NEAR EAST UNIVERSITY

GRADUATE SCHOOL OF EDUCATIONAL SCIENCES

DEPARTMENT OF ENGLISH LANGUAGE TEACHING

EXAMINING SECONDARY SCHOOL EFL TEACHERS' AWARENESS OF ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADHD)

MASTER THESIS

SELÇUK KARAYAPRAK

SUPERVISOR: PROF. DR. SABRİ KOÇ

NICOSIA

July 2014

We certify that we have read the thesis submitted by Selçuk Karayaprak entitled "Examining Secondary School EFL Teachers' Awareness of Attention Deficit Hyperactivity Disorder (ADHD)" and that in our combined opinion it is fully adequate, in scope and quality, as a thesis for the degree of Master of Arts.

.....

Asst. Prof. Dr. Mustafa Kurt

Head of the Committee

.....

Prof. Dr. Sabri Koç

Supervisor

.....

Asst. Prof. Dr. Çise Çavuşoğlu

Committee Member

Approved for the

Graduate School of Educational Sciences

.....

Prof. Dr. Orhan Çiftçi

Director of Graduate School of Educational Sciences

DECLARATION

I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all materials and results that are not original to this study.

Name, Last name: Selçuk Karayaprak

Signature: 

ACKNOWLEDGEMENTS

Research progress was long, tiring and challenging. On the other hand, it was very instructive and invaluable experience for me. First of all, I would like to express my deepest gratitude to my thesis supervisor, Prof. Dr. Sabri Koç for his support, guidance, encouragement and resources he provided. I would like to extend my appreciation to our chairperson, Asst. Prof. Dr. Mustafa Kurt for his support, help and encouragement. I would like to present my appreciation to the committee member, Asst. Prof. Dr. Çise Çavuşoğlu.

Secondly, I would like to express my special thanks to Kemal Karayaprak, Özdinç Akdel, Mustafa Gürsoy, Burcay Türkmen, Üstün Çağataylı, Asım İdris, Ozan Çoli, Ali Gültekin, Adnan Eraslan, Yaprak Altay, Duriye Karahoca, Altay Fırat, Adnan Eraslan, Hüseyin Tüccar, Huriye Soykut, Tuna Bolat, Muharrem Şevketoğlu, Yenel Cansever, and Derviş Kansu for their support and help.

Finally, I would like to convey my endless gratitude to my father, Kemal Karayaprak, my mother Alev Karayaprak and my little sister, Eylül Karayaprak. Without their encouragement, patience, tangible and moral support, this study would not have been realized.

ABSTRACT

Examining Secondary School EFL Teachers' Awareness of Attention Deficit Hyperactivity Disorder (ADHD)

KARAYAPRAK, Selçuk

MA Programme in English Language Teaching

Supervisor: Prof. Dr. Sabri Koç

July 2014, 129 pages

The study aims to examine EFL teachers' awareness about ADHD (general, causes of ADHD, symptoms of ADHD, treatment of ADHD and teaching strategies of ADHD domains) through a questionnaire. The participant teachers were also questioned whether they have been informed about ADHD or not. Finally the participant teachers are asked whether they have conducted any research on the subject. The participant teachers currently employed in public and private secondary (lower secondary and upper secondary) schools in Nicosia, Famagusta, Kyrenia, and Morphou regions of North Cyprus.

111 EFL teachers participated to the research study. Findings of the study indicate that almost half of the participant EFL teachers (49%) stated that they had no idea and one tenth of the participants (11%) incorrectly answered items about ADHD (its symptoms, treatment) and teaching strategies related with ADHD. According to the participants' responses to the first, second and third questions of the third part of the questionnaire, EFL teachers were not informed about detailed information about ADHD and teaching strategies for students with ADHD.

According to the findings of the research study, it can be said that the Ministry of Education should determine and acknowledge ADHD students' educational needs and provide information to EFL teachers about symptoms of ADHD, treatment of ADHD, effective teaching strategies and foreign language teaching strategies for ADHD students with in-service training. Similar course should be added to the English language teaching department curriculums if the course is not provided. This research study is designed and carried out hoping that it will help students with ADHD in regular classrooms of North Cyprus and it will attract teachers' attention to the subject.

Key Words: *Special Education, Attention Deficit Hyperactivity Disorder (ADHD), English Language Teaching, Secondary Education, EFL Teachers*

ÖZ

Ortaöğretim İngilizce Öğretmenlerinin Dikkat Eksikliği ve Hiperaktivite Bozukluğuna İlişkin Farkındalığının İncelenmesi

KARAYAPRAK, Selçuk

Yüksek Lisans, İngilizce Öğretmenliği Anabilim Dalı

Danışman: Prof. Dr. Sabri Koç

Temmuz 2014, 129 sayfa

Bu çalışmanın amacı, Kuzey Kıbrıs'ın Lefkoşa, Gazimağusa, Girne ve Güzelyurt bölgelerinde çalışan ortaöğretim (ortaokul ve lise) İngilizce öğretmenlerinin dikkat eksikliği ve hiperaktivite (DEHB) ile ilgili genel bilgisi, DEHB'nun sebepleri, belirtileri, tedavisi ve DEHB'na sahip öğrenciler için eğitimsel stratejilerle ilgili farkındalığını anket yoluyla incelemek, saptamak ve aktarmaktır. Ayrıca, katılımcı öğretmenlerin daha önce konuyla ilgili bilgilendirilip, bilgilendirilmedikleri ve söz konusu konuyla ilgili katılımcıların araştırma yapıp, yapmadıkları da araştırılmıştır.

Araştırmaya 111 İngilizce öğretmeni katılmıştır. Yapılan araştırmanın bulgularına göre; katılımcıların hemen hemen yarısının (%49) DEHB ile ilgili fikirlerinin olmadığını belirttikleri ve katılımcıların onda birinin (%11) ise konuyla ilgili sorulara yanlış cevaplar verdikleri saptanmıştır. Araştırmada yer alan birinci, ikinci ve üçüncü açık uçlu sorulara katılımcıların verdikleri yanıtlara göre; İngilizce öğretmenlerinin DEHB ile ilgili ve DEHB'na sahip öğrenciler için eğitimsel stratejilerle ilgili detaylı bilgiyle donatılmadıkları bulunmuştur.

Araştırmanın bulgularına göre, Milli Eğitim Bakanlığı'nın DEHB'na sahip öğrencilerin eğitimsel ihtiyaçlarını saptayıp, onaylaması ve öğretmenlere DEHB'nun belirtileri, tedavisi, DEHB'na sahip öğrenciler için etkili eğitimsel stratejileri içeren hizmetiçi eğitim programı sağlamalıdır. Üniversitelerde, bu konuda dersi bulunmayan İngilizce öğretmenliği bölümlerine de benzer bir kurs eklenmelidir. Bu araştırma, okullarımızda dikkat eksikliği ve hiperaktivite nedeni ile eğitimsel, sosyal ve psikolojik zorluklar çeken öğrencilere yardımcı olması ve öğretmenlerin bu konudaki farkındalıklarını artırmak umuduyla hazırlanmıştır.

Anahtar Kelimeler: *Özel Eğitim,Dikkat Eksikliği ve Hiperaktivite Bozukluğu (DEHB), İngiliz Dili Öğretimi, Ortaöğretim, İngilizce Öğretmenleri.*

TABLE OF CONTENTS

Approval of the Thesis ii

Declaration iii

Acknowledgements iv

Abstract v

Öz vii

Table of Contents ix

List of Tables xii

List of Figures xiii

List of Appendices xiv

Abbreviations xv

CHAPTER I INTRODUCTION 1

Presentation 1

Background of the Study 1

The Problem 6

Aim of the Study 6

Significance of the Study 7

Terms Used 7

Limitations 8

Conclusion 8

CHAPTER II LITERATURE REVIEW 9

Presentation 9

History of ADHD 9

Types of ADHD 12

Prevalence of ADHD 12
Cause of ADHD 14
Duration of ADHD 18
Symptoms of ADHD 18
ADHD Diagnosis 21
Co-existing Conditions and Confused Conditions 26
Treatment of ADHD 27
Treatment Strategies for ADHD 28
Multimodal Treatment 29
Medication Treatment 29
Potential Side Effects of Medication Therapy 32
Behavioural Treatment 33
Educational Adjustments 34
Individualized Education Programme 38
Beneficial Strategies for EFL Teachers 39
Previous Research Studies on the Subject 45
Conclusion 49
CHAPTER III METHODOLOGY 50
Presentation 50
Research Design 50
Context 51
Sampling and Participants 52
Data Collection Instrument 55
Data Collection Procedures 57
Data Analysis 58

Conclusion 59
CHAPTER IV RESULTS AND DISCUSSION 60
Presentation 60
Secondary School EFL Teachers' Overall Awareness of ADHD 60
Awareness of General Information about ADHD 61
Awareness of the Causes of ADHD 64
Awareness of the Symptoms of ADHD 65
Awareness of Treatment Strategies of ADHD 68
Awareness of the Pedagogic Information about ADHD 69
Age Groups and Teachers' Awareness of ADHD 73
Teaching Experience and Awareness of ADHD 77
Educational Background and Awareness of ADHD 81
Prior Training in Special Education and Awareness of ADHD 82
Country of Graduation and Awareness of ADHD 83
Types of Schools and Awareness of ADHD 86
Working Regions and Awareness of ADHD 86
Conclusion 92
CHAPTER V CONCLUSION AND RECOMMENDATIONS 93
Presentation 93
Summary of the Findings 93
Pedagogical Implications 96
Suggestions for Further Research 98
Conclusion 99
References 100
Appendices 107

LIST OF TABLES

Table 1: Profile of Participants 53

Table 2: Questionnaire Reliability 57

Table 3: Awareness of General Information about ADHD 63

Table 4: Awareness of the Causes of ADHD 65

Table 5: Awareness of the Symptoms of ADHD 67

Table 6: Awareness of the Treatment Strategies of ADHD 68

Table 7: Significant T-test Results for Educational Background and Awareness of ADHD 81

Table 8: Significant T-test Results for Prior Training in Special Education and Awareness of ADHD 82

LIST OF FIGURES

Figure 1: Two Connected Neurons via a Synapse 15

Figure 2: Electrical and Chemical Message Transmissions..... 16

Figure 3: Chemical Transmission of Messages..... 17

Figure 4: Secondary School EFL Teachers' Overall

Awareness of ADHD 60

LIST OF APPENDICES

Appendix A: Questionnaire 107

Appendix B: Approval Letter from the Ministry of Education, General Secondary School Department 112

Appendix C: Approval Letter from the Ministry of Education, Vocational Education Department 113

Appendix D: Awareness of the Pedagogic Information about ADHD... 114

Appendix E: Significant ANOVA Results for Age Groups and awareness of ADHD 118

Appendix F: Significant ANOVA Results for Experience Groups and Awareness of ADHD 121

Appendix G: Significant ANOVA Results for Country of Graduation and Awareness of ADHD 124

Appendix H: Significant ANOVA Results for Working Regions and Awareness of ADHD 127

ABBREVIATIONS

ADHD	:	Attention Deficit Hyperactivity Disorder
ANOVA	:	Analysis of Variance
EFL	:	English as a Foreign Language
SPSS	:	Statistical Package for Social Sciences

CHAPTER I

INTRODUCTION

Presentation

In the present chapter, background of the study, problem of the study, aim of the study, research questions, and significance of the study followed by definition of terms, acronyms and limitations will be presented.

Background of the Study

Communication is very important for trading, marketing, tourism, education, health and many other areas in the globalized world of the present time. Common language is the most appropriate way of communication between businesspersons and customers, students and teachers, and even between the countries. Thus, speaking more than one language is a must to be able to communicate with wider audience and create better opportunities. It is reported that English language is the most commonly used language in business (Michaud, 2012). English is the third most widely spoken language in the world and it is the most frequently used language in internet usage in the world (Tinsley & Board, 2013).

Fortunately, human beings can acquire/learn languages. People can acquire their native language (L1) in their early childhood via listening to their parents or their family members (native languages can be more than one). People can also learn an additional language (or languages) for different purposes such as academic purposes and professional purposes. The additional language can be called as a second language (L2) or a foreign language. Acquisition of the native language happens unconsciously with innate language acquisition device and learning a second/target language happens consciously (Saville-Troike, 2006).

Unfortunately, people have various problems while learning a second language (especially after their adolescence period).

Researchers and linguists investigate to find out optimal age for native-like pronunciation (Zhang, 2009). In 1861, Paul Pierre Broca suggested that the speaking ability is related with an area in the left hemisphere of the brain. The area is known as Broca's area. Then, in 1874, Carl Wernicke explained that auditory language processing is related with another area which is known as Wernicke's area in the left hemisphere of the brain (Saville-Troike, 2006). Afterwards, Wilder Penfield and Lamar Roberts suggested the idea of the critical period hypothesis in 1959. The idea was published in Wilder Penfield and Lamar Robert's Speech and Brain Mechanisms book but the idea became popular with Eric Lenneberg's Biological Foundations of Language book in 1967. According to his idea, there is a limited time for first language acquisition which starts at infancy and finishes at puberty. Even a child with brain damage can acquire his/her own first language with brain's plasticity. After this limited time, individuals cannot acquire any language like their mother tongue or acquire a language with problems in different areas, because of a neurological change which is known as lateralization of brain (Saville- Troike, 2006; Lenneberg, 1967, as cited in Newport 2002). The idea of lateralization is proved with positron emission tomography (PET), functional magnetic resonance imaging (fMRI) and event related-potential (ERP) studies. These studies show that both bilinguals and monolinguals use their left hemispheres for processing language but second language learners (who learn a second language after the lateralization) use their left and right hemispheres to process the second language (Newport, 2002). On the other hand, there are not enough people who experienced linguistic deprivation in their childhood period to support critical period hypothesis but feral children

(linguistically isolated children) and deaf children of hearing parents can be shown as the evidence for the existence of critical period hypothesis for the native language acquisition (Moskovosky, 2001). Unfortunately, there is not any indicator that age affects the second language learning [to be able to prove that age affects second language acquisition/learning; acquisition/Learning order of L2 learning, acquisition/learning rate and proficiency level should be same (Nunan, 1999)] except pronunciation. It is clear that L2 learners cannot acquire native-like pronunciation if they start to learn the second language after the age of puberty (Saville-Troike, 2006). Thus, it can be said that appropriate language teaching strategies should be applied for students and students with attention deficit hyperactivity disorder (ADHD). Otherwise, ADHD students may not acquire or learn a language properly. Even students with ADHD need language therapy for their native language and interventions for second language learning may be beneficial for students.

There are 26 letters in English alphabet and 44 different sounds (consonant, vowel phonemes and diphthongs) (Freeborn, 1998; Cunningham & Moor, 2002; Turketti, 2010). Thus, it cannot be said that English is an easy language to learn as a second language for students whose native language is German, Russian, Turkish or Italian. Russian learners may have problems with "b", "d", "p" and "q" letters; Russian, Italian, Turkish and German learners may have problems with reading rules and exceptions because in their own native language letters produce a single sound instead of variety of sounds according to combination of letters in English (Turketti, 2010). Apart from the English language learning difficulties which are mentioned above, there are students with special educational needs in our classrooms. Attention deficit hyperactivity disorder (ADHD) is only one of the special educational needs. Most of the students with ADHD have speaking, listening, reading and writing

problems, verbal expression difficulties, written expression difficulties and reading problems. These problems negatively affect ADHD students' second language learning/acquisition process (Amen, 2002; IDA, 2008; Serfontein, 1990; Sparks, 1992 as cited in Turketti, 2010).

Students should focus on instructions, follow directions, avoid internal and external distractions, and obey classroom rules to be successful. Furthermore, students have to do assignments on time and have good social relations with their teachers and classmates. In language classrooms, students should be quiet. They have to pay attention to grammar rules (structure of the sentences, tenses) and pronunciation of the foreign language as well. Unfortunately, students with ADHD cannot perform well in classroom environments because of their lack of concentration hypersensitivity to their environment (sound, smell, slight movement, etc.), excessive motor activity, poor listening skills, poor co-ordination (doing two or more different tasks at the same time, such as handwriting), poor scheduling (scheduling their future to complete assignments and projects) poor short-term memory problems. Students with ADHD may forget to bring the necessary materials to the classroom or lose them (Amen, 2002; Copeland & Love, 1995, HADD, 2005; Serfontein, 1990). Because of these difficulties and inappropriate behaviours, ADHD students frequently receive negative feedback (criticism and stigmatization) from their teachers, parents and peers. Giving negative feedback may momentarily solve problems but frequent criticism and stigmatization may cause self-esteem problems. Individuals with self-esteem problems cannot evaluate their self-value in social environments and self-value problems cause self-confidence problems. Combination of problems leads to academic failure, school dropouts, social and psychological problems (Copeland & Love, 1995; HADD, 2005; Serfontein, 1990). It can be said

that ADHD affects everything related with one's academic success. Fortunately having ADHD does not mean that you are unsuccessful. Agatha Christie, Albert Einstein, Alexander Graham Bell, Bill Gates, Charles Philip Arthur George (Prince of Wales), Cherilyn Sarkisian, Elvis Presley, Galileo Galile, George Patton, Henry Ford, Jim Carey, John Lennon, John Fitzgerald Kennedy, Leonardo da Vinci, Ludwig van Beethoven, Michael Phelps, Oscar Wild, Pablo Picasso, Richard Branson, Stephen Hawkins, Sylvester Stallone, Thomas Edison, Tom Cruise, Walt Disney, Winston Churchill, and Wolfgang Amadeus Mozart had ADHD but they could achieve success and fame (Carr-Fanning, 2011; Grohol, 2010).

