arrangement of the works for the education curriculum be implemented, and the seminars, workshops and academic studies aimed to introduce Turkish female composers and their solo piano works be disseminated and reproduced.

REFERENCES

Akalın, N. G. (2015). *A woman composer in the 20th century: Neveser Kökdeş* (Master's Thesis). Istanbul: Halic University Institute of Social Sciences.

Aksoy, B. (1999). *Woman in Ottoman music tradition, Ottoman,* (C. 10). Ankara: New Turkey Publications.

Ali Ufki. (1976). *Mecmua-i Saz-ı Söz* (Ed. Ş. Elçin). Ankara: Republic of Turkey Ministry of Culture Publications.

Altaras, R. (2018). *A female composer? What is it?* S. Ersoy Çak, and Ş. Ş. Beşiroğlu (Ed.). In Women and music (pp. 241-247). Istanbul: Millennium Publications.

Antep, E. (2006). *Turkish composers work catalogue: A list of works by contemporary Turkish music composers.* Ankara: Sevda-Cenap And Music Foundation Publications.

Artesani, L. (2012). Beyond Clara Schumann: Integrating women composers and performers into general music classes. *General Music Today, 25*(3), 23-30. doi: 10.1177/1048371311426900

Atalay, N. M. (2021). *Women composers' creative conditions before and during the Turkish republic- A case study on three women composers: Leyla Hanimefendi, Nazife Aral-Güran and Yüksel Koptagel*. Wien: Hollitzer Wissenschaftsverlag.

Aydoğdu, Ü. R., Karamustafaoğlu, O., ve Bülbül, M. Ş. (2017). The relationship between research methods and sample in academic research: An example of confirmatory document analysis. örneği. *Dicle University Journal of Ziya Gökalp Faculty of Education*, 30, 556-565. doi:

Bennett, D., Hennekam, S., Macarthur, S., Hope, C. ve Goh, T. (2018). Hiding gender: How female composers manage gender identity. *Journal of Vocational Behavior*, 113, 20-32. doi: 10.1016/j.jvb.2018.07.003

Bennett, D., Macarthur, S., Hope, C., Goh, T. ve Hennekam, S. (2018). Creating a career as a woman composer: Implications for music in higher education. *British Journal of Music Education, 35*(3), 237-253. doi: 10.1017/S0265051718000104

Beşiroğlu, Ş. Ş. (2018). *Feminine music by women in Turkish music tradition*. Ş. Ersoy Çak ve Ş. Ş. Beşiroğlu (Ed.). Women and music (pp. 139-176). Istanbul: Millennium Publications.

Birol, E. (2016, 9 Kasım). Özge Gülbey Usta works list [Blog article]. Access address: http://www.erhanbirol.com/ othersites/gitar/besteciler/ozgegulbey.html

Boeckman, J. (2019). Labels, inequity, and advocacy the "Woman composer" in the wind band world. *Music Educators Journal, 106*(2), 45-50. doi:10.1177/0027432119870572

Bonnycastle, A. (2018). Female students talk about women composers: Two misconceptions and a self-limiting belief. *Canadian Journal of Action Research, 19*(2), 67-79. doi: 10.33524/cjar.v19i2.386

Bulut, M. Ö. (2007). *Rhythmic elements used by young Turkish composers in the process of creating works* (Master's Thesis). Baskent University Institute of Social Sciences, Ankara.

Chiti, P. A. (2019). *A presentation of women and music in Turkey*. P. A. Chiti ve S. Gülün (Ed.). Women and music in Turkey in (pp. xv-1). Istanbul: Istanbul Bilgi University Press.

Chiti, P. A., ve Gülün, S. (2019). *Women and music in Turkey*. Istanbul: Istanbul Bilgi University Press.

Clement, A., ve Clement, H. (2007). Henrietta Jacoba Witsen 1875 - 1959: A female composer with a fortunate gift. *Tijdschrift van de Koninklijke Vereniging voor Nederlandse Muziekgeschiedenis, 57*(1), 43-58. Access address: https://www.jstor.org/stable/27764482

Çakarlı, G. (2017). *Neveser Kökdeş, a woman composer in the process of westernization in Turkish music* (Master's Thesis). Haliç University Institute of Social Sciences, Istanbul.

Çepni, S. (2010). *Introduction to research and project work* (5th Edition). Trabzon.

Çepni, S. (2012). *Introduction to research and project work* (6th Edition)Trabzon: Celepler Printing.

Çınar, S. (2013). Contemporary female âşıklar and âşık music tradition of Turkey. *E-Journal of New World Sciences Academy, 8*(2), 176-195. ISSN: 1306-3111/1308-7290

Çınar, S. (2016). Musical identities of female minstrels. *Journal of Human and Social Sciences Research, 5*(8), 3125-3143. Access address: http://www.itobiad.com/tr/download/article-file/264616

Doğuduyal, M. (2016, 9 November). Meliha Doğuduyal principal works [Personal website post]. Access address:

Doğuş Varlı, Ö. (2018). *Writing "feminine" roles in musical performances in traditional and modern lifestyles.*Ş. Ersoy Çak ve Ş. Ş. Beşiroğlu (Ed.). Women and music (pp. 47-61). Istanbul: Millennium Publications.

Dokuz Eylul University Academic Personnel Search Page. (2020, 15 March). Aysim Dogun List of Works. Access address: http://debis.deu.edu.tr/akademiktr/index.php?cat=3veakod =19980252

Duran, S. (2012). *Examination of Neveser Kökdeş songs within the scope of vocal education discipline* (Master's Thesis). Cumhuriyet University Institute of Social Sciences, Sivas.

Ece, A. S. (2006). Biographical features and educational processes of contemporary Turkish composers between 1904-2004. *Abant İzzet Baysal*

University Faculty of Education Journal, Fine Arts Special Issue, June. Access address:

Entress, M. R. (2010). Verästelungen der musikalischen zeit: Die Japanische komponistin Makiko Nishikaze [Branches of musical time: The Japanese composer Makiko Nishikaze]. *Neue Zeitschrift für Musik (1991-) [New Journal of Music (1991-)], 171*(5), 62-63. Access address: https://www.jstor.org/stable/23994107

Ertem, Ş. (2011). Repertoire selection principles for intermediate piano education. *Kastamonu Journal of Education, 19*(2), 645-652. Access address: https://dergipark.org.tr/ tr/pub/kefdergi/issue /49052/625778

Ersoy Çak, Ş., ve Beşiroğlu, Ş. Ş. (2018). *Presence of women in studies conducted in the field of musicology in Europe.* Ş. Ersoy Çak ve Ş. Ş. Beşiroğlu (Ed.). Women and music (pp. 47-61). Istanbul: Millennium Publications.

Ezgi, S. (1933). *Turkish music with theory and practice* (C. IV). Istanbul: National Journal Printing House.

Fiaschi, A. (2021). Élisabeth Jacquet de la guerre, une femme compositeur sous le règne de louis xıv by Catherine Cessac [Élisabeth Jacquet de la guerre, a woman composer under the reign of louis xıv by Catherine Cessac]. *Revue de Musicologie [Musicology Review], 83*(1), 152-154. Access address: https://www.jstor.org/stable/947044

Gedizlioğlu, Z. (2021, 12 December). Works list [Personal website post]. Access address:

Géliot, C. (2007). Compositions for voice by Mel Bonis, French woman composer, 1858–1937. *Journal of Singing, 64*(1), 47–57. Access address: https://go.gale.com/ps/i.do?id=GALE% CA172012936&sid=googleScholar&v=2.1&it=r&linkaccess=abs&issn=10867732&p=HRCA&sw=w&userGroupName=anon%7Ede95ea44

Gülün, S. (2016, 9 November). Work list [Personal website post]. Access address:

Gülün, S. (2019). *Women composers in the Republic of Turkey*. P. A. Chiti ve S. Gülün (Ed.). *Women and music in Turkey* (pp. 57-98). Istanbul: Istanbul Bilgi University Press.

Gündüz, E. (2020, 13 January). Works as a composer [Personal website post]. Access address: https://esingunduz.com/2019/01/08/list-of-original-works/

Harley, M. A., Praeder, S. M., ve Pomey, L. (2000). Chopin and women composers: Collaborations, imitations, inspirations. *The Polish Review, 45*(1), 29-50. Access address: https://www.jstor.org/stable/25779170

Hennekam, S., Bennett, D., Macarthur, S. Hope, C., ve Goh, T. (2019). An ınternational perspective on managing a career as a woman composer. *Human Resource Management, 21*(3), 4-13. Access address: https://www.

proquest.com/openview/b6dbfa4bfb9fb0c62a8ceeb5f e279a07/1? pq-origsite=gscholar&cbl=26212

Hennekam, S., Macarthur, S., Bennett, D., Hope, C. Ve Goh, T. (2020). Women composers' use of online communities of practice to build and support their careers. *Personnel Review, 49*(1), 215-230. ISSN: 0048-3486

İlyasoğlu, E. (2007). *71 Turkish composers*. Istanbul: Pan Publishing.

Kantemiroğlu, D. (2000). *Kitab'ül ilmü'l musiki ala vechü'l hurufat* (Ed. Prof. Yalçın Tura). Istanbul: Yapi Kredi Publications.

Khumalo, A. (2018). On heatwave, silence, and working as a woman composer in south africa: In conversation with Clare Loveday. *South African Music Studies, 36,* 504-517. Access address: https://www.ajol.info/index.php/samus/article/view/173524

Kızıltuğ, F. (2015). *Music conversations.* Istanbul: Akıl Fikir Publications.

Kip, T. (1995). *TRT Turkish art music oral works repertoire.* Ankara: TRT Music Department.

Koen, R. (2020, 13 January). Works [Personal website post]. Access address: https://renankoen.com/tr/muzik/

Koloğlu, D. (2019). *Women living with music.* Istanbul: Kara Plak Publications.

Kutlay, E. (2017). *Ottoman music in 100 questions.* Istanbul: Rumuz Publications.

Lindeman, C. A. (1992). Teaching about women musicians: Elementary classroom strategies. *Music Educators Journal, 78*(7), 56–59. doi: 10.2307/3398362

Lukomsky, V., ve Gubaidulina, S. (1998). 'The Eucharist in my fantasy': Interview with Sofia Gubaidulina. *Tempo,* (206), 29-35. Access address: https://www.jstor.org/stable/945505

Makal, A. (2020). Music and women in terms of gender: Women musicians and gender-based discrimination in the world and in Turkey. *Work and Society, 2*(65), 739-790. Access address: https://www.calismatoplum.org/makale/toplumsal-cinsiyet-acisindan-muzik-ve-kadin-dunyada-ve-turkiyede-kadin-muzisyenler-ve-cinsiyete-dayali-ayrimcilik

Mcandrew, S., ve Everett, M. (2014). *Symbolic versus commercial success among British female composers.* N. Crossley, S. McAndrew ve P. Widdop (Ed.), Social networks and music worlds (1. Edition) (pp. 1-36) içinde. London: Routledge.

Mcclary, S. (1993). Reshaping a discipline: Musicology and feminism in the 1990s. *Feminist study 19*(2), 399-423. Access address: https://www.jstor.org/stable/3178376

Metzelaar, H. (1990). An Unknown 18th-Century Dutch woman composer: Josina Boetzelaer (1733-1797). *Tijdschrift van de Vereniging voor Nederlandse Muziekgeschiedenis, 40*(2), 3-56. Access address: https://www.jstor.org/stable/938825

Moody, I. (2011). Monophony, polyphony and pianos. *Early Music, xxxix*(3), 441-442. Access address: https://academic.oup.com/em/articleabstract/39/3/441/537937? redirectedFrom=fulltext

Mittner, L. (2018). "Students can have a really powerful role…"- Understanding curriculum transformation within the framework of canon critique and critical pedagogy. *Journal for Research in Arts and Sports Education, 2*(2). 62- 74. doi: /10.23865/jased.v2.928

Nergiz, E. (2022). *The usability of women composers' solo piano works with the Flipped Learning Model in piano education* (Doctoral Thesis). Bursa Uludag University Institute of Educational Sciences, Bursa.

Özkişi, Z. G. (2009). *Women composers in Turkey in the context of gender: From Tanzimat to the present, women composers and their works in the Ottoman Empire and the Republic of Turkey* (Doctoral Thesis). Yıldız Technical University Institute of Social Sciences, Istanbul.

Özkişi, Z. G. (2013). The problem of women composers: Judgments on gender roles and women's creativity.. *Turkish Studies - International Periodical for The Languages, Literature and History of Turkish or Turkic Volume 8*(3), 449-470. Access address:

Özkişi, Z. G. (2018). *Judgments on gender roles in music: The problem of women composers in the context of canon, ghettoization and gender*. Ş. Ersoy Çak ve Ş. Ş. Beşiroğlu (Ed.), Women and music (pp. 63-96). Istanbul: Millennium Publications.

Phillips, L. M. (1979). *The Leipzig Conservatory: 1843-1881*. (Unpublished Thesis). Indiana University, USA.

Roma, C. (2006). *The choral music of twentieth century women composers-Elisabeth Lutyens, Elizabeth Maconchy and Thea Musgrave*. The Scarecrow Press, Inc.

Sarikaya, E. ve Özer, M. C. (2015). A reading of the woman through art, creativity and romantic period composers. *EÜ Journal of the State Turkish Music Conservatory*, (7), 97-109. Access address: https://dergipark.org.tr/en/download/article-file/747398

Sarikaya, E. (2016). *An examination of the myth of women's inadequacy in art through the work of Fanny Mendelssohn Hensel Das Jahr (The Year).* (Master's Thesis). Yaşar University Institute of Social Sciences, Izmir.

Schweitzer, C. (2004). Madame Ravissa de Turin: A forgotten woman composer of the 18th century. *Early Music, August,* 427- 440. Access address: https://www.jstor.org/stable/3519341

Masalcı Şahin, G. (2020). *Music, musical instruments and musicians in the Hittites.* Ankara: Bilgin Culture and Art Publications.

Taşan, T. (2000). *Women composers.* Istanbul: Pan Publishing.

Tonella Tüzün, L. M. (2019). Breaking of Chiquinha Gonzaga in the history of music: Inclusion of the female creative power. *Seven: Journal of Art, Design and Science, Kış* (21), 53-59. Access address: https://dergipark.org.tr/tr/download/article-file/631480

Torunoğlu, N. (2016). *Detection and analysis of the works of women composers in Turkish music from the seventeenth century to the present* (Master's Thesis). Gazi University Fine Arts Institute, Ankara.

Tunçdemir, İ. (2004, 1-4 March). *The phenomenon of women in music, creativity and composition.* Yeditepe University F.A.F. Interdisciplinary Meeting Symposium in Women's Studies, Istanbul.

Women Composers by Time Period. (2021, 29 October). Oxford music Online-Grove music online. Access address: https://www.oxfordmusiconline.com/page/women-composers-by-time-period

Yatkın, S. (2018). *Technical analysis of Sofia Gubaidulina, one of today's composers, and 'Ten Preludes for Solo Cello', which can be included in the cello curriculum in our country* (Master's Thesis). Mersin University Fine Arts Institute, Mersin.

Yazıcı, T. ve Topalak, Ş. İ. (2014). No name of female composers in the western music history. *UHBAB- International Refereed Journal of Humanities and Academic Sciences, January/ February/ March Winter Term, 3*(7), 45-56. Access address: https://www.guvenplus.com.tr/imagesbuyuk/UHBAB-7.pdf#page=50

Yıldırım, A., ve Şimşek, H. (2018). *Qualitative research methods in the social sciences.* Ankara: Seçkin Publishing.

CHAPTER 6

NAVIGATING INITIAL TEACHER EDUCATION TO A SUSTAINABLE WORLD: PROMOTING ENVIRONMENTAL AWARENESS FOR SOCIAL CHANGE

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Introduction

Obviously, the Covid-19 global pandemic has been a turning point for humanity. The value of fresh air that we breathe each moment, the trees that we see every day or the parks that we walk through each day have gained a new meaning for us. It is no surprise therefore, that the merit of sustainability consciousness has become one of the key concerns of the present day. Education systems, as an integral part of daily life, now necessitate education for sustainable development (ESD) that has the power to stimulate "competencies that enable individuals to participate in socio-political processes and hence to move their society towards sustainable development"(Barth et al., 2016). ESD addresses issues such as poverty, social injustice and environmental degradation. Environmental awareness has probably become one of the most significant issues since the pandemic as the growing concern about the subject becomes the most eye-catching phenomena (Marques & Xavier, 2020). With regard to this, the question of how educators can perform a transformative role for sustainable development through improving students' attitudes and behaviours is a pivotal question that needs to be addressed.

Most contemporary studies indicate that Higher Education Institutes (HEI) play a vital role in achieving sustainable development goals (SDG) to promote environmentally sensitive and aware citizens (Leal et al., 2019; Ferguson & Roofe, 2020; Heleta & Bagus, 2021; Kanat, 2020; Buldur & Ömeroğlu, 2021). It would not be misleading to say that teachers are prone to mirror their degree of environmental awareness in both their material design, in-class activities and lesson plans (Carroll, 2015; Marpa, 2020). For instance, according to the Ministry of National Education in Turkey, pre-service teachers, in addition to other qualifications, are expected to be citizens who are environmentally sensitive and aware of environmental issues (Ministry of National Education, 2017) as the more environmentally aware teachers we have in a country, the more environmentally sensitive the society becomes (Borreguero et al., 2020).

Considering universities as core actors of promoting environmentally conscious citizens (De Andrade, et al., 2018), this study aims to yield insight into how an environmental education module via collaborative action research project for pre-service teachers (PSTs) empower environmental sensitivity of the students both as an individual and as a citizen through an inquiry-based learning. The research questions are formulated as follows:

1. How do students' perceptions of environmental awareness evolve both individually and professionally throughout the module?

2. How does the research-engaged practice through collaborative efforts achieve work for a social change?

Environmental Awareness for a Better World: Hope of Change

> "I am the starting point of a better world. If I succeed in creating environmentally aware students this will mean that these students will be respectful to animals and other beings in this world regardless of their differences. This is a real butterfly effect"
>
> (4th grade PST11 narrative frame 22/12/2021).

As a developing field of study, environmental education has become the subject of various studies in educational sciences (Carcélen et. al, 2021; Casas et al., 2021; Şahin, & Bulut, S. 2021; Stern, Powell & Frensley, 2021). So as to provide common objectives for environmental development, the European Commissions of the 8th Environment Action Program (EAP) was called on by the European Council in 2019. In a similar vein, the 2030 agenda of the United Nations underlined the significance of environmental awareness as a crucial issue of Sustainable Development Goals (SDG) (www.unep.org) that focuses upon the role of education on environment policy. In line with the United Nations and European Council, UNESCO-UNEP (1994) stressed the need for raising environmentally sensitive students for a better world. As a part of environmental education, ESD is;

> I. Interdisciplinary and holistic: Learning for SD (Sustainable Development) embedded in the whole curriculum, not as a separate subject;
>
> II. Values-driven: sharing the values and principles underpinning sustainable development; Critical thinking and problem-solving: leading to confidence in addressing the dilemmas and challenges of SD;
>
> III. Multi-method: word, art, drama, debate, experience... different pedagogies which model the processes;
>
> IV. Participatory decision-making: learners participate in decisions on how they are to learn;
>
> V. Applicability: learning experiences are integrated in day to day personal and professional life;
>
> VI. Locally relevant: addressing local as well as global issues, and using the language(s) which learners most commonly use. (UNESCO 2006, pp. 4-5)

EE is expected to raise learners who both develop personal and civic responsibility in line with the necessary skills (The National American Association for Environmental Education,1999). According to the Tbilisi Definition of EE: "Environmental Education (EE) is a learning process that increases people's knowledge and awareness about the environment and associated challenges, develops the necessary skills and expertise to address the challenges, and fosters attitudes, motivations, and commitments

to make informed decisions and take responsible action"(www.thegeep.org).

Furthermore, taking action is the key word of this collaborative action research project as practitioner research is naturally close to Communities of Practice (COP) that calls for social learning (Banegas, et al.; 2022; Posada-Ortiz & Castañeda-Peña, 2021; Spelt, 2021; Orsini-Jones et al., (in press)). Eckert & McConnell-Ginet express that COP refers to;

> An aggregate of people who come together around mutual engagement in an endeavor. Ways of doing things, ways of talking, beliefs, values, power relations – in short, practices – emerge in the course of this mutual endeavor. As a social construct, a COP is different from the traditional community, primarily because it is defined simultaneously by its membership and by the practice in which that membership engages.(1992, p.464)

As a part of social theory of learning (Lave & Wenger 1991), COP calls for social processes that encourage "mutual engagement, a jointly negotiated enterprise and a shared repertoire of negotiable resources accumulated over time"(Wenger,1998: p.76). Fostering critical thinking skills, practitioner inquiry and COP are transformative agents that can facilitate change in pre-service teachers' beliefs, practices and attitudes (Herbers et al., 2011) about environmental issues. The transformative power of PD approaches promotes agency and autonomy of the teachers through inquiry (Kennedy, 2014) and action research, via collaborative and reflective practices, can be used as a practical tool for the researchers for assisting teachers to become agents of change (Banegas, et. al, 2022; Dogan & Kırkgoz, 2022; Martínez, 2022; Ugalingan et al., 2022). In line with these, this study employs collaborative action research (CAR) as a change agent to augment environmental awareness of the pre-service teachers through inquiry-based learning.

Methodology

Research Design

The present study has been designed under collaborative action research method as a variant of practitioner inquiry. As a PD model, practitioner research can be regarded as an effective tool for the present study for it supports collaborative and reflective actions of student's learning (Darling-Hammond & McLaughlin 1995). From a constructivist stance, the objective of this research is to explore how 4th grade pre-service teachers develop insights of environmental awareness and how the research-engaged practice through collaborative efforts attain to work for a social change. As "an inquiry by the self into the self, undertaken in company with others acting as research participants

and critical learning partners" (p. 12) action research method was used to obtain the information through a cyclical process that depends upon reflective inquiries (Burns, 1999). The cyclical process of action research design (Kemmis & McTaggart, 1988, p.10) yields a better and deeper understanding of how the course module altered pre-service-teachers' perceptions of environmental awareness and sensitivity and how their perceptions altered their understanding of their professional identity. In this study, CAR serves as an effective mechanism to highlight pre-service teachers' revolving around action and reflection.

Study Context and Participants

The participants of the action research project were the prospective teachers of the English language teacher education program at a state university in Turkey and the study was conducted during the 2021-2022 fall academic year. A special module was designed under the supervision of the researcher, within the scope of the elected course Developing Course Content in English Language Teaching prepared by the Higher Education Council. Both the instructor and the students were participants in the study. The study group consisted of 30 ELT pre-service teachers (17 females and 13 males) who were final year students of a four-year program and the participants' age varied from 22 to 28 years. The supervisor has been an instructor at the same university's ELT department for 15 years. In addition to the collaborative action, 6 participants (2 females and 4 males) volunteered to participate in focus group interviews. None of the students had ever done any kind of collaborative action research project on environmental awareness before, nor had they studied environmental awareness in their courses. The participants were informed about the focus and the intention of the module and they confirmed that they understood the CAR project. Students were also informed that participation in the study would not affect their grading. Depending upon a culturally relevant pedagogy (Ladson-Billings, 2013), the students were free to choose their group members for the poster presentations. Students in groups were given the opportunity to choose the subject of their poster presentations related to environmental issues that reflected their cultural reflections as well as personal opinions. Even the students who were not active participants of the course, those who were usually quiet in class, eagerly participated in the poster presentations and tree planting. To ensure anonymity, the participants signed the consent forms and the names of the participants in the study are reflected in numbers as PST for narrative frame excerpts and FG for focus group excerpts.

Procedure

For the present study, the elected course Developing Course Content in English Language Teaching during the 2021-2022 academic year, fall term

was chosen for the environmental education / awareness module. In the first 9 weeks of the course, the supervisor focused upon selecting and developing teaching / learning material. While focusing upon the use of materials in ELT, throughout the semester the supervisor also integrated the social responsibilities of teachers into the course content. For the environmental awareness module, that took place at the end of the semester, action research was chosen to promote pre-service teachers' personal practical theories (Golombek, 1998). Action research offered a more effective learning as the participants, through reflective inquiry, had the chance of conducting their own reflective practices (Burns, 2005). The systematic process encapsulates the following stages:

> - develop a plan of critically informed action to improve what is already happening
> - act to implement the plan
> - observe the effects of the critically informed action in the context in which it occurs
> - reflect on these effects as the basis for further planning, subsequent critically informed action and so on, through a succession of stages. (Kemmis & McTaggart, 1988, p.10)

At each step, the pre-service teachers were given clear guidelines and the supervisor instructed them on how to conduct the systematic steps of action research. In all phases of the collaborative action research project, the pre-service teachers were able to consult the supervisor. They also received peer support throughout the process. It should be noted that all the participants joined the activities with their consent.

During the first two weeks, a special module for environmental education was prepared and presented interactively by the researcher. This was to promote environmental awareness among the pre-service teachers and included knowledge and understanding of the environment and its problems. In the third week, the students were asked to prepare poster presentations about environmental awareness and they presented them to the 2nd class students of the ELT department. In the fourth week of the project, a tree planting day was organized and after the poster presentations they planted trees and flowers around the campus. During the final week of the module, the participants were given narrative frames and a focus-group interview, comprising 6 students, was carried out.

Data Collection

The special module was conducted during the participants' last 5-weeks of the selected course. Two different methods were used to collect data including narrative frames, in order to explore the experiences of the participants, (Barkhuzen &Wette, 2007; Clandinin & Connely, 2000;

Johnson & Golombek, 2002) and focus group interview for in-depth analysis (Anderson, 1990).

Narrative Frames

In this qualitative research, the prime data source was a narrative frame that was used to understand how the students' perceptions of environmental awareness evolve individually and professionally. As such, narrative frames as a data collection tool is well suited to this type of research as through narrative frames, the participants shared their lived experiences as they were the centre of narrative research activity (Connely & Clandinin 1990; Pavlenko, 2002). Depending upon John Dewey's two criteria of narrative view, narrative inquiry endorses the idea that individuals are always in relations, always in a social context"(Clandinin & Connelly, 2000, p.2). In the Narrative Frame Prompt, the participants were also asked to draw a picture of an "environmentally sensitive / aware teacher" if they liked (see Appendix). The CAR that is used in the current study is empowered by narrative frames as a data collection tool.

Focus Group Interview

At the end of the module, a focus-group interview was held, which was the secondary data source, with 6 pre-service teachers on a specific topic who participated voluntarily. They were guided to reflect on their experiences, before and after the CAR and each interview lasted 15-20 minutes in Turkish (see appendix). In this study, the focus group interview provided "a more natural environment than that of an individual interview because participants are influenced by others- just as they are in real life"(Casey & Krueger, 2000, p.11).

Data Analysis

The qualitative data procreated through the special module designed for empowering environmental sensitivity of pre-service teachers were analyzed. To analyze, identify and report the themes, an approach to thematic analysis, as characterized by Braun and Clarke (2006) was followed. In the first step of the systematic analysis of the data, the narrative frames were read in depth to shed light onto the participants' reflections. The researcher first familiarized herself with the data, then generated the initial codes and finally searched for themes. After the researcher had reviewed the themes, at the final step, she defined and named them. While transcribing the data, all meaningful bodies of language were used for making sense of the students' narratives. As a result of the extraction of the initial codes, several interim themes were developed depending upon the similarity and frequency of occurrence. The further comparison of

the initial codes resulted in developing and naming the final themes and subthemes that emerged from the thematic analysis of the reflections. To ensure validity and reliability of the study, a co-researcher from the same ELT department, working for 25 years as an instructor, coded the same dataset independently. Three regular meetings were conducted with the co-researcher. As a result of analyzing the data independently, we did not observe any meaningful changes in the themes and subthemes. Any discrepancies were discussed and in the case of inconsistency, we re-read the data more carefully and designated the relevant code (Joffe, 2012). Consensus was reached on two overarching and three sub-themes.

Findings

As a result of analyzing the qualitative data, two overarching themes with their sub-themes emerged displaying the participants' perceptions of the topics focused in their written reflections and interviews. Some significant issues emerged which may function as an inspiration for further research.

1. The (Re)Construction of Professional Identity

The first theme that emerged in the qualitative data was the (re) construction of the professional identities of pre-service teachers. Almost all of the participants agreed that the implementation of the environmental awareness module (EEM) encouraged them to (re)construct their professional identities. They frequently expressed that the role of the language educator should not be limited to teaching grammar. As illustrated by PST10, 'I begin to support the idea that we shouldn't teach them just English grammar, we should talk about these issues besides the topics in lessons.' Likewise, FG22 expressed how the special module helped her to re(construct) her professional identity, 'Environmental Education module enabled me to realize that as teachers we should be aware of all aspects that impact our classroom. We simply do not have the luxury to teach a lesson and leave. Our conditions change from day to day. To be an effective teacher, environmental awareness is essential. My job is not only teaching English. I need to help my students to become environmentally aware.' After the module, most of the participants considered their professional identity as a social responsibility that surpasses the borders of teaching four skills, as PST14 mentioned, 'I think, next year I will need to create ideas in children's minds in lessons. I mean I would better prepare myself for global issues. My job will not only be teaching English to them, but also I need to encourage them to think more seriously about environmental awareness in addition to lessons and life issues.' Another participant PST15 notes, 'The module was an example for me to interpret

my professional identity from a different perspective. While making the poster presentations I felt myself as a professional who can change anything in this world. My profession is very precious and special just like the trees I planted.' The answers display that the participants gained an awareness of their professional identity through the special module. The following excerpts can be read in support of the findings FG4, PST7:

> I realise that for me, my role as a teacher will be to let the students know the disastrous consequences of harming the environment. I consider this as an important role because I have the power to alter the minds of future generations as now I have the necessary knowledge for protecting the environment.
>
> I found out that we can teach our students to reduce waste, how to use resources and the importance of recycling materials. This can be done while teaching English. For a better world we have to surpass the borders of teaching and the definition of a teacher.

The participants frequently described the idea that the environmental education module assisted them to (re)construct their professional identities as teachers. Likewise, the majority of them agreed that the identity of a teacher is so powerful that it has the potential to affect the transformation of society.

The Power of Environmentally Minded Teachers for the Transformation of Society

From the qualitative data, the power of environmentally minded teachers for the transformation of society emerged as the first sub-theme. The majority pointed out that their practices during the module helped them to (re)construct their professional identity that is interpreted as an immense power for the transformation of society. After the module PST11 expressed how she realized her professional identity as a powerful agent, 'The module let me realise my professional power. Now I can affirm that teachers are the main components of environmental awareness in a country. In order to train individuals or citizens who are responsible for their society, we need teachers. Hence, environmental awareness can only be achieved via teachers.' Another participant, PST17 also highlighted the professional power of teachers for changing society, 'I understood that raising environmentally aware students means changing society. We can also add the families to the activities to change society.' The participants considered the social responsibility of teachers as a practical tool to promote an environmentally sensitive society as a whole. They frequently defined their professional identities as a power to create change in the society. As PST8, FG3, PST13 mentioned:

> -Environmentally sensitive students means environmentally sensitive families and society.
>
> -When I teach my students to be environmentally sensitive, it will spread among their families and friends.
>
> -By teaching environmental awareness to my students, they will in turn educate family, friends, and society as a whole.