Every student with ADHD has a different combination of difficulties and needs related with ADHD. Each student with ADHD also have psychological needs (need for self-esteem, safety, sense of belonging and desire to achieve) like their non-ADHD peers have. Their difficulties and needs should be met to make ADHD students successful. Thus, teachers should be informed about characteristics of ADHD and appropriate problem solving strategies. Unfortunately, teachers cannot manage to solve every single problem related with ADHD and design the most appropriate teaching strategy for each student with ADHD in classrooms (Copeland & Love, 1995; Di Giulio, 2007; McNamara & McNamara, 1993). Thus, teachers should work with a treatment team to find the most appropriate and efficient strategies for each student with ADHD. It can be said that ADHD students have "Ferrari engines" but they have "bicycle brakes" (Hallowell, 2012, p.1) and they need a race team to be a successful F1 pilot.

The Problem

Many previous research studies reported that teachers have insufficient awareness about ADHD (Brook, Watemberg & Geva, 2000; Funk, 2011; Garcia, 2009; Nur & Kavakci, 2010; Rodrigo, Perera, Eranga, Williams & Kuruppuarachchi; Perold, Louw & Kleyhans, 2010). Savga (2008) has done a research study on the awareness level of primary school EFL teachers of dyslexia. She reported that the primary school teachers were not fully aware of aspects of dyslexia. Furthermore, there is not any research study about teachers' awareness about ADHD in North Cyprus as we know. Thus, a research on the field is needed for the students with ADHD because they have academic achievement failure related with their special needs.

Aim of the Study

The main aim of the present research study was to examine the level of awareness of secondary school EFL teachers of ADHD, its causes, symptoms, possible treatments, and teaching strategies. This study intends to find answers to the following research questions in order to reach its aim:

1. What is the level of awareness of ADHD between the secondary school EFL in North Cyprus?
2. Are there any significant differences between secondary school EFL teachers' awareness in terms of a) age, b) years of teaching experience, c) educational background, d) prior training in special education, e) type of school that teachers are working, and g) working regions?
3. What sort of teaching strategies do the secondary school EFL teachers use for students with ADHD in EFL classes?

Significance of the Study

Students with ADHD may be labelled as trouble maker, lazy, inattentive or unable to learn and misunderstood by their parents, teachers and schoolmates because of their unexpected and different behaviours. Fortunately, students with ADHD can be very successful if appropriate teaching strategies, educational interventions, activities and materials are used. Thus the idea behind this research study was the belief that this study would create awareness about ADHD in North Cyprus. The findings of the study may help EFL teachers to understand the difficulties that ADHD students face. The research study may also be helpful for students with ADHD indirectly if the research study make teachers notice ADHD and develop effective teaching strategies or interventions. In this way, labels and misunderstanding related with ADHD may be reduced; teachers can cope with problems related with ADHD, perform better in the language classrooms. Thus, all students in a classroom can equally learn a new language with more enjoyable way.

Terms Used

The term 'secondary school' is used to describe lower secondary schools and upper secondary schools in North Cyprus. The term also covers technical and vocational schools in North Cyprus.

The terms 'ADHD students', 'students with ADHD', 'individuals', 'individuals with ADHD' terms are used to describe students who have attention deficit/hyperactivity disorder (ADHD). The terms 'peers' and 'non-ADHD students' are used to describe students who do not have ADHD and other special needs.

The terms 'secondary school EFL teachers', 'teachers' and 'participants' are used to refer to the participant EFL teachers who work at secondary schools in North Cyprus at the time of the study.

Limitations

Only three secondary school EFL teachers were reached in Trikomo (İskele) region and 19 secondary school teachers could not be reached because of limited time and financial resources. Thus, relevant data could not be collected from Trikomo region. The research study could not be applied in two private schools (one in Kyrenia and one in Nicosia) because of permission problems. Thus, the significant difference between private and public schools could not be analysed. The school names are not given in this research study to be able to keep participant EFL teachers' identities confidential.

Conclusion

In this chapter, importances of learning and effectively using a secondary language and difficulties of learning English as a second language have been explained. Moreover, summary of difficulties that students with attention deficit hyperactivity disorder (ADHD) have in classroom environment have been described. The problem statement, aim of the study and significance of the study have been presented. The following chapter will present the literature of the study to give information about ADHD, appropriate treatment and appropriate educational interventions for students with ADHD. Previous findings of the research studies from different countries will be presented as well.

CHAPTER II

LITERATURE REVIEW

Presentation

This chapter presents detailed information about attention deficit hyperactivity disorder (ADHD). General information about ADHD, causes of ADHD, comorbidity, symptoms of ADHD, diagnosis of ADHD, history of ADHD, parents' role, treatment of ADHD, side effects of medication treatment, and schools' roles are explained.

History of ADHD

The term 'ADHD' is not new issue (ADHD Working Group, 2004; Amen, 2002; Copeland & Love, 1995; Hallahan & Kauffman, 2006; McNamara & McNamara, 1993). Attention Deficit Hyperactivity Disorder name (label) is new but same symptoms were observed, studied and reported since the nineteenth century. The condition's names have been changed in time according to the technological developments in medicine (Lange, Reichl, Lange, Tucha, & Tucha, 2010). The name was changed in time as following.

Early findings about inattentiveness were reported and published in 1798 by Sir Alexander Crichton's book which was called as "An inquiry into the nature and origin of mental derangement: Comprehending a concise system of the physiology and pathology of the human mind and a history of the passions and their effects" and was consisted of three books. Crichton reported inattentiveness but he did not mention about hyperactivity symptoms. Another evidence for the existence of

hyperactivity is Dr. Heinrich Hoffmann's poem which was called as Fidgety Philip. The poem was written in 1845. Hoffmann described some symptoms of hyperactivity (such as fidgeting, disobedience, over-activity) and parents' embarrassment because of inappropriate behaviours of his own son. Hoffmann also wrote "Johnny Look-in-the-air" which described inattentiveness symptoms (Barley, 1998 as cited in Hallahan & Kauffman, 2006; Copeland & Love, 1995; Lange, Reichl, Lange, Tucha, & Tucha, 2010).

In 1902, children who are spiteful, cruel, disobedient, impulsive, inattentive and hyperactive were defined as "morally defective" or having "defective moral control" by Dr. George F. Still (Amen, 2002; CHADD, 2008a, Copeland & Love, 1995; Hallahan & Kauffman, 2006; Millar, 2003; Parker, 1999). Still reported that defective moral control is related with brain, people with the condition have avarage (normal) intelligence, the condition is genetic and mostly males have it. These facts are still recent (Hallahan & Kauffman, 2006). Epidemic viral encephalitis caused brain damage in 1917. The symptoms of epidemic viral encephalitis were inattentiveness, impulsivity and short term memory which were close to symptoms of Still's defective moral control (Copeland & Love, 1995; Millar, 2003). Then, the name of the condition was changed as post-encephalitis in the 1920s (Parker, 1999), then minimal brain damage in the 1930s (Amen, 2002; Millar, 2003; Parker, 1999).

The condition's connection with brain was proved once more with Kurt Goldstein's findings. Goldstein studied on soldiers who had head wounds in World War I. Goldstein realized that these soldiers were inattentive, disorganized, hyperactive, repeating same behaviours and easily distracted from environmental stimuli. These soldiers had similar symptoms with students with ADHD. In the late 1930s and the early 1940s Heinz Werner and Alfred Strauss emigrated from

Germany to the United States and they worked together and replicated Goldstein's study. Werner and Strauss observed children. They have reported that some children have distractibility and hyperactivity symptoms. These symptoms were known as Strauss Syndrome in literature. Strauss Syndrome's symptoms were inattentiveness, distractibility and hyperactivity. In the 1950s; William Cruickshank observed children who had cerebral palsy (damaged brain before matured). The children were inattentive, hyperactive and had normal intelligence. Cruickshank named this condition as minimal brain injury. Minimal brain injury diagnosis was popular in the 1950s and 1960s (Hallahan & Kauffman, 2006). People believed that hyperactivity and inattentiveness symptoms were caused by brain injury until the 1960s. This belief has changed with the new diagnosis which was known as Minimal brain dysfunction (MBD) (Amen, 2002; Copeland & Love, 1995; Millar, 2003; Serfontein, 1990).

American Psychiatric Association (APA) published a book which is known as Diagnostic and Statistical Manual of Mental Disorders (DSM). The condition was reported as hyperactivity in childhood in the first edition of DSM (Amen, 2002). Hyperkinetic reaction of childhood was used as a diagnosis for hyperactive children in the DSM-II. This name was popular in the 1960s and 1970s. Symptoms of hyperkinetic reaction of childhood were inattentiveness, impulsivity, and/or hyperactivity (Copeland & Love, 1995; Hallahan & Kauffman, 2006). After that APA reported the condition as attention deficit disorder (ADD) with and without hyperactivity in 1980 (Copeland & Love, 1995; Millar, 2003; Parker, 1999). The name of the condition changed as attention deficit hyperactivity disorder (ADHD) by APA in 1987 and the condition was described in the Diagnostic and Statistical Manual of Mental Disorders, third edition (DSM III) (Carr-Fanning & McGuckin,

2012; Parker, 1999). Inattentive type ADHD, Impulsive-Hyperactive type ADHD and combined type ADHD categories added to definition of the condition in the DSM-IV which was published in 1994 (Copeland & Love, 1995; APA, 1994). There are few differences between DSM-IV and DSM-V related with the diagnostic criteria of ADHD. These are, age of early diagnosis, comorbid diagnosis with autism spectrum disorder and the number of symptoms that are required for diagnosis of ADHD (6 symptoms should be existed to be able to diagnose with ADHD in DSM-IV and 5 symptoms are required according to APA's DSM-V) (APA, 2013). Therefore, ADHD is classified by World Health Organization's (WHO) International Classification of Diseases (ICD). WHO categorized the condition with three different codes. F90.2 (combined type ADHD), F90.1 (impulsive-hyperactive type ADHD) and F90.0 (inattentive type ADHD) are codes used to categorize ADHD (APA, 2013).

Types of ADHD

ADHD was divided into three subtypes which are "predominantly inattentive", "predominantly impulsive/hyperactive" and "combined" subtypes. Each subtype has its own severity levels. These are determined as "mild", "moderate" and "severe". These levels are determined according to the existence of symptoms of the disorder (APA, 1994; APA, 2013).

Prevalence of ADHD

The prevalence rate of ADHD is not stable but it is clear that ADHD is an international matter and exists in every country (Parker, 1999). The lowest prevalence rate of ADHD was reported as 1-3% of the population (ADHD Working

Group, 2004) and the highest prevalence rate was reported as 12.76% of the population (Ercan, et. al., 2013). According to APA (2013), "ADHD occurs in most cultures in about 5% of children and about 2.5% of adults" (p. 61) in the latest edition of Diagnostic and Statistical Manual of Mental Disorders (DSM-V) book. On the other hand most of the health authorities (such as ADHD-Europe, 2006; HADD, 2005; IDA, 2008; UNESCO, 2009) still accept that 3-5% of the population is affected from ADHD which was stated in DSM-IV by APA in 1994. Prevalence studies were done in Sivas and in İzmir in Turkey. According to the results of the studies, 8% of the population in Sivas (Erşan, Doğan, Doğan & Sümer, 2004) and 12.76% of population in İzmir (Ercan, et al., 2013) were affected from ADHD. This shows that Turkish people have ADHD too.

The prevalence difference in the research studies on prevalence rates was caused by cultural expectation, educational and diagnostic style (samples' age group, measuring style) differences (APA, 2013; Hallahan & Kauffman, 2006; Millar, 2003; Parker, 1999). Also, there are individuals that refuse even assessment of ADHD to avoid stigmatization (such as lazy, stupid) and medical labels (such as ADD, ADHD or hyperactivity) and this also affects the detection rate of prevalence.

It is accepted that boys have ADHD more than girls (APA, 2013; ADHD Working Group, 2004; HADD, 2005; Hallahan & Kauffman, 2006). Boys with ADHD usually act aggressively and they have excessive motor activity and girls usually diagnosed with their inattentiveness. This may clarify that why boys are diagnosed with ADHD more than girls (APA, 2013; Copeland & Love, 1995; HADD, 2005; Hallahan & Kauffman, 2006). Unfortunately, most of the girls are under-diagnosed because of their concealable symptoms (Copeland & Love, 1995; IDA, 2008).

Cause of ADHD

The actual cause of ADHD has not been discovered yet and researchers are trying to find the exact cause of ADHD (Heward, 2006; Millar, 2003). ADHD is accepted as a neurological condition (ADHD Working Group, 2004; APA, 2013; Heward, 2006; McNamara & McNamara, 1993; Parker, 1999; UNESCO, 2009) and it can transfer via genes from parents to a child (ADHD Working Group, 2004; Amen, 2002; APA, 1994; APA, 2013; HADD, 2005; Hallahan & Kauffman, 2006; Millar, 2003; Parker, 1999; Rey, 1995; Serfontein, 1990). According to Millar (2003), "between 10% and 35% of children with ADHD have an immediate relative with past or present ADHD" and "approximately half of parents who have been diagnosed with ADHD themselves, will have a child with the disorder" (p. 8). Toxin (lead or formaldehyde) poisoning, alcohol, and/or drug usage while pregnancy increase the risk of having a baby with ADHD but only these factors do not cause the condition (Copeland & Love, 1995).

Researchers used technology to find the exact cause of ADHD. They used magnetic resonance imaging (MRI), positron emission tomography (PET), computerized brain scans (BEAMS) and blood flow studies to observe and compare brains' blood flow, electrical activity, chemical and structural differences that may cause ADHD (Copeland & Love, 1995; Parker, 1999). ADHD is an innate condition and it is caused by the deficiency of neurotransmitters in the brain according to the overall results of the studies which were done with the present technology (ADHD Working Group, 2004; Copeland & Love, 1995; HADD, 2005; Parker, 1999; Serfontein, 1990).

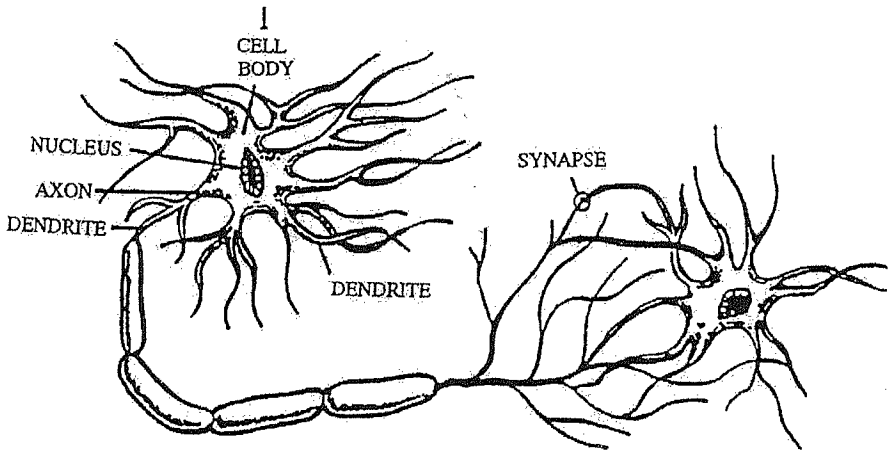

Figure 1. Two connected neurons via a synapse. (Copeland & Love, 1995, p.18)

People should understand the structure of brain and its functions to be able to understand why and how ADHD occurs in the brain. Brain is constituted by billions of neurons (nerve cells) and each neuron is connected with another neuron with their own dendrites to transmit messages (transmitting messages from one to another enable us to be able to think, speak, move, comprehend or do what we are doing) from one to another. Messages are transmitted via electrical impulse throughout dendrites (see Figure 1). Unfortunately, there are gaps between two different neurons' dendrites. These gaps are known as synapses and the messages cannot be transmitted via electrical impulse. Messages should be transmitted into chemical messages (which are called as neurotransmitters) to be able to pass these tiny gaps. Neurotransmitters are received by receptors in receptor neuron's dendrite and the receptors convert the chemical message into electrical signal again to continue their way (see Figure 2). Neurotransmitters (which did their job) are broken up by the enzymes and broken neurotransmitters are emitted via urine. This process continues until the message is received by appropriate neuron (Copeland & Love, 1995; Parker, 1999; Serfontein, 1990).

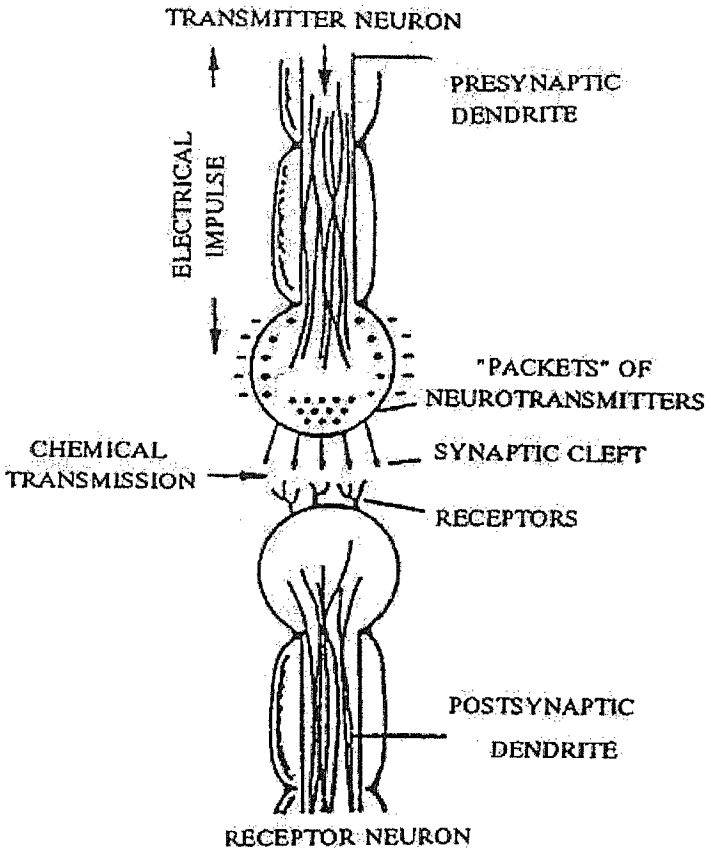

Figure 2. Electrical and chemical message transmissions (Copeland & Love, 1995, p.19)

Excessive amount of neurotransmitters and insufficient amount of neurotransmitters are naturalized by the enzymes (see Figure 3) and the message cannot be received by the appropriate neuron (Serfontein, 1990). Thus, this is the actual reason for deficiency of the neurotransmitters (dopamine, serotonin and norepinephrine) which causes ADHD (Copeland & Love, 1995; Millar, 2003; Parker, 1999; Serfontein, 1990; Train, 2005).