During the interview FG6 indicated, 'While working together I found out how powerful we are, we can change society all together as teachers. I am proud of my job." PST29 also mentioned, 'While planting the trees I felt as if I were making the whole world green. I felt quite powerful and began to view my profession differently. I am no longer hopeless. We CAN CHANGE THE WORLD.' In their overall evaluations, the participants expressed that gaining environmental awareness as a pre-service teacher will change society positively through a butterfly effect. They frequently linked this with their professional identity as a power agent as they identified 'the teacher' as a starting point who will positively affect the students, then their relatives and the social milieu of the family members that will result in the transformation of society as a whole. In a similar fashion, PST2 AND PST15 commented:

> My environmental awareness will create a butterfly effect for society. Teacher-student-families-relatives-friends-society. Now, I can realise my power, and should take an action. I
>
> I can see If teachers make their students aware of the environmental issues, society develops as a whole over time.

It can be asserted that the participants interpreted environmentally aware teachers as change agents for a better world.

The Integration of Environmental Education (EE) into EFL Classes

The second sub-theme that emerged from the first overarching theme was the integration of EE into EFL classes. The significant point is the fact that most of the participants reported that the EE should be integrated into EFL classes on condition that the teachers are socially responsible teachers (SRT). In line with this, they associate the SRT with an approach to citizenship as they frequently underlined the role of the SRT to promote socially responsible citizens. As PST17 mentioned, 'The module let me realise how easy it is to promote environmentally sensitive students because I had not thought that it was in the hands of the teacher. After the module, I decided to alter my lesson plans to raise environmentally sensitive students. Next year, this will be my turn.' Other participants, PST6 and PST29 reported that raising socially responsible citizens are the main components of the professional responsibility of teachers:

> Observing the module, as an EFL teacher I believe that environmental education should be included in the courses. As teachers we should be more up to date. Since we are capable of changing the student's views, we should focus upon promoting that kind of awareness otherwise I would prefer to use robots in class not teachers. I need to take action for better citizens.

> We are the ones who will raise future generations and the more awareness we create, the better for our world. The module helped me to feel responsible as I need to help my students to gain that awareness too. My students will also be the part of society as citizens and they will have an important role in the future, so giving them awareness is my vital role.

In addition, as mentioned by PST18, 'To me, my role as a teacher is to let the students know the consequences of harming the environment. Now I consider it as a role because working together encouraged me to have the power to change the thinking of future generations, if I can succeed in becoming a socially responsible teacher first. It is quite important to have environmental awareness as a pre-service teacher in order to train responsible citizens.' Another participant explained; 'Poster presentation and planting the trees with my friends encouraged me to see how important it is to be globally aware. I should take into account my responsibility for future generations.'(FG23)

The majority of the PST's underlined that the knowledge they gained from the course inspired them to create ways to integrate environmental education into EFL classes. As PST14 commented, 'Environmental education should be integrated into EFL classes. We can organize rubbish collecting days while teaching vocabulary of the specific terms, putting recycling bins in classrooms and informing students what is rubbish and what can be recycled. Conversation clubs and listening activities are suitable in EFL classes for promoting environmental awareness.' Most of the participants underlined that EE should be integrated into EFL classes; however, the thematic analysis of the qualitative data indicates that the participants' emphasized the need of socially responsible teachers for promoting environmentally sensitive citizens. They frequently expressed that changing society can only be achieved by socially responsible teachers and teaching. The frequency of the phrases:

> "on condition that…"(PST7-13-22-30)
>
> "so that…"(PST3-8-11-27)
>
> "If…."(PST20-28)
>
> "..should be"(PST1-12-17-26)
>
> "…tolerate others"(PST24)

indicates that the pre-service teachers believed environmentally sensitive citizens can only be achieved if the teachers themselves acquired

environmental awareness in order to become environmentally sensitive citizens.

2. The Connection Between Environmental Sensitivity and Openness to Diversity

The analysis of the data revealed that the second overarching theme was environmental sensitivity as a peace agent. The participants indicated that the special module, through reflecting their own teaching practices, inspired them to define environmental sensitivity as a peace agent. The frequencies of the phrases written by the students indicate that they created a bond between environmental sensitivity and tolerance and respect towards differences and other beings such as animals and children:

PST1: "respect towards children and animals"

PST7: "tolerance towards different cultures"

PST9: "caring for animals and children"

PST25: "accepting differences"

FG6: "being respectful to others"

Another participant drew a picture of an environmentally aware teacher and wrote PST22, 'All cultures are accepted. We must be sensitive to everybody's choices.'

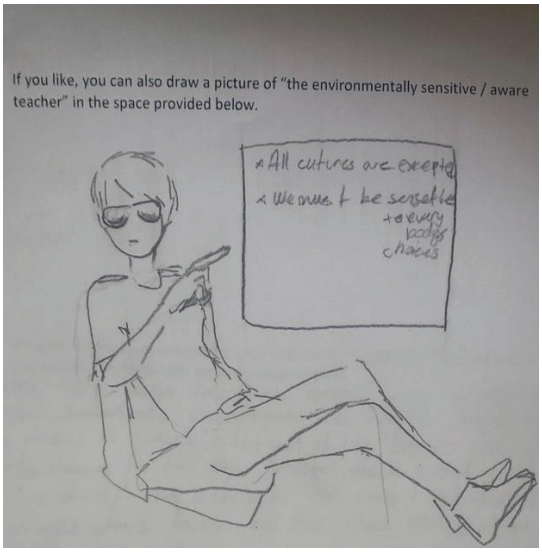

Figure 1. Narrative Frame Prompt: *"If you like, you can also draw a picture of "environmentally sensitive / aware teacher" in the space below.*

The majority of the participants agreed that developing environmental sensitivity as prospective teachers lead them to create a bond between

environmental sensitivity and sensitivity towards all other beings in this world. The data analyzed highlighted that the pre-service teachers' perceptions of an environmentally sensitive citizen is an individual who is tolerant of differences, respectful to the rights of animals, children and other beings on this planet in addition to being respectful to the ecological system. They expressed that their perception of environmental sensitivity can lead to a "butterfly effect" (PST2 / PST11/ FG3 / PST15) for society. The data analyzed revealed that students' own reflections made them optimistic about the future. They noted how they were impressed by realizing environmental sensitivity as a peace agent gained through environmental education. They expressed that this kind of sensitivity can foster the creation of a better world. This can be exemplified by the following excerpts:

> PST12: To me, environmental awareness means individual awareness first. They should be respectful of other people's ideas, listen and care about their ideas. For example, the person who has environmental awareness can tolerate other people's ideas and everything around him/her.

> PST16: If I can raise an environmentally sensitive and aware student this will mean that this student will respect other cultures and differences too. I think our role is bigger than most of us realize.

The pre-service teachers defined environmental awareness as an essential component of diversity in social life, as PST25 expressed, 'We have a responsibility to society and an environmentally aware student will be an open-minded, respectful and tolerant citizen.' The participants regarded environmentally sensitive individuals as an essential component of diversity. They frequently expressed that 'tolerance' and 'respect' towards others begin with respecting nature. PST1 illustrates, 'If I raise environmentally sensitive students, this will mean that I will raise citizens who will be sensitive to all human beings and different cultures.' Echoing his peers PST11 said:

> I am the starting point of a better world. If I succeed in creating environmentally aware students, this will mean that these students will be respectful towards animals and other beings in this world regardless of their differences. This is a real butterfly effect. We are the ones who will change society through environmentally aware students.

During the interview one of the participants said, 'I planted trees and made poster presentations with my friends. We worked peacefully and respected each other. My observation helped me to think that a person who respects the ecological system is probably an empath. This is a great gift for a teacher.' The majority of the participants described environmentally

awareness, therefore sensitive individuals as peace agents for a better world.

Discussion and Conclusion

Following the Covid-19 pandemic, environmental issues and environmental education have become the focus of researchers (Doğan, F., & Keleş, Y.,2020; Kadıoğlu & Öner , 2020; Luna-Krauletz, et al., 2021; Ongon, S., Wongchantra, P., & Bunnaen, W.,2021; Şahin & Bulut, 2021; Stern, Powell & Frensley, 2021). Because, while environmental problems continue to proliferate during the pandemic, the increasing importance of teachers for sustainability has gained attention. Similarly, the contemporary issues in teacher education training encourage the researchers to question the role of teachers as "the education profession [has] a responsibility in promoting peace, justice, and an active concern for the world's problems"(Cates, 2002, p. 43). The socially responsible teacher (SRT) therefore has the power to develop students' understanding of the world they live in through promoting the necessary competencies that can foster their abilities of assisting sustainable development. In relation, global issues in language education (GILE) aims to promote "…the knowledge, attitudes and skills relevant to living responsibly in a multicultural, interdependent world" (Fisher & Hicks 1985, p.8). GILE encapsulates different topics such as; poverty, human rights, sustainable development, peace, etc. (Cates, 1990, p.41). Environmental education is one of the issues of (GILE) as it creates a bridge among global issues, "real-world pedagogies"(Leal Filho et al., 2016), and language teaching. With this in mind, this study aims to explore how an environmental awareness module, via engaging in practitioner research, could assist the development of environmental awareness of pre-service ELT teachers and their perceptions of their professional identity.

The findings of the study indicated that the special module designed for environmental education supported the participants' perceptions of environmental awareness and their professional identity in two ways. The data analyzed revealed the first overarching theme that was "the (re) construction of the professional identity." It can be assumed that "from the Vygostkian perspective, the overall aim of a teacher education program is best conceived as the development of professional identity"(Huizen, Van Oers & Wubbels, 2005, p.275). Therefore, the development of professional identity of pre-service teachers can be regarded as a pivotal aim in teacher education (Connelly & Clandinin, 1999; Beauchamp & Thomas, 2009; Aisyah & Wicaksono, 2018). According to Rodgers & Scott, 2008:

> ……. contemporary conceptions of identity share four basic assumptions (1) that identity is dependent upon and formed within multiple contexts

> which bring social, cultural, political, and historical forces to bear upon that formation; (2) that identity is formed in relationship with others and involves emotions; (3) that identity is shifting, unstable, and multiple; and, (4) that identity involves the construction and reconstruction of meaning through stories over time. Embedded in these assumptions is an implicit charge: that teachers should work towards an awareness of their identity and the contexts, relationships, and emotions that shape them, and (re) claim the authority of their own voice. This calls upon teachers to make a psychological shift in how they think about themselves as teachers. (p.733)

In relation, professional identity can be defined as a dynamic, never ending, constantly in the process of becoming an element of the teaching profession and "[m]ost of the researchers saw professional identity as an ongoing process of integration of the 'personal' and the 'professional' sides of becoming and being a teacher"(Beijaard, Meijer, & Verloop, 2004, p.113). According to Korthagen (2004), during the process of teaching, the professional identity of teachers affects the way they behave in classes - including their teacher identity, the methods or the materials they prefer to use that gives shape to curriculum design in general (Mockler, 2011). Therefore, professional identity can be regarded as a "resource that people use to explain, justify, and make sense of themselves in relation to others, and to the world at large" (MacLure, 1993, p. 311).

The findings of the study indicated that the majority of the participants (re)constructed their professional identities after the practitioner inquiry. The pre-service teachers agreed that the implementation of the environmental awareness module through reflective and collaborative efforts, enabled them to redefine and imagine the role of the language educator. As "there is an interconnection between teachers' professional identities and their sense of agency"(Teng, 2017, p.119) the reflective practices assisted them to (re)construct their professional identity. As emphasized by Beauchamp, C., & Thomas, L.:

> Two points of possible intervention in their development as teachers enabled them to transform this student identity into a professional identity as teachers. The first point is within the teacher education programme, when there are opportunities for anticipatory reflection and the imagining of a future life as a teacher. The second point comes during initial practice when further reflection and imaginings are possible, this time within
>
> the influence of the school context.(2006, p.10)

They frequently underlined that the role of the language educator should not be limited to teaching a foreign language. That is the reason why they redefined their professional identity as a social responsibility

that has the potential to change the views of society. The analysis of the data revealed that their personal self-images as future teachers and their assessment of the teaching profession have been transformed.

The majority of the participants stated that the poster presentations and tree planting day made them feel strong as they began to interpret their professional identity as a powerful agent that has the potential to change society. "Through engagement with others in cultural practice" (Smagorinsky et al, 2004, p.21) The emotions of the participants affected the (re)construction of their professional identity through "social relationships"(Britzman,1992, p.252). The majority of the pre-service teachers asserted that during the CAR, they had the chance of interpreting their profession as a social responsibility that illuminates "…a need for teachers' own social perspectives to be explored and the need for teachers to engage actively as participants in social and civic responsibilities"(Grinberg, 2002, p.1430). "Becoming a teacher involves, in essence, the (trans)formation of the teacher identity"(Flores, 2006, p.220) and the data analyzed revealed that the pre-service teachers' development of their professional identity encouraged them to take action for the transformation of society.

Similarly, the first sub-theme of the first overarching theme was "the power of environmentally-minded teachers for the transformation of society." The findings of the study revealed that the practitioner research model used in the study that called for a collaborative and reflective process (Darling-Hammond & McLaughlin, 1995), encouraged the participants' perceptions of understanding the significance of a socially responsible teacher. The data analyzed highlighted that the active participation of the pre-service teachers during the module helped them to consider SRT as a tool that can create a bond between educational and social goals. The participants frequently expressed that environmentally-aware teachers are an immense power for the transformation of society. "As Morris Mitchell wrote "A teacher teaches who she is." In other words, since a teacher teaches from herself, self-awareness is an ethical necessity. It is also the source of her power"(Rodgers & Scott, 2008, p.744). It can be suggested that the majority of the pre-service teachers pointed out that environmental education helped them to develop a kind of social awareness that could change society through promoting environmentally sensitive students / citizens. Many indicated that once the teachers become globally aware the society begins to change completely. As a result, defining their professional identity as a 'power' inspired them to interpret their role in society from a different perspective that would lead them to alter their teaching habits.

Correspondingly, the second sub-theme that emerged from the first overarching theme was “the integration of environmental education (EE) into EFL classes. As mentioned by Cates (2002), focusing upon global issues in language education (GILE) “…aims to enable students to effectively acquire a foreign language while empowering them with the knowledge, skills, and commitment required by world citizens to solve global problems” (p. 41). The data analysis revealed that the majority of the participants frequently underlined the phrase “citizens” that referred to the significance of an approach to citizenship that could be developed only by socially responsible teachers. The participants indicated that promoting environmentally awareness, thus creating sensitive citizens could only be achieved through environmentally aware teachers. Teachers “have influence over cognitive, affective and moral development, and thereby play a significant role in young people’s education in an international world”(Byram, Morgan, & Colleagues, 1994, p.39) and the pre-service teachers defined the teacher as a professional identity who could play a vital role in promoting environmentally sensitive citizens for the transformation of society. They underlined that the integration of environmental education into EFL classes is very significant however, they believed that this could only be achieved through socially responsible teachers (SRT). The frequency of the phrases displayed by the practitioner research model inspired them to integrate environmental education into their classes through different materials and approaches they covered throughout the semester but they identified the SRT as a must for this. The data indicated that the participants interpreted global education in EFL classes “as efforts to bring about changes in the content, methods and social context of education in order to better prepare students for citizenship in a global age” (Kniep, 1985, p.15)

The second overarching theme that came out from the qualitative data was “the connection between environmental sensitivity and openness to diversity. “Diversity is any dimension that can be used to differentiate groups and people from one another. In a nutshell, it’s about empowering people by respecting and appreciating what makes them different, in terms of age, gender, ethnicity, religion, disability, sexual orientation, education, and national origin” (www.globaldiversity.com). Most of the participants defined environmental sensitivity as a competency that could help them to navigate diverse contexts. They mentioned that environmental sensitivity could act as a peace agent as they defined an environmentally aware citizen as an individual who could respect children, animals or differences among human beings. They defined that kind of sensitivity as a catalyst for promoting tolerance for differences in society. The data revealed that the participants interpreted environmentally sensitive individuals as an

essential component of diversity and their understanding of environmental awareness is linked with openness to diversity.

It can be assumed that collaborative learning especially influenced the participants' openness to diversity. The collaborative activities used in the current study, poster presentation and tree planting day, encouraged the pre-service teachers to face the diversity of different perspectives of the other participants. (Piaget, 1950; Vygotsky, 1978). The confrontation of different perspectives helped them to "rehearse and restructure information to retain it in memory and incorporate it into existing cognitive structures" (Johnson & Johnson, 2002, p. 120).

In such a global world, pre-service teacher education cannot be limited within the borders of rule-governed approaches and techniques. Society needs socially responsible teachers who are aware of the problems in the world (Arıkan, 2009) and who have the capacity to call for change. Given the significance of environmental sensitivity this study can be an exemplary model for teacher education programs to promote environmental awareness of pre-service language teachers. As these findings suggest, the reflective processes and collaborative efforts can promote mutual understanding, openness to diversity and development of professional identity.

Appendix (Narrative Frame Prompts)

Your story / Part I

After the environmental awareness module environmental awareness means to me both as an individual and a prospective EFL teacher……

This is because…..

Your story / Part II

The environmental awareness module helped me to define my role as an EFL teacher in certain ways such as;…

Your story/ Part 3

As a pre-service teacher, the collaborative action research encouraged me to become aware of….

Your story/ Part 4

My role as an EFL teacher in developing environmental awareness in my students and the society on the whole is…..

Your story/ Part 5

I think integrating environmental awareness into EFL classes..…... This is because…The issues I can touch upon in my classes are… For example,…..This is the end of my story.

Your story/ Part 6

If you wish, please tell me another story about your experiences in Developing Course Content

Course in relation with your personal developments in environmental awareness and sensitivity…

Your story/ Part 7

If you like, you can also draw a picture of "the environmentally sensitive / aware teacher" in the space provided below.

Focus Group Interview Question

Could you please reflect your experiences about the environmental awareness module?

REFERENCES

Aisyah, A., & Wicaksono, B. H. (2018). Pre-Service Teachers' Belief on Professional Development: A study on ESP Teacher. Celtic: A Journal of Culture, English Language Teaching, Literature and Linguistics, 5(2), 8-17. Retrieved from www.scholar.google.com (last accessed 23.01.2022)

Anderson, G. (1990). Fundamentals of educational research. The Falmer Press.

Arıkan, A. (2009). Environmental peace education in foreign language learners' English grammar l essons. Journal of Peace Education, 6(1), 87-99. https://doi.org/10.1080/17400200802655064

Barth, M., Michelsen, G., Rieckmann, M., Thomas, I., (2016). Introduction. In: Barth, M., Michelsen, G., Rieckmann, M., Thomas, I. (Eds.), Routledge Handbook of Higher Education for Sustainable Development (1-7). Routledge.

Banegas, D. L., Bullock, D., Kiely, R., Kuchah, K., Padwad, A., Smith, R., & Wedell, M. (2022). Decentring ELT: teacher associations as agents of change. ELT Journal, 76(1), 69-76. https://doi.org/10.1093/elt/ccab090

Beauchamp, C., & Thomas, L. (2006 July). Imagination and reflection in teacher education: The development of professional identity from student teaching to beginning practice. In Conference Proceedings from the 4th International Conference on Education and Imagination, (12-15).

Borreguero, M. G., Jiménez, M. J., Nunéz, M., Naranjo-Correa, F. L. (2020). Analysis of environmental awareness, emotions and level of self-efficacy of teachers in training within the framework of waste for the achievement of sustainable development. Sustainability, 12(6), 2563.https://doi.org/10.3390/su12062563

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. Qualitative research in psychology, 3(2), 77-10. https://doi.org/10.1191/1478088706qp063oa

Britzman, D. P. (1992). Structures of Feeling in Curriculum and Teaching. Theory Into Practice, 31(3), 252– 258. http://www.jstor.org/stable/1477111

Buldur, A., & Ömeroğlu, E. (2021). Çoklu ortamlar ile desteklenen çevre eğitim programının çocukların çevreye yönelik tutum ve farkındalıklarına etkisinin incelenmesi. Hacettepe Üniversitesi Eğitim Fakültesi Dergisi, 36(2), 239-251.

https://doi.org/10.16986/HUJE.2019056335

Burns, A. (2005). Action research: An evolving paradigm?. Language teaching, 38(2), 57-74.

https://doi.org/10.1017/S0261444805002661

Burns, A. (1999). Collaborative action research for English language teachers. Cambridge University Press.

Byram, M., Morgan, C., & Colleagues (1994).Teaching-and-learning language-and-culture. Multilingual Matters.

Carcelén, P. A. Monzonís, C., Martín, R., Méndez, G. (2021). Promotion of Environmental Education in the Spanish Compulsory Education Curriculum. A Normative Analysis and Review. Sustainability, (13)5, 2469. https://doi.org/10.3390/su13052469

Casas Jr, E. V., Pormon, M. M., Manus, J. J., & Lejano, R. P. (2021). Relationality and resilience: Environmental education in a time of pandemic and climate crisis. The Journal of Environmental Education, 52(5), 314-324. https://doi.org/10.1080/00958964.2021.1981205

Connelly, F. M., & Clandinin, D. J. (1990). Stories of experience and narrative inquiry. Educational researcher, 19(5), 2-14. Retrieved from https://www.jstor.org/stable/1176100 (accessed 12.11.2021)

Clandinin, D. J., & Connelly, F. M. (1999). Storying and restorying ourselves: Narrative and reflection. In Chen, A.Y. & Maanen, J.V.(Eds), The reflective spin: Case studies of teachers in higher education transforming action (pp. 15-23). World Scientific.

Clandinin, D. J., & Connelly, M. F. (2000). Narrative Inquiry. Jossey-Bass.

Cates, K. (1990). Teaching for a better world: Global issues and language education. The Language Teacher, 14(5), 3-5. Retrieved from https://www.hurights.or.jp/archives/pdf/asia-s-ed/v05/06cates.pdf (accessed 20.01.2022)

Cates, K. A. (2002). Teaching for a better world: Global issues and language education. Human Rights Education in Asian Schools, 5, 41-52. Retrieved from www.scholar.google.com (accessed 03.12.2021)

Carroll, K. N., (2015). Mississippi Teachers' Environmental Awareness and Usage of the Project Learning Tree Curriculum within Traditional Classrooms. Theses and Dissertations. 3117. Retrieved from https://scholarsjunction.msstate.edu/td/3117 (accessed 27.01.2022)

Casas Jr, E. V., Pormon, M. M., Manus, J. J., & Lejano, R. P. (2021). Relationality and resilience: Environmental education in a time of pandemic and climate crisis. The Journal of Environmental Education, 52(5), 314-324. https://doi.org/10.1080/00958964.2021.1981205

Casey, M.A. & Kueger, R.A. (2000). Focus groups: A practical guide for applied research. (3rd ed.). Sage.

Connelly, F. M., & Clandinin, D. J. (1990). Stories of Experience and Narrative Inquiry. Educational Researcher, 19(5), 2–14. https://doi.org/10.2307/1176100

Council of the European Union. The 8th Environment Action Programme—Turning the Trends Together; Council of the European Union: Brussels, Belgium, 2019.

Darling-Hammond, L., & McLaughlin, M. W. (1995). Policies that support professional development in an era of reform. Phi delta kappan, 76(8), 597-604. Retrieved from www.scholar.google.com (accessed 14.09.2021)

De Andrade, J. B. S. O., Garcia, J., de Andrade Lima, M., Barbosa, S. B., Heerdt, M. L., & Berchin, I. I. (2018). A proposal of a Balanced Scorecard for an environmental education program at universities. Journal of Cleaner Production, 172, 1674-1690.

https://doi.org/10.1016/j.jclepro.2016.11.179

Dewey, J. (1916). Democracy and education: An introduction to the philosophy of education. MacMillan.

Dogan, C., & Kirkgoz, Y. (2022). Promoting Continuous Professional Development of English Teachers Through Action Research. International Journal of Educational Reform, 1-32.

https://doi.org/10.1177/10567879211062224

Doğan, F., & Keleş, Y. (2020). Ortaokul ve Lise Öğrencilerinde Çevre Farkındalığı ve Çevre Davranışı. Necmettin Erbakan Üniversitesi Ereğli Eğitim Fakültesi Dergisi, 2(1), 80-90. Retrieved from www.scholar.google.com (accessed 09.12.2021)

Eckert, P., & McConnell-Ginet, S. (1992). Think Practically and Look Locally: Language and Gender as Community- Based Practice. Annual Review of Anthropology, 21, 461–490. Retrieved from http://www.jstor.org/stable/2155996

Ferguson, T. & Roofe, C.G. (2020). SDG 4 in higher education: challenges and opportunities. International Journal of Sustainability in Higher Education, 21 (5), 959-975.

https://doi.org/10.1108/IJSHE-12-2019-0353

Fisher, S., & Hicks, D. (1985). World studies, 8-13: A teacher's handbook. Oliver & Boyd.

Flores, M. A., & Day, C. (2006). Contexts which shape and reshape new teachers' identities: A multi- perspective study. Teaching and teacher education, 22(2), 219-232.

https://doi.org/10.1016/j.tate.2005.09.002

Grinberg, J. (2002). " I Had Never Been Exposed to Teaching Like That": Progressive Teacher Education at Bank Street During the 1930's. Teachers College Record, 104(7), 1422- 1460. Retrieved from www.scholar.google.com (accessed 15.10.2021)

Golombek, P. (1998). A study of language teachers' personal practical knowledge. TESOL Quarterly, 32(3), 447–464. Retrieved from: www.scholar.google.com (accessed 02.10.2021)

Heleta, S., & Bagus, T. (2021). Sustainable development goals and higher education: leaving many behind. Higher Education, 81(1), 163-177. https://doi.org/10.1007/s10734-020-00573-8

Herbers, M. S., Antelo, A., Ettling, D., & Buck, M. A. (2011). Improving teaching through a community of practice. Journal of Transformative Education, 9(2), 89–108.

https://doi.org/10.1177/1541344611430688

Huizen, V.P., Van Oers, B., & Wubbels, T. (2005). A Vygotskian perspective on teacher education. Journal of curriculum studies, 37(3), 267-290.

https://doi.org/10.1080/0022027042000328468

Joffe, H. 2012. Thematic Analysis. In D. Harper and A. Thompson, (Eds.). Qualitative Research Methods in Mental Health and Psychotherapy: A Guide for Students (209-223).Wiley.

Johnson, K. E., & Golombek, P. R. (2002). Teachers' narrative inquiry as professional development. Cambridge University Press.

Johnson, D. W., & Johnson, R. T. (2002). Social interdependence theory and university instruction: Theory into practice. Swiss Journal of Psychology, 61(3), 119–129.

https://doi:org/10.1024//1421-0185.61.3.119

Kadıoğlu A., H. & Öner, I. A. (2020). Öğretmen adaylarının çevre sorunlarına yönelik farkındalık düzeyininin incelenmesi. Kesit Akademi Dergisi , 6(24), 126-144 . Retrieved from

https://dergipark.org.tr/tr/pub/kesitakademi/issue/58243/840639 (last accessed 03.01.2022)

Kanat, M.H. (2020). Öğretmen Adaylarının Kent Doğası Farkındalığı üzerinde çevre eğitimi dersinin etkisi. Türkiye Eğitim Dergisi. 5 (2), 346-364. Retrieved from https://dergipark.org.tr/tr/pub/turkegitimdergisi/issue/55125/826443 (last accessed 10.12.2021)

Kemmis, S., & McTaggart, R. (Eds.). (1988). The action research planner (3rd. ed.). Deakin University Press.

Kennedy, A., 2014. Understanding continuing professional development: the need for theory to impact on policy and practice. Professional development in education, 40 (5), 688–697.

https://doi.org/10.1080/19415257.2014.955122

Kniep, W. (1985). A critical review of the short history of global education. New York: American Forum for Global Education.

Ladson-Billings, G. (2013). " Stakes Is High": Educating New Century Students. The Journal of Negro Education, 82(2), 105-110. https://doi.org/10.7709/jnegroeducation.82.2.0105

Lave, J., & Wenger, E. (1991). Situated learning: Legitimate peripheral participation. Cambridge University Press.

Leal F., W., Vargas, V. R., Salvia, A. L., Brandli, L. L., Pallant, E., Klavins, M., ... & Vaccari, M. (2019). The role of higher education institutions in sustainability initiatives at the local level. Journal of cleaner production, 233, 1004-1015.

https://doi.org/10.1016/j.jclepro.2019.06.059

Luna-Krauletz, M. D., Juárez-Hernández, L. G., Clark-Tapia, R., Súcar-Súccar, S. T., & Alfonso-Corrado,C. (2021). Environmental Education for Sustainability in Higher Education Institutions: Design of an Instrument for Its Evaluation. Sustainability, 13(13), 7129. https://doi.org/10.3390/su13137129

Marpa, E. P. (2020). Navigating environmental education practices to promote environmental awareness and education. Online Submission, 2(1), 45-57.

https://doi.org/10.46328/ijonse.8

Martínez, G. I., Augusto-Landa, J. M., Pérez-Navío, E., & León, S. P. (2022). Analysis of the psychosocial profile of pre-service teachers. Educación XX1, 25(1), 41-65.

https://doi.org/10.1080/2331186X.2022.2034393

Marques, R., & Xavier, C. R. (2020). The Challenges and Difficulties of Teachers in the Insertion and Practice of Environmental Education in the School Curriculum. International Journal on Social and Education Sciences, 2(1), 49-56. Retrieved from

https://www.ijonses.net/index.php/ijonses/article/view/30/pdf (last accessed 09.12.2021)

Ministry of Education (2017). Öğretmenlik mesleği genel yeterlilikleri. Ankara: Öğretmen Yetiştirme ve Geliştirme Genel Müdürlüğü.

Mockler, N. (2011). Beyond 'what works': Understanding teacher identity as a practical and political tool. Teachers and Teaching, 17(5), 517-528. https://doi.org/10.1080/13540602.2011.602059

Orsini-Jones, M., Cervero'Carrascosa, A., & Finardi, K. (2022). A glocal community of practice to support international ELT (English Language Teaching) Students in the UK: Project BMELTET. In Successful Teaching Strategies for Culturally and Linguistically Diverse International Students (In-Press). IGI Global. Retrieved from www.scholar.google.com (last accessed 01.03.2022)

Ongon, S., Wongchantra, P., & Bunnaen, W. (2021). The Effect of Integrated Instructional Activities of Environmental Education by Using Community-Based Learning and Active Learning. Journal of Curriculum and Teaching, 10(2), 42-57.

https://doi.org/10.5430/jct.v10n2p42

Pavlenko, A., 2002. Narrative study: whose story is it anyway? TESOL Quarterly, 36, 213–218. Retrieved from www.scholar.google.com (last accessed 17.09.2021)

Piaget, J. (1950). The psychology of intelligence. Harcourt.