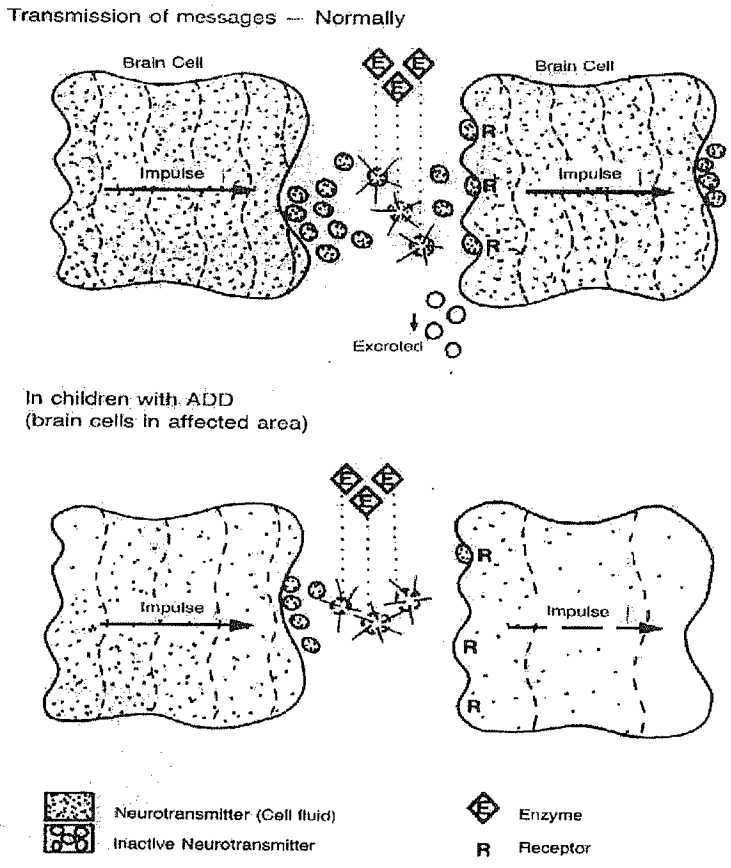

Figure 3. Chemical transmission of messages and enzymes that break up the neurotransmitters (processing brain without ADHD and processing brain with ADHD). (Serfontein, 1990, p.28)

It is also reported that both structural differences of a brain and deficient neurotransmitters can cause ADHD (UNESCO, 2009).The brain is divided into two hemispheres (which are left and right hemispheres) and the whole brain is divided into four lobes (which are frontal lobes, temporal and parietal and occipital lobes) (Parker, 1999). Dysfunction in the frontal lobes, cortex and/or the limbic system may cause ADHD. There may be dysfunction in one, two or all areas and this may change the existence of ADHD symptoms (Millar, 2003).

Duration of ADHD

Symptoms of ADHD can be observed in pre-school or primary school period (UNESCO, 2009) and severity of the symptoms in the adolescence period may worsen or remain the same (APA, 2013). After that, the severity of ADHD symptoms lessen in late adolescence period and in adulthood period (APA, 1994) and it is clear that the symptoms of ADHD do persist throughout one's life who have it (ADHD Working Group, 2004; Amen, 2002; APA, 1994; APA, 2013; CHADD, 2008a; Copeland & Love, 1995; IDA, 2008; Parker, 1999; Serfontein, 1990; Train, 2005). It is reported that the possibility of having the symptoms of ADHD in adulthood is 50% (IDA, 2008, McNamara & McNamara, 1993).

Symptoms of ADHD

The symptoms of ADHD are indicated in APA's The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM V, 2013, p.59-60) as follows:

A. A persistent pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or development, as characterized by (1) and/or (2):

1. **Inattention:** Six (or more) of the following symptoms have persisted for at least 6 months to a degree that is inconsistent with developmental level and that negatively impacts directly on social and academic/occupational activities:

   Note: The symptoms are not solely a manifestation of oppositional behaviour, defiance, hostility, or failure to understand tasks or instructions. For older adolescents and adults (age 17 and older), at least five symptoms are required.

a. Often fails to give close attention to details or makes careless mistakes in schoolwork, at work, or during other activities (e.g., overlooks or misses details, works is inaccurate).

b. Often has difficulty sustaining attention in tasks or play activities (e.g., has difficulty remaining focused during lectures, conversations, or lengthy reading).

c. Often does not seem to listen when spoken to directly (e.g., mind seems elsewhere, even in the absence of any obvious distraction).

d. Often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (e.g., starts tasks but quickly loses focus and easily sidetracked).

e. Often has difficulty organizing tasks and activities (e.g., difficulty managing sequential tasks; difficulty keeping materials and belongings in order; messy, disorganized work; has poor time management; fails to meet deadlines).

f. Often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (e.g., schoolwork or homework; for older adolescents and adults, preparing reports, completing forms, reviewing lengthy papers).

g. Often loses things necessary for tasks or activities (e.g., school materials, pencils, books, tools, wallets, keys, paperwork, eyeglasses, mobile telephones).

h. Is often easily distracted by extraneous stimuli (for older adolescents and adults, may include unrelated thoughts).

i. Is often forgetful in daily activities (e.g., doing chores, running errands; for older adolescents and adults, returning calls, paying bills, keeping appointments).

2. **Hyperactivity and impulsivity:** Six (or more) of the following symptoms have persisted for at least 6 months to a degree that is inconsistent with developmental level and that negatively impacts directly on social and academic/occupational activities:

   Note: The symptoms are not solely a manifestation of oppositional behaviour, defiance, hostility, or a failure to understand tasks or instructions. For older adolescents and adults (age 17 and older), at least five symptoms are required.

   a. Often fidgets with or taps hands or feet or squirms in seat.

   b. Often leaves seat in situations when remaining seated is expected (e.g., leaves his or her place in the classroom, in the office or other workplace, or in other situations that require remaining in place).

   c. Often runs about or climbs in situations where it is inappropriate. (**Note:** In adolescents or adults, may be limited to feeling restless).

   d. Often unable to play or engage in leisure activities quietly.

   e. Is often "on the go", acting as if "driven by a motor" (e.g., is unable to be or uncomfortable being still for extended time, as in restaurants, meetings; may be experienced by others as being restless or difficult to keep up with).

   f. Often talks excessively.

   g. Often blurts out an answer before a question has been completed (e.g., completes people's sentences; cannot wait for turn in conversation).

h. Often has difficulty waiting his or her turn (e.g., while waiting in line).

i. Often interrupts or intrudes on others (e.g., butts into conversations, games, or activities; may start using other people's things without asking or receiving permission; for adolescents and adults, may intrude into or take over what others are doing).

B. Several inattentive or hyperactive-impulsive symptoms were present prior to age 12 years.

C. Several inattentive or hyperactive-impulsive symptoms are present in two or more settings (e.g., at home, school, or work; with friends or relatives; in other activities).

D. There is clear evidence that the symptoms interfere with, or reduce the quality of, social, academic, or occupational functioning.

E. The symptoms do not occur exclusively during the course of schizophrenia or another psychotic disorder and are not better explained by another mental disorder (e.g., mood disorder, anxiety disorder, dissociative disorder, personality disorder, substance intoxication or withdrawal).

ADHD Diagnosis

Pre-school or primary school period is the most common and the most appropriate time to do a diagnosis for ADHD (APA, 2013; McNamara & McNamara, 1993; Serfontein, 1990; UNESCO, 2009). ADHD symptoms should exist before the age of seven and these symptoms should be more frequent than their peer group to be able to diagnose an individual with ADHD (ADHD-Europe, 2006; Rey, 1995; Train, 2005). Before that period, it is very difficult to diagnose individuals with ADHD. It is caused by children's energetic and impulsive

behaviours in this period (Hallahan & Kauffman, 2006) and the symptoms of ADHD are more observable when mental effort or concentration is required (especially while doing similar activities, listening or reading long texts) (APA, 1994). All of us experience ADHD symptoms (such as concentration problems, impulsivity and excessive movements) from time to time. This is normal and it does not mean that all of us have ADHD (McNamara & McNamara, 1993; Parker, 1999). More than 6 of the symptoms of ADHD should be observed continuously for at least six months to be able to diagnose someone with ADHD (APA, 2013; Heward, 2006). Individuals with ADHD have more problems in secondary education period if the symptoms of ADHD are not noticed and a diagnosis would not take place (Parker, 1999). This is caused by more complicated and harder lessons, social interactions and the individuals start to become adolescents. Also, students are expected to become successful with less teacher support in secondary education where ADHD students still need support from their teachers and parents (Schultz, Storer, Watabe, Joanna & Evans, 2011).

Unfortunately, individuals with impulsive/hyperactive and individuals with combined type ADHD are more easily noticed than the individuals with inattentive type ADHD because individuals' impulsive and hyperactive behaviours can be observed in every environment but inattentiveness is noticeable when inattentive individuals need to focus on events (such as a homework, project works, examinations) (Parker, 1999; Serfontein, 1990).

The majority of the individuals usually try to hide their invisible ADHD symptoms to be able to prevent stigmatization (lazy, stupid, scatterbrain, slow, spacey, unmotivated, astral thinker) and rejection from their social group. They also, refuse an assessment of ADHD. Unfortunately, hiding problems related with the

ADHD condition causes worse problems. Academic underachievement, school failure, school dropout, teen pregnancy, emotional problems, social problems, legal problems, auto accidents, low self-esteem, low self-confidence, conduct disorder and oppositional defiance disorder can be seen as a result of undiagnosed ADHD, inaccurate diagnosis or inappropriate treatment (ADHD-Europe, 2006; Amen, 2002; Copeland & Love, 1995; Hallowell, 2012; Serfontein, 1990; Train, 2005). Thus, early detection and diagnosis is very important for individuals (CHADD, 2008a; Copeland & Love, 1995).

Coexisting conditions may cause inaccurate diagnosis (CHADD, 2008a) because there are medical conditions that cause similar symptoms with ADHD (Train, 2005; UNESCO, 2009). Thus, non-ADHD symptoms which are the symptoms of oppositional defiant disorder, intermittent explosive disorder, autism spectrum disorder, stereotypic movement disorder, Tourette's syndrome, specific learning disorder, intellectual disability, anxiety disorders, reactive attachment disorders, depressive disorders, bipolar disorder, disruptive mood dysregulation disorder, personality disorders, psychotic disorders and neurocognitive disorders should be eliminated and evaluation of different conditions should be done for a proper diagnosis (APA, 2013; ADHD Working Group, 2004; Copeland & Love, 1995; HADD, 2005).

The symptoms of ADHD can be listed but the diagnosis of the ADHD is not a simple progress. Individuals should be evaluated properly and carefully. Each individual (a child or a teenager) with ADHD perform different combination of the symptoms. This makes diagnosis very complex process. Individuals' impulsivity, length of concentration can be variable related with individuals' age, interest, tiredness, existence of learning problems, and intelligence. There is not any single

test to diagnose individuals whether they have ADHD or not (ADHD Working Group, 2004; CHADD, 2008a; HADD, 2005; Hallahan & Kauffman, 2006; Parker, 1999; Rey, 1995). Even a skipped little information means a misdiagnosis and improper treatment (McNamara & McNamara, 1993).

The most appropriate place for a proper diagnosis for ADHD is a university based hospital (Hallahan & Kauffman, 2006; McNamara & McNamara, 1993) but diagnosis in only a clinic/laboratory may not be reliable because there is not any real-life distracter and the individuals may behave totally different in a controlled environment. So, individuals should be evaluated in both a clinic/laboratory and their social environments (such as classroom and home) for more accurate diagnosis. Teacher and parent rating scales can be used to evaluate individuals' behaviours in social environments. Even the rating scales sometimes are not reliable because the individuals' relatives or teachers may overreact to the individual's condition or they may hide the individual's actual behaviours. Evaluating individuals' natural behaviours in their social environment is more important than clinic findings (APA, 2013; Hallahan & Kauffman, 2006; Rey, 1995). If the symptoms are observed only at home or at school then, the individual does not have ADHD (McNamara & McNamara, 1993).

Child and adolescent psychiatrics and paediatric neurologist are capable to identify an individual with ADHD but a proper diagnosis of ADHD requires a multidisciplinary (assessment) team which includes a neurologist, a psychologist, a special education specialist, speech-language pathologists, school counsellors, teachers, a social worker, an attorney and the parents of the individual. A neurologist evaluates an individual's nervous system; a psychologist evaluates the individual's intellectual, emotional and social functions; special education specialist determines

the individual's weak and strength points and the social workers gather information about the individual's birth, development, medical information and school performance. The team should work together to observe and evaluate an individual's condition, compare their findings and decide whether the individual have ADHD or not. Otherwise, it would not be a proper and accurate diagnosis (ADHD Working Group, 2004; Copeland & Love, 1995; HADD, 2005; Millar, 2003; McNamara & McNamara, 1993; Parker, 1999).

Evaluation of ADHD should include medical history (medicines that the individual is taking, physical height, weight, head size, hearing and vision tests, central nervous system, speech, language, thinking skills, motor-functioning test) evaluation, developmental information (from birth to the present age), psychological evaluation, educational evaluation and social evaluation (social evaluations can be done via interviews, rating scales which are filled by individual's teachers and parents and/or monitoring the individual's classroom performance). Electroencephalograph (EEG), computerized axial tomograms (CT) scan, blood work, urine analysis, and psycho-educational evaluation, and intelligence tests are also required (CHADD, 2008a; Hallahan & Kauffman, 2006; HADD, 2005; IDA, 2008; McNamara & McNamara, 1993; Millar, 2003; Parker, 1999; Train, 2005).

The assessment team informs the individual and individual's parents about the individual's abilities, disabilities, skills, talents, verbal, non-verbal skills, learning skills, eligibility to a special education/interventions and needs with a written report. School administration and school counsellors should be informed about individual's educational needs (HADD, 2005).

Co-existing Conditions and Confused Conditions

Diagnosis of ADHD is very important for an appropriate treatment strategy. Unfortunately there are different conditions that coexist with ADHD. Coexistence (or comorbidity) is defined as when an individual have more than one disorder or condition at once but these conditions do not cause each other (IDA, 2008). According to HADD (2005), "44% of children with ADD/ADHD also presents with at least one other disorder, 32% with two other disorders and 11% with at least 3 other disorders" (p.8). Coexisting disorders can be oppositional defiant disorder (ODD), learning disorders (LD), conduct disorder, tics, Tourette's syndrome, Asperger's syndrome, bipolar disorders, speech and language problems, anxiety disorders and mood disorders (APA, 1994; APA, 2013; HADD, 2005, Parker, 1999). These coexisting conditions worsen individuals' problems (Green, 1990). Thus an appropriate and accurate diagnosis of ADHD is very important for individuals' healthy and successful lives.

Some problems and conditions' symptoms resemble ADHD symptoms (McNamara & McNamara, 1993). Parental discord, harsh discipline, abuse, neglect, left-prefrontal injury, head trauma, tumour on front lobe, infection on front lobe, learning disabilities (LD), depression, manic-depressive illness, auditory processing problems, poor parenting, Tourette's syndrome and sexual abuse conditions' symptoms may be confused with ADHD (Amen, 2002; Copeland & Love, 1995; Parker, 1999; Rey, 1995, Train, 2005).

Treatment of ADHD

First of all an appropriate and accurate diagnosis should be done to be able to determine the most appropriate treatment and educational accommodations for each student with ADHD. Therefore, there are individuals who have ADHD and a coexisting condition. These individuals should receive a treatment strategy which was designed for the individuals' current conditions because therapies for ADHD are not a remedy for coexisting conditions and vice versa is also true (McNamara & McNamara, 1993). Emotional (low self-esteem, depression and/or attempting to suicide), behavioural (risk taking behaviours, anti-social behaviours, criminal behaviours, substance abuse, and/or conduct disorders), physical health (accidents related with hyperactivity and impulsivity and cardiovascular diseases), educational (poor academic performance, underachievement, school failures and/or school dropouts), relationship (having problems with parents, siblings, spouses, teachers, classmates and/or colleagues) and/or professional (poor professional performance, frequent job loss and/or frequent employment changes) problems may be caused by the inappropriate treatment or lack of treatment (ADHD-Europe, 2006; ADHD Working Group, 2004; CHADD, 2008b).

After the diagnosis of the condition appropriate physical, academic, behavioural and emotional treatment strategies should be determined. Most of the professionals in the assessment team work as a treatment team (multidisciplinary team) for the individual with ADHD (and coexisting conditions). Determining the most appropriate treatment strategy is not the end of the job. The treatment team should monitor the individual's progress (via the parents and teachers' help) with the treatment strategy for a long time to do necessary adjustments (such as adjusting the dosage level, changing the current strategy with the new one) when an unexpected

problem or effect will occur (CHADD, 2008b; McNamara & McNamara, 1993; Parker, 1999). Treatments are based on improving the individuals' academic, behavioural, social and professional problems that are caused by individuals' inattentiveness, hyperactivity and/or impulsivity (Parker, 1999). 60-70% of the individuals with ADHD can become successful and healthy adults with correct interventions (Rey, 1995).