Posada-Ortiz, J., & Castañeda-Peña, H. (2021). Commodity, Immunity, and Struggle: (Re) visiting Senses of Community in ELT. Colombian Applied Linguistics Journal, 23(2), 182-195.

https://doi.org/10.14483/22487085.16707

Rodgers, C. R., & Scott, K. H. (2008). The development of the personal self and professional identity in learning to teach. In M. Cochran-Smith & S. Nemser- Freiman (Eds.), Handbook of research on teacher education. Enduring questions in changing contexts (3rd ed.). (732-755). Routledge.

Şahin, G. & Bulut, S. (2021). Örnek Olaya Dayalı Öğretimin Fen Bilgisi Öğretmen Adaylarının Çevre Bilimi Dersine Yönelik Akademik Başarıları ve Çevre Sorunlarına Yönelik Farkındalıklarına Etkisi.Erzincan Üniversitesi Eğitim Fakültesi Dergisi, 23(3), 613-632 .

https://doi.org/10.17556/erziefd.785234

Spelt, E. (2021). The Dialogic Circles of Digital Pedagogy: Reconceptualizing Research and Teaching Practices in ELT. ELT Research Journal, 17. Retrieved from

www.scholar.google.com (last accessed 03.01.2022)

Stern, M. J., Powell, R. B., & Frensley, B. T. (2021). Environmental education, age, race, and socioeconomic class: An exploration of differential impacts of field trips on adolescent youth in the United States. Environmental Education Research, (28)2, 197-215.

https://doi.org/10.1080/13504622.2021.1990865

The National American Association for Environmental Education (NAAEE) (1999). Excellence in Environmental Education – Guidelines for Leaning (K-12): Executive summary and self- assessment tool., (31). Rock Spring.

Ugalingan, G. B., Bautista, A. C., & Mante-Estacio, M. J. (2022). Pre-service teachers' reflection on their efficacy beliefs in conducting action research. Reflective Practice, 23(2), 1-13.

https://doi.org/10.1080/14623943.2021.2014312

Smagorinsky, P., Cook, L. S., Moore, C., Jackson, A. Y., & Fry, P. G. (2004). Tensions in learning to teach: Accommodation and the development of a teaching identity. Journal of Teacher Education, 55(1), 8-24. Retrieved from www.scholar.google.com (last accessed 10.10.2021)

Teng, F. (2017). Emotional development and construction of teacher identity: Narrative interactions about the pre-service teachers' practicum

experiences. Australian Journal of Teacher Education, 42(11), 117-134. https://doi.org/10.14221/ajte.2017v42n11.8

UNESCO-UNEP (1994). Population: Working for an equitable, sustainable development in harmony with the environment. Connect. 19(4), 1-2.

UNESCO. (2006). UNESCO Framework for the UNDESD International Implementation Scheme. Retrieved from https://unesdoc.unesco.org/ark:/48223/pf0000148650

Wenger, Etienne (1998). Communities of practice. Cambridge University Press.

www.unep.org.com (last accessed 09.12.2021)

Vygotsky, L. (1978). Mind and society. Harvard University Press.

CHAPTER 7

ANALYSIS OF REASONING PROCESSES AS PART OF THE HIDDEN CURRICULUM IN PRESCHOOL EDUCATION CLASSES[1]

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1 This study is a part of the doctoral thesis named, "Reasoning Skills in the Preschool Education Program and Function of Hidden Curriculum for the Supporting Reasoning Skills in the Preschool Education Classes" which was completed under the supervision of Prof. Dr. Adil TÜRKOĞLU.

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Introduction

One of the factors determining the general characteristics of education, taking form in line with the needs of societies or affecting the perspectives of societies is the developments and changes in the areas which are of particular concern to education. The questions, answers, developments, and changes with which we face in matters such as giving better education to an individual, helping him/her know himself/herself better, providing him/her with better and more useful learning are in interaction with the sense of education of societies. Senses correlated with the education which were effective throughout the world, affected many countries but changed in time or gave place to new ones can be considered as the indication of this interaction.

When considered generally, as cognitive psychology developed, social effects on cognitive enhancement have become a focus (Bruning, Schraw and Norby, 2014). Cognitive goals include various mental abilities such as memory, decision-making and reasoning (Petkovich and Bart, 2008). Initially, educators traditionally concentrated on individual studies in order to explain cognitive enhancement. However, cognitive researches revealed that social cognitive activities such as well-directed cooperative learning and in-class discussions are incentive for learners in the clarification, detailing, reorganizing and reconceptualization of knowledge. Thus, better understanding of social interaction role was provided and the opinion that our way of thinking and learning should be supported by social environments showed up (Bruning, Schraw and Norby, 2014).

Vygotsky created a trend of concern for the effects of social relations on cognitive enhancement and the effects of these on learning through his books such as Thought and Language (1972) and Mind in Society: the Development of Higher Psychological Processes (1978) (Bruning, Schraw and Norby, 2014).

With his emphasis on culture and society, Vygotsky asserts that all high-level mental functions are basically social and integrated with sociocultural environment (Arslan, 2007). Concordantly, Tappan (1998) qualified his opinions regarding the effect of sociocultural approach of Vygotsky on learning and development as "Vygotsky's Hidden Curriculum" and discussed the opinions of Vygotsky regarding the sociocultural effects on learning and development with this perspective.

The said "hidden curriculum" concept points out a system "culturally effective and having an organized structure", which affects the teacher and learners within both formal and informal education program (Mossop, Dennick, Hammond and Robbe, 2013, p. 135). The hidden curriculum

is more extensive than formal curriculum because of the consist of all practices and qualification which are stated in formal curriculum (Güven, 2007). The hidden curriculum appears like adverting the curriculum's different way (e. g. content of curriculum, books, methods). In fact, the term "hidden curriculum" states organization of education, practice principles and interaction (Bergenhenegouwen, 1987). The hidden curriculum care about what the children learn out of the formal curriculum. And observed curriculum may be different from formal curriculum (Clemson ve Clemson, 2001). Because the hidden curriculum has a strong effect on children and teachers and planned and covered values but persists in school culture (Mckernan, 2008). This description emphasizing the culture related to the hidden curriculum is evaluated as supportive for the fact that Tappan associated Vygotsky's approach with the hidden curriculum. Although the most important factors regarding the academic achievement and learning of students in schools are cases which are not clearly observable and occur automatically, lots of studies are carried out on formal program and there are no sufficient studies examining the effects of the hidden curriculum on learning of students (Bayanfar, 2013).

It is aimed to examine the function of preschool education in terms of reasoning processes of the hidden curriculum in the primary step of school life where formation, development and changes are experienced both culturally and academically due to this primary step of individuals to education given in the schools. Each of teachers and students is individually a value and their life, their conditions and what they do and say and the things that affect the education environment and that they bring with them are worth to be examined and this can provide much information for making education more qualified.

Method

The study is a qualitative study for the research of reasoning as part of the hidden curriculum. As the cases occurring as part of the hidden curriculum are focused in the research, it was determined that the qualitative research "which focuses on meaning within the context" and "which pay attention to comprehending the meanings that people create" (Merriam, 2013) is suitable for the purpose of study. Additionally, Dickerson (2007) states that the qualitative research is the most effective way for the hidden curriculum studies (as cited in Patton, 2014).

If the analysis unit is a classified system or case in basic qualitative research, this study can be defined as qualitative case study (Stake, 1995; as cited in Glesne, 2013; Creswell, 2007). In this research, a case study which is one of the qualitative research designs was made so as to examine reasoning as part of the hidden curriculum in preschool education classes.

In the research, observational case study which is the primary method for collecting data in a study to be made for a fact or some aspects of a fact was carried out (Büyüköztürk et al., 2012). Observations were made on days which were determined during the research. Data collected were subjected to content analysis and descriptive analysis and while the findings were being presented, direct quotations were included as much as possible.

In the selection of study group, the typical sampling (Merriam, 2013) strategy which is used for reflecting an ordinary human, case or fact sample researched and which is one of the types of purposive sampling (Patton, 2014) the most common form of improbable sampling (Merriam, 2013) that is the most suitable sampling strategy for qualitative research was used. Preschool where the research was conducted can be accepted in typical sampling group. The school is at city center and has medium socioeconomic level. Two classes which volunteered for participating in the study were determined, one of which was from 4-age group preschool classes and one of which was from 5-age group preschool classes. The study was carried out in these classes.

Findings

Cases Regarding the Reasoning Processes as Part of the Hidden Curriculum Occurring with the Relations between Children of 4-Age Class

As a result of observations made in the 4-age class, the cases regarding the reasoning processes as part of the hidden curriculum occurring from the relations between children in this class were examined under the categories of "sharing", "peer concern" and "negative approach".

Under the category of "sharing"; the themes such as "sharing of experience", "sharing of idea", "sharing of imaginary world" and "solving problems together" were created. An example of raw data of "sharing" category is as follows:

> (Example of the theme "sharing of idea") "A child made a house for her doll. She showed it to her friends. One of these friends said her: "Aye you didn't make her a bed". Another child with them said "If we place a bed, there will be no space". The child who made the house is trying to make a bed now".

Under the category of "peer concern", the themes such as "cooperation", "observation", "getting along with each other", "showing interest" were created. An example of raw data of "peer concern" category is as follows:

(Example of the theme "observation") "Paper duck was made in the activity. Eyes of the duck would be made by sticking beads. One of the children laid beads together. And then he saw how his friend sitting next to him stuck. That friend stuck one of the bead eyes on one side of the head of duck and the other eye on the other side of it. The child seeing this removed the eyes that he stuck. He stuck one on one side and the other one on the other side like him."

Under the category of "negative approach, the themes such as "threat", "recrimination" and "exclusion" were created. An example of raw data of "negative approach" is as follows:

(Example of the theme "recrimination") "A child showed his study to his teacher. The teacher said, "You colored outside the lines". The child said, "X closed the cabinet that time and I became distracted". The teacher said nothing."

Cases regarding the Reasoning Processes as Part of the Hidden Curriculum Caused by the Teacher in 4-Age Class

As a result of the observation made in the 4-age class, the cases regarding the reasoning processes as part of the hidden curriculum caused by the teacher in this class were examined under the categories of "activity process", "discipline", "intervention to peer interaction", "limitation of active participation" and "emotional atmosphere".

Under the category of "activity process", the themes such as "individual concern", "giving responsibility", "limiting the effort", "limiting the individuality", "different experience opportunity", "emphasis of authority", "asking a question" and "making a statement" were created. An example of raw data of "activity process" category is as follows:

(Example of the theme "giving responsibility") "The teacher said to sit their cushions. The story would be told. One of the children told it by looking the pictures in the story book. The teacher didn't intervene with her. She only helped turning the pages."

Under the category of "discipline", the themes such as "punishment", "divulgement", "routines" and "authority confusion" were created. An example of raw data of "discipline" category is as follows:

(Example of the theme "punishment") "The teacher had to go outside the class. Y opened and closed the cabinets when the teacher came back. When he saw this, he said "Go on there! You're punished. You will not make any activities"."

Under the category of "intervention to peer interaction", the themes such as "limiting the cooperation", "gender", "limiting verbal-sharing", "sitting order" and "limiting the different idea-sharing" were created. An

example of raw data of "intervention to peer interaction" category is as follows:

> (Example of the theme "gender") "The children were playing independently. The teacher said "Boys can play at block center. Girls can go to playing house center". The children did what the teacher said."

Under the category of "limiting the active participation", the themes "limiting the sharing" and "excluding from decision process" were created. An example of raw data of "limiting the active participation" is as follows:

> (Example of the theme "excluding from decision process") "When the activity was over, the teacher said to classroom "Take your chairs. Go before the television." And then he turn the television on."

Under the category of "emotional atmosphere", the themes such as "lack of confidence", "underestimation", "pressuring", "isolation" and "lack of interest" were created. An example of raw data of "emotional atmosphere" category is as follows:

> (Example of the theme "lack of confidence") "… Activity was going on. The teacher asked some children "Did you make this by yourself?". He also asked this one child. He said "Yes, I did". The teacher asked him again "Really?". The child said "Yes.". Their conversation ended."

Cases regarding the Reasoning Processes as Part of the Hidden Curriculum Occurring with the Relations between Children of 5-Age Class

As a result of the observation made in 5-age class, the cases regarding the reasoning processes as part of the hidden curriculum occurring from the relations between children in this class were examined under the category of "peer interaction".

Under the category of "peer interaction", the themes such as "auxiliary opinion", "idea-sharing", "interaction", "activity process", "discussion environment" and "peer cooperation" were created. An example of raw data of "peer interaction" category is as follows:

> (Example of the theme "discussion environment") "While the activity was going on, the teacher was called outside from the class. The children were going on their activities and talking with each other, but they were not talking about the activity. They were talking about different issues. At one table, the question "Is foot a living creature?" occurred in an instant. One of the children said "No, it is not." Another child stood up and took two steps. And then he turned back to her and said "Look, it is walking. It is a living creature." She who said that it is not a living creature said him "Don't talk nonsense!" Another third child said "But human moves it". A child from next table said "But our bones are live" and then they stopped talking."

Cases regarding the Reasoning Processes as Part of the Hidden Curriculum Caused by the Teacher in 5-Age Class

As a result of the observation made in the 4-age class, the categories such as "peer interaction", "activity", "authority", "sharing environment" and "emotional atmosphere" were created in the analysis of data collected regarding the reasoning processes as part of the hidden curriculum caused by the teacher in this class.

Under the category of "peer interaction", the themes such as "limiting the cooperation", "emphasis of gender", "intervention to sitting order", "silence desire" and "opportunity to play games" were created. An example of raw data of the "peer interaction" category is as follows:

> (Example of the theme "limiting the cooperation") "While the activitity was being made, one of the children requested a white construction paper from her teacher. The teacher said "I gave you one. What did you make with it?" The child gave that paper to her friend. When the teacher heard this, he said "So it means that you should complete your work first." He gave her a construction paper and said her to go to his seat."

Under the category of "activity", the themes such as "realism", "limiting the individuality", "time management problem", "limiting the experience opportunity", "routines", "asking a question" and "level" were created. An example of raw data of "activity" category is as follows:

> (Example of the theme "limiting the experience opportunity") "One of the children fell behind the whole of class with regards to timing in the activity made. The teacher went to him and made and completed his activity."

Under the category of "authority", the themes such as "decision pro0cess", "pressuring" and "limiting the opportunity to generate solution" were created. An example of raw data of "authority" category is as follows:

> (Example of the theme "pressure") "They would play games. T. was looking at books. The teacher asked him "Will you join?" T. said "No.". The teacher said him "You will not read book then." T. left the book and said "I join then" and went to playing place"

Under the category of "sharing environment", the themes such as "limiting the opportunity to express oneself", "giving the opportunity to experience" and "limiting the different idea-sharing" were created. An example of raw data of "sharing environment" category is as follows:

> (Example of the theme "limiting the different idea-sharing") "The teacher showed pictures and photos of some watercrafts. She showed a craft and asked, "What does it carry?" Some children responded, "It carries bags". The teacher said them "It carries load. I ask what it carries, and you say that it carries bags. This carries load" and went on with another picture"

Under the category of "emotional atmosphere", the themes such as "offending", "labelling", "underestimation", "accusive approach", "demotivating" and "punishment" are created. An example of raw data of "emotional atmosphere" is as follows:

> (Example of the theme "underestimation") "The teacher looked at a boy. He made his activity. The teacher said him "Don't you still finish it? I wait you for art. I wait you for everything." The child did not respond him. He continued his activity."

Conclusion and Discussion

Considering the cases regarding the reasoning processes as part of the hidden curriculum occurring with the relations between children in 4-year class, it was seen that the children tended to share information, ideas and abilities that they obtained as a result of their life and experiences with each other. It was observed that the children interacted with each other by their ideas and could act in line with this interaction and tried to express their opinions and ideas to each other. Concordantly, they can seek a solution together by cooperating and warning each other. Moreover, it was seen that they shared some thoughts about their imaginary world with each other and could talk together about these thoughts. Vygotsky emphasizes that children need social relations for their learning and development. Additionally, their peers help them for their learning (Morrison, 1997). It was also seen that children had negative attitudes towards each other from time to time. They can be in cases such as threatening, accusing and isolating each other. According to Vygotsky, the children debates help them discover that there are different perspectives about the same case. For instance, children continuously discuss with each other about some cases such as the best way how to sustain an activity, the game that they play, the things that they do to each other (Ormrod, 2013). Accordingly, an evaluation can be made on the fact that children can develop a perspective for the fact that there are different things, thoughts and approaches other than they know by interacting with each other in the class and so providing each other an opportunity to see other worlds.

Considering the cases regarding the reasoning processes as part of the hidden curriculum caused by the teacher in 4-age class, it was observed that the teacher made an effort for paying individual attention to children in necessary cases, tried to give responsibilities about class by looking their levels, strove to create different experience opportunities for children. It was also observed that the teacher tended to ask questions about activities and make explanations about some things that he/she asked from children. These things are evaluated as positive efforts of teacher because both academic efforts and social efforts have a powerful effect on academic

performance and both of these processes have a supportive characteristic for learning (Finn and Pannozzo, 2004). It was observed that teacher has resorted to the punishment beside this positive approach. Furthermore, it has been seen that teacher has uncovered the children who he/she thinks do wrong to the other children. When we look at the body of the literature, it is specified that being authoritarian in the management of the class is not the only way out and problematic behaviors would be decreased in proportion to meeting the emotional and social needs of the children (Englehart, 2009). Well educated, fully equipped teachers act positive and sensitive to the children and provide more rich language and cognitive experiences and give less importance to the punishment (Barnett, 2004; as cited in Koçak and Alakoç Pirpir, 2012). However, it was observed that there are some non-overlapping circumstances with this data from time to time. It has been specified that there are some circumstances that can be described as routine prior to some events in the class. Such as queuing before going to lunch, becoming silent and sitting properly before starting the event. However, it was observed that there is no reminder by the teacher for why these routines are done but only reminder to carry out the routine. The routines are among the steps for providing discipline. Çelebi Öncü (2010) specified that appropriate discipline methods should be applied as of the early period with an objective to shape the behaviors of the children, to make them learn better and be more responsible and thus being better adults. It is accepted that there needs to be set of rules to keep the order in the society. However, it is thought that the questions such as who and in which way are these rules applied, what are their functions, are their results for the benefit of the society, do they oppress the society or put under pressure, should be answered.

Considering the circumstances with regard to the reasoning processes as part of the hidden curriculum formed with the relations between the children in the class for 5 years old, it is evaluated that the approach and communication of the children in the class for the 5 years old are generally positive. Children share their opinions and watch each other. The children share their opinion with each other and solve the problem together and act in cooperation for the other circumstances. At the same time, they have the opportunity to see the different ways to follow in the problem solving and different approaches for several circumstances by following each other. It was observed that the children can create a discussion platform between themselves and they can maintain the knowledge and opinion exchange for several period of time. One of mechanisms responsible for the cognitive results of the peer cooperation is the emergence of the cognitive conflict and solving it right after (Zuckerman, 2003; as cited in Bodrova ve Leong, 2010). Sometimes, the children within the group will have different

opinions and perspectives. The emergence of these disputes is naturally a cognitive conflict and is helpful for the development (Bodrova ve Leong, 2010). Since the children observe each other, they realize the different things that they have done and talked on it. From time to time, they can meet at the common point and sometimes not. However, the important thing is that they experience this process and communicate in such way and enter into this kind of interactions which are evaluated as a positive thing. Vygotsky thinks that mind; language and social development have been supported and developed during the social interactions (Morrison, 1997). According to Kuhn et al. (Kuhn, Shaw and Felton, 1997; as cited in Stanovich and Stanovich, 2010) repetitive discussions and interaction about a subject enhance the quality of reasoning The children can observe the approaches each other during the discussions and acquire new things that they have not already realized with regard to the solutions strategies and reasoning processes (Cobb et al, 1997; as cited in Stanovich ve Stanovich, 2010). If the children interact with the people around them and work in cooperation with their peers, that is, creating convergent development areas, they can give a fillip to many intrinsic development processes (Vygotsky, 1930; Vygotsky, 1978). Furthermore, to Vygotsky, coordination between the discussion and reasoning contributes to the shaping of thinking and learning (Pound, 2011). Adopter of Vygotsky's approach defend that preparatory activities for the academic skills should not be the principal focus of the preschool program and they should only arise from the interest of the children and they would be useful in the event of emerging in the suitable context Zaporozhets, 1978; as cited in Bodrova and Leong, 2010). Furthermore, Zembat (2005) suggests an opinion in parallel with it. According to Zembat, preschool education programs are the tools used to direct the interests of the children to the suitable developmental activities by the trainers. In this sense, since the processes developed between the children occur due to the requests of their own or their peers without any outside interference, their participation to these processes can be more willing and acquisitions at the end of the process can be more permanent. These processes need to be supported by the teacher.

Considering the circumstances with regard to the reasoning processes as part of the hidden curriculum formed due to the teacher in the class for 5 years old, it was observed that teacher of the class for 5 years old has exhibited an interfering approach as part of the hidden curriculum in terms of peer interaction. This situation has been assessed as negative in terms of the conditions with respect to the reasoning processes as part of the hidden program. It has been shown that teacher has interfered the peer relations and solution-finding to the some questions of the children

by interfering the cooperation between the children. It is thought that this situation negatively affects the interaction between the children and paves the way for not contributing to the children with the interfering attitude rather than encouraging one. Vygotsky bases cognitive development to the social interaction and language development (Senemoğlu, 2004). What's more, preschool children think about the problem before acting and start to use a new reasoning form (Trawick-Swith, 2013). For that reason, the interference of the teacher interrupts the processes between the children and thus negatively affecting the gains which could be acquired for the development and skills. Besides, it was observed that teacher takes an interfering stance for the seating order. This needs to be evaluated in two aspects. First one is positive evaluation. It can be positive since it supports the interactions with other friends of the children rather than the same ones and thus diversifying the social interaction experience and opportunities. The second one is negative one. According to this evaluation, frequent interference of the teacher limits the decision making opportunities and rights and preference of the children. The interaction of the children with their friends can be prevented. One of the most important problems of today's education system is to increase the positive emotions experienced by the students in the teaching environment and decrease the negative emotions Cigman, 2012; as cited in Sakız, 2014). For that reason, it is thought that over interference to the desires of the children can prevent the positive emotions of them. It was observed that teacher has frequently interfered to the seating order during the activities and emphasized to keep quite. It has been evaluated that frequent observation of this interference can pave the way for negative effect on the communication between the children. The children are not supported to talk about the activities and share other than the activity during the activities. Whereas, the children can hear the different perspective towards the problems and listen to the different experiences of their friends. Vygotsky emphasizes that social environment plays an important role over the learning and for that reason; teachers should encourage and promote the cooperation with the friends and teachers of the children. These environments play a key role in al development areas (Çeçen, 2007). Furthermore, Webb (2009) has examined a number of training given to the children by the teacher with respect to the development of social and cognitive skills. As a result, it has been specified that teachers have a key role over the reasoning of the children when children are enabled to explain and detail their opinions (as cited in Jadallah, 2009). It was observed that teacher provides an opportunity to the children to play freely in the class on general basis. The teacher gives time when the children want to continue to the game when they will move to the activity. This has been assessed as considerably positive attitude. Vygotsky put forwards that game highly contributes to

the cognitive development rather than reflecting the cognitive development and game is a social activity on its basis (Şen, 2010). According to him, game is a basic activity in preschool education and children develop their creativity and self-regulation and skills required for their development later on. The game supports the cognitive, emotional and social development (Bodrova and Leong, 2010). Therefore, the opportunities given by the teacher to the children about the games can be evaluated as an important opportunity provided for them to enjoy positive experiences, emotions. The experiences that children enjoy during the interaction with each other will provide opportunities for them such as expressing themselves, getting to know their emotions and follow the movements of others and analyze them.

It was observed that the children intensely face interactions of the children with each other, their teachers and physical condition of the class and conditions that are planned and formed clearly and those unplanned or unclear basing on the analysis and analysis of these observations conducted in the class for both 4 and 5 years old in the study that many conditions are emphasized in the sociocultural theory of Vygotsky as to the reasoning.

It was observed that teachers prepare atmospheres and studies that support the reasoning processes of the children through applications that may be accepted within the official plan. However, there are a number of situations that can be defined as complex and carried out consciously or unconsciously, surrounded by the physical conditions, arising out of the interactions between the children, affected by the personal preferences of the teacher and developed in an unplanned manner and instantly while children are occupied with these things.

The preschool education class can possibly be evaluated as;

- the experiences of the teacher by his/her life and passed on the class,
- the experiences of the children by their life and passed on the class,
- an effort of teacher to fulfill his/her duty,
- the efforts interfering the interaction and affected by the interactions of the children with themselves and their teachers and to understand themselves and the world,
- as an environment to understand how it affects everybody within and all of these intersected, sometimes conflicted and developed together as a result of the literature review and assessment of this study.

As a result of the data reached; we can put forward that;

· It is thought that there needs to be some precautions to take for informing the prospective teacher with regard to the hidden curriculum. In order to that, a separate lesson can be prepared or the weight of the topics within the lessons can be increased.

· Furthermore, several training programs to be prepared by the domain expert can be useful for informing the teachers about the hidden curriculum and reasoning and use this information effectively on the age groups that they are responsible for.

· The awareness of the teachers working in that field can be raised about the scope and importance of the hidden curriculum and by these way teachers can support the prospective teachers about the application who work and start to be trained beside them.

REFERENCES

Arslan, M. (2007). Eğitimde yapılandırmacı yaklaşımlar. *Ankara Üniversitesi Eğitim Bilimleri Fakültesi Dergisi*, *40*(1), 41-61.

Babad, E. (2009). Teaching and nonverbal behavior in the classroom. In L. J. Saha & A. G. Dworkin (Eds), *International handbook of research on teachers and teaching,* pp. 817-827. USA: Springer.

Başar, M. (2011). Sınıf içi istenmeyen öğrenci davranışlarının yönetiminde örtük program (Uşak İli Örneği) (Doktora Tezi, Marmara Üniversitesi). https://tez.yok.gov.tr/UlusalTezMerkezi/

Bayanfar, F. (2013). The effect of hidden curriculum on academic achievement of high school students. *International Research Journal of Applied and Basic Sciences*, *5*(6), 671-681. Science Explorer Publications. ISSN 2251-838X /

Bergenhenegouwen, G. (1987). Hidden curriculum in the university. *Higher Education*, 16, 535-543.

Bodrova, E., & Leong, D. (2010). *Zihin araçları: erken çocukluk eğitiminde Vygotsky yaklaşımı.* G. Haktanır (Çev. Ed.), Ankara: Anı. (Orijinal çalışma basım tarihi 2007)

Brooks, J. G., & Brooks, M. G. (1999). *In search of understanding: the casa for constructivist classrooms.* ASCD: Virginia USA.

Bruning, R. H., Schraw, G. J., & Norby, M. M. (2014). *Bilişsel psikoloji ve öğretim*. Z. N. Ersözlü ve R. Ülker (Çev. Ed.). Ankara: Nobel Akademik. (Orijinal çalışma basım tarihi 2011)

Büyüköztürk, Ş., Çakmak-Kılıç, E., Akgün, Ö., Karadeniz, Ş. ve Demirel, F. (2012). *Bilimsel araştırma yöntemleri*. Ankara: Pegem Akademi.

Clemson, D., & Clemson, W. (2001). *Mathematics in the early years*. New York: Taylor & Francis e-Library.

Creswell, J. W. (2007). *Qualitative inquiry and research design: choosing among five approaches.* California: SAGE.

Çalışandemir, F. (2014). Bireysel farklılıkların önemi ve desteklenmesi. A. Önder (Ed), *Okul öncesi dönemde çocukları değerlendirme ve tanıma teknikleri* içinde, s. 9-20. Ankara: Pegem Akademi.

Çeçen, A. R. (2007). Bilişsel gelişim ve dil gelişimi. M. E. Deniz (Ed), *Eğitim psikolojisi* içinde, s. 79-132. Ankara: Maya Akademi.

Çelebi-Öncü, E. (2010). Okul öncesi eğitimde olumlu disiplin ve sınıf kurallarını oluşturmak. G. Uyanık Balat ve H. Bilgin (Ed), *Okul öncesi eğitimde sınıf yönetimi* içinde, s. 123-150. Ankara: Eğiten Kitap.

Dickerson, L. (2007). *A postmodern view of the hidden curriculum* (Doctoral Thesis, Georgia Southern University). http://digitalcommons.georgiasouthern.edu/etd

Englehart, J. (2009). Teacher-student interaction. In L. J. Saha & A. G. Dworkin (Eds), *International handbook of research on teachers and teaching*, pp. 711-722. USA: Springer.

Finn, J. D., & Pannozzo, G. M. (2004). Classroom organization and student behavior in kindergarten. *The Journal of Educational Research*, *98*(2), 79-92.

Glesne, C. (2013). *Nitel araştırmaya giriş*. A. Ersoy ve P. Yalçınoğlu (Çev. Edt.). Ankara: Anı. (Orijinal çalışma basım tarihi 2011)

Güven, B. (2007). Öğretim ilke ve yöntemleriyle ilgili temel kavramlar. Ş. Tan (Ed), *Öğretim İlke ve Yöntemleri* içinde, s. 1-29. Ankara: Pegem Akademi.

Jadallah, M. (2009). *Teacher scaffolding moves and children's talk in collaborative reasoning discussions* (Doctoral Thesis, University of Illinois). Available from ProQuest Dissertations and Theses database. (UMI Microform 3392077)

Kernan, M., Singer, E., & Swinnen, R. (2013). Giriş. A. Tüfekci ve Ü. Deniz (Çev. Ed.), *Erken çocukluk eğitim ve bakımında akran ilişkileri* içinde, s. 1-14. Ankara: Nobel Akademik. (Orijinal çalışma basım tarihi 2011)

Koçak, N. ve Alakoç Pirpir, D. (2012). Okul öncesi öğretmeni. A. Avcı ve M. Toran (Ed), *Okul öncesi eğitime giriş* içinde, s. 77-107. Ankara: Eğiten Kitap.

Kurtz, K., Gentner, D., & Gunn, V. (1999). Reasoning. In B. M. Bly & D. E. Rumelhart (Eds), *Cognitive science*, pp. 145-200. California: Academic Press.

Margolis, E., Soldatenko, M., Acker, S. & Gair, M. (2001). Peekaboo: Hiding and outing the curriculum. In E. Margolis (Ed), *The hidden curriculum in higher education*, pp. 1-20. NY: Routledge.

Mckernan, J. (2008). *Curriculum and imagination: process theory, pedagogy and action research.* Oxon: Routledge.

Merriam, S. B. (2013). *Nitel araştırma: desen ve uygulama için bir rehber*. S. Turan (Çev. Ed.). Ankara: Nobel Akademik. (Orijinal çalışma basım tarihi 2009)

Miller, P. H. (2008). *Gelişim psikolojisi kuramları*. Z. Gültekin (Çev.), B. Onur (Çev. Ed.). Ankara: İmge Kitabevi. (Orijinal çalışma basım tarihi 2002)

Morrison G. S. (1997). *Fundamentals of childhood education*. New Jersey: Merrill.

Moshman, D., & Geil, M. (1998). Collaborative reasoning: evidence for collective rationality. *Thinking & Reasoning*, *4*(3), 231-248.

Mossop, L.,Dennick, R., Hammond, R., & Robbe, I. (2013). Analysing the hidden curriculum: use of a cultural web. *Medical Education*, *47*, 134-143.

Oaksford, M. (2005). Reasoning. In Nick Braisby & Angus Gellatly (Eds.), *Cognitive psychology, pp. 418-457.* New York: Oxford University Press Inc.

Ormrod, J. E. (2013). *Human learning*. M. Baloğlu (Çev. Ed.), Öğrenme Psikolojisi. Ankara: Nobel Akademik. (Orijinal çalışma basım tarihi 2012)

Patton, M. Q. (2014). *Nitel araştırma ve değerlendirme yöntemleri*. M. Bütün ve S. B. Demir (Çev Ed). Ankara: Pegem Akademi. (Orijinal çalışma basım tarihi 2002)

Petkovich, M. & Bart, W. M. (2008). Taxonomies. N. J. Salkind (Ed), *Encyclopedia of educatioanl psychology* içinde, s. 592. California: SAGE.

Ponyatovska, L. (2011). Principals' perspectives on the influence of the hidden curriculum on children's school development. *International Forum*, *14*(1), 86-101.

Pound, L. (2011). *Influencing early childhood education*. US: Open University Press.

Sakız, G. (2014). Özdüzenlemeli öğrenmede duyuşsal bir boyut: akademik duygular. G. Sakız (Ed), *Özdüzenleme: öğrenmeden öğretime özdüzenleme davranışlarının gelişimi, stratejiler ve öneriler* içinde, s. 82-129. Ankara: Nobel Akademik.

Senemoğlu, N. (2004). Eğitimin psikolojik temelleri. V. Sönmez (Ed), *Öğretmenlik mesleğine giriş* içinde, s. 119-150. Ankara: Anı.

Stanovich, K. E., & Stanovich, P. J. (2010). A framework for critical thinking, rational thinking and intelligence. In D. D. Preiss & R. J. Sternberg (Eds), *Innovations in educational psychology: perspectives on learning, teaching, and human development*, pp. 195-237. New York: Springer.

Şen, M. (2010). Erken çocukluk eğitiminde oyun ve önemi. İ. H. Diken (Ed), *Erken çocukluk eğitimi* içinde, s. 403-431. Ankara: Pegem Akademi.

Tappan, M. B. (1998). Sociocultural psychology and caring pedagogy: exploring Vygotsky's "hidden curriculum". *Educational Psychologist, 33*(1), 23-33.

Trawick-Swith, J. (2013). *Erken çocukluk döneminde gelişim: çok kültürlü bir bakış açısı.* Ankara: Nobel Akademik.

Vygotsky, L. (1930). *Mind and society*. London: Harvard University Press.

Vygotsky, L. S. (1978). *Mind in society: the development of higher psychological processes.* London: Harvard University Press.

Zembat, R. (2005). Okul öncesi eğitimde nitelik. A. Oktay ve Ö. Polat Unutkan, *Okul öncesi eğitimde güncel konular* içinde, s. 25-44. İstanbul: Morpa Kültür.

CHAPTER 8

AN EVALUATION OF IMMERSIVE VIRTUAL REALITY FOR EDUCATION

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1. Introduction

A growing number of educators, in response to students' increased access to technological tools throughout time, are adopting innovative approaches to classroom instruction that integrate the use of technology to enhance student learning. Among these novel methods, Immersive Virtual Reality (I-VR) Learning Environments stand out as revolutionary interactive platforms. I-VRs, just like any other new instructional strategy that is used in a school setting, need careful investigation from every angle and in every dimension. Immersive Virtual Reality Learning Environments (I-VR) are complicated platforms using digital systems with multiuser take parts role playing and collaborative interactions.

This review focuses on three main areas of inquiry: (a) the educational settings in which the studies were focused mainly on; (b) the technological aspects of I-VR used in the experiments; and (c) the pedagogical approaches used by researchers.

I-VR emerged as a major disruptive innovation as a de facto phenomenon in the field of education, either replacing or forcing the transformation of previous learning methods.

2. Definitions

Due to the dynamic nature of the technology, it is difficult to provide a thorough description of the essential features of virtual reality. However, Sherman and Craig (2003) claimed that the VR experience relies on a variety of underlying components in order to provide a lifelike sense of the virtual world. One of them is that virtual reality (VR) experiences must be immersive, such that the user feels fully immersed in the environment and loses track of time and place outside the VR environment. Further, the virtual area should allow for some degree of interaction, with the user having some control over the environment and the variables being tested. One example is cooperating with other real-world users in a computer-generated environment, which may also include interacting with items or virtual avatars (Hamilton et al., 2021).

Daniel Vickers, a professor at the University of Utah in the 1970s, developed the first virtual reality headgear. The headgear has two displays, so the user may look about at the virtual environment in any direction. After some time, a new interface called a "data glove" is created (DataGlove). This instrument was developed in 1982 and sends data on the user's hand and finger movements to a computer (Fuchs, 2006). And in the 1980s, American Jaron Lanier introduced the phrase "Virtual Reality." When describing the functionality of the head-mounted displays used by electricians to assemble complex wire harnesses, researchers Thomas

Caudell and David Mizell invented the phrase “augmented reality” in 1990. (Elmqaddem, 2019).

2.1 Virtual Reality

Another definition for the Virtual reality, or VR, is “the total of the hardware and software systems that strive to create an all-inclusive, sensory illusion of being there in another place,” as one definition puts it. Virtual reality (VR) technologies are often characterized by their capacity to immerse users in a world that seems real to them and to allow them to interact with that world in meaningful ways. The word “interactivity” refers to the extent to which the user is able to make real-time changes to the virtual reality setting. “the subjective feeling of being in one place or setting, even while one is physically positioned in another,” as the Oxford English Dictionary defines “presence” (Witmer & Singer, 1998). Researchers have mostly agreed on the meanings of “interactivity” and “presence,” but their perspectives on “immersion” remain divided. Others consider immersion as a subjective, individual belief; that is, a psychological phenomena; whereas one school of researchers proposes that immersion should be seen as a technical feature that can be measured objectively (Slater & Wilbur, 1997). (Witmer & Singer, 1998).

2.2 Immersion , Immersive and Presence

Various authors in the literature equate the two concepts of “presence” and “immersion,” claiming that they signify and refer to the same thing (Aguayo et al. 2021; Bower and Jong 2020; Cochrane and Sissons 2019; Hamilton et al. 2021; Jantakoon, Wannapiroon, and Nilsook 2019a, 2019b; Marcelino et al. 2010; Peixoto et al. 2021; Torres and Rodríguez 2019; Zhang, Shi, and Bai 2021) . As noted by Dede (2009), immersion is the outcome of the use of several perceptual channels as opposed to just a personal perception. An immersive virtual environment is one that perceptually surrounds the user, boosting his or her sensation of presence or really being inside it. (Mikropoulos, & Natsis, 2011).

Besides, in psychology, the term “immersion” refers to the condition of becoming completely engrossed in a certain task. To put it another way, it’s a state of mind in which a person becomes so immersed in a digital activity that they stop paying attention to their physical surroundings. It’s possible to get a realistic encounter with many different types of regular living. Many novels, for example, take their readers away from the actual world and into a fantastical one, where they may easily relate with the book’s heroes. “Mental immersion” is the word used by scientists to describe a condition of complete concentration. Absorptive activities include, but are not limited to, seeing a film, listening to music, and daydreaming. We also get immersed in something when we utilize our body to take part in

it. "Participants" are those who are able to get fully absorbed in what is going on around them (Muhanna, 2015).

While the technology-focused literature may gloss over the nuances of the term "immersion," subsequent studies have offered a more methodical theoretical angle on the topic. Both an objective characteristic of the technical system features and affordances and a psychological state characterized by one's perceptions of presence and interaction have been the primary approaches taken by works in this field over the past decades when addressing the concept of immersion. Recent assessments have, however, not only shown how these viewpoints complement one another theoretically, but also made it clear that they are in the minority among existing works. According to these reviews, immersion is not just a result of the system's technical capabilities, but also of the story's ability to make the player feel "a degree of mental absorption or intense preoccupation" with the story, the diegetic space, and the characters living there. Recent syncretic view of immersion define it as "a phenomenon experienced by an individual when in a state of deep mental involvement in which their cognitive processes (with or without sensory stimulation) cause a shift in their attentional state such that one may experience disassociation from the awareness of the physical world." In addition, this approach is parallel with Nilsson et al view .'s that there are three sources from which this phenomena might be conceptualized: technology, story, and difficulties. For this reason, it is possible to think of a certain immersion scenario as occupying a specific location in a three-dimensional immersion space (Beck et al., 2020)

2.3 Passive Immersion And Active Immersion

The academic community has offered a variety of schemes for classifying immersion experiences. As an example, the terms "passive immersion" and "active immersion" were created by Nakatsu and Tosam (2005). The main difference between the two kinds of immersion is whether or not there is any kind of interaction between the player and the environment. Users in active immersion may interact with the world, whereas in passive immersion they are merely given information. Watching a movie is an example of passive absorption. On the other hand, seeing an artist at work on a scene might be indicative of active absorption. Therefore, in order for a virtual reality experience to be meaningful, some kind of physical engagement is required (Muhanna, 2015).

Student motivation is typically boosted by the use of role-play and simulation in I-VRs (Dengel et al. 2021; Duncan 2020) (Dengel et al. 2021). When students take on multiple decision-making roles in a simulation game-based I-VR, they demonstrate greater knowledge and

application of course contents (DuHadway and Dreyfus, 2017). Student performance improved in a first-year Financial Accounting course taught in a virtual environment by Hornik and Thornburg (2010), who used an interactive accounting equation and t-account model. Improved conceptual understanding, decision-making quality, collaboration, and soft skills were found in a business simulation game by researchers, leading to a higher placement wage. In a study conducted by Scullion et al. (2014), it was shown that interacting in a virtual 3D space improved communication, cooperation, and teamwork. Students considered simulated case studies to be more interesting and "real" in nature. Three-dimensional multi-user virtual environment Second Life (SL) was used by Mennecke et al. (2008) to teach management challenges in an MBA programme. Although there was a high learning curve, the teacher found that Second Life enabled students to fully immerse themselves in the material, which made for a more stimulating and interesting classroom environment.

2.4 CAVE and HMD

CAVE (Cave Automatic Virtual Environment) is a virtual reality environment consisting of a cube-shaped VR room in which the walls, floors and ceilings are projection screens. The user typically wears a VR headset or head-up display (HUD) and interacts through input devices such as wands, joysticks or data gloves Head-mounted displays (HMDs) are tiny screens or projection devices attached on hats, helmets, or eyewear. Virtual reality (VR) is described as a sophisticated media system that includes a technology setup for sensory immersion and a method of advanced information representation, and that may simulate or imitate both actual and imagined worlds (Mikropoulos and Natsis 2011). Virtual reality may be experienced on a variety of devices, including desktop computers, HMDs, and even automated cave environments. Accessing a virtual reality (VR) learning session using HMD and CAVE is much more immersive than accessing a VR learning session via a desktop computer. In order to quantify how well a system achieves its goal of completely isolating the user from the outside world, we use a term called "immersion". Experiences in virtual reality (VR) that are accessible by means of an HMD or in a CAVE are typically considered to be very immersive; however, the degree of immersion may vary depending on the number of senses that are engaged by the technology and the quality of the gear (Blashki, Nichol, Jia & Prompramote 2007).

3. Immersive Virtual Reality's Technological Traits

Even though it may be predicted that studies using VR technology would make use of more than one aspect of these tools, the reality is more ordinary. Of course, all the studies use visual representations, but only a

small number of them use more than one sense to interact. The goal of the twelve (12) research that use both the visual and audio channels is to improve user performance and learning. There are four studies that deal with scientific themes and make use of kinesthetic systems. The writers seem to be on the lookout for a different strategy to help their readers learn about and form more sophisticated mental models of out-of-the-ordinary things. The findings of these four research suggest that multimodal engagement is effective. It has been suggested by Dede et al. (2009) that students may be able to build more robust mental models with the help of immersive 3D multisensory representations than they could with 2D representations alone. Most educators agree that providing students with opportunities to engage in learning via many senses improves both student comprehension and engagement. Minogue et al. (2006) found that users' attention, attitudes, and navigational skills improved after experiencing virtual settings. Specifically, haptic involvement has not been shown to improve students' ability to integrate and internalize "the salient parts of the complex cell ideas given," such as the identification, molecular structure, and function of cellular organelles (Mikropoulos, & Natsis, 2011).

4. Educational Attributes of I-VR: Constructivism Evolved

How can I-VRs help learning? What elements aid learners in their learning processes while using I-VRs? In order to find the answers to these questions, it will, first and foremost, be helpful to explore the following significant concerns as a means of shedding light on the topic in question.

Virtual reality based Immersive classrooms are a useful adjunct to more conventional forms of higher education. Virtual reality (VR) technology have been widely utilized for training experts in high-risk industries including engineering, sawbones work, and army missions. The potential of augmented reality to enhance construction site operations is attracting an increasing amount of attention. Augmented reality (AR) integrates digital information with the real world, creating an environment where both virtual and real items may exist side by side . For use in the real world, several research projects have created augmented reality (AR) based apps and systems for activities including data visualization and job inspection. These advancements have greatly improved the site's overall safety performance (Jantakoon, Wannapiroon & Nilsook, 2019).

It is possible to think of virtual worlds as computational metaphors for real-world educational settings since they include people, places, and things that can be interacted with. With features like avatars at their disposal, users may really immerse themselves in the virtual environment. Formal education, language instruction, social skills practice, and even

casual online get-togethers are just some of the many ways that virtual worlds may be put to use in the classroom. Many researchers believe that a fully immersive environment is essential for successful remote experimentation. Since virtual worlds include 3D representations, visual viewpoints from each avatar, and interaction methods, these spaces are ideal for creating a convincing illusion of immersion. Students are more likely to learn well in this setting if they are given opportunities to engage with the world around them and draw genuine scientific findings based on data gathered using authentic instruments and experimental equipment. Under a constructivist stance, this method encourages student participation in the learning process (Elmqaddem 2019; Hamilton et al. 2021; Hu-Au and Okita 2021; Jantakoon et al. 2019a; Kamińska et al. 2019; Kennedy et al. 2013; McClannon et al. 2018; Marcelino et al. 2010)

Access to a remote laboratory within a virtual world enables the following for students: a sense of immersion within the provided learning environment; the formation of "bonds" between students and teachers; an increase in students' motivation; the ability to navigate within the virtual world in any direction; the performance of real experiments; interaction with objects within the virtual world; and the completion of the proposed activities in accordance with the student's own method of working.

(Marcelino et al. 2010)

Kurubacak and Altinpulluk claim that AR has many positive effects on schooling. You can summarize the advantages for students as follows: courses are enjoyable, cognitive load is decreased, students are more motivated and interested in the subject matter, they have more opportunities to ask questions and interact with one another, they have more room to grow as learners, they are better able to grasp abstract ideas, and their success rates are higher. Contributing to students' creative growth, assuring students' active engagement in class, and letting them work at their own speed are all positives for educators (Kurubacak, Altinpulluk, 2017).

Many authors believe that I-VR has the potential to improve classroom instruction (Allam and Sutton 2017) . Multiple research Al-Labadi and Sant 2021; Cook et al. 2019; Elmqaddem 2019; Hu-Au and Okita 2021; Lea and Eng 2021; Philippe et al. 2020; Rogers 2020; Sattar et al. 2020) have shown that virtual reality enhances education. Learners' motivation and focus may be boosted via hands-on experience with virtual or real-world items because to this technology's ability to facilitate exploration, engagement, and involvement .

As a result of the enhanced opportunities for visualization and manifestation of ideas made available by this technology, learning becomes

more pleasurable and successful, especially when it comes to studying and comprehending abstract concepts or complicated occurrences (Cheney and Terry 2018; Aguayo et al. 2021; Beck, Morgado, and O'shea 2020; Hamilton et al. 2021; Hu-Au and Okita 2021; Peixoto et al. 2021; Zhang et al. 2021) .

The effects of I-VR based training on K-12 and higher education students were investigated in a meta-analysis by Merchant et al. (2014). Their primary results suggest that games provide superior learning benefits than simulations and simulated environments. Improvements in information technology (IT) have allowed I-VRs to develop from a linguistic tool into a new direction in schooling. Games, simulations, and virtual 3D environments are all examples of the kinds of methodologies and software tools that go into making I-VRs, as defined by Gartner, a renowned IT consulting organization. To keep students interested, I-VRs use on active learning, experiential learning, peer learning, and gaming. Learning in the real world is made possible by I-VRs, which provide students the chance to apply what they've learned, gain deeper understanding of subjects, and network with their peers.

Hamilton's evaluation from 2021 looked at results in three areas: cognition, behavior, and emotion. The majority of the research included in this analysis (83% of the total) were focused on the transfer of cognitive abilities and information. About half of them showed improvement in student performance when utilizing I-VR compared to less immersive instructional approaches. When used for cognitive learning tasks that call for a high level of spatial knowledge and visualization, I-VR may provide the user with insights that would be hard to recreate under real-world conditions. Science fields including biology and physics have been highlighted in this research as possible applications for instructional virtual reality technology. (See, for instance, Maresky et al.) However, other scientific fields (such as chemistry and mathematics) that rely on abstract or conceptual knowledge may also benefit from the visualization provided by I-VR.

To sum up, we conclude that virtual reality's first-order experiences, natural semantics, size, transduction, reification, autonomy, and presence are all traits that originate from the technology's inherent qualities and contribute to valuable learning outcomes.

4.1 Components of I-VR Learning Environments : Learner, Instructor, And Technology

IVR is a disruptive innovation that has developed in the past ten years and has transformed not only the world of education but also all disciplines of study and sectors. Not only has it changed the world of education, but it has also changed the world in general.

Some contend that the use of technology to provide organized interaction amongst a range of learners is essential to attaining collaborative learning and that it has a significant impact on how learners "interact" with one another (Kiousis 2002). Interaction with technology is considered significant; but, in this research, the growth of interpersonal relationships and the ways in which individual experiences improved the learning process and environment were shown to be of considerably higher value and influence. The authors adopt what they call a "collaborative and cooperative triad of student, instructor, and technology" as their starting point. Learners are defined by the authors as complex individuals who take part in a social and cultural learning environment. Students are more likely to be highly motivated if they are given some say over the content and environment, including the ability to select semiotic resources, choose learning strategies, determine the amount of information to process, and use their preferred learning style. This, in turn, increases the likelihood that they will achieve positive learning outcomes and, simultaneously, boosts their sense of self-worth and trust in the learning process. However, as McLouglin (1995) notes, giving the learner complete autonomy over their education can not always lead to the desired outcomes. In particular, young students may struggle to depend on their own experience when it comes to managing resources (Harper 1997, McLoughlin 1995). Therefore, instructors are still vital to the classroom experience.

The possibility for good learning outcomes is enhanced when the instructor acts as a guide and is combined with the learner's self-regulated learning process. The teacher's role shifts from that of a "expert" to that of a "facilitator," whereby they provide advice and suggestions to aid the students' education while also dividing up the responsibilities for their success. Technology's purpose is to facilitate knowledge production among students, to organize their academic processes, and to provide them with means of tapping into their full intellectual potential (Tam 2000). Learning is a social activity in which individual and group efforts to test, improve, and expand upon existing knowledge are integrated in a classroom setting. If students in a classroom are given the opportunity to discuss and collaborate on a common body of knowledge using a variety of different resources, they will be more likely to learn from their experiences. IVRLE makes it possible to actualize the learning processes that have been discussed in this article.

4.2 The Educational Advantages of I-VRs

Adopting virtual reality in education and learning has significance since it can help with learning, memory, and decision-making while providing a fun and engaging environment in which to work. When we read textual material (on a printed paper, for example), our brain performs

a process of interpretation, which requires more mental work. When using VR, there is less need for interpretation since there are less symbols to decipher, and comprehension is more straightforward. As an example, seeing the steps involved in a machine's functioning is far more helpful than reading about them in writing. Additionally, the clarity of the image increases when done in 3D or virtual reality. Because it is impossible to physically access all of the information we learn, virtual reality (VR) is invaluable because it provides us with a realistic simulation of any environment we choose. (Elmqaddem, 2019).

Immersive technology have been shown to improve students' academic performance, as well as their motivation and interest in learning. In addition, they are effective in grabbing students' attention, fostering students' social skills, lowering their anxiety levels, and advancing experiential learning and student-centered classrooms. (Altun, & Lee 2020)

Often, students blame their own and others' disruptive behaviors for making class uninteresting and unimportant. Most policymakers today are baby boomers, and their vision for the future of education is often mocked as antiquated and irrelevant. The main message these young people are making is that they need to take responsibility for their own education.

Learning in an immersive environment takes a learner-centered approach, with students actively taking part in, guiding, and implementing the lessons for their own benefit and that of future students (Blashki, Nichol, Jia , Prompramote, 2007)

Although ILEs are designed to increase student performance and facilitate learning, they have also brought new technical challenges and unpredictable complexities arising from the interactions at the human-technology interface to the learning environment with its own inherent and intrinsic burden.

When we think about disadvantaged people also I-VR appears to be a possible answer. The data collected over the course of these years provide an answer to the original problem-question posed: students with visual cognitive styles, such as those diagnosed with autism spectrum disorders, can benefit from using immersive virtual learning environments as a support tool to work on their disabilities. The findings accumulated over these years provide an answer to the initial problem-question posed: students with visual cognitive styles, such as those diagnosed with autism spectrum disorders, can benefit from using immersive virtual learning environments as a support tool to work on their disabilities (Lorenzo et al. 2016).

To summarize, the new review results show that I-VR provided a learning advantage in around half of cognitive experiments, particularly when extremely difficult or conceptual tasks needed spatial comprehension and visualization (Hamilton et al., 2021).

5. Conclusion

Learning technology's effects are more nuanced than may be seen in simple metrics like test scores, graduation rates, or skill levels. There are fundamental consequences: technology may modify not just the specifics of existing learning activities, but also their dynamics and the extent to which participants are empowered; it can inspire new practices or make others possible, and it can even alter learners' objectives and intentions. This is not a feature exclusive to educational technology but rather a facet of IT in general. If enterprises just consider how new technologies will affect their present procedures, they are missing the bigger picture. Organizational change is inevitable when new technologies are implemented, and this shift has to be handled on many different fronts.

Although predictable to some extent, it is not yet clear what kind of expectations people will have and what bio-psycho-social complications they will experience in I-VR, which people have not experienced and interacted with before.

We think it's important to investigate the correlation between learning outcomes and elements including age, gender, computer experience, psychological factors, cognitive and learning styles, and technology features like immersion. The results of this sort of study might inform the development of adaptive EVEs, in which students work within a constructivist framework to choose their own learning objectives, the nature of their learning tasks, and other elements that contribute to their feeling of presence

Thus, more research and participatory observations are needed on this subject. It may even be a useful approach to design new research methods that focus on the interactions between next-generation learning environments and interfaces, and the change in relationships among people affected by this buffering.

Immersive Virtual Reality will revolutionize education both inside and outside of the classroom. However, the ability to design and implement educational programs that take full use of modern technology and are tailored to the needs of the 21st-century student will be essential.

REFERENCES

Ahmed, Allam, and Michael J. D. Sutton. (2017). "Gamification, Serious Games, Simulations, and Immersive Learning Environments in Knowledge Management Initiatives." *World Journal of Science, Technology and Sustainable Development* 14(2/3). doi: 10.1108/wjstsd-02-2017-000[.

Al-Labadi, L., & Sant, S. (2021). Enhance Learning Experience Using Technology In Class. *Journal of Technology and Science Education*, *11*(1). https://doi.org/10.3926/jotse.1050

Altun, H. K., & Lee, J. (2020). Immersive Learning Technologies in English Language Teaching: A Systematic Review. *Educational Technology International*, *21*(2), 155-191.

Balke, T., Eliaeson.T (2017). Immersive Learning Environment: Desıgnıng To Impact Student Achıevement." *School planning & management*.

Beck, Dennis, Leonel Morgado, and Patrick O'shea. (2020) "Finding the Gaps about Uses of Immersive Learning Environments: A Survey of Surveys." *Journal of Universal Computer Science* 26(8). doi: 10.3897/jucs.2020.055.

Blashki, S. Nichol, D. Jia & S. Prompramote (2007) 'The future is old': immersive learning with generation Y engineering students, European Journal of Engineering Education, 32:4, 409-420, DOI: 10.1080/03043790701334228

Bower, Matt, and Morris Siu Yung Jong. 2020. "Immersive Virtual Reality in Education." *British Journal of Educational Technology* 51(6).

Cheney, Amy W., and Krista P. Terry. 2018. "Immersive Learning Environments as Complex Dynamic Systems." *International Journal of Teaching and Learning in Higher Education* 30(2).

Cochrane, Thomas, and Helen Sissons. (2019). "An Introduction to Immersive Reality." *Pacific Journal of Technology Enhanced Leaning* 2(1). doi: 10.24135/pjtel.v2i1.28.

Cook, Matt, Zack Lischer-Katz, Nathan Hall, Juliet Hardesty, Jennifer Johnson, Robert McDonald, and Tara Carlisle. (2019). "Challenges and Strategies for Educational Virtual Reality: Results of an Expert-Led Forum on 3D/VR Technologies across Academic Institutions." *Information Technology and Libraries* 38(4). doi: 10.6017/ital.v38i4.11075.

Elmqaddem, Noureddine (2019) "Augmented Reality and Virtual Reality in Education. Myth or Reality?" *International Journal of Emerging Technologies in Learning* 14(3):234–42. doi: 10.3991/ijet.v14i03.9289.

Dede, C., & Barab, S. (2009). Emerging technologies for learning science: A time of rapid advances. *Journal of Science Education and Technology*, *18*(4), 301-304.

Dengel, Andreas, Josef Buchner, Miriam Mulders, and Johanna Pirker. (2021) "Beyond the Horizon: Integrating Immersive Learning Environments

in the Everyday Classroom." in *Proceedings of 2021 7th International Conference of the Immersive Learning Research Network, iLRN 2021*.

Duncan, Keri J. 2020. "Examining the Effects of Immersive Game-Based Learning on Student Engagement and the Development of Collaboration, Communication, Creativity and Critical Thinking." *TechTrends* 64(3). doi: 10.1007/s11528-020-00500-9.

Hamilton, D., J. McKechnie, E. Edgerton, and C. Wilson. (2021). "Immersive Virtual Reality as a Pedagogical Tool in Education: A Systematic Literature Review of Quantitative Learning Outcomes and Experimental Design." *Journal of Computers in Education* 8(1). doi: 10.1007/s40692-020-00169-2.

Hu-Au, Elliot, and Sandra Okita. 2021. "Exploring Differences in Student Learning and Behavior Between Real-Life and Virtual Reality Chemistry Laboratories." *Journal of Science Education and Technology* 30(6). doi: 10.1007/s10956-021-09925-0.

Jantakoon, Thada, Panita Wannapiroon, and Prachyanun Nilsook. 2019. "Synthesis of Framework of Virtual Immersive Learning Environments (VILEs) Based on Digital Storytelling to Enhance Deeper Learning for Undergraduate Students." *International Education Studies* 12(4). doi: 10.5539/ies.v12n4p198.

Jantakoon,T., Wannapiroon,P. and Nilsook, P.(2019) "Virtual Immersive Learning Environments (VILEs) Based on Digital Storytelling to Enhance Deeper Learning for Undergraduate Students." *Higher Education Studies* 9(1). doi: 10.5539/hes.v9n1p144.

Kamińska, Dorota, Tomasz Sapiński, Sławomir Wiak, Toomas Tikk, Rain Eric Haamer, Egils Avots, Ahmed Helmi, Cagri Ozcinar, and Gholamreza Anbarjafari. 2019. "Virtual Reality and Its Applications in Education: Survey." *Information (Switzerland)* 10(10). doi: 10.3390/info10100318.

Kennedy, Gregor, Ioanna Ioannou, Yun Zhou, James Bailey, and Stephen O'Leary. 2013. "Mining Interactions in Immersive Learning Environments for Real-Time Student Feedback." *Australasian Journal of Educational Technology* 29(2). doi: 10.14742/ajet.700.

Kurubacak, G., & Altinpulluk, H. (Eds.). (2017). Mobile Technologies and Augmented Reality in Open Education. IGI Global. https://doi.org/10.4018/978-1-5225-2110-5

Lea, Bih Ru, and Li Li Eng. 2021. "Exploring the Impact of Multi-Class Teams in an Immersive Learning Environment on Student Learning Experience and Engagement." *International Journal of Business and Systems Research* 15(1). doi: 10.1504/ijbsr.2021.10032671.

Lorenzo, Gonzalo, Asunción Lledó, Rosabel Roig, Alejandro Lorenzo, and Jorge Pomares. 2016. "New Educational Challenges and Innovations:

Students with Disability in Immersive Learning Environments." in *Virtual Learning*.

Marcelino, R., Silva, J. B. da, Alves, G. R., & Shaeffer, L. (2010). Extended Immersive Learning Environment: A Hybrid Remote/Virtual Laboratory. International Journal of Online and Biomedical Engineering (iJOE), 6(5), pp. 46–51. https://doi.org/10.3991/ijoe.v6i5.1386

McClannon, Terry W., Amy W. Cheney, Les L. Bolt, and Krista P. Terry. 2018. "Predicting Sense of Presence and Sense of Community in Immersive Online Learning Environments." *Online Learning Journal* 22(4). doi: 10.24059/olj.v22i4.1510.

Mikropoulos, T. A., & Natsis, A. (2011). Educational virtual environments: A ten-year review of empirical research (1999–2009). *Computers & education*, *56*(3), 769-780.

Muhanna, M. A. (2015). Virtual reality and the CAVE: Taxonomy, interaction challenges and research directions. *Journal of King Saud University-Computer and Information Sciences,* 27(3), 344-361.