Treatment strategies for ADHD. None of the treatments can completely cure the ADHD. Individuals should learn how to manage the negative effects of ADHD (IDA, 2008; Train, 2005). To be able to help ADHD individuals to overcome their problems, the treatment team may prescribe medicated therapy, behavioural therapy, psychological treatment, speech and language therapy, social skills therapy, coaching, cognitive-behavioural therapy, talk therapy, play therapy, anger management therapy, or educational supports but usually a combination of the treatment ways (as a treatment strategy) are prescribed (Carr-Fanning, 2011; CHADD, 2008a; Millar, 2003; Parker, 1999; Rey, 1995). The treatment strategy is determined according to each individual's needs and problems as tailors fit the clothes for each person because every individual with ADHD have unique special needs (Brock, 2002; U.S. Department of Education, 2006).

It is clear that students with ADHD should receive appropriate accommodations to be successful. Some of them need special education in special education classrooms for their education and few of them can keep up with the regular classroom with additional courses which are given in resource classrooms. Fortunately, most of the students with ADHD can keep up with the regular classroom environment (mainstreaming) and become successful with appropriate educational interventions (CHADD, 2008b; McNamara & McNamara, 1993). It is also reported

that most of the educational interventions for the students with ADHD are beneficial for non-ADHD students in a classroom (HADD, 2005, U.S. Department of Education, 2006).

Multimodal treatment. As mentioned before, the treatment team can prescribe medical, psychological, educational, behavioural interventions or a special combination of the interventions. A special combination of the interventions is called as multimodal treatment. Frequently, treatment teams prefer a multimodal treatment (Carr-Fanning, 2011; CHADD, 2008b; McNamara & McNamara, 1993). The multimodal treatment should be designed, observed and adjusted according to the individuals' needs (ADHD-Europe, 2006; CHADD, 2008a) but the adjustments should not be done at the beginning of a school year if the teacher is not familiar with the individual's special needs and characteristics to be able to monitor the effects of changes via teacher observation (Parker, 1999). The multimodal treatment is used because of ADHD students' special needs in more than one area and only using only one treatment strategy is not enough to cover all problems related with their conditions (Copeland & Love, 1995; McNamara & McNamara, 1993; Parker, 1999; Rey, 1995; Schultz, Storer, Watabe, Joanna & Evans, 2011).

Medication treatment. Taking medications does not cure the condition. The medicines regulate the amount of neurotransmitters in the synapses of neurons (CHADD, 2008b; Copeland & Love, 1995; Train, 2005) and reduce the symptoms of ADHD until the effects of medicines are worn. It seems like wearing glasses. Your vision is correct while you are wearing your appropriate glasses (Block & Smith, 2012; CHADD, 2008b; Copeland & Love, 1995; Rey, 1995). Thus, taking medicines does not mean that all problems relate with ADHD are fixed (ADHD Working Group, 2004; Hallahan & Kauffman, 2006; Millar, 2003; Train, 2005). Fortunately,

medication treatment is not the unique way of treating individuals with ADHD (Block & Smith, 2012). Taking medicines can help individuals to avoid unnecessary distractions, control their impulsive behaviours and concentrate better and longer. Thus the medicines can help individuals to improve their academic, social and psychological problems (Carr-Fanning, 2011; CHADD, 2008b; Copeland & Love, 1995; HADD, 2005, Train, 2005).

Only physicians (in the treatment group) can prescribe medicines for individuals with ADHD. A trial period is necessary to be able to arrange the most appropriate type of medicine and the most appropriate dosage level of the medicine because the medicines affect each individual differently and the lasting period of the dosages are also different for each individual with ADHD (variable affects of the medicines are not related with an individual's age, height and weight; it is related with individuals' body structure). So, individuals' reaction to the medication therapy and possible side effects of medicines should be monitored to be able to make appropriate adjustments for each individual with ADHD. Unfortunately, physicians cannot observe the individual continuously. The physicians collect data about the ADHD students' condition from individual's classroom teachers and parents via rating scales. According to the overall evaluation of the individuals' condition, physicians regulate the dosage level. Determining the most appropriate dosage level is decided in few weeks but it might take six months in extraordinary circumstances (Block & Smith, 2012; CHADD, 2008b; Carr-Fanning, 2011; Copeland & Love, 1995; Serfontein, 1990). Thus, the most appropriate medicine and its dosage level are decided via trial-error method (Copeland & Love, 1995).

The first medicine related with the condition was found accidentally in 1937 by Dr. Bradley while researching more efficient chemical for the testing whether

there is a brain tumour or not with Pneumoencephalography. The chemical (which is called Dexamphetamine) was not efficient for testing of brain tumour but it affect individuals with learning disabilities, especially who were diagnosed as having Minimal Brain Dysfunction (an older name of ADHD). Dexamphetamine have some side effects such as headaches. Then Methylphenidate (Ritalin) was developed to increase the improvement and reduce the side effects in the 1950s (Serfontein, 1990).

Medication treatment is the most common treatment and the medicines are categorized as stimulant medicines and non-stimulant medicines that are commonly prescribed for individuals with ADHD (Carr-Fanning, 2011). The non-stimulant medicines are used when parents do not accept stimulants or side effects of the stimulants are unacceptable for the physicians (CHADD, 2008b). Ritalin (methylphenidate), Concerta (methylphenidate), Metadate (methylphenidate), Dexedrine (dextroamphetamine), Adderall (mixed salts of a single entity amphetamine) and Cylert (pemoline) are the most known stimulant medications; Tofranil (imipramine), Norpramin (desipramine), Catapres (clonidine), Wellbutrin (buproprion), and Elavil (amytriptyline) are the most known antidepressant (non-stimulant medications); Mellaril (thioridazine), Tegretol (carbamazapine) and Lithium are the most known tranquilizers (non-stimulant medications) that are given to the individuals with ADHD (CHADD, 2008b).

Stimulant medications are beneficial for the 70-80% of the individuals with ADHD (ADHD Working Group, 2004; McNamara & McNamara, 1993; CHADD, 2008b). The stimulant medicines need 30-60 minutes to reduce ADHD symptoms and the stimulants can be divided into two as short-lasting and long-lasting medicines related with their lasting periods. Short-lasting medicines last approximately 4 hours and long-lasting medicines last approximately 6 to 12 hours

(ADHD Working Group, 2004; CHADD, 2008b). Stimulants are used to increase the amount of neurotransmitters which transfer the required information from one neuron to another one (CHADD, 2008b; McNamara & McNamara, 1993; Millar, 2003; Parker, 1999; Serfontein, 1990). Serfontein (1990) described how the stimulants work much more detailed as follows:

> Increase in the level of the neurotransmitter in the gap between the two nerve cells and in this way act as neurotransmitters themselves. Secondly, they decrease the re-uptake of the natural neurotransmitter into the first cell which further increases the amount of neurotransmitter in the gap between the cells. A third mode of action is to improve the receptiveness of the membrane of the second cell for the natural neurotransmitter, so increasing the affinity of the second cell for the neurotransmitter, attracting it almost like a magnet. A fourth action is to interfere with the enzyme system which destroys the natural neurotransmitters (p. 109).

Potential side effects of medication therapy. Headaches, stomach-aches, insomnia, dizziness, nausea appetite loss, weight loss, irritability, tics (muscle or vocal tics), Tourette's syndrome, heightened emotions, sleeping problems, anxiety, depression, aggressive behaviours and rebound effect (observing doubled ADHD symptoms, negative moodiness, low physical activity or excessive tiredness feeling when the last dosage of stimulants are worn) are reported as common side effects of medication therapy (Block & Smith, 2012; CHADD, 2008b; Carr-Fanning, 2011; Copeland & Love, 1995; Parker, 1999; Rey, 1995; Serfontein, 1990; Spohrer, 2003). Most of the side effects of medication therapy for ADHD are experienced slightly and temporarily (CHADD, 2008b) but some individuals with ADHD may experience side effects permanently and considerably. Observable side effects of medication

therapy may indicate a misdiagnosis, wrong use of medicines and/or excessive dosage (Copeland & Love, 1995). To remove or reduce the side effects of medicated therapy, physicians can reduce dosage level, adjust dosing schedule, change medication with other appropriate ones or recommend additional medications. The stimulant medication therapy should be stopped if tics are observed after taking stimulant medication (CHADD, 2008b; Parker, 1999; Rey, 1995). Therefore, most of the students with ADHD are not comfortable with taking medicines at school environment because they believe that their schoolmates are going to stigmatize them. Some students with ADHD refuse to take pills and this affects them negatively (Parker, 1999; Rey, 1995; Spohrer, 2003).

Individuals with ADHD or parents of ADHD individuals may ask to change stimulants with other medications. There are non-stimulant medications which are known as tricyclic antidepressants and noradrengic agonists that are using for reducing symptoms of ADHD. Unfortunately, these medications may cause side effects such as cardiac diseases, sudden death, irritability, aggression, confusion, forgetfulness, dry mouth, dizziness, and nausea (Parker, 1999).

Behavioural treatment. Behavioural treatment is applied to improve ADHD individuals' inappropriate behaviours (HADD, 2005; Serfontein, 1990). Behavioural interventions are suitable for children and teenagers with ADHD (McNamara & McNamara, 1993). The main aim of using behavioural therapy is changing the causes of inappropriate behaviours to prevent ADHD students' inappropriate behaviours. Behavioural therapy is more effective than punishment. Parents and teachers use rewards and praises when the ADHD students behave appropriately instead of punishing or taking privileges back from them when they behave inappropriately. So, teachers and parents can set limits (Block & Smith, 2012; Brock,

2002; Carr-Fanning, 2011; CHADD, 2008b, Serfontein, 1990). To be able to achieve this, individuals should learn to think about the consequences of their own behaviours (Serfontein, 1990). ADHD individuals can be supported with behavioural treatment to be able to improve their poor social skills (Block & Smith, 2012; Millar, 2003). Social skill classes and problem solving sessions can be used to solve behavioural problems. Role-playing can be used in the social skill classes to imitate a social environment to prepare the individual to behave appropriately. Discussion technique is used in problem solving sessions (U.S. Department of Education, 2006). The individuals may also receive anger management techniques to manage their behaviours under stress and show (or express) their reactions with more manageable and acceptable way (Carr-Fanning, 2011).

A confidential, safe and non-judgemental environment should be provided for the individuals with ADHD by the professionals (psychologists and psychotherapists). The professionals invite the individuals to express their feelings and thoughts. This is called as talk therapy (psychotherapy). Psychotherapy can be applied as individual, couple, family or a group therapy (Carr-Fanning, 2011).

The behavioural therapy strategies can be used together with speech and language therapy, occupational therapy, dietary control and/or medication therapy to improve ADHD students' learning and behaviour skills (Serfontein, 1990).

Educational adjustments. The treatment team can determine that students with ADHD are eligible for the regular classrooms. Placing students with ADHD in regular classrooms is called as mainstreaming but individuals with ADHD need educational interventions. Information should be gathered from parents; special education teachers and other professionals (constitute a team and the team is known

with different names such as support services, ancillary services, child study team, building level team) as which inform teachers about ADHD students' strengths, needs and effective techniques for individuals. Then teachers, parents and special education teachers should meet, evaluate the ADHD student's needs and design educational adjustments for the student with ADHD (McNamara & McNamara, 1993). Students with ADHD can be very successful with educational adjustments (CHADD, 2008b). Most of the educational adjustments (physical adjustments, course adaptation or interventions) are also beneficial for non-ADHD students (ADHD Working Group, 2004; U.S. Department of Education, 2006). Some educational adjustments are presented as follows:

- According to U.S. Department of Education (2006), "a child should be able to put his or her elbows on the surface of the desk and have his or her chin fit comfortably in the palm of the hand" (p.23). This can be accepted as a physical regulation for a student with ADHD.
- Students with ADHD may have problems related with organizing their time. Timers can be used in classrooms. Students can use a timer to see how much time they have to complete an assignment or how much time is left to the end of the lesson. Timers can be used for divided tasks (U.S. Department of Education, 2006). Planners, organizers, calendars, appointment books, to-do lists can be suggested to students with ADHD for organizing assignments and term projects (Parker, 1999)
- A student with ADHD should be seated closest area to a teacher. Seating closer position allows teachers to observe the student with ADHD (U. S. Department of Education, 2006).

- Discipline should not be compensated while adjusting physical environment of a classroom, social interactions and/or courses (ADHD Working Group, 2004).
- Educational goals should be achievable for students (especially for students with ADHD) (ADHD Working Group, 2004).
- Individualized Education Programme should be designed and applied for students with ADHD (Brand, Dunn & Greb, 2002).
- Most of the students with ADHD usually have problems with listening to the teacher, understand, paraphrase the main ideas and note down, so receiving help related with the note-taking strategies are important for students with ADHD (Schultz, Storer, Watabe, Joanna & Evans, 2011).
- Giving one instruction or assignment at a time instead of few in order (Rey, 1995).
- It is very beneficial and effective to praise individuals' positive and strong sides of individuals with ADHD instead of criticise their weak and negative sides (Rey, 1995).
- Routine is very important for students with ADHD (Block & Smith, 2012; Serfontein, 1990). The students with ADHD also need to know limits and expectations. Classroom, corridor and playfield rules should be determined (McNamara & McNamara, 1993; Serfontein, 1990).
- Lack of neurotransmitters (such as dopamine, norepinephrine, and serotonin) causes ADHD and physical activities (such as dance, gymnastics, martial arts and skateboarding) increase the level of neurotransmitters in the brain. Thus, physical exercises can be added to the classroom activities. It is clear that

physical exercises can reduce inappropriate behaviours (impulsivity and hyperactivity) and reduce inattentiveness (Block & Smith, 2012).

- Interesting activities or tasks, dividing long instructions, exercises or activities into smaller manageable chunks and encouraging students is very effective strategy to increase ADHD students' participation and reduce inappropriate behaviours (Parker, 1999; Serfontein, 1990).
- Ignoring inappropriatate behaviours, verbal reprimands, removing privileges; and time-out (instead of extreme reactions or physical intervention) are the some ways of stopping or lessen the frequency of inappropriate behaviours from time to time. These methods are more effective and peaceful way than shouting, hitting, sending outside,...etc. (McNamara & McNamara, 1993).
- Crowded classrooms are problematic for students with ADHD and even for students who do not have ADHD. Students' emotional and specific learning needs are not met. Thus, reducing the number of students in a classroom is beneficial (Train, 2005). The students with ADHD can perform better and recieve appropriate interventions in a classroom where there are 20 students (Serfontein, 1990).
- Students with ADHD have short-term memory problem. Instructions should be repeated frequently (Serfontein, 1990).
- Treatment team (with the ADHD student's parents) can decide 1-2 year repetition or 1-2 year delay for individuals with ADHD. 1-2 year delay or repetation provide opputunity for children with ADHD to develop their five basic skills. This should be done if ADHD individuals have neurological immaturity and they cannot learn as fast as their peers. Thus, students with

ADHD feel unsuccessful to compete with their peers (Copeland & Love, 1995; Serfontein, 1990).

Individualized education programme (IEP). A special education strategy is designed according to each ADHD students' educational needs and required educational interventions are listed as a written document for each student with ADHD. The written document includes information about ADHD student's learning styles, strengths, education level, behavioural performance and ADHD symptoms' negative effects on academic success, goals (which are determined for each individual), strategies (to achieve determined goals), appropriate educational placement, time management skills and evaluation types. The list of special education interventions are called as individualized education programme (IEP). The IEP is based on individuals' educational needs and designed to help ADHD students to become a successful student. The treatment team focuses on each ADHD student's abilities, skills, needs, educational performance and school's educational services that are provided by the school while designing an IEP. The IEP does not include behavioural interventions or other therapies. The IEP is adjusted and redesigned continuously according to student's educational progress (HADD, 2005; McNamara & McNamara, 1993).

- An IEP team designs the individualized education programme. The IEP team is consisted of a student with ADHD, the ADHD student's parents (or a person who is responsible from the student), the student's classroom teachers, school counsellor, speech and language therapists, psychologists, special education teachers, and other required professionals (if needed). All of them are equally responsible from the ADHD student's educational success. The

members of the IEP team are appointed according to the ADHD students' needs (HADD, 2005).

- Speech and language treatment is necessary when and individual cannot understand and/or process the language, find right words to express themselves, construct logical sentences, and/or have limited vocabulary. Some individuals with ADHD may have stuttering and/or articulation problems (Carr-Fanning, 2011; Serfontein, 1990). Only speech and language therapists who are specialized for ADHD can help students with ADHD and speech and language problems. The success of the treatment is related with early diagnosis of both ADHD and language problems (Carr-Fanning, 2011).
- Occupational therapists can help ADHD students to organize and manage their time, and develop their study skills. Coaches can help ADHD students to protect their self-image, set their goals and motivate themselves (Carr-Fanning, 2011). Cognitive-behavioural therapists can determine beneficial programmes in school, home or work, determine goals and help parents and teachers for beneficial strategies. Educational specialists can help students with ADHD to perform well in school, help students to receive interventions and strategies from schools (Block & Smith, 2012).

Beneficial Strategies for EFL Teachers

Neither secondary school EFL teachers nor primary school EFL teachers are trained to diagnose pupils with ADHD but they can design new teaching strategies or adjust current teaching strategies, materials, activities and environment of the classroom (Train, 2005). All teachers are responsible from each student's academic

success or failure (HADD, 2005; Serfontein, 1990). All teachers are also very important for diagnosis and treatment processes. Teachers interact with many students in same age group and they can easily notice different behaviours, academic, social and emotional problems (Copeland & Love, 1995; Rey, 1995). Teachers can also monitor positive and negative effects of treatment strategies more than their parents because students spend more time in classrooms. Therefore, teachers play role in both assessment team and treatment team for each student with ADHD because they can observe ADHD students' former performance (without ADHD treatment strategies) and their performance with treatment strategies (Copeland & Love, 1995; McNamara & McNamara, 1993; Parker, 1999; U.S. Department of Education, 2006).

EFL teachers should use short, direct and clear instructions instead of using multi-step directions. Teachers can ask ADHD students to paraphrase the instructions verbally to be sure that they understand the instructions. When ADHD students cannot focus on directions or instructions, teachers should attract all students' attention and repeat their directions or instructions once more (Brock, 2002; Spohrer, 2003; Turketti, 2010). Making eye contact and using louder and quieter voice tones are also effective ways to keep students' attention (Copeland & Love, 1995). Teachers can divide assignments, projects and tasks into manageable chunks for students with ADHD. Teachers can summarise directions and instructions for ADHD students (Carr-Fanning, 2011; Segal & Smith, 2013; Train, 2005; U.S. Department of Education, 2006). EFL teachers can use total physical response (TPR), the silent way or task-based language learning methods. Furthermore, teachers can use a combination of methods. This can be more useful for students with ADHD (Turketti, 2010).

EFL teachers can bring new, interesting and different activities into the classrooms. These new activities easily attract ADHD students' attention and decrease their inappropriate behaviours related with ADHD (Brock, 2002). EFL teachers can use attractive visual aids. Pictures, flashcards, picture-letter charts, computer games, board games and videos are useful while introducing new vocabulary items, grammar rules and pronunciation of new words. These activities can attract ADHD students' attention. Furthermore, games are very useful. EFL teachers can use games in and outside of the classroom. Games increase students' interactive skills and encourage students to communicate and cooperate. Games can include movement in the classroom environment and it is very beneficial for hyperactive students because they can move and release their energy and stimulate their nervous system. ADHD students can be more attentive and cooperative with physical activities than traditional classroom activities (Turketti, 2010; UNESCO, 2009).

ADHD students may have concentration problems while reading activities. EFL teachers can make reading activities interesting and amusing (Segal & Smith, 2013). Silent reading time, follow-along reading, partner reading, storytelling, role-play, board game, computer games and recorded books can be used to increase students' reading comprehension and language improvement (U.S. Department of Education, 2006).

Teachers can change ADHD students' place in a classroom. Students should be away from doors, windows, and by the pencil sharpener. The most appropriate place for ADHD students is the middle of the classroom. Back rows of the classroom is not appropriate as well because the positive reinforcements with facial expressions may not be seen by the students with ADHD and they also suppose that sitting at the

back rows is a kind of punishment (Copeland & Love, 1995; Segal & Smith, 2013). Also, teachers can reduce distractive factors (such as visual and colourful notice boards, pictures, photographs and projection lights) and auditory (unnecessary speaking, or other sounds in the classroom) factors to increase students' motivation and participation (Copeland & Love, 1995).

Teachers should not tag nicknames (Rey, 1995) and should not make comments about the medicines that ADHD students take (Parker, 1999). Teachers can use praise students' good and positive behaviours instead of satire because students with ADHD are aware of their own weak points and negative effects reduce their self-esteem. Praising increases ADHD students' motivation (ADHD Working Group, 2004; Block & Smith, 2012; Turketti, 2010). Positive reinforcements (smiley face, marks and other symbols) and privileges (have lunch with the teacher, go to the cinema, etc.) can be used as rewards (U.S. Department of Education, 2006). These are two-way method because when they behave inappropriately teachers do not use praises or positive reinforcements and ADHD students accept it as punishment (Copeland & Love, 1995).

EFL teachers should suggest daily checklists to ADHD students. Daily checklists help ADHD students to schedule and complete their homework, projects and necessary activities (ADHD Working Group, 2004; Copeland & Love, 1995; UNESCO, 2009; U.S. Department of Education, 2006). Teachers can check ADHD students' notes continuously. Teachers can help ADHD students to complete their notes (Schultz, Storer, Watabe, Joanna & Evans, 2011).

ADHD students have problems related with time management and they need assistance. Watches, calendars and schedules can be helpful (U.S. Department of

Education, 2006). Teachers can use classroom lights as a signal. Turning the classroom lights on or off (vice versa is also valid) may indicate that lesson is going to finish soon or the time for the activity is going to finish soon (U.S. Department of Education, 2006).

Hyperactive-impulsive students may have excessive motor movement. This causes a potential risk factor in a classroom because they may run or climb. These movements are dangerous for ADHD student and others around him/her. Students with ADHD may have emotional problems which cause over-defensive problems. These students may hit others to defend themselves. Thus teachers should take precautions for each student's physical safety (Train, 2005). Teachers can allow physical movements in the classroom to reduce ADHD students' hyperactivity and provide ADHD students opportunities to focus on the subject (Segal & Smith, 2013; Spohrer, 2003). EFL teachers can also ask hyperactive students to sharpen their pencils, take documents to other teachers, bring documents from other teachers, and water plants. These actions are used to help ADHD students to release their energy and supervise their behaviours to prevent accidents and other possible problems (Brock, 2002). Distance between the seat rows can be increased by the teacher to provide gaps for ADHD students to move around the classroom without distracting other students (Copeland & Love, 1995).

EFL Teachers can also use "token economy" strategy to reduce ADHD students' inappropriate behaviours and increase ADHD students' academic success. Teachers can explain rules and expectations to the students. ADHD students are rewarded with tokens if the students behave appropriately. Students lose their tokens when they behave inappropriately or break the rules. Collected tokens can be

exchanged with tangible rewards or privileges (Brock, 2002; U.S. Department of Education, 2006).

ADHD students have distractibility and difficulties to cope with other students. Private spaces can be useful and beneficial for students with ADHD. Private spaces (private study booths) can be constructed from cardboards or using wall corners. A computer which is equipped with appropriate level software programmes in private spaces may be very beneficial for all students. Providing more than three private spaces is more useful. Teachers should not use these spaces for punishment (Copeland & Love, 1995; Train, 2005).

ADHD students' correct and incorrect behaviours should be explained. A secret language or gestures (facial expressions) can be designed between the ADHD student and the teachers. Teachers can warn ADHD students about their inappropriate behaviours or that they are not participating without criticising them or embarrassing them in front of their peers (Segal & Smith, 2013; U.S. Department of Education, 2006). Shame, fear and conviction of being stupid or disabled are the worst psychological barriers for the academic success. These factors also cause low self-esteem and learned helplessness (Hallowell, 2012).

EFL teachers can provide verbal examinations instead of written examinations because ADHD students have organizational skill, planning, quickly decide the most important and the least important, handwriting and slow data processing problems. These problems reduce their academic success and verbal examinations may help ADHD students to show their full potential (Serfontein, 1990). Additional time for examinations (tests and quizzes) can be provided for students with ADHD because they need more time to complete. Also, additional time

can be provided for the assignments and projects (U.S. Department of Education, 2006). Apart from that teachers can accept presentations, using type writer, and print outs instead of written assignments. Teachers can avoid misspelt words, messy written work and the quantity of the assignments can be reduced by the teacher (HADD, 2005).

Previous Research Studies on Teachers' Awareness of ADHD

Primary school teachers' knowledge and misperceptions of attention deficit hyperactivity disorder was a research study which was done by Mariechen Perold, Charmaine Louw and Sandra Kleynhans in 2010. The main aim was to answer the research question which was "what knowledge and misperceptions with regard to ADHD do teachers in schools in the peripheral areas of the Cape Town Metropole in the Western Cape have?" 552 school teachers were participated and returned completed questionnaires. A substantial lack of knowledge about ADHD was reported by the researchers (42.6% of the participant teachers answered correctly, 35.4% of the participant teachers have no idea and 22% of the participant teachers responded incorrectly). The participant teachers were knowledgeable about the symptoms of ADHD, ADHD students' organizational problems, and subtypes of ADHD. The participant teachers have lack of knowledge about the epidemiology of ADHD, genetic factors of the ADHD, training curriculum, purpose of the behavioural rating scales, and long-term outcome of ADHD. Also, Perold, Louw and Kleynhans found that age and teaching experience do not affect the knowledge level of the participant teachers. According to the Perold, Louw and Kleynhans's study, participant teachers were not trained about the ADHD.

Attitude and knowledge of attention deficit hyperactivity disorder and learning disability between high school teachers study was done by Uzi Brook, Nathan Watemberg and Diklah Geva in 2000. The study was distributed to the 46 high school teachers from the city of Holon, Israel. General knowledge, attitude and understanding of ADHD were insufficient according to the research findings. Also the researchers reported that teachers' experience years did not change participant teachers' knowledge level. Half of the participant teachers supported that ADHD students should receive education in regular classrooms with their non-ADHD peers and 47.8 % of the participant teachers believed that regular classroom teachers are not trained to teach ADHD students and only special education teachers can teach ADHD students. According to Brook, Watemberg & Geva (2000); "The Ministry of Health in Israel or the educational authorities of other countries should promote continuing education and special training courses for teachers in charge of ADHD/LD pupils from experts in the field" and "media coverage of ADHD/LD should be increased and encouraged by exposing the public to experts in the field who could address the main issues and obstacles facing these children" (p.250).

Elementary school teachers' knowledge and attitudes related to attention deficit hyperactivity disorder in Sivas region was studied by Naim Nur and Onder Kavakcı in 2010. 87 elementary school teachers in Sivas region participated to the study. Participant teachers' knowledge about ADHD was found as insufficient and the participant teachers' attitudes towards was categorized as 'moderate' by the researchers. Also, significant correlation was found between participant teachers' knowledge and their attitudes toward ADHD students. The participant teachers were not informed about ADHD with undergraduate programme courses or in-service training courses. Onder and Kavakcı (2010) stated "comprehensive training in

ADHD is very necessary for the preliminary school teachers. It is better starting point for better diagnosis, management and treatment of these children with ADHD" (p. 350).

Rodrigo, Perera, Eranga, Williams and Kuruppuarachchi did a research which was called as the knowledge and attitude of primary school teachers towards childhood attention deficit hyperactivity disorder in Gampaha District, Sri Lanka, 2011. 202 primary school teachers participated the research study. According to the results of the study, knowledge level and positive attitudes of the Sri Lankan primary school teachers were found lower than research findings of Western countries. Participant teachers' ADHD knowledge was found as insufficient to be able to play key role in diagnosis of ADHD. Most of the participant teachers also believed that ADHD is caused by poor parenting. Rodrigo, Perera, Eranga, Williams and Kuruppuarachchi (2011) stated that teachers should be informed about ADHD with pre-service or in-service training on common special educational needs (which includes ADHD).

Marlene J. Garcia did a research on teacher knowledge of ADHD and effective classroom interventions in Los Angeles, 2009. The main aim of the research study was to assess mainstream teachers' ADHD knowledge and mainstream teachers' knowledge related with appropriate classroom interventions. Garcia (2009) stated "mainstream teacher knowledge related to ADHD in this study was found to be fairly low" (p.63). 25% of the participant teachers received in-service training on ADHD but rest of the participant teachers did not. The researcher believed that teachers should receive in-service training related with the facts about ADHD.

Jodi D. Funk did a research on teacher knowledge of ADHD in Ohio, USA, in 2011. The main aim of the study was assessing the teachers' knowledge of ADHD (across assessment and evaluation, causes, characteristics, prevalence, and treatment domains) in Ohio and seeking answer to "are current teachers adequately prepared to meet the needs of students with ADHD "(Funk, 2011). 629 K-12 grade level teachers participated to the research study. 46% of the participant teachers were found as knowledgeable about ADHD. 39% of the participant teachers had insufficient knowledge about ADHD and 15% of the participant teachers answered incorrectly. Participant teachers' overall knowledge percentages according to the domains of the questionnaire were as follows: 49% of the participants were knowledgeable about assessment/evaluation, 46% of the participant teachers were knowledgeable about causes of ADHD, 55% of the participants were knowledgeable about characteristics of ADHD, 34% of the participants were knowledgeable about prevalence of ADHD and 45% of the participant teachers were aware of treatment of ADHD. According to the participant teachers' responses 50% of them did not feel prepared to meet ADHD students' needs and 15% of them did not answer the question. Funk (2011) mentioned that "the study determined teachers not only have misconceptions and misinformation about ADHD, but they also lack information" (p.44). The researcher found participant teachers have strengths in assessment/evaluation, causes and characteristics domains and teachers have weaknesses in prevalence and treatment domains according to their overall correct answer rates for each domain but the researcher also mentioned that the participant teachers' knowledge considered as unacceptable. Therefore Funk (2011) stated "teachers need to recognize the prevalence of the disorder, as well as have the responsibility to design and implement

appropriate educational supports in academics, environment, and behavioural interventions" (p. 44).

Conclusion

In this chapter, the historical background of attention deficit hyperactivity disorder (ADHD), detailed information about types of ADHD, prevalence of ADHD, cause of ADHD, symptoms of ADHD, proper diagnosis ADHD, treatment of ADHD and beneficial strategies for secondary EFL teachers were provided. A review of previous studies related with the teachers' awareness of ADHD in different countries was presented. The next chapter will present detailed information about the methodology of the current study.

CHAPTER III

METHODOLOGY

Presentation

This chapter presents detailed information about the research design, research context, participants and sampling, data collection and data analysis procedures.

Research Design

This research study is designed to investigate the secondary school EFL teachers' awareness of attention deficit hyperactivity disorder (ADHD) and the existence of teaching strategies regarding ADHD. The study also aims at finding out whether there are any significant differences between ADHD awareness of secondary school EFL teachers and their age, years of teaching experience, post-graduate degree, prior special education training, country of the university graduated and region of schools that they work at present.

This study is designed as a cross-sectional survey in order to realize the aim of the study. According to Fraenkel, Wallen and Hyun, "The major purpose of surveys is to describe the characteristics of a population. In essence, what researchers want to find out is how the members of a population distribute themselves on one or more variables (for example, age, ethnicity)" (2012, p. 393). Fraenkel, Wallen and Hyun (2012) described cross-sectional survey as following,

> A cross-sectional survey collects information from a sample that has been drawn from a predetermined population. Furthermore, the information is

collected at just one point in time, although the time it takes to collect all of the data may take anywhere from a day to a few weeks or more (p.394).

The cross-sectional survey type is selected because it is applied to a predetermined sample and it takes less time to get the results.

Context

This study is carried out in public lower secondary and upper secondary schools, high schools, vocational schools and technical schools in Nicosia (Lefkoşa), Famagusta (Gazimağusa), Kyrenia (Girne), and Morphou (Güzelyurt) regions of North Cyprus and private schools in Nicosia and Kyrenia districts. There are 32 secondary public schools, 13 vocational and technical public schools, and eight private secondary schools in the five regions of North Cyprus. There are 11 general secondary public schools, five vocational/technical schools and four private secondary schools in Nicosia; eight general secondary public schools, three vocational/technical schools and one private secondary school in Famagusta; five general secondary public schools, one vocational/technical schools and three private secondary schools in Kyrenia; four general secondary public schools and two vocational/technical schools in Trikomo (İskele). According to data bank of National Ministry of Education, there were 21742 secondary school students (grand total of public and private secondary school, high school and vocational school students) in North Cyprus. The age range of the secondary school students was from 12 to 18 years (except the students who have done grade retention). There are 2575 secondary school teachers (grand total of public and private school teachers) in North Cyprus. There were 95 secondary school EFL teachers in Nicosia, 61 in Famagusta, 40 in Kyrenia, 36 in Morphou, and 19 in Trikomo districts in the 2012-2013 academic year (TRNC Department of Common Services for Education, 2013).

Sampling and Participants

One hundred and fifty one EFL teachers in secondary schools constitute the sample of this study out of 251 teachers working in general secondary, high, vocational and technical public schools in Nicosia, Famagusta, Kyrenia, and Morphou regions of North Cyprus and private schools in Nicosia district.

In order to reduce the costs of the research and the duration of the data collection process, cluster sampling method is employed. This sampling method is used when the researcher cannot select his/her participants randomly because of restrictions such as limited time, limited research budget and administrative restrictions. The researcher selects the most appropriate participant groups via selecting the workplace or other social places such as dormitories, schools, supermarkets etc. to reach naturally-occurred groups of people as the participants of the study. Selected participants should represent the actual population (Cohen, Manion & Morrison, 2007; Denscombe, 2010; Fraenkel, Wallen & Hyun, 2012). According to the cluster-sampling method, 10 different secondary schools in Nicosia region, five in Kyrenia region, four in Morphou region and three in Famagusta region were selected. 151 participants of which 59 secondary school EFL teachers were in Nicosia region, 32 in Kyrenia region, 32 in Morphou region and 28 in Famagusta region, accepted to voluntarily participated in the research study.

Participant profiles. The researcher distributed 151 questionnaires to the volunteer secondary school EFL teachers who work at different schools in four regions of North Cyprus. 111 participant EFL teachers responded all items of the questionnaire. Data about the participants' age, teaching experience, post-graduate degree, prior training in special education, country of graduation, school type, working region were collected from the participants via distributed questionnaires.

The participant teachers were divided into four age groups which were (20-29), (30-39), (40-49), and (50-59). Fifty-seven participant teachers (51.4%) were in 30-39 age group, 37 participant teachers (33.3%) were in 40-49 age group, nine participant teachers (8.1%) were in 50-59 age group, and eight participant teachers (7.2%) were in 20-29 age group (see Table 1).

The participant teachers were divided into four teaching experience (in years) groups which were (0-9), (10-19), (20-29) and (30-39). Fifty-nine participant teachers (53.2%) were in 10-19 years of experience group, 32 participant teachers (28.8%) were in 20-29 years of experience group, 17 participant teachers (15.3%) were in 0-9 years of experience group, and 3 participant teachers (2.7%) were in 30-39 years of experience group (see Table 1).