Peixoto, Bruno, Rafael Pinto, Miguel Melo, Luciana Cabral, and Maximino Bessa. 2021. "Immersive Virtual Reality for Foreign Language Education: A PRISMA Systematic Review." *IEEE Access* 9. doi: 10.1109/ACCESS.2021.3068858.

CHAPTER 9

THE PLACE OF INTELLIGENCE GAMES IN MATHEMATICS EDUCATION FOR GIFTED STUDENTS

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INTRODUCTION

The order of the world is changing rapidly from day to day. This change differentiates people by influencing the characteristics they should have. In our age, different and original solutions to the problems they encounter individuals, must have the mental ability to overcome their difficulties and problems to provide the solutions they produce are expected to implement in the face of quickly. Problem solving and reasoning skills can be given as examples of the mentioned mental competencies. It has been found in the literature that these skills can be improved by arranging the characteristics of the education that should be given to today's individuals (Ellis and Hunt, 1993; NCTM, 2000; Verschaffel et al., 1999; Lester, 1994). In order to keep up with the era, it is necessary to be individuals who can provide reasoning, drawing conclusions, thinking critically, defending the results achieved, being practical and fast, judging.

Intelligence games have a great importance in the development of strategic thinking and reasoning skills (Bottino and Ott, 2007), strategic thinking, planning, communication, discussion, group decision making, data processing (Kirriemur and McFarlane, 2004). From an educational point of view, games contribute to increasing motivation (Rosas et. al., 2003), developing positive behavior and increasing attention (Garris et. al., 2002). Considering the skills that games provide to students in the education process, the idea that it is necessary to include games in the lessons emerges.

Playing games from an early age is a necessity that develops as a part of human life. This need gradually decreases with the advancement of human age. However, people very little forget the games they played and remember these games even in old age. Marangoz and Demirtaş (2017) stated that games, which are indispensable for people, will turn into an activity they do happily and enjoy, and even turn into a fun learning environment. Learning environments that include games can enable the change in students' perspectives towards lessons, and learning to be realized by easier and permanent understanding. The reason for this situation is that children also develop and use a large number of mental skills when playing games (Karaman, 2012). The reason for this situation is that children also develop and use a large number of mental skills when playing games. In general, games, especially brain games, are tools that can serve to achieve the desired goals by integrating different teaching methods and tools into education during the use of courses (Dempsey et al., 2002).

Students of our age perceive that mathematics consists only of problems and four operations. Students cannot make a connection between

the mathematics subjects they learn and daily life. This situation leads to the fact that mathematics cannot be assimilated in students. The inability to assimilate mathematics causes students to develop negative attitudes towards mathematics. It is important for students to love mathematics and realize that mathematics is not just about problems and four operations in order to achieve their success in mathematics. In order to gain this awareness, it is necessary to include teaching with games in the classrooms.

Within the scope of PISA, the skills that students are expected to have in the exams administered by the OECD; formulating their ideas, students' ability to pose mathematical problems for various situations, interpreting, analyzing, problem solving, reflective thinking, activities and reasoning, communication oriented. Baykul (2003) stated that Turkey is in the last place in the ability to relate to daily life and transfer knowledge in the PISA exam, and that there is an inability to focus on the use of mathematical knowledge in students.

Mathematics is not only an area where procedural skills are used, but it is an area where higher-order thinking skills are used, especially reasoning. Umay (2003) stated that in addition to teaching operations, numbers, geometry, area calculation, proportion and many subjects, mathematics also teaches reasoning, discovering patterns, making assumptions, reaching conclusions and thinking logically. In addition, one of the most important aims of mathematics education is to obtain logical answers to why and why questions, in other words, to help the development of reasoning (Altıparmak and Öziş, 2005).

Reasoning includes ways of thinking, speaking, and acting that support the desired goal and establish mathematical certainty (Edwards, 1997). In other words, reasoning is a mathematical thinking that guides students to make proofs. Students can establish relationships between mathematical situations in daily life, thanks to their reasoning and proving abilities that they gain through mathematics education. For this reason, reasoning, which is a complex process and requires high-level thinking skills, has an important place in mathematics (NCTM, 1989).

Mathematics includes problem solving due to its content. Reasoning is needed in order to solve the problems in the mathematics lesson. This situation reveals the concept of mathematical reasoning. It is of great importance for mathematics that students discover relationships by establishing the link between the data in the problems they encounter and produce solutions for each situation. There is a close relationship between mathematical reasoning and understanding mathematics (Ev-Çimen, 2008). When the literature is examined, it has been seen that the importance of students' making mathematics meaningful and making mathematical

reasoning is given importance. TIMSS (2003) defined the sub-dimensions and skills of mathematical reasoning as analysing, generalizing, making connections, decision making and non-routine problem solving. It is of great importance for students to use mathematical reasoning in order to solve problems in daily life and in mathematics lessons. Therefore, there is a need to include content in the mathematics education program that will enable students to gain mathematical reasoning skills. Among the applications that support students to use some logical strategies and problem solving skills they need in solving mathematical problems, there are intelligence games.

Intelligence, when defined in general, is the use of reasoning, abstract and concrete thinking and mental function for a purpose through the use of perceptions (Devecioğlu and Karadağ, 2016). Intelligence games are tools that enable students to make quick and correct decisions, develop a systematic mindset against problems, develop original and different strategies, recognize and develop their intelligence potential, and develop positive attitudes towards problem solving and working skills individually, as a team and in a competitive environment within the scope of intelligence games (MEB, 2013). In addition, it improves concentration and attention (Garris et. al., 2002), increases motivation (Rosas et. al., 2003), and develops a positive attitude towards learning (Lou et. al., 2001) are indicated.

Renzulli (1977) stated that giftedness emerges with the interaction of three basic elements of human structure. These items are;

i) Having a high level of dedication, motivation and motivation to complete the subject matter covered,

ii) Demonstrate a superior level of creativity

iii) To be above average in general intellectual development.

Davaslıgil (1990) expressed the necessity of providing the adequate education needed by this group, which has positive effects, since great responsibilities fall on the segment of the society that he defines as superior in achieving positive results in the progress efforts of humanity. Turkey is one of the most unique countries in the world, which has a long experience in the education of gifted people (Akarsu, 2001). Enderun School, which is the most famous and first practice in the world, leads Turkey's efforts to evaluate the potential of gifted people (Bilgili, 2004).

Gifted students should be given the opportunity to transform their existing potential into performance through appropriate educational materials and environments that will be offered. These opportunities can only be provided by differentiating the teaching processes according to the learning characteristics of gifted students. Differentiation of education

for gifted students is to meet these needs of students at the same age with different learning needs by organizing different learning activities (Kulik and Kulik, 1997). Various arrangements are made in the process, content, environment and product in order for students to be successful according to their differing characteristics (Navan, 2002; Tomlinson, 2013). In addition, enrichment is the activities that enrich the students in an appropriate way by establishing interdisciplinary relations in the lessons instead of creating an additional learning experience (Lessinger and Seagoe, 1963; Norton, 1959; Şahin, 2018). The enrichment and diversification of the activities for gifted students also reveals that the program offered is different from the normal program. Social problem analysis, research, creative writing, experiments and trips, creativity can be done for enrichment (Şahin, 2018).

MEB (2007) defines gifted individuals as individuals who have been identified by experts who show higher performance in areas such as art, intelligence and leadership than their peers. In addition, gifted students can be defined as individuals who have higher level thinking skills, perform, and have high productive power compared to their peers in features that require instant thinking. The reason for giving importance to the education of gifted individuals is that they think that they will produce different solutions to the problems they encounter in the future with their reasoning skills. Davaslıgil (2004) stated that gifted students may experience adjustment problems if they are not given an appropriate education. This situation reveals the necessity of providing an appropriate education to gifted students who need different learning (Şahin, 2014). These students need to be supported with different educational programs that will develop their potential (as cited in Leventa, 2011). For this reason, it is a great necessity to meet the educational needs of gifted students in order to develop their innate potential.

Students who excel in mathematics have significant potential to support the progress of society. In the field of mathematics, gifted students differ in their learning speed, depth of understanding and interests compared to students with normal intelligence level (Davaslıgil, 2004). According to Sheffield (1994), the characteristic features of mathematical ability are predisposition to observation abilities, rapid learning process, strong questioning skills, creativity and the capacity to grasp extraordinary cause-effect relationships. In addition, gifted students in the field of mathematics have the ability to form conceptual generalizations and reason quickly (Krutetskii, 1976).

Mathematics education has an important place in the education process of students, since mathematics is a branch of science that helps individuals think in complex situations and encourages them to research, question and think (Günhan, 2006). Superior ability in the field of

mathematics expresses a high ability in understanding mathematical logic and ideas, rather than showing a high level of ability in making arithmetic calculations or reaching the highest point in this field (Miller, 1990; cited in Dağlıoğlu, 2004). Aygün (2010) stated that there is no single educational approach that is the best for gifted students, but there are some general characteristics of mathematics education to be applied to gifted students.

Acceleration, grouping and enrichment education models are used for gifted students. In addition to these models, there are various applications that can be used to meet the educational needs of gifted students and improve their abilities (Moore, 1992). One of these applications is intelligence games. In Science and Art Centers, it is to offer a variety of materials and program content as much as possible in order to provide teachers with learning opportunities suitable for the differences of students (Levent, 2011b).

When the literature was searched, studies covering gifted people and intelligence games were found (Altun, 2017; Baki, 2018; Bulut, 2018; Cameron, 2007; Demirel and Karakuş Yılmaz, 2019; Genç and Dağlıoğlu, 2018; Marangoz and Demirtaş, 2017). However, no study has been found on the place of mind and intelligence games in the mathematics education of gifted students. It is thought that this study will contribute to the development of students by drawing attention to the use of mind games, which is one of the applications of motivating gifted students and therefore improving their mental skills, in mathematics education. In addition, this study is thought to be important in terms of giving examples to educators and teachers.

PURPOSE OF THE RESEARCH

It is an important need to investigate the contribution of intelligence games to learning and teaching mathematics and the place of intelligence games in mathematics education of gifted students. The aim of this research is in the Secondary Education Mathematics Curriculum (MEB, 2018) and Middle School Mathematics Courses 5-8. It is the introduction of intelligence games, which are effective in teaching the acquisitions and objectives in the 2nd Grade Curriculum (MEB, 2013c), to be used in the mathematics education of the gifted.

For this purpose, the following research questions were formed.

1. What are brain teasers?

2. What are the types of intelligence games?

3. How are intelligence games used in mathematics education of gifted students?

MATERIALS AND METHODS

In order to examine the effects of mind games in the mathematics education of gifted students, a theoretical-based study was conducted by concentrating on articles, books and statistical data on the subject. The study was carried out with the document analysis method, which is one of the analytical research methods. Yıldırım and Şimşek (2006) emphasized that the analyzes carried out with the document analysis method are about written materials containing information about the case or cases that are aimed to be investigated. In addition, this method is a technique in which data is obtained as a result of the examination of written and printed sources on the subject (Bogdan and Biklen, 2007). In the research, data were obtained from theses, articles, books, encyclopedias, papers and related web pages that deal with the definition, properties, types and use of intelligence games in mathematics education. The written/visual documents obtained were examined in line with the purpose and problems of the study.

The analysis of the data in this study was carried out using the descriptive analysis method. Yıldırım and Şimşek (2003) defined the descriptive analysis method as a type of qualitative data analysis that includes summarizing and interpreting the data obtained by various data collection techniques according to predetermined themes. The purpose of this type of analysis is to convey the findings to the reader in a summarized and interpreted form.

RESULTS AND DISCUSSION

Use of Intelligence Games in Mathematics Education of the Gifted

Developing students' planning, communication, strategic thinking, group decision making, discussion, data processing and reasoning skills in mathematics education; It is thought that it is important to reach the aim of the research to reveal the features and benefits of intelligence games, which are thought to have a positive effect in the teaching of their skills, which increase their academic achievement thanks to their increased motivation and skills, and the way they are applied in mathematics education.

Some of the intelligence games are built on materials, and some do not contain any materials. In addition, some have a verbal structure and some have a visual structure. Considering their common features, we can make a definition of intelligence games as follows: Intelligence games have certain rules, goals and/or situations that determine the winner-loser, have the least luck factor, reveal a problematic context waiting to be solved, spatial thinking ability, memory and loss. These are games that require attention power, psychomotor skills, cognitive strategies and basic

mathematical skills (Erdoğan et al., 2017).

Brain teasers are gamified versions of all kinds of problems, including real ones. In addition, it is an effective tool in helping students gain problem-solving skills (MEB, 2013a). The first application of intelligence games in the National Education Curriculum started in 2012 as an elective course with the name "Middle School and Imam Hatip Secondary School Intelligence Games". In this program, it was emphasized that intelligence games are a tool that enables original and unusual thinking, has alternative answers and solutions, and has a great impact on the development of communication, reasoning and problem solving skills (MEB, 2013b). The training program of the intelligence games course consists of six parts: Word Games, Intelligence Questions, Geometric Mechanical Games, Strategy Games, Memory Games, Reasoning and Operational Games.

In the secondary school curriculum of the Ministry of National Education (2013b), mind games are divided into some groups. These; reasoning and operation games, verbal games, strategy games, memory games, geometric-mechanical games and intelligence questions. Intelligence games in the field of mathematics were defined by Oldfield (1991a, 1991b, 1991c) as mathematical games of games involving mathematical objects and these games were divided into 12 classes. When these classes are examined: developer games, puzzle type games, games that encourage mathematical discussion, application games of concept skills, multicultural games, cooperative games, computer games, mental games, games that encourage the use of strategies, calculator games, are games and competitive games that emphasize basic mathematical structures. A game can be evaluated within a few of the specified classes.

Mathematics lessons benefit students in terms of versatile and flexible thinking. Similar benefits are also provided by strategic intelligence games. It is observed that students who are successful in strategic intelligence games are also successful in mathematics lessons. When the literature is examined, it is seen that intelligence games are expressed as an adaptation of mathematical facts, objects, concepts and problems (Pinter, 2010; Silva, 2011). In addition, Blaise Pascal has developed probability theory from games of chance, and there are many fields in his mathematics such as mind games (Erdogan et al., 2017). From another point of view, Offenholley (2012) divided the games that can be used in the mathematics course into 2 parts, and the intrinsic games; He defines games where concepts form the basis of the game, and extrinsic games as games that can be used for concepts and different topics.

Strategic intelligence games contain a number of problematic themes within the framework of certain situations and rules. In order to win the

game, it is necessary to find a solution to the problem situation. Brousseau (1997) stated that mathematics is a process that occurs as a result of the learner encountering a problematic situation, learning in real terms and trying to develop solutions to the problem situations he encounters by using the existing information. In this context, it is seen that the process of winning the game and the process of learning mathematics are similar to each other. This similarity has paved the way for many studies. Erdoğan and Özdemir Erdoğan (2012) stated that these processes are presented as a general framework in mathematics teaching programs around the world and are grouped under the headings of reasoning-proof, problem-solving, representation, communication and association. In addition, mind and intelligence games support students in their socialization, self-expression, multiple thinking, directing attention, focusing and problem solving (Baki, 2018). Erdoğan et al. (2017) classified strategic intelligence games into 3 main categories. Mathematical processes are categorized in terms of their relationship with mathematical concepts and their use as teaching materials. Mathematical processes; mathematical communication, reasoning and proof, representation, problem solving and association.

In games that involve the mathematical process, the strategies included in the game are based on reasoning, inferences and associating with mathematical concepts. Heuristic strategies and mathematical strategies are used in almost all intelligence games. The first example of games where mathematical and intuitive strategies are used and where there are concrete elements is chess. In the games that are examined in terms of their relationship with mathematical concepts, relationships with mathematical concepts play a role in the basis of the game. In the games studied as teaching materials, situations such as game floors and the structure of stones are used in the teaching of mathematical concepts.

The Relationship between Mathematics Lesson Topics and Intelligence Games

When we list the main strategic intelligence games that support mathematics education, we list Surakarta 3 Stone, Kakuzu, 9 Stone, Quarto, Abalone, Reversi, Alquerque, Quixo, Batik, Pentago, Bihar, Quoridor, Colorpop, Six, Cubulus, Gobblet, Pylos, Kulami, Gyges, Knight Moves, Inversé, Katamino, Mangala, Kabaleo are among the most frequently played main games. Erdogan and others (2017)

- Mathematically weighted games of Cubulus, Batik, Inversé, Gyges, Katamino, Kakuzu, Mangala, Kulami, Quarto, Pentago, Surakarta, 9 stone, 3 stone, Bihar, Alquerque games,
- Intuitive based games of Colorpop, Abalone, Quoridor, Gobblet, Reverse, Quixo, Six games

➢ Kabaleo, Knight Moves, Pylos games are classified as both mathematical and heuristic games.

Some of the intelligence games can be directly related to the mathematics course topics. The relationship between intelligence games and mathematics is as follows;

➢ Quarto game → Combination,

➢ Kulami game →Permutation Gyges,

➢ Kakuzu game → Probability,

➢ Batik, Cubulus, Inversé, Katamino game →Geometric shapes and objects,

➢ Pentago, Katamino game →Symmetry transformation (Erdoğan et.al., 2017).

Many of the intelligence games are suitable for use as teaching materials in mathematics lessons. It is important for the efficiency of the lessons to include intelligence games that support the topics covered in mathematics lessons. The expression describing which intelligence game supports (Erdoğan et.al., 2017) which math lesson topics is as follows;

➢ Alquerque 9 Stone, Gyges, Bihar, Kabaleo, Kakuzu, Pylos, Mangala, Quarto, Knight Moves, Surakarta →Counting, Fractions, Exponents, Numbers, Operations

➢ 9 Stones, Alquerque, Abalone, Kabaleo, Bihar, Pylos, Kakuzu, Surakarta, Reversi → Quadratic Numbers

➢ 9 Stone, Bihar, Alquerque, Kakuzu, Pylos, Kabaleo, Surakarta, Six →Triangular Numbers

➢ 9 Stone, Alquerque, Abalone, Mangala, Bihar, Pylos, Reversi, Kabaleo, Six, Surakarta → Basic sum formulas

➢ Inversé, Batik, Six, Pylos →Triangles, Polygons

➢ Bihar → Circle, Circle

➢ Cubulus, Inversé, Kabaleo, Pylos, Six → Geometric Bodies

➢ Batik, Gobblet → Similarity

➢ Inversé, Katamino, Kulami, Pylos,Quixo, Quoridor → Measuring (Length, Area Volume)

➢ Alquerque, Katamino, Kulami, Pentago, Pylos → Transformation Geometry (Symmetry, Coordinate System, View from Different Directions)

➢ 3 Stone, 9 Stone, Pentago → Corrects

➢ Colorpop, Gyges, Kabaleo, Knight Moves, Kulami, Quixo, Six → Pattern and Decorations/Patterns and Relationships

➢ Colorpop, Kakuzu, Pylos, Quarto → Permutation, Combination, Probability.

The Relationship Between Mathematics Lesson and Intelligence Games Lesson Curriculum

According to the General Objectives and Basic Principles set out in the Basic Law of National Education No. 1739 (2013), the general objectives of the Mathematics Course Curriculum that the Ministry of Education is trying to achieve are as follows;

➢ Will be able to develop and effectively use mathematical literacy skills.

➢ Will be able to understand mathematical concepts and use these concepts in daily life.

➢ Will be able to easily express their own thoughts and reasoning in the problem solving process, and will be able to see the deficiencies or gaps in the mathematical reasoning of others.

➢ Will be able to develop their metacognitive knowledge and skills and consciously manage their own learning processes.

➢ Will be able to develop the skills of doing research, producing and using information. 12. Will be able to realize the relationship between mathematics and art and aesthetics.

➢ Will value mathematics by being aware of the fact that mathematics is a common value of humanity.

➢ Will be able to use mathematical terminology and language correctly to explain and share mathematical ideas in a logical way.

➢ Will be able to develop the characteristics of being systematic, careful, patient and responsible.

In addition, the following statements are included in the general objectives of the Intelligence Games education in the content of the Secondary School and Imam Hatip Secondary School Intelligence Games Curriculum (MEB, 2013), which has been put into practice since the 2013-2014 academic year;

➢ Recognizing and developing the intelligence potential of the students in the intelligence games lesson,

➢ Developing original and different strategies in the face of problems,

- Making quick and correct decisions, developing a systematic mindset,
- Developing working skills and developing a positive attitude towards problem solving within the scope of intelligence games.

In the literature review, it has been determined that there are similarities between the objectives of the intelligence games course and the mathematics courses. It is thought that including intelligence games in mathematics education will be supportive in terms of course objectives.

MEB (2018) secondary mathematics education program;

"Article 2 of the Basic Law of National Education No. 1739. according to the General Objectives of the Turkish National Education expressed in the article, as well as the Basic Principles of the Turkish National Education, the Mathematics Course is prepared on the basis of the Curriculum of students;

1. Developing problem-solving skills by looking at problems from different perspectives,

2. Gaining mathematical thinking and application skills,

3. To use mathematics correctly, effectively and beneficially,

4. Valuing mathematics and mathematics learning,

5. Recognize the historical development process of mathematics, the scientists who contributed to the development of mathematics and their studies,

6. Developing a perspective on whether a problem they encounter in life is a problem for them and reaching a certain level of knowledge is aimed. In addition, it is recommended that each type of game be presented at three basic levels in the intelligence games course curriculum and that students from all levels benefit from layered education.

The three main stages in the curriculum can be listed as follows;

STEP 1-Beginner Level: It includes learning the rules of the games, gaining basic knowledge and skills, playing beginner level games and solving puzzles.

STAGE 2–Intermediate: It includes making logical inferences, starting from the right place in puzzles, applying basic strategies in strategy games, playing intermediate games and solving puzzles.

STEP 3-Advanced Level: It includes high-level knowledge and skills such as creative thinking, analysis, putting forward original strategies, evaluating, and generalizing. Playing advanced games, solving puzzles

and benefiting from the experiences of others are included in this step (MEB, 2013).

It is seen that there are similarities between the listed skills that are aimed to be acquired and developed by the students in the mathematics learning program in the mathematics course and the skills that the use of intelligence games provide to the students.

CONCLUSION

When it comes to superior ability in the field of mathematics, superior ability in understanding mathematical thoughts and mathematical reasoning comes to mind, instead of showing high performance in mathematical operations. Students who can use their flexible thinking skills in the field of mathematics understand mathematical problems easily and quickly, and these students' comprehension skills are higher than their peers. Gifted students can produce original and logical solutions to many mathematical problems that their peers cannot solve, and can use mathematical formulas effectively. Gifted students may show effort and desire to work on complex topics in the field of mathematics. These students are as skilled as possible in making generalizations, establishing mathematical relationships and expressing these stages. In addition, gifted students can interpret many events and phenomena that are not directly related to mathematics in their daily lives mathematically. Gifted students have a high level of interest in mathematics and interpret their environment by approaching them from a mathematical perspective. Rather than trying to teach students the beauty, magnificence and necessity of mathematics by being told, printed or taught, it is of great importance in the education of gifted students to show this interaction and the subject areas arising from this interaction. For this purpose, in this study, the interaction between the concepts of intelligence games and mathematics education was examined with an approach from the perspective of education of gifted people.

Considering the developmental differences of gifted students from other students, it is important to equip mathematics education courses with intelligence games in order to maximize their potential and enable them to communicate effectively with other students. Among the objectives of the curriculum of the Intelligence Games course are the development of students' self-regulation, problem solving, reasoning, psychomotor and communication skills and affective characteristics. When the skills and objectives that the program aims to develop in the curriculum are examined, it is seen that there are many similarities between the Intelligence Games course and the mathematics course. Considering the common features of these two courses, which support the development of each other, it is thought that integrating mind games with the content of the mathematics

course will positively support the increase in the success and productivity of the mathematics course.

It is thought that the Intelligence Games course will contribute positively to mathematics education in general and to mathematical skills in particular. In addition to this, it is thought that giving the mathematics lesson topics accompanied by intelligence games will positively affect the students' perspectives on the mathematics lesson. It is thought that with the inclusion of intelligence games in mathematics lessons, gifted students should experience the feeling of success and there will be changes in affective characteristics such as an increase in their willingness to participate in the lesson and a decrease in eliminating prejudices, thanks to their learning by having fun. When the literature is examined, the benefits of games for teaching as well as increasing attention and concentration (Garris et al. taken., 2002), increasing motivation (Rosas et al. taken., 2003), developing a positive attitude towards learning (Lou et.al , 2001), as well as his contributions to behavior have been included.

In order for mathematics teachers to integrate intelligence games into their lessons in the mathematics education of gifted students, it is important that they complete their mind and intelligence games training with both undergraduate and in-service training courses.In addition, the inclusion of the "Gifted Education" elective course in the undergraduate education of mathematics teachers is supportive in terms of mathematics lesson efficiency of gifted students. In this context, it is important to organize the necessary qualifications and trainings of mathematics teachers and to eliminate their deficiencies. In this study, the place of intelligence games in mathematics lessons of gifted students was examined. It is thought that the application of the games, the benefits of which are mentioned in the research, in mathematics lessons in primary and secondary education institutions will have many benefits.

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REFERENCES

Altıparmak, K. & Öziş, T. (2005). Matematiksel ispat ve matematiksel muhakemenin gelişimi üzerine bir inceleme. *Ege Eğitim Dergisi, 6*(1), 25–37.

Akarsu, F. (2001). *Üstün yetenekli çocuklar: aileleri ve sorunları*. Ankara: Eduser yayınları.

Akgül, S. (2014). Üstün yetenekli öğrencilerin matematik yaratıcılıklarını açıklamaya yönelik bir model geliştirilmesi. (Yayınlanmamış Doktora Tezi), İstanbul Üniversitesi, İstanbul.

Altun, M. (2017). The effects of the physical activity cards and brain teasers to the attention and visual perception levels of the primary school students (Unpublished doctoral thesis). Gazi University Institute of Educational Sciences, Ankara.

Aygün, B. (2010). Üstün yetenekli ilköğretim ikinci kademe öğrencileri için matematik programına yönelik ihtiyaç analizi (Yüksek lisans tezi). Hacettepe Üniversitesi Sosyal Bilimler Enstitüsü, Ankara.

Baki, N. (2018). The effect of the geometrical- mechanical games applied in intelligent games lesson on students' academic self- efficacy and problem solving ability (Unpublished master thesis). Kırıkkale University Institute of Educational Sciences, Kırıkkale.

Batdal-Karaduman, G. (2012). İlköğretim 5. sınıf üstün yetenekli öğrenciler için farklılaştırılmış geometri öğretiminin yaratıcı düşünme, uzamsal yetenek düzeyi ve erişiye etkisi. (Yayımlanmamış Doktora Tezi), İstanbul Üniversitesi, İstanbul.

Baykul, Y. (2003). Matematik öğretimi ve bazı sorunlar. Matematikçiler Derneği, http://matder.org.tr/index.php?option=com_content&view=article&id=44:matematikogretimive-bazi-sorunlar-&catid=8:matematik-kosesimakaleleri&Itemid=172 adresinden 2 Mart 2022 tarihinde alınmıştır.

Bilgili, A. E. (2004). Bir Türk eğitim geleneği olarak Enderun'un yeniden inşası, I. Türkiye Üstün Yetenekli Çocuklar Kongresi, Marmara Üniversitesi Atatürk Eğitim Fakültesi, İstanbul, 31-48.

Bogdan, R. C., & Biklen, S. K. (2007). *Qualitative research for education: An introduction to Theory and methods.* (5th edition). Boston: Allynand Bacon.

Bottino, R.M. & Ott, M. (2006). Mind Games, reasoning skills, and the primary school curriculum: Hints from a field experiment. Learning Media and Technology, 31(4), 359-375.

Brousseau, G. (1997). *Theory of didactical situations in mathematics: Didactiquedes mathématiques, 1970-1990*. Kluwer Academic Publishers (Springer).

Cameron, J. (2007). *IQ mind benders*. Arcturus Publishing Limited.

Coşar, G., Çetinkaya, Ç., & Çetinkaya, Ç. (2015). Investigating the preschool training for gifted and talented students on gifted school teachers' view. *Journal for the Education of Gifted Young Scientists, 3*(1) 13- 21.

Davaslıgil, Ü. (1990) Üstün çocuklar. *Yaşadıkça Eğitim, 13*(4), 211-221.

Davaslıgil, Ü. (2004). *Üstün çocuklara sahip ailelerin eğitimi. Türkiye Üstün Yetenekli Çocuklar Kongresi Seçilmiş Makaleler Kitabı,* İstanbul: Çocuk Vakfı Yayınları.

Demirel, T., & Karakuş Yılmaz, T. (2019). The effects of mind games in math and grammar courses on the achievements and perceived problem-solving skills of secondary school students. *British Journal of Educational Technology, 50*(3), 1482-1494.

Dempsey, J. V., Haynes, L. L., Lucassen, B. A., & Casey, M. S. (2002). Forty simple computer games and what they could mean to educators. *Simulation and Gaming, 33*(2), 157-168.

Devecioğlu, Y., & Karadağ, Z. (2016). Amaç, beklenti ve öneriler bağlamında zeka oyunları dersinin değerlendirilmesi. *Bayburt Eğitim Fakültesi Dergisi, 9*(1), 41-61.

Edwards, L., (1997). Exploring the territory before proof: students' generalizations in a computer microworld for transformation geometry. *International Journal of Computersfor Mathematical Learning, 2*(1), 187-215.

Ellis, H. C., Hunt, R. R. (1993). *Fundementals of cognitive psychology*. Mc Graw Hill.

Erdoğan, A. , Eryılmaz Çevirgen, A. & Atasay, M. (2017). Oyunlar ve matematik öğretimi: Stratejik zekâ oyunlarının sınıflandırılması. *Uşak Üniversitesi Sosyal Bilimler Dergisi , Cilt:10 Sayı: ERTE Özel Sayısı* , 287-311 .

Erdoğan, A. & Özdemir Erdoğan, E. (2013). Didaktik durumlar teorisi ışığında ilköğretim öğrencilerine matematiksel süreçlerin yaşatılması. *Ahi Evran Üniversitesi Kırşehir Eğitim Fakültesi Dergisi (KEFAD), 14* (1), 17-34.

Ev-Çimen, E., (2008). Matematik Öğretiminde, Bireye "Matematiksel Güç" kazandırmaya yönelik ortam tasarımı ve buna uygun öğretmen etkinlikleri geliştirilmesi, Yayımlanmamış Doktora Tezi, Dokuz Eylül Üniversitesi, İzmir.

Garris, R., Ahlers, R., & Driskell, J.E. (2002). Games, motivation and learning: A research and practice model. *Simulation and Gaming, 33*(4), 441-467.

Genç, H., & Dağlıoğlu, E. H. (2018). Erken çocukluk döneminde üstün yetenekli çocuklar ve oyun. *Eğitim ve Toplum Araştırmaları Dergisi, 5*(1), 180-204.