Table 1

Profile of Participants

Categories		Number of Teachers	Percentage (%)
Age	20-29	8	7.2
	30-39	57	51.4
	40-49	37	33.3
	50-59	9	8.1
Years of Experience	0-9	17	15.3
	10-19	59	53.2
	20-29	32	28.8
	30-39	3	2.7
Postgraduate Degree	Yes	39	35.1
	No	72	64.9
Trained in Special Education	Yes	23	20.7
	No	88	79.3
Country of Graduation	Cyprus	49	44.1
	Turkey	56	50.5
	Europe	6	5.4
Type of Schools	Public	87	78.4
	Private	11	9.9
	Vocational	13	11.7
Region of Schools	Nicosia	49	44.1
	Kyrenia	24	21.6
	Famagusta	16	14.4
	Morphou	22	19.8

The participant teachers were divided into two graduate degree groups. Seventy-two participant teachers (64.9%) did not hold any postgraduate degree, and 39 participant teachers (35.1%) held postgraduate degree (all of them stated that they had MA, MEd or MSc degree) (see Table 1).

The participant teachers were asked if they had been trained in special education or not. Eighty-eight participant teachers (79.3%) stated that they were not trained in special education. 23 participant teachers (20.7%) stated that they were trained in special education (see Table 1).

The participant teachers were divided into three country of graduation groups which were Cyprus, Turkey and Europe. Fifty-six participant teachers (50.5%) were in graduated-in-Turkey group, 49 participant teachers (44.1%) were in graduated-in-Cyprus group, and six participant teachers (5.4%) were in graduated-in-Europe group (see Table 1).

The participant teachers were divided into three groups according to their schools types that they were working at. These were; public, private and vocational schools. Eighty-seven participant teachers (78.4%) were working at public schools, 13 participant teachers (11.7%) were working at public vocational schools and 11 participant teachers (9.9%) were working at private schools in North Cyprus (see Table 1).

The participant teachers were divided into four according to their working regions which were Nicosia, Kyrenia, Famagusta and Morphou. Forty-nine participant teachers (44.1%) were in working-at-Nicosia-region group, 24 participant teachers (21.6%) were in working-at-Kyrenia-region group, 22 participant teachers (19.8%) were in working-at-Morphou-region group and 16 participant teachers (14.4%) were in working-at-Famagusta-region group (see Table 1).

Data Collection Instrument

A questionnaire (see Appendix A) was carefully designed by the researcher especially for this research study. The questionnaire was in English. It consisted of three parts. The first part of the questionnaire consisted of seven multiple-choice items which were designed to gather data about participant EFL teachers' age, years of teaching experience, post-graduate degree, prior special education training, country of graduation, and type of schools and their regions where the participant teachers work.

The second part of the questionnaire consisted of 65 statements which examined EFL teachers' awareness regarding ADHD. 35 statements were associated with educational effects of ADHD and possible educational interventions for students with ADHD; nine statements were related with the symptoms of ADHD; eight statements were about the general information related with ADHD; seven statements were about causes of ADHD; and six statements were associated with treatment of ADHD. The participant teachers were asked to answer the second part via marking the most appropriate choice (which might be 'True', 'No Idea' or 'False') for each statement.

The third part of the questionnaire consisted of four questions. The aim of the first question was to investigate participant teachers' awareness of ADHD. The first question in third part of the questionnaire was asked to be sure that participants are knowledgeable about ADHD and the second part of the questionnaire was responded properly. The second question aimed to determine teaching strategies that used for students with ADHD in North Cyprus schools. The aim of the third question was to find out whether secondary school EFL teachers were trained about ADHD with pedagogic courses while they were undergraduate students and with in-service

training or not. The last question aimed at determining if the participant teachers did any research about ADHD. Additional blank pages supplied for participant teachers to enable them to express their ideas further. The questionnaire was approved by the thesis advisor before the pilot study.

The researcher conducted a pilot study before distributing the questionnaires to participant teachers. Five different secondary schools were selected by the researcher in Nicosia region. In selecting participants for the pilot study, special attention was paid to select teachers who were considered to represent the sample of this study. Twenty secondary school EFL teachers who share common characteristics with the actual sample of the study volunteered. The questionnaire and results which were calculated with IBM SPSS Statistics programme were sent to the research study advisor for evaluation. The following changes were realized after the advisor's recommendations. Choices of the third question of the first part changed; instead of Yes/No answers, the researcher put MA/Med./MSc and PhD as options. Fourth question was added in the second part of the questionnaire and the table headings were changed in the third part via expert's suggestions.

Reliability

Cronbach's alpha was calculated as 0.808 by the researcher with the Statistical Package of Social Science (SPSS) programme for Windows, Version 20 for the reliability and internal consistency (see Table 2). 0.808 value suggests good internal consistency reliability (Pallant, 2007). Cronk (2006) described the meaning of Cronbach's alpha as following;

> Cronbach's alpha is a measure of internal consistency...it is one of many tests of reliability. Cronbach's alpha comprises a number of items that make up a

scale designed to measure a single construct...and determines the degree to which all the items are measuring the same construct (p.102).

Table 2

Questionnaire Reliability

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	Number of Items
0.808	0.826	74

Data Collection Procedures

First of all, the researcher contacted the National Ministry of Education, General Secondary Education Office and Vocational and Technical Education Office in writing to get the required official permission. The questionnaire of the current research was approved by the General Secondary Education and Vocational and Technical Education Offices. The researcher was informed in writing (see Appendix B and C). As a second step, the researcher contacted secondary school principals of selected schools to inform principals about the aim of the study and get permission to distribute questionnaires to the EFL teachers. After that, the researcher went to the selected schools, explained the aim of the study to the EFL teachers and distributed the questionnaire to volunteering participants. 151 questionnaires were distributed to the volunteer secondary school EFL teachers in Nicosia, Kyrenia, Morphou and Famagusta regions of North Cyprus.

The researcher asked participants to answer the questions in their spare time and the researcher waited for participant EFL teachers until they completed the questionnaire. The researcher stayed at schools while participant teachers were completing the questionnaire to provide an opportunity for the participants to ask

questions about anything unclear in the questionnaire. Therefore, the researcher observed the volunteer participants while answering the questions to be sure that the participants did not use internet or they were not allowed to ask questions to each other while they were completing the questionnaires. Unfortunately, some of the participant teachers completed the questionnaire in several days because they did not have enough time. 111 questionnaires were collected back: 73.5% response rate was achieved and 40 participant teachers did not return the questionnaires.

Data Analysis

The questionnaire was divided into three parts. The researcher quantitatively analysed the data of the first part and the second part of the questionnaire with SPSS programme. The descriptive statistics was used to calculate the frequencies and percentages between the different groups within each variable and find out if there were any missing data. Descriptive statistics also helps researchers to find out current number of categories and number of participants under each category (Pallant, 2007). Percentages of correctly/incorrectly answered items and 'No Idea' were used to find out the secondary school EFL teachers' overall awareness of ADHD.

According to Pallant (2007), "an independent-samples t-test is used when you want to compare the mean score, on some continuous variable, for two different groups of subjects" (p. 232). The researcher used independent-samples t-test to analyse significant awareness differences (mean scores) between prior training in special education groups and between post-graduate groups. Analysis of variance test (ANOVA) was used when the researcher wanted to compare mean differences between three or more groups and the post-hoc test was required to be able to find out significant differences between groups (Fraenkel, Wallen & Hyun, 2012; Pallant,

2007). The researcher used one way ANOVA with the post-hoc, least significant difference (LSD) test to find out significant mean differences between the groups in terms of their age, teaching experience, place of graduation, and workplace (region of schools). The independent-samples t-test and one-way ANOVA were used in order to answer the second research question.

The third part of the questionnaire was analysed quantitatively. The participant EFL teachers' responses to the questions were analysed via descriptive statistics to calculate the frequencies and percentages of similar answers to the questions and "Yes"/"No" answers to the questions.

Conclusion

Detailed information about the methodology of the current study was presented in this chapter. Current research design was explained with its reasons. Sampling method and number of the participant EFL teachers and participants' profile was provided. Data collection instrument, reliability and internal consistency of the questionnaire, data collection procedure and data analysis method have been explained. The results of the study will be presented in the next chapter.

CHAPTER IV

RESULTS AND DISCUSSION

Presentation

In this chapter the results of the questionnaires applied to 111 EFL teachers from different schools in Nicosia, Kyrenia, Famagusta and Morphou will be discussed. This chapter also includes investigations on the significant differences that have been found by the data analysis.

Secondary School EFL Teachers' Overall Awareness of Attention Deficit Hyperactivity Disorder (ADHD)

Secondary school EFL teachers' overall awareness of ADHD was measured according to average percentage of correctly answered items, incorrectly answered items and no idea answers. Results showed that almost half of the participant teachers (49.1%) had no idea about ADHD, four tenths of the participant teachers (40.4%) correctly answered the items of the second part and one tenth of the participant teachers (10.5%) were incorrectly informed about ADHD (see Figure 4).

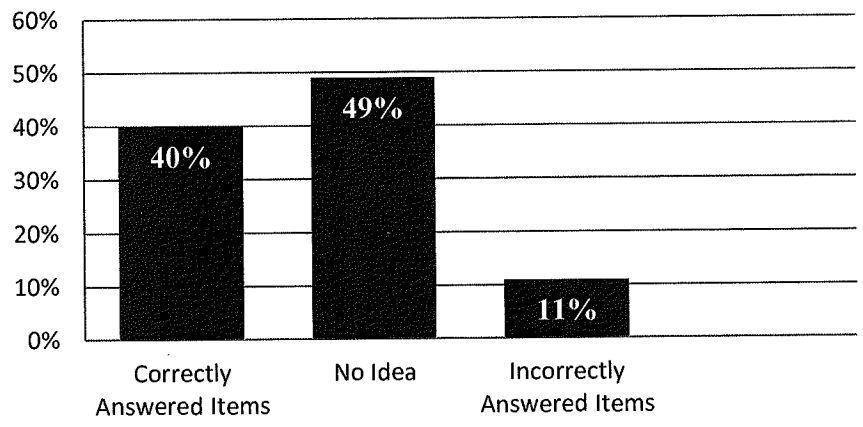

Figure 4. Secondary school EFL teachers' overall awareness of ADHD.

The first question in the third part of the questionnaire was "can you please define attention deficit hyperactivity disorder (ADHD)? How many types of ADHD are there? What are they?" This question was asked to answer the first research question. Sixty-one participant teachers answered the first question in the third part of the questionnaire and 50 participant EFL teachers did not answer the question. Forty-eight participant teachers stated that they could not define ADHD and they did not know the types of ADHD. Eleven participant teachers incorrectly answered the question and only two participant teachers could correctly answer the first question. Thus, it can be said that secondary school EFL teachers were not aware about ADHD. This may be caused by lack of special education training in universities (ELT programmes) and lack of in-service training about students with special needs. This idea can be supported with participant EFL teachers' responses to the third and fourth questions in third part of the questionnaire. Majority of the respondent EFL teachers (83%) stated that they were not informed about ADHD with courses in university or in-service training seminars and almost all of them (96%) stated that they have not done any research on ADHD.

Awareness of General Information about Attention Deficit Hyperactivity Disorder

The first statement which was about whether 3-5% of students have ADHD (S1), more than half of the participants (52.3%) had no idea whereas, four tenths of them (39.6%) accepted the statement as correct and the minority of the participants (8.1%) accepted the statement as incorrect (Mean = 1.6847, SD = 0.61765). This data shows that there is no define awareness about the prevalence of ADHD. The fifteenth statement was about the definition of the ADHD (S15). More than half of the

respondents had no idea about the statement (M = 2.2703, SD = 0.61712) whereas, three tenths of them correctly disagreed with the statement and the minority of the respondents incorrectly accepted the statement as correct (see Table 3).

Respondents' awareness about duration of ADHD explored with second (S2), third (S3), fourth (S4) and sixth (S6). Half of the participants (49.5%) correctly disagreed with the second statement (S2) whereas, four tenths of the respondents (37.8%) EFL teachers had no idea (M = 2.3694, SD = 0.69971) and one tenth of them (12.6%) incorrectly accepted the statement as correct. Half of the participants (49.5%) correctly accepted the third statement (S3) as incorrect but 45.9% of the participants had no idea about the statement (M = 2.4505, SD = 0.58370) and the minority of the participants (4.5%) accepted the statement as correct. The fourth statement was about whether ADHD is a temporary condition (S4). Approximately half of the respondents had no idea (46.8%) whereas, three tenths (32.4%) of them correctly disagreed with the statement and two tenths of them (20.7%) incorrectly agreed with the statement (M = 2.1171, SD = 0.72286). Furthermore, half of the participants (46.8%) had no idea (M = 1.7928, SD = 0.70217) whether ADHD is a lifelong disorder or not (S6). Almost four tenths of the participants (36.9%) correctly accepted the statement as true and one tenth (16.2%) incorrectly accepted the statement as false (see Table 2). The data shows that the participants have no clear understanding that ADHD is a lifelong disorder (ADHD Working Group, 2004; Amen, 2002; APA, 1994; APA, 2013; CHADD, 2008a; Copeland & Love, 1995; IDA, 2008; Parker, 1999; Serfontein, 1990; Train, 2005). (See Table 3)

Table 3

Awareness of General Information about ADHD

S. No.	Statement	1-True 2-No Idea 3-False	Frequency	Percent	N	Mean	Std. D
1	3-5% of students have ADHD.	1 2 3	44 58 9	39.6 52.3 8.1	111	1.6847	0.61765
2	ADHD affects only childhood period.	1 2 3	14 42 55	12.6 37.8 49.5	111	2.3694	0.69971
3	ADHD affects only adolescence period.	1 2 3	5 51 55	4.5 45.9 49.5	111	2.4505	0.58370
4	ADHD is a temporary condition.	1 2 3	23 52 36	20.7 46.8 32.4	111	2.1171	0.72286
6	ADHD is a lifelong condition.	1 2 3	41 52 18	36.9 46.8 16.2	111	1.7928	0.70217
12	ADHD is a trendy condition and it does not exist.	1 2 3	11 48 52	9.9 43.2 46.8	111	2.3694	0.65959
15	Difference between a student's mental capacity and academic success is defined as ADHD.	1 2 3	10 61 40	9 55 36	111	2.2703	0.61712
16	ADHD is a good reason for students' bad behaviours.	1 2 3	34 41 36	30.6 36.9 32.4	111	2.0180	0.79752

The twelfth and sixteenth statements explored participant teachers' awareness of ADHD. Almost half of the respondents (46.8%) correctly accepted the twelfth statement (S12) as incorrect (M = 2.3694, SD = 0.65959) and two fifths of the respondents (43.2%) stated that they had no idea. The EFL teachers' awareness of

general information about ADHD was examined with the sixteenth statement (S16). The response rate equally distributed for this statement (M = 2.0180, SD = 0.79752). It is clear that participants have no clear awareness about ADHD according to the results of twelfth and sixteenth statements. Both statements questioned the existence of ADHD (see Table 3).

Awareness of the Causes of ADHD

The fifth statement (S5) questioned whether ADHD is a neurobiological condition or not. Majority of the participants (68.5%) stated that they had no idea about the statement (M = 1.7568, SD = 0.50841) whereas, three tenths of them (27.9%) correctly accepted the statement as true and only few of them incorrectly accepted the statement as false. Majority of the participants (73%) EFL teachers had no idea (M = 2.0000, SD = 0.52223) about the next statement (S7). More than half of the respondents (55.9%) had no idea whether wrong parenting causes ADHD or not (S8) whereas, only three tenths (29.7%) of them responded correctly (M = 2.1532, SD = 0.64945). More than half of the participant EFL teachers (54.1%) had no idea (M = 2.2252, SD = 0.64222) whether ADHD is an environmental disorder or not (S9). The tenth statement was questioned if harsh discipline causes ADHD (S10). Almost half of the participants (47.7%) had no idea about the statement whereas, three tenths of the participants (34.2%) disagree with the statement and nine fiftieths of the participants (18%) agreed with ADHD (M = 2.1622, SD = 0.70763). The main cause of ADHD is accepted as lack of neurotransmitters in the brain (S14). Almost all of the participant EFL teachers (90.1%) had no idea whether lack of neurotransmitters causes ADHD (M = 1.9369, SD = 0.30982). On the other hand half of the participants (49.5%) correctly disagreed with the eleventh statement (S11)

and two fifths of the participant EFL teachers (38.7%) had no idea about the statement (M = 2.3784, SD = 0.68827). According to the results, it can be said that secondary school EFL teachers were not aware of causes of ADHD (see Table 4).

Table 4
Awareness of the Causes of ADHD

S. No.	Statement	1-True 2-No Idea 3-False	Frequency	Percent	N	Mean	Std. D
5	ADHD is a neurobiological condition.	1 2 3	31 76 4	27.9 68.5 3.6	111	1.7568	0.50841
7	ADHD is a hereditary condition.	1 2 3	15 81 15	13.5 73 13.5	111	2.0000	0.52223
8	Wrong parenting causes ADHD.	1 2 3	16 62 33	14.4 55.9 29.7	111	2.1532	0.64945
9	ADHD is an environmental disorder.	1 2 3	13 60 38	11.7 54.1 34.2	111	2.2252	0.64222
10	Harsh discipline causes ADHD.	1 2 3	20 53 38	18 47.7 34.2	111	2.1622	0.70763
11	All students with ADHD have brain injury.	1 2 3	13 43 55	11.7 38.7 49.5	111	2.3784	0.68827
14	Lack of neurotransmitters causes ADHD.	1 2 3	9 100 2	8.1 90.1 1.8	111	1.9369	0.30982

Awareness of the Symptoms of ADHD

The thirteenth statement questioned participants whether all students are hyperactive or not (S13). More than half of the participants (58.6%) had no idea about the statement (M = 1.9640, SD = 0.64566) whereas, more than one fifth of the participants (22.5%) incorrectly accepted the statement as true. The following statement explored if participants were aware that excessive motor activity is one of the main characteristics of having ADHD (S17). Majority of the participants (59.5%)

stated that they had no idea about the statement. Almost two fifths of the EFL teachers (37.8%) correctly accepted that the statement is correct (M = 1.6486, SD = 0.53340). The next statement questioned whether impulsivity is one of the main characteristics of having ADHD or not (S18). Majority of the participant teachers had no idea whereas, three tenths of the participants (30.6%) correctly agreed with the statement (M = 1.7387, SD = 0.53448). The twenty-sixth statement (S26) questioned whether distractibility is one of the main characteristics of ADHD (M = 1.4505, SD = 0.51767). More than half of the participant teachers (55.9%) correctly accepted the statement as true. On the other hand, almost half of the participants (43.2%) had no idea. The following statement explores the participant EFL teachers' awareness of symptoms of ADHD (S27). Half of the participants (51.4%) correctly agreed that inattentiveness is one of the main characteristics of the ADHD and more than two fifth of the participants (44.1%) stated that they had no idea whether the statement is true or false (M = 1.5315, SD = 0.58496). The twenty-second statement (S22) questioned if individuals with ADHD can be differentiated by their physical appearances (M = 2.4414, SD = 0.72218). More than half of the participants (57.7%) correctly accepted the statement as false and three tenths of the teachers (28.8%) stated that they had no idea about the statement (see Table 4). More than half of the participant teachers (55%) stated that they had no idea about forty-second statement (S42) and one fourth of the participant teachers (24.3%) incorrectly accepted the statement as true (M = 1.9640, SD = 0.67323). Majority of the participant teachers (65.8%) had no idea (M = 1.9820, SD = 0.58748) whether students with ADHD develop poor self-esteem or not (S44). More than half (54.1%) of the participant teachers had no idea whether ADHD students can control their behaviours according to their behaviours' consequences (S46) whereas, less than half of them (36.9%)

correctly agreed with the statement (M = 1.7207, SD = 0.62043). This may show that EFL teachers do not have clear knowledge about the symptoms of ADHD. According to the results, it can be said that more than half of the participant EFL teachers were not clearly aware of the symptoms of ADHD (see Table 5).

Table 5
Awareness of the Symptoms of ADHD

S. No.	Statement	1-True 2-No Idea 3-False	Frequency	Percent	N	Mean	Std. D
13	All students are hyperactive.	1 2 3	25 65 21	22.5 58.6 18.9	111	1.9640	0.64566
17	One of the main characteristics of having ADHD is excessive motor activity.	1 2 3	42 66 3	37.8 59.5 2.7	111	1.6486	0.53340
18	One of the main characteristics of having ADHD is impulsivity.	1 2 3	34 72 5	30.6 64.9 4.5	111	1.7387	0.53448
22	Students with ADHD can be differentiated by their physical appearance.	1 2 3	15 32 64	13.5 28.8 57.7	111	2.4414	0.72218
26	One of the main characteristics of having ADHD is distractibility.	1 2 3	62 48 1	55.9 43.2 0.9	111	1.4505	0.51767
27	One of the main characteristics of having ADHD is inattentiveness.	1 2 3	57 49 5	51.4 44.1 4.5	111	1.5315	0.58496
42	All individuals with ADHD are hyperactive.	1 2 3	27 61 23	24.3 55 20.7	111	1.9640	0.67323
44	Students with ADHD develop poor self-esteem.	1 2 3	20 73 18	18 65.8 16.2	111	1.9820	0.58748
46	ADHD students behave without thinking consequences.	1 2 3	41 60 10	36.9 54.1 9	111	1.7207	0.62043

Awareness of Treatment Strategies of ADHD

Half of the participant teachers (50.5%) had no idea about the twenty-fourth statement (S24) and nine twentieth of the participant teachers (44.1%) correctly accepted the statement as true (M = 1.6126, SD = 0.59040). More than half of the respondents (55%) had no idea whether medication is the only way of treatment or not (S30) and almost seven twentieth of the participants (34.2%) correctly accepted the statement as false (M = 2.2342, SD = 0.63181). Furthermore, more than half of the participants (53.2%) had no idea (M = 1.8378, SD = 0.66798) if only a treatment team can diagnose students with ADHD or not (S34) and only three thirds (31.5%) of the participants correctly agreed with the statement (see Table 6).

Table 6
Awareness of the Treatment Strategies of ADHD

S. No.	Statement	1-True 2-No Idea 3-False	Frequency	Percent	N	Mean	Std. D
24	Medication therapy can be used to treat ADHD students.	1 2 3	49 56 6	44.1 50.5 5.4	111	1.6126	0.59040
25	Behavioural therapy can be used to treat students with ADHD.	1 2 3	60 48 3	54.1 43.2 2.7	111	1.4865	0.55375
30	Medication is the only way to treat students with ADHD.	1 2 3	12 61 38	10.8 55 34.2	111	2.2342	0.63181
33	Medication and behavioural therapy should not be applied together.	1 2 3	14 72 25	12.6 64.9 22.5	111	2.0991	0.58706
34	Only a treatment team can diagnose whether an individual have ADHD or not.	1 2 3	35 59 17	31.5 53.2 15.3	111	1.8378	0.66798
43	Using strict and inflexible rules help ADHD students to improve their inappropriate behaviours	1 2 3	12 48 51	10.8 43.2 45.9	111	2.3514	0.66945

The twenty-fifth statement explores whether participant teachers were aware that behavioural therapy can be used to help students with ADHD (S25). Half of the participant EFL teachers (54.1%) correctly agreed with the statement (M = 1.4865, SD = 0.55375) whereas, more than two fifths of the participant teachers (43.2%) stated that they had no idea about the statement. The last item on the table questioned if strict and inflexible rules would help ADHD students to improve their inappropriate behaviours (S43). Almost half of them (45.9%) correctly disagreed with the statement (M = 2.3514, SD = 0.66945) whereas, more than two fifths of the participants had no idea about the statement (see Table 6). According to the results, it can be said that EFL teachers were aware of the treatment strategies of the ADHD.

Awareness of the Pedagogic Information about ADHD

Seven twentieth of the (35%) teachers were aware that ADHD students are eligible for regular classrooms (S19) whereas, three tenths of the participants (30%) incorrectly accepted the statement as false (M = 1.9550, SD = 0.76737) and less than half of the respondents (46%) had no idea about the statement. Unfortunately, most of the students with ADHD are eligible for regular classrooms (McNamara & McNamara, 1993). Only treatment team can decide that a student with ADHD is not eligible for regular classrooms and he/she should attend only special education classrooms. Sometimes, treatment teams decide that regular classrooms are suitable for the student with ADHD but the student should attend a resource room to develop their skills. The following statement is also related with same topic which states that every student with ADHD should take special education (S20). Less than quarter of the participant teachers (12.6%) correctly disagreed the statement (M = 1.6757, SD = 0.68969) whereas, less than half of the respondents (45%) incorrectly agreed with the

statement and two fifths (42.3%) of the participants had no idea about the statement. Most of the participants of the study (71.2%) indicated that appropriate and effective procedures should be provided by the schools (M = 1.3063, SD = 0.50078) while less than three tenths (27%) of the participants had no idea (S21). The next item on the table is the twenty-third statement. According to the results, less than half of the participants (49.5%) correctly agreed that ADHD students can receive special education (M = 1.5045, SD = 0.50225) whereas, rest of the participants (50.5%) stated that they had no idea about the statement (S.23). As mentioned above, treatment teams can decide whether a student with ADHD needs special education or mainstreaming is enough. ADHD students can be successful with appropriate interventions and strategies (CHADD, 2008b; McNamara & McNamara, 1993). Fortunately, more than half of the EFL teachers (62.2%) agreed that ADHD students can be successful if they receive appropriate interventions (M = 1.3964, SD = 0.52707) and almost two fifths of the participants (36%) had no idea about the statement (S28). (See Appendix D)

The twenty-ninth statement is "ADHD students cannot learn or acquire a second language". More than half of the participants (55.9%) correctly disagreed with the statement (M = 2.4775, SD = 0.64451) and less than half of the participant EFL teachers stated that they had no idea about the statement (S29). More than half of the respondents had no idea whether ADHD students need educational interventions when they take appropriate medicines (M = 2.1892, SD = 0.63979) and three tenths of the respondents (31.5%) correctly accepted the statement as false (S31). More than half of the participants (60.4%) had no idea if ADHD students need language therapy or not (M = 1.8378, SD = 0.61112). On the other hand more than quarter of the participants (27.9%) agreed with the statement (S32). Half of the

participants (53.2%) correctly accepted that they are responsible from each student's development (M = 1.6847, SD = 0.80884) whereas, quarter of the participants (25.2%) had no idea and one fifth of the participants (21.6%) incorrectly disagreed with the statement (S35). (See Appendix D)

Majority of the participants (60.4%) agreed that they can design, adjust strategies, materials and activities for ADHD students (M = 1.4775, SD = 0.64451) and three tenths of the participants (31.5%) had no idea (S36). The following statement was related with the previous statement and similar results were found. More than half of the participants (57.7%) correctly accepted the statement as correct (M = 1.5135, SD = 0.65872) and three thirds of the participant EFL teachers (33.3%) had no idea (S37). This shows that most of more than half of the participants were aware that they can help ADHD students with adjustments and different strategies. According to the participant teachers' responses, more than half of the participant EFL teachers (57.7%) were aware that students with ADHD can learn a second language (M = 2.4955, SD = 0.64489) and less than half of them (34.2%) had no idea whether the ADHD students can learn a second language or not (S38). Half of the participant teachers (54.1%) had no idea whether classrooms are one of the most difficult places for ADHD students to perform well (M = 1.6667, SD = 0.59289). Only two fifths of the participants (39.6%) correctly agreed with the statement (S45). More than half participant secondary school EFL teachers (55.9%) correctly accepted that ADHD students cannot stay on tasks long enough to complete the task (M = 1.4685, SD = 0.55301) and almost half of the participant teachers (41.4%) had no idea (S49). On the other hand, ADHD students cannot ignore external and internal stimuli. This can be shown as the main reason for their short concentration. The fiftieth (S50) and fifty-first statements (S51) questioned whether ADHD students can

ignore internal and external stimuli. Majority of the respondents stated that they had no idea about the fiftieth statement (67.6%) and statement fifty-first (64.9%). Allowing physical movements in the classroom reduce ADHD students' hyperactivity and help them to focus on the subject (Segal & Smith, 2013; Spohrer, 2003). Unfortunately, more than half of the participant teachers (60.4%) had no idea (M = 1.6937, SD = 0.55256) and only more than quarter of the participants accepted the statement as true (S65). According to the results of the analysis, participant EFL teachers were not clearly aware about the educational information. EFL teachers need to be aware of more information related with ADHD to be able to help students with ADHD (see Appendix D).

Second question in the third part of the questionnaire was asked to find out teaching strategies and educational interventions for ADHD in North Cyprus. Twenty-two participant teachers stated that they had not taught any students with ADHD and if there was a student with ADHD they would ask school counsellors and search from internet for appropriate educational interventions and teaching strategies. Furthermore, they stated that they were not informed about any teaching strategies or educational interventions about ADHD. Seventeen participant teachers expressed that they would apply their own educational interventions for students with ADHD. They stated that they would increase physical activities, give simple instructions, give extra activities, give extra time for activities and examinations to ADHD students, do revisions, add interactive exercises, be patient and send ADHD students to the school counsellors to help students with ADHD. Moreover, 10 participant teachers stated that they had no idea about the educational procedures and interventions for students with ADHD, six participant teachers answered that they would work with parents, school counsellors and experts to be able to help students

with ADHD appropriately and they stated that they would search on internet for additional efficient teaching strategies. On the other hand, 56 participant teachers did not respond to the question. It can be said that participant teachers were not informed about ADHD well and there was not any certain teaching strategies or educational interventions for students with ADHD. Thus, participant EFL teachers could not help ADHD students appropriately and efficiently.

Age Groups and Awareness of ADHD

Secondary school EFL teachers were divided into five age groups which were 20-29, 30-39, 40-49, 50-59 and 60-69. According to participant teachers' answers, secondary school EFL teachers could be put into four different age groups. These were 20-29, 30-39, 40-49 and 50-59. One-Way ANOVA was used to find out significant awareness differences between the age groups. As a result of the test, significant differences between age groups were found in the responses to statements 1, 2, 3, 4, 5, 6, 11, 12, 14, 15, 16, 19, 20, 26, 27, 28, 29, 31, 33, 39, 41, 45, 50, 57, 60, 63, 64, and 65. The significant differences lied between all four age groups in different statements of five domains (see Appendix E).

The first statement was related with the prevalence of ADHD. There are different prevalence rates according to the results of the studies in the world but it is clear that ADHD exists in every country (Parker, 1999). The prevalence rate of ADHD was accepted as 3-5% of a population (ADHD-Europe, 2006; HADD, 2005; IDA, 2008; UNESCO, 2009). A significant difference between 20-29 age group ($M = 2.0000$, $SD = 0.75593$) and 50-59 age group ($M = 1.3333$, $SD = 0.50000$) was found. The 50-59 age group seemed to be more aware than the 20-29 age group (see Appendix E).

ADHD is accepted as lifelong disorder (ADHD Working Group, 2004; Amen, 2002; APA, 1994; APA, 2013; CHADD, 2008a; Copeland & Love, 1995; IDA, 2008; Parker, 1999; Serfontein, 1990; Train, 2005) and the third statement questioned whether ADHD affect only adolescence period or not. A significant difference was found between 30-39 and 40-49 age groups. 30-39 age group (M = 2.5614, SD = 0.56750) seemed to be more aware than 40-49 age group (M = 2.2432, SD = 0.59654) according to the results of the study. The same information was asked once more as a sixth statement (S6) but this time significant differences were found between 40-49 and 20-29 age groups, and also between 50-59 and 20-29 age groups. According to the datum, 20-29 age group (M = 1.2500, SD = 0.46291) seemed as the more knowledgeable than 40-49 (M = 1.9189, SD = 0.59528) and 50-59 (M = 2.0000, SD = 0.86603) age groups. This may showed that participant EFL teachers were not clearly aware about the duration of ADHD. The fourth statement explored the same awareness about ADHD. Significant difference found between 40-49 and 20-29 age groups, and also between 30-39 and 40-49 age groups. 20-29 age group (M = 2.5000, SD = 0.53452) and 30-39 age group (M = 2.2807, SD = 0.72591) are more aware than 40-49 age group (M = 1.7838, SD = 0.58382). (See Appendix E)

ADHD is accepted as a neurological condition (ADHD Working Group, 2004; APA, 2013; Heward, 2006; McNamara & McNamara, 1993; Parker, 1999; UNESCO, 2009) and the fifth statement questioned whether participant EFL teachers are aware or not (S5). A significant difference between 30-39 and 20-29 was found. Furthermore, a significant difference between 40-49 and 20-29 age groups. 20-29 age group (M = 1.3750, SD = 0.51755) seemed to be more aware that ADHD is neurobilogical condition than 30-39 (M = 1.8070, SD = 0.54898) and 40-49 (M = 1.7838, SD = 0.41734) age groups (see Appendix E).

The main cause of ADHD is accepted as lack of neurotransmitters (S14). Significant differences were found when comparing 30-39 with 20-29 age group, 40-49 age group with 20-29 and 50-59 age group with 20-29 age group. According to the results, the 20-29 age group (M = 1.6250, SD = 0.51755) was the most knowledgeable age group. The fifteenth statement was related with current definition of ADHD but difference between a student's mental capacity and academic success did not accepted as ADHD. Significant differences were found between 20-29 age group and other age groups. The 20-29 age group (M = 1.3750, SD = 0.51755) was found as the least knowledgeable age group related with the statement (S15). (See Appendix E)

The twenty-sixth statement is related with symptoms of ADHD (S26). Significant differences were found between 40-49 age group and 30-39 age group, between 50-59 and 40-49 age groups. 50-59 age group seemed to be the most informed age group (M = 1.2222, SD = 0.44096). The next statement (S27) is also related with symptoms of ADHD. Significant differences were found between 30-39 and 50-59 age groups, 40-49 and 50-59 age groups. According to the participants' responses 50-59 age group (M = 1.1111, SD = 0.33333) seemed to be the most informed age group (see Appendix E).

The twenty-eighth statement questioned whether ADHD students can be successful with appropriate interventions and adaptations or not. A significant difference was found between 40-49 and 30-39 age groups. The 30-39 age group (M = 1.2807, SD = 0.49115) seemed to be more informed than 40-49 age group (M = 1.5676, SD = 0.50225). The twenty-ninth statement was questioned whether ADHD students can learn or acquire a second language or not (S29). A significant difference was found between 30-39 and 20-29 age groups. 30-39 age group (M = 2.6140, SD =

0.59023) seemed to be more knowledgeable than 20-29 age group (M = 2.0000, SD = 0.75593) that ADHD students can learn or acquire a second language with appropriate teaching strategies. ADHD students have problems with short-term memory (Serfontein, 1990) as the thirty-ninth statement questioned. Significant differences were found between 20-29 and 40-49, 30-39 and 20-29, 40-49 and 50-59 and 50-59 and 30-39 age groups. 50-59 age group (M = 1.2222, SD = 0.44096) seemed to be most aware age group (S39). The forty-fifth statement questioned whether crowded environments are the most difficult places for ADHD students or not (S45). Significant differences were found between 20-29 and 30-39 age groups, 40-49 and 20-29 age groups, 50-59 and 20-29 age groups. 50-59 age group seemed to be the most informed age group (M = 1.4444, SD = 0.52705). The sixty-fourth statement (S64) was related with the ADHD students' hypersensitivity to their environment and their hypersensitivity affect ADHD students' examination performance. Significant differences were found between 40-49 and 30-39 age groups, and 50-59 and 40-49 age groups. According to the statistical data the 50-59 age group (M = 1.3333, SD = 0.50000) seemed to be the most informed age group. The 50-59 age group seemed to be the most conscious age group and the 30-39 age group followed the 50-59 age group. According to the data, it can be said that awareness of ADHD is not related with the teachers' age. Perold, Louw and Kleyhans (2010) also reported that age did not increase participant teachers' awareness of ADHD (see Appendix E).