Günhan, C. B. (2006). İlköğretim II. kademede matematik dersinde probleme dayalı öğrenmenin uygulanabilirliği üzerine bir araştırma (Doktora tezi). Dokuz Eylül Üniversitesi Eğitim Bilimleri Enstitüsü, İzmir.

Karaman, S. (2012). Okul öncesi eğitim kurumuna devam eden 6 yaş çocuklarinin matematik becerileri ile sosyodramatik oyunun boyutlari arasındaki ilişkinin incelenmesi. (Yayınlanmamış yüksek lisans tezi). Pamukkale Üniversitesi Eğitim Bilimleri Enstitüsü, Denizli.

Kirriemuir, J., & Mcfarlane, A., (2004). Literature review in games and learning, (Rapor no. hal-00190453), A NESTA Futurelab.

Kulik, J. A., & Kulik, C. C. (1997). Effect of ability grouping on student achievement. *Equity and Excellence, 23*(1-2), 22-30.

Krutetski, V. A. (1976). *The psychology of math abilities in school children.* London: The University of Chicago Press.

Lessinger, L. M., & Seagoe, M. V. (1963). The nature of enrichment for gifted students. *The Journal of Educational Research, 57*(3), 142-494.

Lester, F. K. (1994). Musing about mathematical problem solving researchs: 1970-1994. *Journal for Research in Mathematics Education, 25*(6), 660-675.

Levent, F. (2011a). *Üstün yetenekli çocukların hakları* [Gifted children's rights]. İstanbul: Çocuk Vakfı Yayınları.

Levent, F. (2011b). Üstün yeteneklilerin eğitimine yönelik görüş ve politikaların incelenmesi (Yayınlanmamış doktora tezi) [Unpublished doctoral thesis]. Marmara Üniversitesi, İstanbul, Türkiye .

Lou, Y., Abrami, P., & D'Apollonia, S. (2001). Small group and individual learning with technology: a metaanalysis. *Review of Educational Research, 71*(3), 449-521.

Marangoz, D., &. Demirtaş, Z. (2017). The effect of mechanical mind games on mental skill levels of primary school second grade students. *The Journal of International Social Research, 10*(53), 612- 621.

Milli Eğitim Bakanlığı (2007). Bilim ve Sanat Merkezleri Yönergesi. http://mevzuat.meb.gov.tr/

MEB, (2013a). *Ortaokul Ve İmam Hatip Ortaokulu Zekâ Oyunları Dersi Öğretim Programı*, MEB 2013, sayı 118.

MEB. (2013b). *Zekâ oyunları dersi (5, 6, 7 ve 8. sınıflar) öğretim programı*. Ankara: MEB

MEB (2013c). *Ortaokul matematik dersi 5-8. sınıflar öğretim programı*. Ankara: MEB Talim Terbiye Başkanlığı Yayınları.

MEB (2018). *Ortaöğretim Matematik dersi öğretim programı*. Ankara: MEB Talim Terbiye Başkanlığı Yayınları.

Marangoz, D., & Demirtaş, Z. (2017). Mekanik zekâ oyunlarının ilkokul 2.sınıf öğrencilerinin zihinsel beceri düzeylerine etkisi. *Uluslararası Sosyal Araştırmalar Dergisi, 10*(53). 612-621.

Miller, R. C. (1990). Discovering mathematical talent. https://files.eric.ed.gov/fulltext/ED321487.pdf

National Council of Teachers of Mathematics. (2000). *Principles and standards for school mathematics.* Reston, VA: Author.

NCTM, (1989). *Curriculum and Evaluation Standards for School Mathematics*, Reston,VA.

Norton, M. S. (1959). Current provision for the gifted. The Clearing House: A Journal of Educational Strategies. *Issues and Ideas, 33*(7), 425-428.

Offenholley, K. H. (2012). Gaming your mathematics course: The theory and practice of games for learning. *Journal of Humanistic Mathematics, 2*(2), 79-92.

Oldfield, B. J. (1991a). Games in the learning of mathematics: 1: A classification. *Mathematics in School, 20*(1), 41-43.

Oldfield, B. J. (1991b). Games in the learning of mathematics part 2: Games to stimulate mathematical discussion. *Mathematics in School, 20*(2), 7-9.

Oldfield, B. J. (1991c). Games in the learning of mathematics part 3: Games for developing strategies. *Mathematics in School, 20*(3), 16-18.

Renzulli, J. S., & Smith, L. H. (1977). Two approaches to identification of gifted students. *Exceptional Children, 43*(8), 512-518.

Rosas, R., Nussbaum, M., Cumsille, P., Marianov, V.,. Correa, M., Flores, P., Grau, V., Lagos, F., López, X., López, V., Rodriguez, P. & Salinas, M. (2003) Beyond Nintendo: design and assessment of educational video games for first and second grade students. *Computer & Education, 40* (1), 71-94.

Rotigel, J. V., & Fello, S. (2004). Mathematically gifted students: How can we meet their needs? *Gifted Child Today, 27*(4), 46-51.

Sheffield, L.J. (1994). *The Development of Gifted and Talented Mathematics Students and the National Council of Teachers of Mathematics Standards.* National Research Center on the Gifted and Talented.

Smedsrud, J. (2018). Mathematically gifted accelerated students participating in an ability group: A qualitative interview study. *Frontiers in Psychology, 9*, 1-12.

Şahin, F. (2014). Üstün zekâlı/üstün yeteneklilerin tanılanması, A. Ataman (Ed.), *Üstün zekâlılar ve üstün yetenekliler konusunda bilinmesi gerekenler* içinde (ss. 29-45). Vize Yayıncılık.

Şahin, F. (2018). *Eğitsel stratejiler ve örneklerle zenginleştirilmiş müfredat farklılaştırma modelleri.* Nobel Yayınları.

Umay, A., (2003). Matematiksel Muhakeme Yeteneği. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi, 24*(1), 234-243.

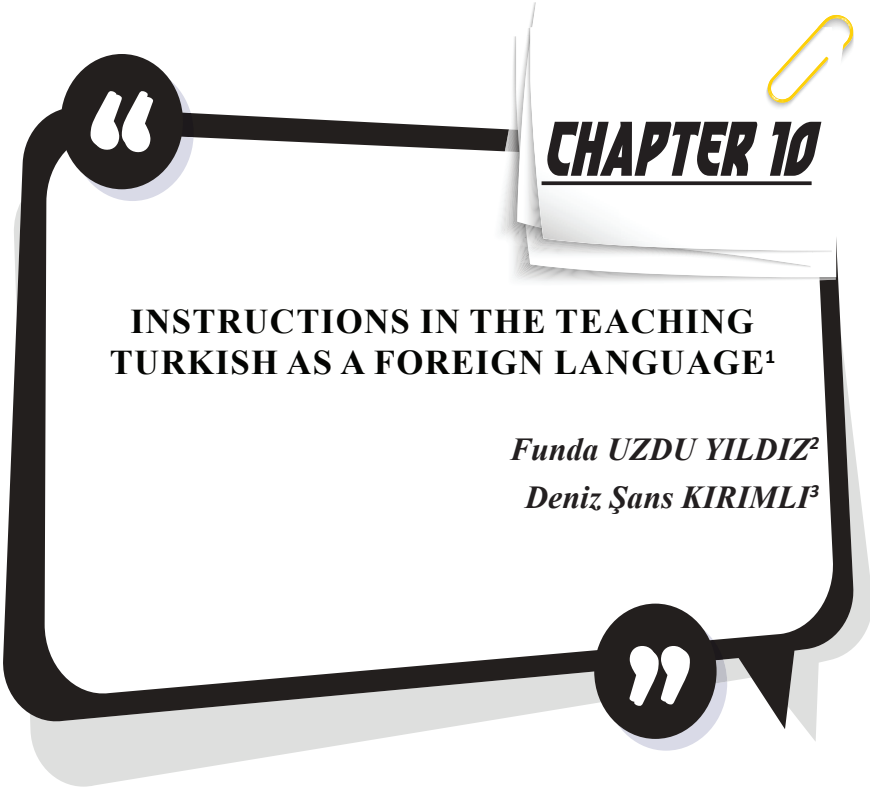
Verschaffel, L., De Corte, E., Lasure, S., Van Vaerenbergh, G., Boagerts, H., & Ratincky, E. (1999). Learning to solve mathematical application problems: A design experiment with fifth graders. *Mathematical Thinking & Learning, 1*(3), 195-229.

TIMSS.(2003). IEA's TIMSS 2003 International report on achievement in themathematics cognitive domains: findings from a developmental project international association for the evaluation of educational achievement. TIMSS - PIRLS International Study Lynch School of Education, Boston College. https://timss.bc.edu/PDF/t03_download/T03MCOGDRPT.pdf

Yıldırım, A., ve Şimşek, H.(2006). Sosyal bilimlerde nitel araştırma yöntemleri. *Eğitimde Kuram ve Uygulama, 2*(2), 113-118.

Yıldırım, A., ve Şimşek, H. (2013). *Sosyal bilimlerde nitel araştırma yöntemleri* (9.Baskı). Seçkin Yayıncılık.

Yılmaz, K. (2019). Üstün yetenekli öğrencilerin matematiksel düşünme becerilerine göre problem kurma süreçlerinin incelenmesi. (Yayımlanmamış Yüksek Lisans Tezi), Kırşehir Ahi Evran Üniversitesi, Kırşehir.



CHAPTER 10

INSTRUCTIONS IN THE TEACHING TURKISH AS A FOREIGN LANGUAGE[1]

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Introduction

We are guided by various instructions that serve different purposes in every aspect of our lives, and we continue our lives in line with these instructions. We perform works in many areas in the light of certain directives throughout our lives. The success of the work we do is directly related to whether we fully understand how we should do that work. Therefore, in order to perform an action correctly and achieve success, it is of great importance that written or verbal instructions are clear and understandable. In the dictionary of Turkish Language Institution, it is possible to define the instructions, which is defined as 'command, instruction, directive given from the upper authorities to the lower authorities on a certain basis for the path to be taken in any subject', as a way of making the student do a certain thing in the field of education, and activating it (Mortensen, 2008, p. .36). Considering that the student does a lot of exercises in order to learn a subject in depth and each exercise has its own instruction, the success of the student is related to how much efficiency he/she can get from the instructions. For this reason, instructions play a key role in learning.

Instructions, which play a key role in learning, provide individuals who acquire the language with the opportunity to get to know the different functions of that language in the field of language teaching. An instruction in the field of language teaching is a message designed to activate the student and also contains information and explanation about the language. For this reason, the functions of "Activating the Receiver" and "Beyond Language" are used in the instructions, which is one of the first steps of the exercises on the subject. Thus, the student recognizes these functions on the instructions, makes use of them and can form an idea about what to do. It is important that the instructions are clear and easy to understand in order to internalize the transferred information and to receive correct feedback. In teaching a foreign language, not only the instructions are clear and easy to understand, but also the way the language is used, is of great importance for students who try to get used to the language by trying to solve the system of that language. Pragmatics, as a sub-field of linguistics that enables us to analyze these systems of language, is based on the basic function of devoloping communication skills in language teaching and teaching vocabulary with topics that can be useful in the daily life. The aim and starting point of this study is to examine and describe the instructions in the field of Teaching Turkish as a Foreign Language with a pragmatic point of view. It is aimed to find out the differences in the instructions in the field and then to contribute to new publications by getting the lecturers' and students' comments on this subject. For this purpose, answers to the following questions are sought:

1. Do the instructions used in teaching Turkish as a foreign language (TTFL) differ pragmatically?

2. What are the differences between the textbooks used in TTFL in terms of the linguistic performance of the instructions?

3. How are the lecturers' usage of the instructions and their usage of written instructions in the classroom (face-to-face and online lessons) in TTFL?

4. What are the differences between the instructions used in textbooks in YOT and lecturers' opinions?

Pragmatics and Language Teaching

Pragmatics defines the purpose of teaching a language as encouraging the learner not only to change the sound sequences in the native language, but also to send and receive messages in the target language. The necessary and sufficient tool to achieve this goal is the student's participation in creative communication in the target language (Oller, 1973). Oller's this definition refers to the communication skill indirectly. Communication skill is the individual's ability to use the language comfortably as a tool and to express himself by knowing under what conditions and with which words to speak. The aim of second language teaching is not language teaching, which provides the opportunity to produce an unlimited number of sentences by making use of a limited set of rules, but is considered to be a communication skill that enables the appropriate usage of utterances, which the language system allows to produce, under certain conditions (situation, interpersonal relations, etc.). Polat, 2010, p.26). Therefore, foreign language teaching is a process that aims to teach the students grammar rules on the one hand, and to gain communication skills on the other hand. Pragmatics, together with its sub-fields, linguistic pragmatics, psychological pragmatics and sociological pragmatics, provides solutions to communication problems by researching methods and principles on how to teach communication skills in foreign language teaching (Demirezen, 1991, p.282). As a result of a study on pragmatics in language teaching, it is observed that students could not receive relevant input due to lack of both grammar and pragmatic awareness (Bardovi-Harlig, 1996, p.23). According to Bardovi-Harlig, a student who does not have as well-equipped linguistic tools as a native speaker should be guided by the right instructions. Pragmatics, as a study of linguistic performance and context, argues that grammar can only be animated by the use of real language (Demirezen, 1991). The most appropriate way for foreign language students to gain the ability to communicate in the target language is seen as the inclusion of daily language in textbooks (Uslu, 2004, p.38). This shows that pragmatics can be applied to language teaching in two ways because language teaching is an endeavor that also

uses language in a social context (in the classroom) to promote the learning and teaching of language for use in social contexts (Nunn, 2006, p.6). After the 70's, cognitive learning based on understanding and comprehension, communicative approach, whose linguistic basis is pragmatic have begun to be adopted learning theory in foreign language teaching. According to this approach, where language is seen first and foremost as a means of social communication, in order to learn a foreign language, first of all, it is necessary to learn how to use that language in various communication situations that may be encountered in daily life (Berard, 1991). Other techniques applied later in foreign language teaching have also been developed through this approach. The fact that pragmatics principles entered the field of foreign language teaching in a concrete way is realized thanks to the reference book published by the European Commission in order to determine the content in language teaching and to assist in the preparation of the textbooks to be taught (Korkut ve Ayırır, 2015). As a discipline that thinks about why communication often fails and how it can be more successful, teaching the students who will use language outside the classroom and teaching the use of it in the classroom to the teachers who will mediate its use is realized with the contribution of pragmatics. The effects of pragmatics can be observed in more student-centered action-oriented approaches in language teaching.

Instructions

The Definition of Instructions and Features

The definition of a directive is given in the dictionary of the Turkish Language Institution as "command, instruction, directive given from the upper authorities to the lower authorities on a certain basis for the way to be followed in any subject" (Türk Dil Kurumu [TDK]). When we look at the foreign sources, Searle (1969), in his studies on illocutions, mentioned the directives (instructions) as imposing some actions on the "audient", that is, on the receiver (as cited in Mortensen, 2008, p.36). Although it is given synonymously with instruction in the definition of the Turkish Language Institution dictionary, it is not equivalent to the word directive in terms of its features and the purpose it serves. The frequent use of the imperative mood in both directives and instructions leads to the assumption that the two are equivalent. However, while the directive informs the actions to be taken while doing a job, the steps to be taken; the instruction reports a behavior that must be fulfilled. Therefore, directive can be defined as the cognitive processing of the decisions to be taken before performing the action (Aydoğu, 2015, p.379). In this case, there may be an imperative language use for both the instruction and the directive, but it is of great importance that the language use of the instruction is more explanatory and understandable when performing a job.

Instruction in Education

The directives that we come across in all kinds of fields throughout our lives and that inform us about the way we should follow, of course, also appear in the field of education. In the field of education, instructions are mostly used in exercises created to get feedback from the student and to ensure that the student understands the subject. Bertocchini and Costanzo (2014) state that an exercise consists of three basic components: instruction, content and application process (cited in Güneş, 2017, p. 107). Instructions are the explanations given at the beginning of the exercise and each exercise has its own instruction (Güneş, 2017, p. 107). The correct and proper execution of an application process or action in an exercise can be achieved by correctly understanding the instruction, which is the first component that the student encounters. By way of the instruction that guides the student during the activity, the student can understand the expected outcome and perform the target action. For this reason, the success of the individual in reaching the expected goal depends on the success and completeness of this guide. The fact that the instructions are clear, sufficient and effective is one of the main factors that determine the success, which puts a great responsibility on the directive and the trainer who prepares it (Deral-Kıcır & Ceran, 2011, p.991).

According to Mortensen (2008), instructions/directives in education are the way of getting the student to do a certain thing, to take action. The intention and purpose of the person expressing it in the guidelines is confidential and in the field of education, this person may be a teacher or the author of a textbook. No matter how different the people who use the instructions and their expressions are, the purpose of all the instructions in the field of education is common. According to Presse (1999), all instructions in the field of education are about ensuring that the student learns something about the subject studied or to make an assessment (as cited in Aydogu, 2015, p.380). Thus, through the instructions, the student's existing knowledge and new knowledge are reinforced and it is ensured that this knowledge is used. In short, we can say that instructions are intermediaries that enable students to go into production.

The instruction, which can also be defined as an explanation of how the practitioner will complete the skills or behaviors to be taught, also constitutes the first of the four basic components of behavioral skills teaching: Instruction- Modeling- Implementation- Feedback. According to this method, the target skill that is planned to be taught in the instruction component is defined to the student and this stage can also be called as the informing/providing stage. In the instruction component, which defines the target behavior determined for the student and includes determining the conditions required for that behavior, the importance of the target skill that

is planned to be taught for the person is explained and the rationale is tried to be explained. According to behavioral skills teaching, the instruction can be repeated as often as necessary (İnci & Kartal, 2008, p.58).

When we look at the literature, we can see the importance of the directive in the field of education from the following citations: ‘’The instructions limits the motivation that enables the student to work and determines the target (Deral-Kıcır & Ceran, 2011, p.993).” It is a difficult and complex task for the reader to understand an istruction, especially when it contains ambiguous expressions, as it is difficult to create a clear and clear instruction that everyone can understand and analyze in the same way. The learning process of the student becomes easier only when he/she understands what to do, for whom, why and how (Aydoğan, 2015, p.379).

Based on the comments made in the studies, it is seen that the instruction is important in terms of limiting the student in the practice point and using the information they have in the right place. The student, who has not been able to fully understand which information and where to use it, can only be able to choose the necessary information and focus on the right points, through understandable and correct instructions. For this reason, it is very important to give due importance to the instructions currently used and being prepared in the field of education and to approach this issue sensitively.

Instructions in Foreign Language Teaching

In order to consolidate the grammatical structures taught in foreign language teaching and to reach the targeted outcome, the student is made to do many and various exercises. Thanks to the exercises and activities, the student is enabled to go into production by adding the newly learned knowledge on his/her existing knowledge. According to Kieweg (2006), as a result of the studies, 30% of the courses in foreign language teaching should be devoted to the presentation of learning content and 70% to practice. Heymann (2012), on the other hand, supported the importance of exercises in foreign language teaching by stating that it is not possible to learn effectively without practice (cited in Özbal, 2019, p. 3).

The first point that the student comes accross in an exercise or activity is the instruction for that exercise. Each exercise has an instruction created according to its content and objectives and it is not always possible to understand these instructions correctly, even in the native language. Instructional texts differ from other text types in that they are not only about reading but also about activating and action. It can be quite difficult and complex to understand the instructions, especially in foreign language classes. Because the student not only tries to understand the instruction, but also tries to use the reading comprehension skill in that foreign language

(Ercanlar, 2015, p.386). For this reason, the creation of all kinds of verbal or written instructions in foreign language teaching programs is a process that requires much more effort and attention.

According to Thornbury (2006), instructions consist of some components in themselves and although each instruction does not have to have all the components, it definitely includes one or more of them (as cited in Genç and Özbal, 2019, p.126).

- Transition: This component, which includes transitions between exercises, is often found in practice instructions with multiple stages and tasks. An example of transitions between exercises can be given as an instruction "Let's complete, let's talk" in which the student is asked to complete a dialogue first and then vocalize it with her friend.
- A brief summary: It includes the purpose of the exercise. For example; Let's repeat the function of -li, -siz and -lik suffixes to make nouns, adjectives and adverbs.
- Organization: It includes the knowledge of whether the exercise will be done individually, in pairs, or in groups.
- Application Process: It contains the information about what kind of activity the students will perform in the exercise. Matching, fill-in-the-blank, true-false marking, etc.
- Method: It indicates the type of exercise. Let's talk, write, listen, etc.
- Result: It includes the outcome to be achieved after the exercise is completed. Completed list, draft, implementing the completed dialogue, sharing the results of the exercise etc.
- Strategy: It contains information that will facilitate the execution of the exercise. Selective, extensive listening/reading etc.
- Timing: It includes the duration and stages of the exercise. Let's listen and finish etc.

There are some features that the instructions, which are supposed to contain all or a few of these components, must have in order to be understood correctly. Grotjahn and Kleppin (2015) determined how the instructions used in foreign language teaching should be and what features they should contain (as cited in Özbal, 2019, pp.31-32).

- ***It should be clear.*** The instructions should be such that they are not misunderstood and that every student can understand in the same way.
- ***It should contain all necessary explanations.*** Unnecessary

information that students will not need should not be included in the directive.

- ***It should be as brief as possible.*** It can be written as "Let's read and answer" or ''Let's answer.'' instead of long instructions such as "Let's answer the following questions according to the text".

- ***It should be easy to understand.*** The instructions should be written in accordance with the level of the students. Instructions should not be written using complex sentence structures above the level of students learning Turkish at the basic level. Instead, using simple sentences at the basic level can make the instructions easier for students to understand.

- ***It should be standardized.*** By choosing the same instructions for the same type of exercises, a uniformity and standard can be achieved among the instructions.

It is seen that the features determined by Grotjahn and Kleppin are consistent with the rules of Grice's cooperation principle, which is mentioned in the Pragmatics section of that study. Such that, an instruction used in language teaching should be correct in terms of quality, sufficient in terms of quantity, consistent in terms of relation and understandable in terms of style. If an instruction does not have these features, it will make it difficult for the student to understand it and this is a problem caused by the teacher or the author who wrote the instruction but, the reason why the instructions are not understood is not always due to the teachers. According to Aydogu (2015), there are two types of reasons why the instructions are not understood correctly: Problems caused by the teacher/author and problems caused by the student.

Problems Caused by the Teacher

- *Usage of words and concepts beyond the student's capacity.* The instructions should be appropriate to the language level and foreknowledge of the student.

- *Incomplete connection between instruction and target.* A student can come to the correct conclusion without following the instructions. The teacher must decide whether the primary goal is to stick to the instruction or to achieve the right result.

- *Usage of multiple nested directives.* Giving complex instructions will make the situation even more difficult, as students often do not know how to read an instruction.

- *Not reading written instructions.* Teachers often make verbal statements instead of reading written instructions during the lesson, and this causes students to ignore the instructions.

Problems Caused by the Student

- Not reading the instructions fully and displaying a hasty attitude.
- Not paying attention to key words and concepts.
- Carelessness
- Not being conscious of the importance of instructions.
- To be content with a superficial reading.

All these reasons cause the student not to understand the instructions correctly, to move away from the point they want to reach, to not use the time correctly, and therefore to not be able to use the targeted skill. The instruction is the most important step at the stage of measuring the knowledge they have, which is the level at which the student goes into production. In foreign language teaching, at the beginning of the exercises, in the introduction part of the activities and in the exams, the students are told what they should do and how they should be done through the instructions. Considering that the success of the students depends on such exercises and evaluations, it emerges the importance of the instructions in the field of foreign language education.

Method

The research is a qualitative research and descriptive survey model is used. Qualitative research aims to obtain a broader perspective by making rich descriptions rather than learning "how much" or "how good" a subject is (Büyüköztürk et al., 2020, p.252). The most common descriptive method in studies in the field of education is survey search. Descriptive survey can be explained as a method of scanning and analyzing the appropriate article as much as possible in the researched field in order to generalize the results (Koçak-Usluel et al., 2013, p.55). Document analysis and semi-structured interview techniques are used while descriptive survey is carried out. While examining the textbooks in the field with the document analysis technique, data are collected from the teachers of Turkish as a foreign language with a semi-structured interview form, describing their views and usages on the subject.

In the data collection part of the study, a two-stage data source is reached, and depending on the prevalence criterion, as stated in the same limitations in the context of textbooks; Turkish textbooks for foreigners in Istanbul, Izmir, Yedi İklim and Yeni Hittit are selected. In the study group, 21 people who are teachers of Turkish as a foreign language are reached.

In the data collection process of the study, firstly, the determined textbooks are handled in terms of level and skill, and the exercise instructions for two skills are examined at all levels of the textbooks.

The instructions in the textbooks are examined in terms of, the person, grammatical modality and pragmatic functions and the data is tabulated. With the help of these tables, it has been possible to observe the language used in the textbooks, both within itself depending on the level, and the differences between the publications. In the next part of the study, an interview form is prepared and questions are formed by looking at the studies in the literature. The questions are presented to the experts and took the following form as a result of some changes and additions in line with the experts' opinion:

Question 1. Which person, tense/tense do you use in the instructions you use towards your students during activities in the classroom? Can you give examples?

Question 2. What are the factors in your choice of these guidelines?

Question 3. What are the differences between the instruction you use for a single student and the instruction you use when addressing the class as a whole?

Question 4. Do you read the instructions in the book directly to the students? Or are you explaining with your own instructions?

Question 5. What do you pay attention to in the instructions while preparing questions for the exam?

Question 6. Do the instructions you use in online lessons differ from those you use in class? Can you explain with examples?

Then, the final version of the interview form was delivered to the volunteer participants as a data collection tool and the data are collected. In the study, the data obtained from the textbooks are examined in terms of person, grammatical modality and pragmatic function. The data obtained from the interview form are evaluated by content analysis and each question was examined item by item for all participants.

RESULTS

Instructions in Textbooks

In the study, the instructions in reading and writing skills, which are among the 4 basic language skills, are examined separately at all levels of 4 different textbooks used in the field of Teaching Turkish as a Foreign Language. Instruction sentences are examined in terms of the person, grammatical modality and pragmatic functions.

TEXTBOOK INSTRUCTIONS ON READING SKILLS

Table 1. Reading Skill Instructions in İzmir Yabancılar İçin Türkçe Textbook

Level	Instruction Sentence	**Person**	**Grammatical Modality**	**Pragmatic Function**
A1	"Diyalogları oku." "Read the dialogues."	You (sing.)	Imperative	Giving orders
A2	'Diyaloğu oku ve soruları cevapla.'' "Read the dialogue and answer the questions."	You (sing.)	Imperative	Giving orders
B1	"Metni oku ve soruları cevapla." "Read the text and answer the questions."	You (sing.)	Imperative	Giving orders
B2	"Metni oku ve soruları cevapla." "Read the text and answer the questions."	You (sing.)	Imperative	Giving orders
C1	"Metni oku ve soruları cevapla." "Read the text and answer the questions."	You (sing.)	Imperative	Giving orders

In the instruction sentences for reading skills of the İzmir Yabancılar İçin Türkçe textbook, it is seen that second person singular, the imperative form as the grammatical modality, and the act of giving orders as the pragmatic function. When all levels of the textbook are examined, it is seen that there is no change depending on the level in these data and the instructions are consistent.

Table 2. Reading Skill Instructions in İstanbul Yabancılar İçin Türkçe Textbook

Level	**Instruction Sentence**	**Person**	**Grammatical Modality**	**Pragmatic Function**
A1	"Aşağıdaki diyalogları okuyalım, fotoğraflarla eşleştirelim." "Let's read the dialogues below, match them with the photos.''	We	Subjunctive mood	Making suggestion
A2	"Soruları metne göre cevaplayalım." ''Let's answer the questions according to the text.''	We	Subjunctive mood	Making suggestion
B1	"Metni okuyalım. Aşağıdaki paragraflar ile başlıkları eşleştirelim." "Let's read the text. Let's match the following paragraphs with the titles."	We	Subjunctive mood	Making suggestion
B2	"Aşağıdaki soruları metne göre cevaplayalım." "Let's answer the following questions according to the text."	We	Subjunctive mood	Making suggestion
C1	"Aşağıdaki soruları metne göre cevaplayalım." "Let's answer the following questions according to the text."	We	Subjunctive mood	Making suggestion

In the instruction sentences for reading skills of the İstanbul Yabancılar İçin Türkçe textbook, it is seen that the person is first person plural, subjunctive mood as the grammatical modality and the pragmatic function is to make suggestions. When all levels of the textbook are examined, it is seen that there is no change depending on the level in these data and the instructions are consistent.

Table 3. Reading Skill Instructions in Yedi İklim Türkçe Textbook

Level	Instruction Sentence	Person	Grammatical Modality	Pragmatic Function
A1	"Okuyalım.." 'Let's read.''	We	Subjunctive mood	Making suggestion
A2	"Okuyalım, yerleştirelim." ''Let's read, let'splace.''	We	Subjunctive mood	Making suggestion
B1	"Okuyalım, eşleştirelim." 'Let's read, let's match.''	We	Subjunctive mood	Making suggestion
B2	"Okuyalım." ''Let's read.''	We	Subjunctive mood	Making suggestion
C1	"Okuyalım." ''Let's read.''	We	Subjunctive mood	Making suggestion

In the instruction sentences for reading skills of the Istanbul Yabancılar İçin Türkçe textbook, it is seen that the person is first person plural, subjunctive mood as the grammatical modality and the pragmatic function is to make suggestions. When all levels of the textbook are examined, it is seen that there is no change depending on the level in these data and the instructions are consistent.

Table 4. Reading Skill Instructions in Yeni Hitit Türkçe Textbook

Level	Instruction Sentence	Person	Grammatical Modality	Pragmatic Function
A1- A2	"Okuyalım, yanıtlayalım." 'Let's read, let'sanswer.''	We	Subjunctive mood	Making suggestion
B1	"Okuyalım, yeniden yazalım." ''Let's read, let's rewrite.''	We	Subjunctive mood	Making suggestion
B2-C1	"Okuyalım, işaretleyelim." ''Let's read, let's mark.'	We	Subjunctive mood	Making suggestion

In the instruction sentences for reading skills of the Yeni Hitit Türkçe textbook, it is seen that the person is first person plural, subjunctive mood as the grammatical modality and the pragmatic function is to make suggestions. When all levels of the textbook are examined, it is seen that there is no change depending on the level in these data and the instructions are consistent.

TEXTBOOK INSTRUCTIONS ON LISTENING SKILLS

The findings of the instructions used in the activities for listening skills in the textbooks are given below.

Table 5. Listening Skill Instructions in İzmir Yabancılar İçin Türkçe Textbook

Level	Instruction Sentence	Person	Grammatical Modality	Pragmatic Function
A1	"Dinle ve tekrar et." ''Listen and repeat."	You (sing.)	Imperative	Giving orders
A2	"Dinle ve soruları cevapla." ''Listen and answer the questions."	You (sing.)	Imperative	Giving orders
B1	"Şarkıyı dinle, soruları cevapla." 'Listen the song, answer the questions.''	You (sing.)	Imperative	Giving orders
B2	"Dinle ve soruları cevapla." ''Listen and answer the questions."	You (sing.)	Imperative	Giving orders
C1	"Dinle ve soruları cevapla." ''Listen and answer the questions."	You (sing.)	Imperative	Giving orders

In the instruction sentences for reading skills of the Yeni Hitit Türkçe textbook, it is seen that the person is first person singular, imperative mood as the grammatical modality and the pragmatic function is to give orders. When all levels of the textbook are examined, it is seen that there is no change depending on the level in these data and the instructions are consistent.

Table 6. Listening Skill Instructions in İstanbul Yabancılar İçin Türkçe Textbook

Level	Instruction Sentence	Person	Grammatical Modality	Pragmatic Function
A1	"Metni dinleyelim. Boşlukları dolduralım." 'Let's listen to the text. Let's fill in the blanks.''	We	Subjunctive mood	Making suggestion
A2	"Aşağıdaki diyaloğu dinleyelim. Uygun kelimelerle tamamlayalım." "Let's listen to the following dialogue. Let's complete it with appropriate words."	We	Subjunctive mood	Making suggestion
B1	"Metni dinleyelim. Aşağıdaki tavsiyeleri sıraya koyalım." "Let's listen to the text. Let's put the following recommendations in order."	We	Subjunctive mood	Making suggestion
B2	"Metni dinleyelim, aşağıdaki soruları cevaplayalım." 'Let's listen to the text. Let's answer the following questions.'	We	Subjunctive mood	Making suggestion
C1	"Metni dinleyelim ve soruları cevaplayalım." 'Let's listen to the text and let's answer the questions.''	We	Subjunctive mood	Making suggestion

In the instruction sentences for reading skills of the İstanbul Yabancılar İçin Türkçe textbook, it is seen that the person is first person plural, subjunctive mood as the grammatical modality and the pragmatic function is to make suggestions. When all levels of the textbook are examined, it is seen that there is no change depending on the level in these data and the instructions are consistent.

Table 7. Listening Skill Instructions in Yedi İklim Yabancılar İçin Türkçe Textbook

Level	Instruction Sentence	Person	Grammatical Modality	Pragmatic Function
A1	"Dinleyelim, tekrarlayalım." 'Lets' listen, let's repeat.''	We	Subjunctive mood	Making suggestion
A2	"Dinleyelim, işaretleyelim." ''Let's listen, let's mark.''	We	Subjunctive mood	Making suggestion
B1	"Dinleyelim, işaretleyelim." ''Let's listen, let's mark.''	We	Subjunctive mood	Making suggestion
B2	"Dinleyelim, seçelim." ''Let's listen, let's choose.''	We	Subjunctive mood	Making suggestion
C1	"Dinleyelim, tamamlayalım, cevaplayalım." ''Let's listen, let's chose, let's answer.''	We	Subjunctive mood	Making suggestion

In the instruction sentences for reading skills of the Yedi İklim Yabancılar İçin Türkçe textbook, it is seen that the person is first person plural, subjunctive mood as the grammatical modality and the pragmatic function is to make suggestions. When all levels of the textbook are examined, it is seen that there is no change depending on the level in these data and the instructions are consistent.

Table 8. Listening Skill Instructions in Yeni Hitit Yabancılar İçin Türkçe Textbook

Level	Instruction Sentence	Person	Grammatical Modality	Pragmatic Function
A1- A2	"Dinleyelim, tamamlayalım." ''Let's listen, let's complete.''	We	Subjunctive mood	Making suggestion
B1	"Dinleyelim, işaretleyelim." ''Let's listen, let's mark.''	We	Subjunctive mood	Making suggestion
B2-C1	"Dinleyelim, işaretleyelim." ''Let's listen, let's maek.''	We	Subjunctive mood	Making suggestion

In the instruction sentences for reading skills of the Yeni Hitit Yabancılar İçin Türkçe textbook, it is seen that the person is first person plural, subjunctive mood as the grammatical modality and the pragmatic function is to make suggestions. When all levels of the textbook are examined, it is seen that there is no change depending on the level in these data and the instructions are consistent.

GENERAL EVALUATION OF THE BOOKS

When the instructions of the textbooks used in the field of Teaching Turkish as a Foreign Language are examined, the findings are shown in the table below.

Table 9. Instructions for Textbooks Used in the Field of TTFL

Textbook	Person	Grammatical Modality	Pragmatic Function
İzmir	You (sing.)/ You (pl.)	Imperative	Giving order
İstanbul	We/You (pl.)	Subjunctive	Making suggestion
Yedi İklim	We/You (pl.)	Subjunctive/ Imperative	Giving order / asking someone to do something
Yeni Hitit	We	Subjunctive	Making suggestion

While the first person plural "we" is used as a person in the instructions of the Istanbul, Yedi İklim and Yeni Hitit textbooks, the second person plural "you" is also used in the A2 level in the Istanbul and Yedi İklim books. In the instructions in the Izmir Yabancılar İçin Türkçe textbook, the second person singular "you" is preferred at all levels, and the second person plural "you" is used in only one activity. As for the grammatical modality, it is seen that while İzmir uses the imperative mood at all levels, it is mostly used the imperative mood in the instructions of the other 3 textbooks. On the other hand, it is seen that the imperative mood is also used in Yedi İklim textbooks starting from the A2 level. When the instructions in the textbooks are considered in terms of their pragmatic functions; while Istanbul, Yedi İklim and Yeni Hitit books mostly prefer the act of making suggestions, the act of asking someone to do something is also used in the A2 level. In the İzmir book, the act of giving orders is prefered at all levels.

Instructors' Views about the Instructions

In order to learn the instruction usage of the instructors in the study, a survey is conducted with 21 instructors working in the field of Teaching Turkish as a Foreign Language through a semi-structured interview form. The findings of the survey are given below.

Question 1. Which person, tense/tense do you use in the instructions you use towards your students during activities in the classroom? Can you give examples?

When the answers given to the first question are evaluated in general, it has been found out that the use of "we" and "you (sing.)/you (pl.)" as a person is equal in the instructions. While 8 instructors involve themselves in the instruction by using "we" in a participatory way, the other 8 instructors prefer to position the instructor-student by using "you (sing.)/you (pl.)" The other 7 instructors use both person suffixes in their instructions. Besides, the participants K9, K10 and K12 stated that they started to use the person "we" at advanced levels, while using the person "you (sing.)" at the beginner level.

When the use of the modal in the instructions of the instructors is examined, the participants K6, K8, K16 and K19 use only the subjunctive mood, while K3 and K14 prefer to use only the imperative mood. While K4 and K5 uses both moods in the directives; K10, K12, and K21 use the subjunctive mode only at the advanced levels. When the answers of the teachers are examined, we come across the ability mood, apart from the imperative and subjunctive mood. Some instructors preferred a rhetorical statements by using the ability mood in interrogative form. K15, K17 and K20 participants prefer the ability mood at advanced levels, while using the imperative mood at the beginner level. K18, on the other hand, stated that he/she used all of the imperative, subjunctive and ability moods in his/her classroom instructions. Finally, when the use of tense in the instructions of the instructors is examined, it has been found out that the use of "present continuous tense" is common. While 16 of the participants prefer to use "present continuous tense", 2 instructors use "future tense" in their instructions.

Question 2. What were the factors which make you choose these instructions?

In this question, which is a continuation of the first question, it is aimed to reveal the reasons for the person/tense/mood preferences in the instructions of the instructors. The factors affecting the instructors' choice of instruction are listed as follows:

- To create a more friendly environment by creating a "we" awareness in the classroom.
- To use instructions appropriate to the level of the class.
- Using instructions appropriate to the age of the students.
- Using instructions appropriate to the education level of the students (Master's/Bachelor's).
- To ensure that the students are prepared for the instructions that may come from different teachers in different institutions by providing a diversity of instructions.
- To reveal the target clearly by choosing the shortest and simplest version of the instruction.

When the factors affecting the instructors' choice of instruction are examined, level, age and education are the prominent distinguishing factors.

Question 3. What are the differences between the instruction you use for a single student and the instruction you use when addressing the class as a whole?

The answers given to this question, which aims to reveal the differences in the instructions used throughout the class and for a single student, are listed as follows:

- I use "you (sen/sing.)" when giving instructions to a single student, and "you(siz/pl.)" throughout the class. (11 people)
- I use "you (sen/sing.)" when giving instructions to a single student, and "we" throughout the class. (3 people)
- I use "you(sen/sing.)" for both at the beginner level. I use "we" throughout the class at advanced levels.
- I use "you (sen/ sing.) + imperative" when giving instructions to a single student at the beginner level, and "you (sen/sing.) + ability " at advanced levels.
- While giving instructions to a single student, I support it with my body language and facial expressions.
- I increase eye contact when giving directions to a single student.
- When giving instructions to a single student, I take care to address the student by name.
- I try to be courteous by using "please" when giving instructions to a single student.
- When giving instructions to a single student, I use "you(sen/ sing.)/you(siz/pl.)" considering his/her age.
- There is no difference.

When the answers given to this question are examined, it is seen that the use of "you(sen/sing.)" and "you(siz/pl.)" throughout the class are common when giving instructions to a single student. Age appears as a distinguishing factor here as well.

Question 4. Do you read the instructions in the book directly to the students? Or are you explaining with your own instructions?

The answers to this question, which aims to determine how much the instructors adhere to the instructions in the textbooks, are as follows:

- I usually explain with my own instructions. (5 people)
- I always read the instructions first, and then explain it with my own instructions. (5 people)
- If the instruction is complex and not understandable, I explain it by explaining, otherwise I read it directly. (5 people)
- I explain with my own instructions until they reach a certain level. (2 people)

- First I give my own instructions, then I read the book.
- I read the instructions directly at the beginner level, because they are short and understandable. I feel the need to additionally explain the guidelines at advanced levels.
- Since the instruction format in the book is limited, I explain most of the activities in detail.

When the answers given to this question are examined, it is seen that the instructors mainly explain the question instructions in the textbooks with their own instructions in terms of intelligibility and suitability for the level.

Question 5. What do you pay attention to in the instructions while preparing questions for the exam?

The points that the instructors pay attention to while preparing the exam instructions are listed as follows:

- I pay attention to use words appropriate to the level in my instructions. (12 people)
- I make sure that my instructions are simple, clear and understandable. (10 people)
- I make sure my instructions are not too long. (3 people)
- I use the "You(siz/pl.)" + imperative in my instructions. (2 people)
- I make sure that instructions I use in the exam are not different from the instructions I use in the lesson.
- I underline negative statements in my guidelines to draw attention to them.
- I support my instructions with visuals.
- I make sure that each instruction serves to measure a single area.
- I underline or bold the word that expresses what is actually requested in the instructions.
- I prefer negative question less in my instructions.
- I put words such as "most", "original" in bold.
- I often add sample answers.
- I pay attention to the speech acts in the instruction.
- I give brief information about the context in the listening activities.

When the points that the teachers pay attention to while preparing the exam instructions, it is seen that the level is the most important factor.

Question 6. Do the instructions you use in online lessons differ from those you use in class? Can you explain with examples?

The answers given by the instructors to this question, which is prepared considering today's educational conditions, are as follows:

- It didn't differ. (8 people)
- I have to make some instructions clearer and more understandable in online lessons. (7 people)
- I use you(sen/sing.)/you(siz/pl.)+ imperative in online lessons. (5 people)
- I use the same instructions but I added some new instructions such as "look at the screen carefully please" and "you see my screen right?" (you/pl.)
- We use images to provide concrete examples in online lessons.
- The instructions used in online lessons are less permanent than the instructions we use in the classroom, and this leads to learning difficulties.
- Since I can't see students in online classes, I read the instruction 3 times to make sure they do it.
- In online classes, I do not give orders directly, but I use indirect orders such as "Let Dina do the first question" or "Ahmet, we are with you". In this way, I encourage everyone to participate, not just the target student.
- Due to limited opportunities in online courses, my instructions have dwindled.
- Visuality came into prominence in online lessons and visual resources became more accessible.
- I use a more formal language in online classes.
- I sometimes give instructions in the native language of the students, as I have difficulty in maintaining the discipline at the beginner level in online classes.

When the answers given to this question are examined, it is predominantly answered that the instructions used by the instructors in online lessons do not differ from the instructions they use in the classroom. In addition, another prominent finding is that the instructors had to make

the instructions clearer and more understandable in the online courses. Since there is no face-to-face courses, it is expected that there will be differences in the instructions in the online courses however, the fact that the instructors are not trained for teaching in this online courses before, may cause them to continue using the same instructions.

CONCLUSION

In this study, which takes the diversity of the instructions used in the field of teaching Turkish as a foreign language as a starting point, it is aimed to reveal whether this diversity is seen only in the textbooks or whether there is a diversity of instructions among the instructors and the reasons for the differences, if any. In this direction, all levels of the most used textbooks in the field of teaching Turkish as a foreign language are examined and the opinions of 21 teachers working in the field are taken. A descriptive study was carried out on the instructions in some textbooks in the field before, but the communication between the source and the recipient (instruction - student) was not examined (for more detailed information on this subject, see Özbal, 2019). Therefore, this study aimed to be the only one in the field by examining the instructions in teaching Turkish as a foreign language from a pragmatic point of view, but it was the second study in the field with the study titled "Türkçenin Yabancı Dil Olarak Öğretimi Ders Kitaplarındaki Yönergelere Yönelik Öğretici Görüşleri: Temel Seviye" published in this process (For detailed information, see Yeşiyurt, 2021).

With this study, it is concluded that inconsistencies can be seen both between the sets and within themselves regarding the instruction usage of the textbooks. Differences in terms of grammatical modality, person and pragmatic function in instructions; are observed between sets, between levels, or in different exercises of the textbook belonging to the same set. Özbal (2019), in his study, considered a similar situation as a modal mismatch error between instructions, but concluded that there would be no threat to the implementation of the exercise. Although the linguistic diversity of the instructions in the textbooks causes inconsistency, it has been determined that the instructions are mostly inflected with the first plural "we" person, "subjunctive" and "suggestion" when it is considered as person, grammatical modality and pragmatic function.

As for the teachers' views, as expected, it is concluded that the variety of their instructions is more than the textbooks. With this study, it is determined that they also use the ability mood, present continuous and future tense in the form of questions apart from the request and imperative moods. It has been determined that the main reasons for the diversity of the instructions are the language level, education level and age

of the students. It is observed that the instructors, who paid attention to giving instructions by considering these variables during the lesson, also benefited from the use of rhetoric in their instructions which isn't seen any of the textbooks. Although the instructions of the teachers are very diverse, it is possible to reach a general conclusion in the study: The teachers make use of the instructor-student positioning by using the instructions mostly in the second person singular "you(sen)" and "imperative mood" at the basic level. At the advanced levels, it has been determined that they often include themselves in the instructions by using the 1st plural "we" person and "subjunctive mood" similar to the ones in the textbooks.

Based on Van der Auwera and Plungian's (1998) distinction between the inner participle and the outer participle they brought to the modality classifications, it can be said that the use of the inner participle modality that expresses intent is preferred in the instructions of both the instructors and the textbooks, but the instructors use the outer participle modality that expresses more obligations at the basic level. The data of Yeşiyurt (2021)'s didactic views on book instructions reveals the conclusion that the imperative and the second person singular should be used in basic-level instructions. However, the lack of clear data on which instruction to use is a matter of debate in terms of Turkish. In this sense, the question of whether more personalized content can be produced by paying attention to distinguishing factors such as age and education as well as language level can be discussed in the writing of textbooks.

Whether the differentiation of instructions in terms of person, grammatical modality and pragmatic function is unique to Turkish or whether such a differentiation is made in any other languages can be considered as another topic to be studied. Whether this is a pragmatic difference arising from the nature of the language itself or a cognitive preference in a higher framework can only be revealed by looking at other languages. Therefore, bilingual or multilingual comparisons can be made regarding instructions in language teaching. 21 volunteer participants are reached in this study. This topic can be shaped with a wider audience and with similar or different questions. Another issue that can be studied is *how the students received or perceived the* instructions, which could not be carried through in this study.

REFERENCES

Aktaş, T. (2005). Yabancı dil öğretiminde iletişimsel yeti. Dil ve Dilbilimi Çalışmaları Dergisi, 1(1), 89-100. Erişim adresi: https://dergipark.org.tr/tr/pub/jlls/issue/9921/122834

Aşkın Balcı, H. (2017). Relation of pragmatics and grammar, *International Journal of Languages' Education and Teaching, 5*(4), 556-566. Erişim adresi: https://www.researchgate.net/publication/322013113_Edimbilim_ve_Gramer_Iliskisi

Aydoğu, C. (2015). Yabancı dil öğrencilerinin eğitsel yönergeleri okurken karşılaştıkları sorunlar. *GAI International Academic Conferences Prooceedings* (s. 379-386) içinde. Prag: Global Academic Institute.

Bardovi-Harlig, K. (1996). Pragmatics and language teaching: Bringing pragmatics and pedagogy together. *Pragmatics and Language Learning Monograph Series*, *7*, 21-39. Erişim adresi: https://eric.ed.gov/?id=ED400702

Büyüköztürk, Ş., Kılıç- Çakmak, E., Akgün, Ö. E., Karadeniz, Ş. ve Demirel, F. (2020). *Eğitimde bilimsel araştırma yöntemleri.* Ankara: Pegem Akademi.

Canale, M. ve Swain, M. (1980). Theoretical bases of communicative approaches to second language teaching and testing. *Applied Linguistics, 1*(1), 1-47. Erişim adresi: https://www.researchgate.net/publication/31260438_Theoretical_Bases_of_Communicative_Approaches_to_Second_Language_Teaching_and_Testing

Corcu, D. (2005). Zorunluluk kipliği belirtisi -mAlI'nın anlamsal içyapısı. *Dilbilim Araştırmaları*, *16*, 33-45. Erişim adresi:https://semanticsarchive.net/Archive/GJlNDYzO/Dilbilim_Arastirmalari_2005.pdf

Coşkun, O. (2017). Yabancı dil öğretiminde eylem odaklı yaklaşım. *Dil ve Edebiyat Araştırmaları, 16,* 157-176. Erişim adresi: https://dergipark.org.tr/tr/pub/diledeara/issue/31757/349230

Demiral, S. ve Kaya, M. (2015). Yabancı dil öğretim yöntemleri: Fransızca öğretimi çerçevesinde bir inceleme. *International Periodical For The Languages, Literature and History of Turkish or Turkic, 10* (3), 331-342. doi: http://dx.doi.org/10.7827/TurkishStudies.7999

Demirezen, M. (1991). Pragmatics and language teaching. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi, 6* (6), 281-287. Erişim adresi: https://dergipark.org.tr/tr/pub/hunefd/issue/7831/103062

Deral-Kıcır, K. ve Ceran, Y.G. (2011). Disiplinlerarası öğrenme süreçlerinde öğretmen rolleri ve sembolik öğrenme yaklaşımı: Yaşar Kemal'in "Filler Sultanı" eseri temelinde sekizinci sınıf öğrencilerinin tarihsel düşünme ve dil becerilerini kullanımlarına yönelik bir eylem araştırması. *III. Uluslararası Türkiye Eğitim Araştırmaları Kongresi* (s. 991-1017). İstanbul: Eğitim Araştırmaları Birliği.

Doğan, G. (1990). Bir edimbilim kuramı olarak bağıntı. *Dilbilim Araştırmaları, 1*, 63-73. Erişim adresi: http://dad.boun.edu.tr/tr/pub/issue/29234/312962

Ellis, R. (2006). The methodology of task-based teaching. *Asian EFL Journal, 8* (3), 17. Erişim adresi: https://www.asian-efl-journal.com/September_2006_EBook_editions.pdf

Ercanlar, M. (2015). Yabancı dil öğrencilerine yönerge okumayı öğretmek mümkün müdür? *GAI International Academic Conferences* (s. 386). Prag: Global Academic Institute. Erişim adresi: https://www.globalacademicinstitute.com/wp-content/uploads/2015-prague-conference-proceedings.pdf

Erdem, M. D., Gün, M. ve Sever, P. (2015) Türkçenin yabancı dil olarak öğretiminde yöntem seçimi ve alternatif yöntemler. *International Periodical for the Languages, Literature and History of Turkish or Turkic, 10* (11), 549-566. doi: http://dx.doi.org/10.7827/TurkishStudies.8735

Eziler- Kıran, A. (2014). Dilbilim-anlambilim ve edimbilim. *Turkish Studies-International Periodical For The Languages, Literature and History of Turkish or Turkic, 9*(6)*,* 719-729. doi: http://dx.doi.org/10.7827/TurkishStudies.6659

Genç, A. ve Özbal, B. (2019). Yabancı dil olarak Türkçe ders kitaplarında alıştırmaların incelenmesi. *Hacettepe Türkiyat Araştırmaları Üniversitesi Dergisi,* (31), 123-146. Erişim adresi: https://dergipark.org.tr/tr/pub/turkiyat/issue/51200/550884

Göçer, A. ve Karadağ, B. (2020). Yabancı dil olarak Türkçe öğretiminde görev temelli öğrenme yönteminin dilin iletişimsel işlevi açısından önemi. *Artvin Çoruh Üniversitesi Uluslararası Sosyal Bilimler Dergisi, 6*(2), 58-73. doi: https://doi.org/10.22466/acusbd.770305

Güneş, F. (2011). Dil öğretim yaklaşımları ve Türkçe öğretimindeki uygulamalar. *Mustafa Kemal Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 8* (15), 123-148. Erişim adresi: https://dergipark.org.tr/tr/download/article-file/183308

Güneş, F. (2017). Alıştırmalardan etkinliklere: Eğitimdeki gelişmeler. *Karadeniz Sosyal Bilimler Dergisi, 9*(2), 103-120. Erişim adresi: https://dergipark.org.tr/tr/download/article-file/410532

Güney, M. A. (2014). Yabancı dil öğretimi ve dünden bugüne Türkiye'de Arapça öğretimi. *Karadeniz Teknik Üniversitesi İlahiyat Fakültesi Dergisi (KTUİFD)* , *1*(1), 193- 211. Erişim adresi: https://dergipark.org.tr/tr/download/article-file/341207

İnci, G. ve Kartal, M. (2018). Davranışsal beceri öğretimi. *28. Ulusal Eğitim Kongresi* (s. 56-65). Eskişehir: ÖZHUAM. Erişim adresi: https://uoek2018.ogu.edu.tr/Storage/uoek2018/Uploads/56-64.pdf

Kansu-Yetkiner, N. (2009). *Çeviribilim edimbilim ilişkisi üzerine*. İzmir Ekonomi Üniversitesi Yayınları: İzmir. Erişim adresi: https://kutuphane.ieu.edu.tr/wp-content/32CeviribilimEdinbilim.pdf

Koçak- Usluel, Y., Avcı, Ü, Kurtoğlu, M. ve Uslu, N. (2013). Yeniliklerin benimsenmesi sürecinde rol oynayan değişkenlerin betimsel tarama yöntemiyle incelenmesi. *Pamukkale Üniversitesi Eğitim Fakültesi Dergisi, 33*(1), 53-71. Erişim adresi: https://dergipark.org.tr/en/download/article-file/114530

Koparıcı, I. F. (2019). *Yabancı dil olarak Türkçe b1 seviyesinde deyim öğretimi/öğrenimi.* (Yayımlanmamış Yüksek Lisans Tezi). Hacettepe Üniversitesi Türkiyat Araştırmaları Enstitüsü, Ankara. Erişim adresi: http://www.openaccess.hacettepe.edu.tr:8080/xmlui/bitstream/handle/11655/8943/TEZ%C4%B0M.pdf?sequence=1&isAllowed=y

Larson- Freeman, D. ve Anderson, M. (2011). *Techniques & principles in language teaching.* Oxford University Press: Oxford.

Leech, Geoffrey N. (1983). *Principles Of Pragmatics.* Longman: London.

Marmaridou, S. S. A. (2000). *Pragmatic Meaning and Cognition.* John Benjamins: Amsterdam. Erişim adresi: https://revistas.uca.es/index.php/pragma/article/download/487/421/1650

Maviş, İ. (1991). Oyun çözümlemesi: Bir uygulama. *Boğaziçi Üniversitesi Dilbilim Araştırmaları Dergisi, 2*(1), 113-121. Erişim adresi: http://dad.boun.edu.tr/tr/download/article-file/303064

Mortensen, K. (2008). *Instructions and participation in the second language classroom.* (Yayımlanmamış doktora tezi). University of Southern Denmark Institute of Language and Communication, Denmark. Erişim adresi: https://www.academia.edu/1757457/Instructions_and_participation_in_the_second_language_classroom

Memiş, M.R. ve Erdem, M.D. (2013). Yabancı dil öğretiminde kullanılan yöntemler, kullanım özellikleri ve eleştiriler. *International Periodical For The Languages, Literature and History of Turkish or Turkic, 8*(9), 297-318. doi: http://dx.doi.org/10.7827/TurkishStudies.5089

Najeh, L. (2015). Pragmatics: A hybrid ınnovation. *International Journal of Humanities and Cultural Studies*, (31) 4, 367. Erişim adresi: https://www.academia.edu/11339919/_Pragmatics_a_hybrid_innovation_Leila_Najeh_

Nunan, D. (2006). Task-based language teaching in the asia context: Defining 'task'. *Asian EFL Journal*, *8* (3), 14. Erişim adresi: https://www.asian-efl-journal.com/September_2006_EBook_editions.pdf

Nunn, R. (2006). The pragmatics of cooperation and relevance for teaching and learning. *The Linguistics Journal, 1* (1), 5-16. Erişim adresi: https://www.researchgate.net/publication/255988407_The_Pragmatics_of_Cooperation_and_Relevance_for_Teaching_and_Learning_Author

Oller, J. W. (1973). *"Some psycholinguistic controversies", in focus on the learner: pragmatic perspectives for the language teacher*, Newbury House: New York. Erişim adresi: https://www.researchgate.net/publication/281120481_

Some_psycholinguistic_controversies_In_Author_and_J_Richards_Eds_Focus_on_the_learner_Pragmatic_perspectives_for_the_language_teacher_pp36-50_Rowley_MA_Newbury_House

Özbal, B. (2019). *Yabancı dil olarak Türkçe ders kitaplarında alıştırmaların incelenmesi: a1- a2 düzeyi.* (Doktora tezi). Hacettepe Üniversitesi Türkiyat Araştırmaları Enstitüsü: Ankara. Erişim adresi: https://www.researchgate.net/publication/344658394_Yabanci_dil_olarak_Turkce_ders_kitaplarinda_alistirmalarin_incelenmesi_A1-A2_duzeyi

Özünal, B. S. (2004). Yabancı dil öğretiminde eylem odaklı öğretimin uygulama boyutu. *Hasan Ali Yücel Eğitim Fakültesi Dergisi, 2*, 79-95. Erişim adresi: https://dergipark.org.tr/tr/pub/iuhayefd/issue/8783/109772

Polat, Yusuf (2010). *Yabancı dil öğretiminde söz edimleri* (Yayımlanmamış doktora tezi). Ankara Üniversitesi Sosyal Bilimler Enstitüsü: Ankara. doi: https://doi.org/10.1501/Dilder_0000000154

Prasad, B.B.N. (2013). Communicative language teaching in 21st century esl classroom. *English for Specific Purposes World, 40*(14), 1-8. Erişim adresi: http://www.philologician.com/Articles_40/Prasad.pdf

Richards, J. ve Rodgers, T. (2001). *Task-based language teaching in approaches and methods in language teaching*. Cambridge University Press: Cambridge. Erişim adresi: https://www.novaconcursos.com.br/blog/pdf/richards-jack-c.-&-rodgers.pdf

Rose, K., & Kasper, G. (Ed.). (2001). *Pragmatics in language teaching* (Cambridge Applied Linguistics). Cambridge: Cambridge University Press. doi:10.1017/CBO9781139524797

Searle, S.L. (1969). *Speech acts: An essay in the philosophy of language.* Cambridge University Press: Cambridge.

Sülüşoğlu, B. (2008). *İşe dayalı dil öğretim malzemelerinin Türkçe'nin yabancı dil olarak öğretiminde uygulanması.* (Yayımlanmamış yüksek lisans tezi). Dokuz Eylül Üniversitesi Eğitim Bilimleri Enstitüsü: İzmir. Erişim adresi: http://hdl.handle.net/20.500.12397/7346

Tosun, C. (2006). Yabancı dil öğretim ve öğreniminde eski ve yeni yöntemlere yeni bir bakış, *Çankaya Üniversitesi Fen-Edebiyat Fakültesi Journal of Arts and Sciences*, *1*(5),79-88. Erişim adresi: https://dergipark.org.tr/tr/pub/cankujas/issue/4011/52967

Uslu, Z. (2004). Edimbilim ve yabancı dil öğretimine etkileri. *Ankara Üniversitesi Dil Dergisi*, (127), 34-43. Erişim adresi: http://dergiler.ankara.edu.tr/dergiler/27/750/9584.pdf

Van der Auwera, J., & Plungian, V. A. (1998). Modality's semantic map. *linguistic typology*, *2*(1), 79-124. doi: https://doi.org/10.1515/lity.1998.2.1.79

Van Dijk, T.A. (1981). *Studies in the Pragmatics of Discourse.* De Gruyter Mouton: Berlin. doi: https://doi.org/10.1515/9783110826142

Vardar, B. ve diğ. (1988). *Açıklamalı dilbilim terimleri sözlüğü.* ABC Kit: İstanbul.

White, R. (2001). Adapting Grice's maxims in the teaching of writing. *ELT Journal, 55*(1), 62-69. doi: https://doi.org/10.1093/elt/55.1.62

Willis, J. (1996). *A framework for task-based learning*. Harlow: Longman. Erişim adresi: https://www.academia.edu/30503745/A_flexible_framework_for_task_based_learning_An_overview_of_a_task_based_framework_for_language_teaching

Yeşiyurt, Ş. (2021). Türkçenin yabancı dil olarak öğretimi ders kitaplarındaki yönergelere yönelik öğretici görüşleri: Temel seviye. *International Journal of Languages' Education and Teaching*, *9*(1), 198-214. Doi: 10.29228/ijlet.48931

Yule, G. (1996). *Pragmatics*. Oxford University Press: Oxford.

CHAPTER 11

DESCRIPTIVE ANALYSIS OF SCIENTIFIC RESEARCH ON THE LANGUAGE LEARNING PROCESSES OF SYRIAN REFUGEES

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INTRODUCTION

Foreign language teaching and learning of foreign languages frequently change depending on the developments in our time, both in relation to Turkish and to other languages. These changes are observed in different dimensions. The approaches in learning theories, technological developments, and the content developed depending on the results of linguistic research constitute the main streams of these changes. In terms of the learning process, it is seen that the description of the information about the learners and the instructors and their effects on the learning act are also investigated. The history of teaching Turkish as a foreign language in Turkey shows that it has been carried out with different groups for very different purposes. Until 2011, Turkish classes for foreigners in Turkey were mainly aimed at learners who wanted to learn Turkish voluntarily or learners who came to Turkey for education. As foreigners were not included in the compulsory education system, there were not many academic studies aimed at this field. For this reason, this process can be considered a milestone regarding the need for new initiatives in teaching Turkish to foreigners. It was the first time we were dealing with a different group whose learning needs, ages, and the system they were part of had changed. With the beginning of the Syrian civil war, refugees from Syria came to our country, and these people had to adapt to the mother tongue of our country. For this reason, public institutions and private institutions have started some studies on the acquisition and learning of Turkish by Syrian refugees, and they continue to carry out these studies today.

Studies in this area have generally focused on teaching processes, the acquisition process of children included in schools at the primary level, and the studies on learning a second language acquisition have not been examined much. In the academic field, in parallel with this process, some scientific research on the language acquisition and learning of immigrants has been carried out. In the tradition of scientific study, studies carried out as a requirement of academic knowledge are accepted as guiding and contributing to the studies to be carried out in the future. Therefore, researchers who will work in a field should first know about other studies in the field. In this study, it is aimed to contribute to the field by performing a descriptive analysis of scientific research on the Turkish learning processes of Syrian immigrants. A descriptive study has been created that can be used by those who will study in this field.

This research aims to reveal the deficiencies of the research in this field and the needs of the field by describing the trends, topics, methods, databases, and study groups in academic studies on the Turkish learning of Syrian immigrants who immigrated to Turkey from Syria.

METHODOLOGY

The study was conducted with a document review study, which is one of the qualitative research methods. Document review is a data collection tool used in the collection, systematic examination, and evaluation of official and private records. The most important reasons for using this technique in this study are the fact that there is a high opportunity of collecting a lot of data, and it is not possible to conduct research with the help of other techniques (Ekiz, 2015: 70). Content analysis for document analysis can be divided into three groups: meta-analysis, meta-synthesis (thematic content analysis) and descriptive content analysis. Descriptive content analysis is "a systematic study that includes examining the studies on a particular subject, determining their trends, and evaluating the research results in a descriptive dimension" (Sözbilir and Çalık, 2014: 34). A descriptive analysis of the features of the articles written in the relevant field was carried out according to the "Article Classification Form" criteria

Article Classification Form

In the research, the articles were analyzed over various themes by using the "Article Classification Form" developed by Sözbilir, Kutu and Yaşar. By obtaining permission to use, the Article Classification Form was rearranged and applied in line with the needs of our research. The form consists of six themes: the identifier of the research, its subject, method/ design, data collection tools, sample group and size, and data analysis methods. The information in the academic studies was examined in terms of these six features, and the findings were examined proportionally.

Data Collection Tools

In the research, Google Academic, ULAKBIM, TR Index and other academic index tools were used as data collection tools. Studies conducted between 2011 and 2019 were examined. In the accessed articles, the articles containing the information sought in accordance with the "Article Classification Form" were analyzed, and the articles that had deficiencies in one or more of this information were eliminated. Data analysis was carried out on twenty article studies that provided data on all classification features.

FINDINGS

In this section, the findings and comments on this subject will be provided.

Distribution of the Studies by Years

When the studies are analyzed by years, it is seen that most studies were conducted in 2018 and 2019.

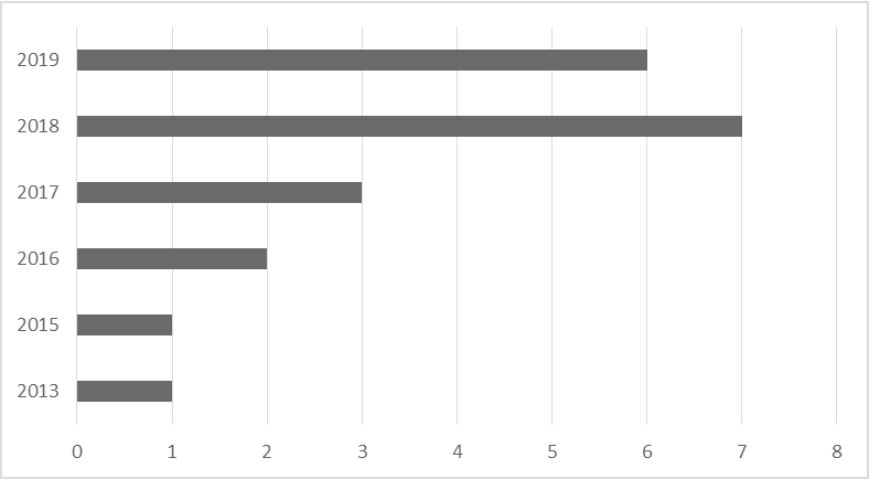

Figure 1. *Distribution by Years*

The increase in studies conducted in recent years is thought to be related to the increasing presence and permanence of Syrian refugees. In addition, most academic research is created with the aim of producing a solution to a problem. As different groups have been encountered in Turkish teaching in recent years, this situation has increased the awareness of the subjects that need to be studied, and this increase has also been reflected in academic studies.

Gender-Specific Distribution of the Participants

Half of the twenty articles analyzed in this study included information specific to the gender of the participants, while the other half did not specify any gender information. When the ten articles that we can access gender information are examined, it is observed that gender characteristics are tried to be kept in balance while forming the sample group in the research.

Gender	The Least	The Most	Average
Female	4	49	16,60
Male	7	41	15,00

Table 1. *Gender-Specific Distribution*

In the studies, the average of female participants is 16.60, and the average of male participants is 15. In the studies, it was determined that the number of females was at least 4, while the number of males was at least 7. The fact that the variables related to gender do not differ much in language teaching studies shows that this situation is not considered as a variable in the focus of the studies.

The Sample Groups of the Studies

Considering the studies examined, it is seen that the studies are student-oriented. Apart from student-oriented studies, it has been determined that teachers are mostly discussed as participants. Among the twenty articles in our research, two articles examined the role of both the learner and the teacher, while one article did not specify from which group the participants were selected.

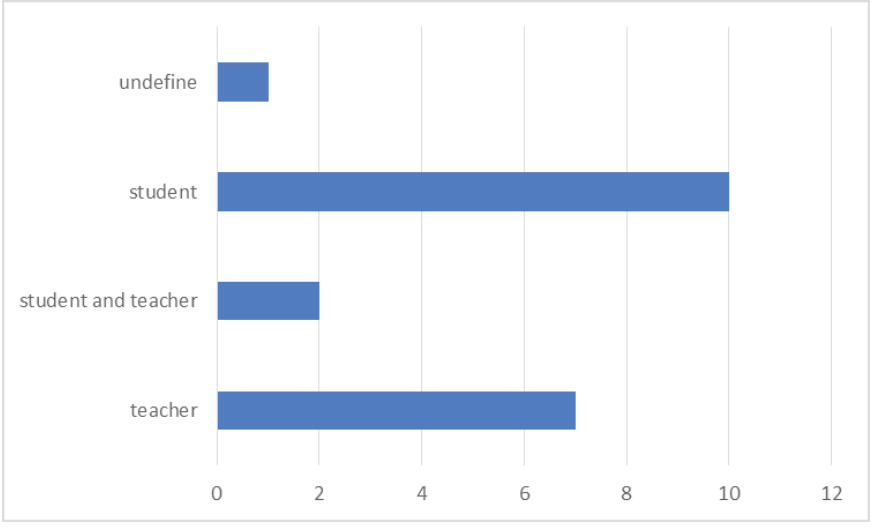

Figure 2. *The Sample Groups*

The fact that students are easily accessible, they are mostly the centre of language teaching, and they are higher in numbers compared to teachers have made the students the subject of studies the most. In addition, it is thought that the language learning processes of groups other than students will increase depending on the years.

Sample Numbers of the Studies

Table 2. *Sample Numbers*

	The Least	The Most	Average
Samples	12	576	67,11

The number of participants could not be obtained in two articles among the twenty articles reviewed. It is observed that in the remaining eighteen articles, studies were conducted with at least 12 and at most 576 participants. When the arithmetic average of the sample groups of 18 articles is taken, it is seen that the study was conducted with an average of 67.11 participants. Considering the number of samples, it was seen that there were studies with wide participation. Although these numbers do not allow generalization of the obtained results, they validate the obtained findings scientifically.

Distribution of the Studies by Data Analysis Methods

When the methods used to analyze the data in the studies examined were examined, it was seen that the methods of content analysis (12) and descriptive analysis (5) were preferred.

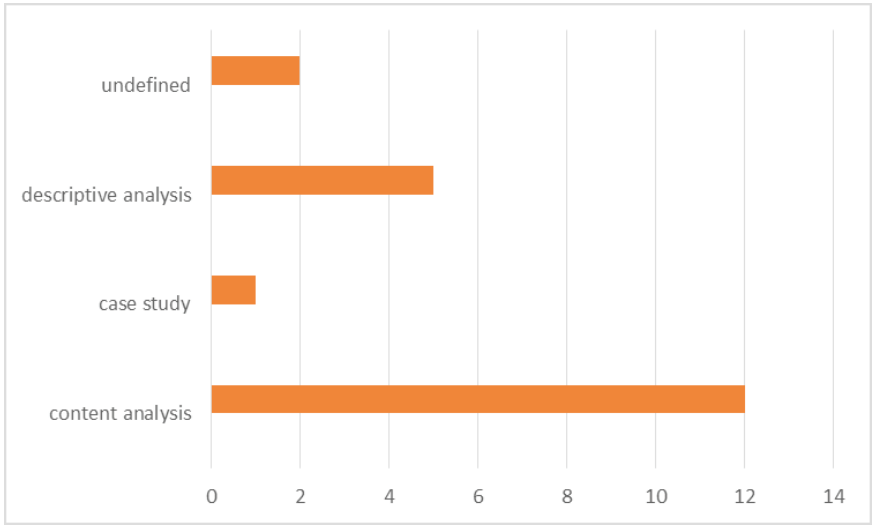

Figure 3. *Distribution by Data Analysis*

This data shows that the studies are mostly examined by item analysis by applying content analysis to the information obtained because of interviews with learners and teachers. When this data is interpreted in terms of future studies, it can be predicted that there may be a tendency for quantitative studies.

Distribution of the Studies by Sample Techniques

It is seen that in fourteen of the twenty articles analyzed, no information on the sampling technique was reported. Easily accessible case sampling, criterion sampling and convenience sampling methods are given as sampling methods in six articles in which sampling technique information was obtained.

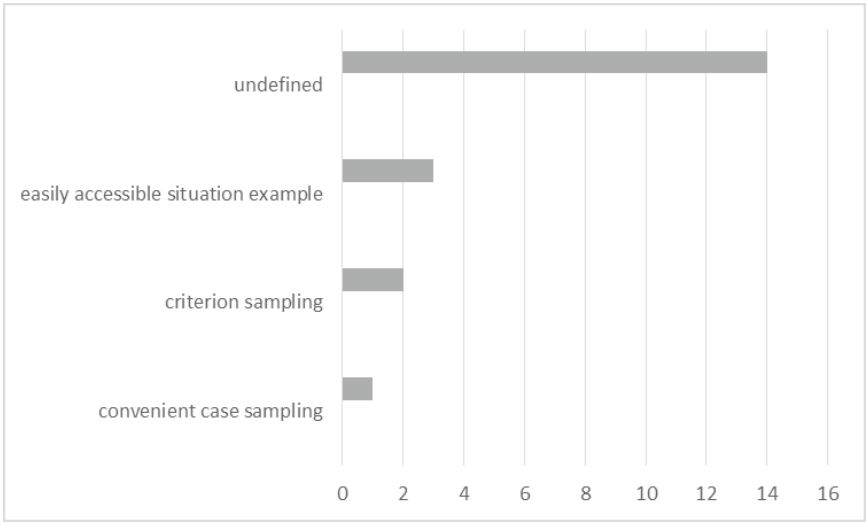

Figure 4. *Distribution by Sampling Techniques*

The fact that this information is not included enough shows that the studies were mostly conducted with qualitative research methods.

Distribution of the Studies by Data Collection Tools

According to the data collection tools of the studies, it was determined that the interview form (11) was the most used, followed by the document analysis (4), and besides these, questionnaires, observations, and mixed methods were also used. In one article, it was seen that it was not specified which type of data collection technique was applied.

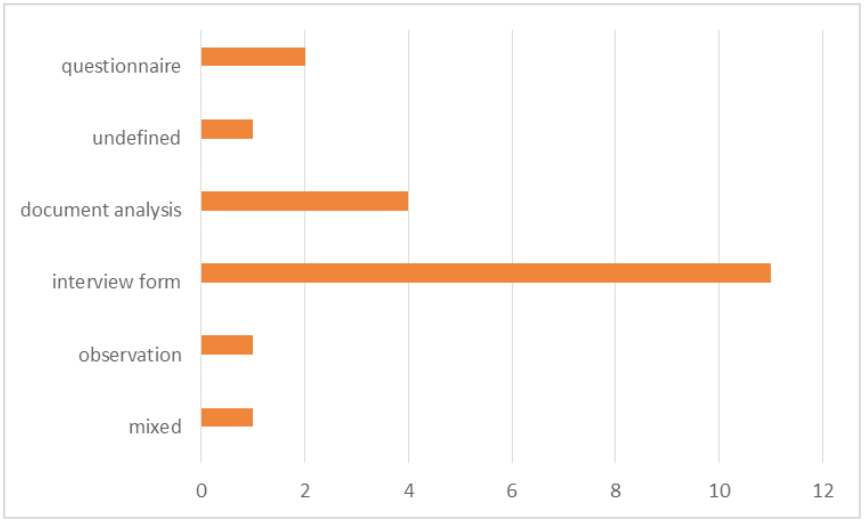

Figure 5. *Distribution by Data Collection Tools*

Distribution of the Studies by Subjects

When the studies are examined within the framework of Turkish teaching, it is seen that the problems that Syrian immigrants encounter in Turkish education are mostly examined. In addition, it can be seen that the issues related to the four basic language skills of Syrian refugees and their Turkish needs also come to the fore. In addition to this, it is also seen that some education centres have been working on Turkish teaching proficiency, material analysis, vocabulary studies, and Turkish language perception.

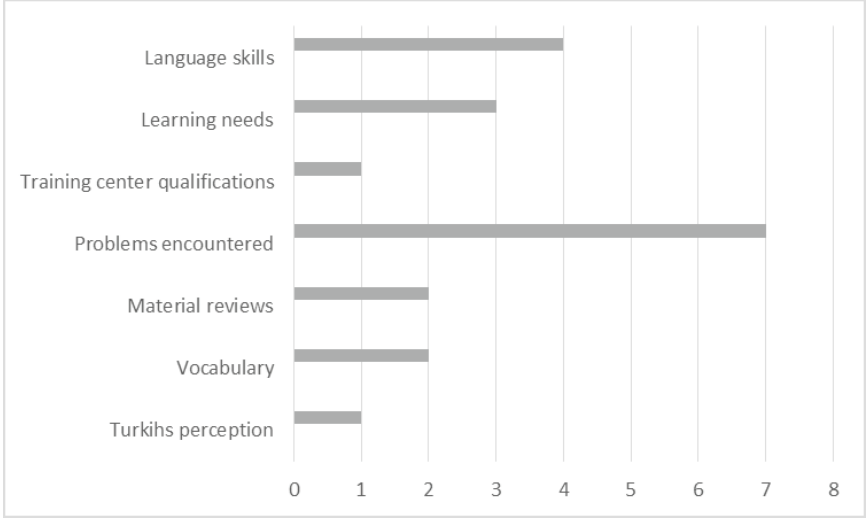

Figure 6. *Distribution by Subjects*

The main factor in the fact that the encountered problems are the most studied subject can be seen as the complexity of language teaching and bringing many problems with it. Determining these problems is very important as it will determine the direction of future studies. Examining the other titles apart from this one, the skill dimension and learning needs of language teaching were seen. Learning needs are important in terms of getting to know this new group of people learning Turkish in Turkey. Today, it is very important to determine what students know, what they want to learn, and what they need more, before moving on to foreign language teaching. The target of foreign language teaching is to develop language skills. These skills have features that support each other. The language skills, on the other hand, show the basic dimensions of language teaching and perhaps provide important data in order to make comparisons with the mother tongue of the learners in this group.

CONCLUSION

In this research, which aims to determine the research trends of the articles on Turkish language acquisition of Syrian refugees in the field of Turkish education for foreigners, a total of twenty studies were examined. These studies were examined in terms of years, research topics, research designs and methods, sampling methods, sample groups, sample sizes, data collection tools and data analysis techniques. The findings we have obtained will provide an idea of the needs of the field to the researchers who will work in this field.

When the studies are analyzed according to the years they were published, it is seen that the studies conducted between 2013-2018 are quite a few compared to 2018-2019. With the Syrian civil war, it was expected that the Syrian groups, who started to migrate to Turkey, would be sent back in a short time, and even statements were made in this direction. Therefore, in the early years, researchers did not tend to work in this area. Recently, along with the opportunities for Syrians to obtain residence and work permits in Turkey, as well as to have citizenship, it has enabled researchers to approach Syrian students and language acquisition from a more permanent perspective, which has led to an increase in studies in this field in recent years.

Considering the gender distribution of the sample groups, the average number of female participants is 16.60 per article, and the average number of male participants is 15.00. The closeness of the numbers is striking. Undoubtedly, it is understood that the researchers aimed to establish a balance in the gender distribution while forming the sample group. It is observed that students are mostly included in the sample groups, followed by teachers and students together. Studies in which teachers are examined

alone are very rare. The fact that students are in a central position in language acquisition, their number is higher than that of teachers, and the fact that students are easily reached in creating samples are the main reasons why students are frequently studied in these studies.

The average sample size of the studies is 67.11. In fourteen of the twenty studies, no information was given about which sampling technique was used. It is seen that the "convenient case sampling method" is preferred in the articles whose sampling method information can be accessed. As a result of the examination of those whose sampling method was not specified, it is thought that most of them are "convenient case sampling". It is thought that the reason behind the lack of explanation of the sample type is that "convenient case sampling" is found to be insufficient in terms of reliability compared to other sampling methods.

It is seen that the interview form is the most frequently used tool in data collection tools, followed by document analysis and survey methods. Considering that a subject with four skills such as language acquisition is included in the studies, the interview form is the data collection method that meets the needs the most. In addition, the fact that Turkish acquisition of Syrian refugees is a new subject in itself and there are not enough documents in this field is an important factor in the use of document analysis method and methods such as interview forms. The data were analyzed with content and descriptive analysis methods.

It is seen that the problems encountered while learning Turkish are mostly discussed in the researched subjects. Although many Syrians have been taught Turkish in teaching Turkish to foreigners, the emergence of the Syrian refugee phenomenon since 2013 and the number of Syrian language learners reaching serious numbers have brought along many problems. The multiplicity of the problems leads to the multiplicity of the facts to be investigated. The reason why language skills are the most studied subject can be explained by the fact that language teaching is carried out through four basic skills. In addition, the measurability of the four skills with various methods is among the important factors.

REFERENCES

Biçer, N . (2017). Yabancılara Türkçe Öğretimi Alanında Yayınlanan Makaleler Üzerine Bir Analiz Çalışması. Pamukkale Üniversitesi Sosyal Bilimler Enstitüsü Dergisi , (27) , 236-247.

Güven, M., ve Aslan, A. M. (2018), Psikolojik Danışma ve Rehberlik Alanında Türkiye'deki Bilimsel Dergilerde Yayınlanan Makaleler Üzerine Bir İnceleme, Uluslararası Sosyal Araştırma Dergisi, 11(55), 593-604.

Ozan, C., ve Köse, E. (2014), Eğitim Programları ve Öğretim Alanındaki Araştırma Eğilimleri. Sakarya University Journal of Education , 4(1) , 116-136.

Sevgi, H. M. (2016), Üniversite Öğrencilerinin Bilimsel Araştırma Eğilimlerinin Belirlenmesi, Selçuk Üniversitesi Sosyal ve Teknik Araştırmalar Dergisi, (12), 44-53.

Sözbilir, M., Gül Ş., Okçu B., Yazıcı F., Kızılaslan A., Zorluoğlu L., ve Atila G. (2015), Görme Yetersizliği Olan Öğrencilere Yönelik Fen Eğitimi Araştırmalarında Eğilimler, İzzet Baysal Üniversitesi Eğitim Fakültesi Dergisi, 15(1), 218-241

Ekiz, D. (2015), Bilimsel Araştırma Yöntemleri, Ankara: Anı Yayıncılık.

THE REVIEWED ARTICLES

Akkaya, A. (2013), Suriyeli Mültecilerin Türkçe Algıları, EKEV Akademi Dergisi, (56), 179-190

Demirci, M. (2015), B1 Seviyesinde Türkçe Öğrenen Suriyeli Öğrencilerin Sesli Okuma Becerisiyle İlgili Tespitler, Turkish Studies, 10(7), 333-358

Bulut, S., Soysal, Ö. K., ve Gülçiçek D. (2018), Suriyeli Öğrencilerin Türkçe Öğretmeni Olmak: Suriyeli Öğrencilerin Eğitiminde Karşılaşılan Sorunlar, Uluslararası Türkçe Edebiyat Kültür Eğitim Dergisi, 7(2), 1210-1238.

Biçer, N., ve Kılıç, B. S. (2017), Suriyeli Öğrencilere Türkçe Öğretmek için Kullanılan Ders Kitaplarının Öğretmen Görüşleri Doğrultusunda Değerlendirilmesi, Ana Dili Eğitimi Dergisi, 5(4), 649-663.

Boylu, E., ve Çal P. (2018), Suriyeli Mültecilerin Türkçe Kursuna Başlamadan Önceki Söz Varlığı Durumları, Ana Dili Eğitimi Dergisi, 6(1), 68-94.

Bölükbaş, F. (2016), Suriyeli Mültecilerin Dil İhtiyaçlarının Analizi, Uluslararası Sosyal Araştırmalar Dergisi, 9(46), 21-31.

Koçoğlu, A., ve Yelken, T. Y., (2018), Suriyeli Öğrencilere Türkçe Dil Becerileri Kazandırma Sürecinde İlkokul Türkçe Dersi Öğretim Programları ile İlgili Öğretmen Görüşleri, Eğitimde Nitel Araştırmalar Dergisi, 6(2), 131-160.

Moralı, G. (2018), Suriyeli Mülteci Çocuklara Türkçenin Yabancı Dil Olarak Öğretiminde Karşılaşılan Sorunlar, Uluslararası Toplum Araştırmaları Dergisi,8(15), 1426-1449

Çelik, Y. (2019), Arap Kökenli Öğrencilerin Yabancı Dil Olarak Türkçe Öğretiminde A seviyesinde Yaptıkları Yazım Yanlışları ve Çözüm Önerileri, Anadolu Akademi Sosyal Bilimler Dergisi, 1(1), 23-27.

Doğan, B., ve Ateş A. (2018), MEB'e Bağlı Okullarda Öğrenim Gören Suriyeli Öğrencilere Yönelik Verilen Türkçe Dersinin Öğreticiler Tarafından Değerlendirilmesi (Malatya Örneği), Çocuk Edebiyat ve Dil Eğitimi Dergisi, 1(1), 105-124.

Kaya, E. B. (2019), Suriyelilerin Türkçe Öğrenirken Yaşadıkları Dil Sorunları, International Journal of Teaching Turkish as a Foreign Language, 2(1), 73-92.

Demirci, M., ve Dinçaslan, M. F. (2016), Yabancı Dil Olarak Türkçe Öğrenen Suriyeli Öğrencilerin Durum Eki Tamlayıcıları Kullanımı, Eğitimde Kuram ve Uygulama, 12(5), 1011-1040

Dursun, H., ve Akkaya, A. (2017), Geçici Koruma Altındaki Suriyelilerin Türkçe İhtiyaçlarının Belirlenmesi: Şanlıurfa İli Örneği, Akdeniz Eğitim Araştırmaları Dergisi, 11(22), 1-22.

Ünal, K., Taşkaya, S. M., ve Ersoy, G. (2018), Suriyeli Göçmenlerin Yabancı Dil Olarak Türkçe Öğrenirken Karşılaştıkları Sorunlar ve Çözüm Önerileri, Ahi Evran Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 4(2), 134-149.

Boylu, E., ve Işık, P. (2019), Suriyeli Mülteci Çocuklara Yabancı Dil Olarak Türkçe Öğretenlerin Yaşadıkları Durumlara İlişkin Görüşleri, Gazi Üniversitesi Eğitim Fakültesi Dergisi, 39(2), 895-936.

Biçer, N., ve Alan, Y. (2017), Yabancı Dil Olarak Türkçe Öğrenen Suriyelilerin İhtiyaçlarına Yönelik Bir Eylem Çalışması, İnternational Online Journal of Educational Sciences, 9(3), 862-878.

Aydoğdu, Z., Aydoğdu Y., Asmaz, A. (2019), Yabancı Dil Olarak Türkçe Kelime Öğretimi Üzerine Bir Durum Tespiti: Suriyeli Ortaokul Öğrencilerine Türkçe Öğreten Öğretmenler Örneği, İnternational Journal of Teaching Turkish As A Foreign Language, 2(2), 152-164.

İltar, L., ve Dündar, S. A. (2018), Suriyeli Öğrencilere Türkçenin Yabancı Dil Olarak Öğretiminde Kullanılan Öğretim Setleri Hakkında Karşılaştırmalı Bir Değerlendirme Çalışması, 21. Yüzyılda Eğitim ve Toplum, 7(20), 523-539.

Şahin, F., ve Şener Ö. (2019), Geçici Koruma Altındaki Suriyeli Öğrencilerin Eğitim Süreçlerindeki Dil ve İletişim Sorunları: İstanbul Fatih Örneği, Avrasya Sosyal ve Ekonomi Araştırmaları Dergisi, 6(9), 66-85.

Gültutan, S., ve Kan, M. O. (2019), Türkiye'de İlkokulda Öğrenim Gören Suriyeli Öğrencilerin Yazma Becerisine İlişkin Öğretmen Görüşleri, Okuma Yazma Eğitimi Araştırmaları, 7(2), 71-86.

A. MAKALENİN KÜNYESİ

1.Makale Adı:

2.Yazar/ları: **3.Yazarlar:** a.Türk ☐ b.Yabancı ☐ c.Karma ☐

4.Yayımlandığı Dergi: **5.Dergi tipi:** a.Uluslararası ☐ b.Ulusal ☐

a.Yıl: b.Cilt: c.Sayı: d. Sayfa: **6.Yayın Dili** a.İng. ☐ b.Türkçe ☐ c.Diğer ☐

7. Dergi türü: a. Özel eğitim dergisi: ☐ b. Diğer ☐

B. MAKALENİN KONUSU

1. ☐ Dil Becerileri
2. ☐ Dil İhtiyacı
3. ☐ Eğitim Merkezi Yeterlilikleri
4. ☐ Karşılaşılan Sorunlar
5. ☐ Materyal İncelemeleri
6. ☐ Sözvarlığı
7. ☐ Türkçe Algısı

D. ARAŞTIRMA YÖNTEMİ

NİCEL

1. Deneysel

11. ☐ Tam Deneysel
12. ☐ Yarı Deneysel
13. ☐ Zayıf Deneysel
14. ☐ Tek Denekli

2. Deneysel Olmayan

21. ☐ Betimsel
O Longitudinal
O Cross-age
22. ☐ Karşılaştırmalı
23. ☐ Korelasyonel
24. ☐ Tarama
25. ☐ Ex-post Facto
26. ☐ İkincil veri anlz.

NİTEL

3. Etkileşimli

31. ☐ Kültür analizi
32. ☐ Olgubilim
33. ☐ Örnek olay
34. ☐ Teori oluşturma
35. ☐ Eleştirel çalışmalı
36. ☐ Diğer.....

4. Etkileşimsiz

41. ☐ Tarihsel anlz.
42. ☐ Kavram anlz.
43. ☐ Derleme
44. ☐ Meta Analiz
45. ☐ Diğer.....

KARMA

5. Karma

51. ☐ Açıklayıcı (Nicel→Nitel)
52. ☐ Keşfedici (Nitel→Nicel)
53. ☐ Çeşitleme (Nitel+Nicel)
54. Gömülü

E. VERİ TOPLAMA ARAÇLARI

1. ☐ Anket
O Açık uçlu O Likert O Diğer
2. ☐ Başarı testi
O Açık uçlu O Ç.Seçmeli O Diğer
3. ☐ Algı/İlgi/Tutum/Yetenek/Kişilik vb testler
Adını yazınız .....
4. ☐ Görüşme (mülakat) .....
O Yapıland. O Yarı-yap. O Yap/mamış O Odak gr.
5. ☐ Gözlem
O Katılımcı O Katılımcı olmayan
6. ☐ Alternatif değerlendirme araçları
(Diagnostik test, Kavram hart., Portfolyo vb)
7. ☐ Dokümanlar
8. ☐ Diğer (yazınız).....

F. ÖRNEKLEM

a. Örneklem

1. ☐ Okulöncesi
2. ☐ İlköğretim (1-5)
3. ☐ İlköğretim (6-8)
4. ☐ Ortaöğretim (9-12)
5. ☐ Lisans
6. ☐ Lisansüstü
7. ☐ Öğretmen
8. ☐ Yöneticiler
9. ☐ Veliler
10. ☐ Diğer .....

b. Örneklem Büyüklüğü

1. ☐ 1-10 arası
2. ☐ 11-30 arası
3. ☐ 31-100 arası
4. ☐ 101-300 arası
5. ☐ 301-1000 arası
6. ☐ 1000'den fazla

G. VERİ ANALİZ YÖNTEMİ

NİCEL VERİ ANALİZİ

1. Betimsel (Descriptive)

11. ☐ Frekans/Yüzde tabloları
12. ☐ Ortalama/Standart sapma
13. ☐ Grafikle gösterim
14. ☐ Diğer.....

2. Kestirimsel (Infrential)

21. ☐ t-testi
22. ☐ Korelasyon
23. ☐ ANOVA/ANCOVA
24. ☐ MANOVA/MANCOVA
25. ☐ Faktör Analizi
26. ☐ Regresyon
27. ☐ Non-Parametrik testler
28. ☐ Diğer.....

NİTEL VERİ ANALİZİ

3. Nitel Analiz

31. ☐ İçerik Analizi
32. ☐ Nitel Betimsel Analiz
33. ☐ Diğer .....