Teaching Experience and Awareness of ADHD

The participant secondary school EFL teachers were divided into four teaching experience groups according to the participants' responses. These experience groups were 0-9, 10-19, 20-29 and 30-39. One-way ANOVA was used to find out significant awareness differences between experience groups. Significant awareness differences were found in the responses to statements 1, 4, 6, 11, 12, 14, 15, 16, 18, 33, 36, 37, 39, 40, 50, and 60 as a result of the test. The significant differences lied between all four teaching experience groups in different statements of five domains (see Appendix F).

A significant difference was found between 0-9 (M = 2.0000, SD = 0.61237) and 20-29 (M = 1.5000, SD = 0.50800) experience groups in the responses to the first statement. 20-29 experience group seemed to be more knowledgeable (S1). Significant differences was found between 0-9 experience group (M = 2.4118, SD = 0.61835) and 20-29 teaching experience group (M = 1.8438, SD = 0.67725), and again among 10-19 (M = 2.21695, SD = 0.72284) and 20-29 (M = 1.8438, SD = 0.67725) experience groups in the responses to the fourth statement. This may be caused by teachers' lack of knowledge about students' backgrounds and students' subsequent life experiences (S4). Significant differences were found in the sixth statement when comparing 10-19 experience group with 0-9 experience group, and again 20-29 experience group with 0-9 experience group. 0-9 teaching experience (M = 1.3529, SD = 0.49259) group seemed to be more knowledgeable than 10-19 (M = 1.8475, SD = 0.71471) and 20-29 (M = 1.9063, SD = 0.68906) experience groups (S6). A significant difference was found among 0-9 and 20-29 experience groups, and between 10-19 and 20-29 teaching experience groups in the responses to the twelfth (S12) statement. 10-19 teaching experience group (M = 2.5085, SD =

0.62623) was the most knowledgeable experience group and the 0-9 teaching experience group (M = 2.4706, SD = 0.71743) seemed to be more informed than 20-29 (M = 2.0313, SD = 0.59484) teaching experience group (S12). The participant teachers were questioned that whether difference between a students' mental capacity and academic success is defined as ADHD or not. According to the test results, significant differences between 10-19 and 0-9 teaching experience groups and between 30-39 and 10-19 teaching experience groups was found. 10-19 teaching experience group (M = 2.3898, SD = 0.58772) seemed to be the most informed and 30-39 teaching experience group (M = 1.6667, SD = 0.57735) seemed to be the least informed group according to the results (S15). The last statement in the general information about ADHD domain was sixteenth statement (S16). Significant difference between 20-29 and 0-9 teaching experience groups was found. 20-29 teaching experience group (M = 2.2500, SD = 0.67202) seemed to be more informed than 0-9 teaching experience group (M = 1.7647, SD = 0.83137). (See Appendix F)

The eleventh statement of the questionnaire questioned whether all ADHD students have brain injury or not. A significant difference was found between 10-19 and 20-29 teaching experience groups in the responses to the eleventh statement. 10-19 teaching experience group (M = 2.5424, SD = 0.62483) seemed to be more aware than 20-29 teaching experience (M = 2.2188, SD = 0.65915) group (S11). There were significant differences between 10-19 and 0-9 experience groups, and between 20-29 and 0-9 experience groups in the responses of the fourteenth (S14) which was categorized under the causes of ADHD domain. According to the statistical data, 0-9 teaching experience group (M = 1.7647, SD = 0.43724) seemed to be more informed than 10-19 experience group (M = 1.9492, SD = 0.34360) and 20-29 experience group (M = 2.0000, SD = 0.00000). (See Appendix F)

The eighteenth statement (S18) was categorized under the symptoms of ADHD. A significant difference was found between 30-39 and 0-9 teaching year groups. 0-9 (M = 1.5294, SD = 0.62426) was more informed than 30-39 (M = 2.3333, SD = 0.57735) teaching experience group. A significant difference was found when comparing 30-39 and 0-9 age groups for the thirty-third statement which states that medication and behavioural therapy should not be applied together (S33). 30-39 teaching experience group (M = 2.6667, SD = 0.57735) was more knowledgeable than 0-9 experience group (M = 1.9412, SD = 0.65865). (See Appendix F)

Thirty-sixth statement states that "ELT teachers can design or adjust strategies, materials and activities to provide better opportunities for teaching English to the students with ADHD". A significant difference was found between 20-29 teaching experience group (M = 1.6563, SD = 0.65300) and 10-19 teaching experience group (M = 1.3559, SD = 0.58021). 10-19 teaching experience group seemed to be more aware than 20-29 teaching experience group (S36). The following statement questioned whether teachers could adjust the classroom environment for students with ADHD or not (S37). A significant difference between 20-29 teaching experience group and 10-19 teaching group was found. 10-19 teaching experience group (M = 1.4068, SD = 0.59069) had greater knowledge than the 20-29 teaching experience group (M = 1.7813, SD = 0.70639). Significant differences were found in the following statement (S39) when comparing the 10-19 teaching experience group with 20-29 teaching experience group, and 30-39 teaching experience group and 10-19 teaching experience group. The most experienced group (M = 1.3333, SD = 0.57735) had the greatest knowledge. The following statement questioned participant teachers' awareness whether they knew that ADHD students have poor writing skills

or not. Significant differences were found between 10-19 and 0-9 experience groups, between 20-29 and 30-39 experience groups, and amid 30-39 and 0-9 experience groups in the following statement (S40). 0-9 teaching experience group (M = 1.6471, SD = 0.49259) seemed to be more conscious teaching experience group than 10-19 experience group (M = 2.0000, SD = 0.61588) and 30-39 experience group (M = 2.6667, SD = 0.57735). Also, 20-29 experience group (M = 1.7813, SD = 0.65915) seemed to be more informed than 30-39 experience group (M =2.6667, SD = 0.57735).A significant difference was found between 20-29 and 10-19 experience groups in the fiftieth statement. 10-19 experience group (M = 1.7288, SD = 0.48532) seemed to be more conscious than 20-29 experience group (M = 2.0000, SD = 0.50800) that ADHD students cannot ignore unnecessary internal stimuli (S50). The sixtieth statement (S60) was the last statement on the table. A significant difference was found when comparing 20-29 teaching experience group and 0-9 teaching experience group. 0-9 teaching experience group (M = 1.2941, SD = 0.46967) seemed to be more informed than 20-29 teaching experience group (M = 1.7500, SD = 0.67202) that ADHD students cannot set priorities properly. 30-39 experience group seemed to be the most knowledgeable experience group for the pedagogical information about ADHD but this may be related with participants' experience instead of their awareness about ADHD. Brook, Watemberg and Geva (2000) and Perold, Louw and Kleyhans (2010) also reported that teaching experience of the teachers did not affect their awareness about ADHD (see Appendix F).

Educational Background and Awareness of ADHD

The independent samples t-test conducted by using the SPSS computer programme in order to find out the significant differences of awareness of ADHD between the educational background groups. In their answers to 65 statements, significant differences between educational background groups were found in statement number 13, and 53 (see Table 7).

Table 7

Significant T-test Results for Educational Background and Awareness of ADHD

S. No.	Degree	N	Statements	Mean	Std. D	Mean diff.	T-test	Sig	Sig (2tailed)
13	MA	39	All students	2.1282	0.61471		1.999		0.048*
	BA	72	with ADHD are hyperactive.	1.8750	0.64867	0.25321		0.643	
53	MA	39	ADHD	1.5128	0.68333				
	BA	72	students' inappropriate behaviours may distract their classmates and teachers.	1.2500	0.43605	0.26282	2.174	0.000	0.034*

*The mean difference is significant at the $p < .05$ level.

The results of the thirteenth statement indicated that the participant teachers who held MA degree (M = 2.1282, SD = 0.61471) seemed to be more informed than the participant teachers who held BA degree (M = 1.8750, SD = 0.64867) that all students with ADHD are hyperactive (S13). Conversely, participant teachers who held BA degree (M = 1.2500, SD = 0.43605) were more knowledgeable than the participant teachers who held MA degree (M = 1.5128, SD = 0.68333) according to the participant teachers' responses to the fifty-third statement which states that ADHD students' inappropriate behaviours may distract their classmates and teachers

(S53). It can be said that there was not any difference between BA and MA groups. This may be caused by the lack of training about students' special needs in universities curriculums and in-service training courses. This idea can be supported with participant teachers' responses to the third question in third part of the questionnaire. The participant teachers stated that they had never done research on ADHD as well (see Table 7).

Prior Training in Special Education and Awareness of ADHD

The independent sample T-test was used to find out significant awareness differences between teachers who had prior training in special education and teachers who had not prior training in the special education groups. Significant differences were found between the groups in statement 44 and 62 (see Table 8).

Table 8

Significant T-test Results for Prior Training in Special Education and Awareness of ADHD

S. No.	Prior Training in Special Education	N	Statements	Mean	Std. D	Mean diff.	T-test	Sig	Sig (2tailed)
44	Yes No	23 88	Students with ADHD develop poor self-esteem.	1.7391 2.0455	0.68870 0.54476	-0.30632	-1.978	0.011	0.057*
62	Yes No	23 88	ADHD students can be aggressive	1.3913 1.6818	0.49901 0.59780	-0.29051	-2.142	0.394	0.034*

*The mean difference is significant at the $p < .05$ level.

A significant difference was found between the two groups in their responses to the forty-fourth (S44) statement. Participant teachers who had special education

training (M = 1.7391, SD = 0.68870) seemed to be more knowledgeable than participant teachers who had not special education training (M = 2.0455, SD =0.54476). Furthermore, the participant teachers with special education training (M = 1.3913, SD = 0.49901) were more knowledgeable in the responses to sixty-second (S62) statement than the participant teachers without prior training in special education (M = 1.6818, SD = 0.59780). According to the analysis of the response, it can be said that participant teachers who were trained in special education seemed to be more conscious (see Table 8).

Country of Graduation and Awareness of ADHD

The participant secondary school EFL teachers were divided into three country of graduation groups according to the participant teachers' answers. The country of graduation groups were Cyprus, Turkey and Europe. One-way ANOVA was used to compare participant teachers' awareness to find out significant differences between country of graduation groups. Significant differences were found in the responses to statements 1, 9, 14, 16, 26, 32, 33, 36, 37, 39, 42, 45, 55, 56, 57 as a result of the test. The significant differences lied between all three country of graduation groups (see Appendix G).

Significant difference between Cyprus and Turkey groups was found in the responses to the first statement. Participant teachers who graduated from universities in Turkey group (M = 1.5536, SD = 0.50162) seemed to be more informed than the Cyprus group (M = 1.8163, SD = 0.69742) about the prevalence of ADHD (S1). There were significant differences between Cyprus and Turkey, and between Turkey and Europe groups in sixteenth (S16) statement which states that "ADHD is a good reason for students' bad behaviours". Turkey group (M = 2.2321, SD = 0.71328)

seemed to be more informed than the Cyprus (M = 1.8367, SD = 0.82530) and Europe (M = 1.5000, SD = 0.83666) groups (see Appendix G).

Significant differences were found when comparing graduated in Cyprus with graduated in Europe groups and comparing graduated in Turkey with graduated in Europe groups in the responses to the ninth statement (S9). ADHD is not an environmental disorder. ADHD is a neurobiological disorder and it transfers from a generation to another via heredity. Thus, Cyprus group (M = 2.2653, SD = 0.67006) seemed to be more conscious than Europe group (M = 1.6667, SD = 0.81650) and Turkey group (M = 2.2500, SD = 0.57997) seemed to be more informed than Europe group (M = 1.6667, SD = 0.81650). The fourteenth statement was related with main cause of ADHD (S14). Significant differences were found between Cyprus and Europe groups and Turkey and Europe groups. Europe group (M = 1.3333, SD = 0.51640) seemed to be more aware than Cyprus group (M = 1.9184, SD = 0.34380) and Turkey group (M = 2.0179, SD = 0.13363). (See Appendix G)

A significant difference was found between Turkey group and Europe group in their responses to the twenty-sixth statement. The Europe group (M = 1.0000, SD = 0.00000) seemed to be more informed than the Turkey group (M = 1.5179, SD = 0.50420) about the characteristics of ADHD (S26). Another significant difference was found between Europe and Cyprus groups in the statement forty-two. Europe group (M = 2.5000, SD = 0.83666) was more knowledgeable than Cyprus group (M = 1.8980, SD = 0.74288) according to groups' answers to the statement (S42). (See Appendix G)

A significant difference was found in the thirty-second statement (S32) which states that "ADHD students may need language therapy". The significant difference was between Turkey and Europe groups. Europe group (M = 1.3333, SD = 0.51640)

was more knowledgeable than the Turkey group (M = 1.9286, SD = 0.56752). Another significant difference was between Cyprus group and Europe group according to the participant teachers' responses to the thirty-sixth statement. Europe group (M = 1.0000, SD = 0.00000) was more knowledgeable than Cyprus (M = 1.5510, SD = 0.70891) group (S36). The test results showed that a significant difference existed between Turkey group and Europe group according to the answers of the groups to the thirty-seventh statement. Europe group (M = 1.0000, SD = 0.00000) seemed to be more knowledgeable than Turkey group (M = 1.5714, SD = 0.65663). This is evident by the difference in their mean scores (S37). The thirty-ninth statement (S39) states that "students with ADHD have problems with short-term memory". A significant difference was found when comparing Cyprus group with Turkey group. Turkey group (M = 1.7679, SD = 0.53906) seemed to be more knowledgeable than Cyprus group (M = 2.0816, SD = 0.60679). A significant difference was found in the forty-fifth statement when comparing Cyprus group with Turkey group. Turkey group (M = 1.5357, SD = 0.50324) seemed to be more conscious than Cyprus group (M = 1.7959, SD = 0.61168) that ADHD students have more problems in crowded-environments such as a classroom (S45). A significant difference between Europe and Turkey groups was found in the fifty-fifth statement. Turkey group (M = 1.6429, SD = 0.55362) seemed to be more aware than Europe group (M = 2.1667, SD = 0.98319) that students can be impulsive (S55). Significant differences were found when comparing Turkey group with Europe group and comparing Europe group and Cyprus group for the fifty-sixth statement. The most knowledgeable group seemed to be Cyprus group (M = 1.4082, SD = 0.53690) which was followed by Turkey group (M = 1.4464, SD = 0.56952) and the least informed group seemed to be Europe (M = 2.0000, SD = 1.09545) group (S56). The fifty-

seventh statement questioned whether ADHD students have poor listening skills or not. Significant differences were found among Cyprus group and Europe group, and between Turkey and Europe groups (S57). Turkey group (M = 1.5357, SD = 0.57094) and Cyprus (M = 1.7551, SD = 0.63017) were more knowledgeable than Europe group (M = 2.3333, SD = 1.03280). (See Appendix G)

The thirty-third statement (S33) is related with the treatment of ADHD. The thirty-third statement states that "medication and behavioural therapy should not be applied together" and a significant difference was found between Europe and Cyprus groups. Europe group (M = 2.5000, SD = 0.54772) seemed to be more knowledgeable than Cyprus group (M = 1.9592, SD = 0.57588). Participant teachers who graduated from universities in European countries seem to be more conscious (See Appendix G).

Types of Schools and Awareness of ADHD

In this research study, questionnaires distributed to the private and public schools. A hundred participant teachers (90%) were working at public secondary schools and only 11 participant teachers (10%) were working at private secondary schools. Thus, the researcher could not analyse any awareness difference between working place groups.

Working Regions and Awareness of ADHD

The participant secondary school EFL teachers were divided into four working region groups according to the participant teachers' answers. Nicosia, Kyrenia, Famagusta and Morphou were the working region groups. One-way ANOVA was used to compare and find out significant differences between teacher

groups who were working in different regions. Significant differences were found in the participant teachers' responses to the statements 2, 4, 15, 16, 20, 22, 28, 29, 32, 34, 36, 38, 39, 40, 42, 48, 49, 50, 53 and 64 as a result of the test. The significant differences lied between all four region groups in different statements (see Appendix H).

A significant difference was found among Famagusta and Kyrenia groups in the second statement (S2) of the second part of the questionnaire. Famagusta region group (M = 2.6250, SD = 0.71880) seemed to be more conscious than Kyrenia region group (M = 2.1250, SD = 0.79741) that ADHD did not affect only childhood period. Significant differences were found when comparing the Nicosia region group with the Kyrenia region group and comparing the Famagusta region group with the Kyrenia region group for the fourth statement. ADHD is not a temporary condition and all region groups seemed to be failed to correctly answer the statement (S4). There were significant differences among Nicosia and Famagusta, between Kyrenia and Nicosia, and between Famagusta and Morphou groups in the fifteenth statement. The Famagusta region group (M = 2.6250, SD = 0.50000) seemed to be the most conscious and it was followed by the Kyrenia region group (M = 2.4583, SD = 0.58823). It can be said that the Famagusta region group was more conscious than Nicosia (M = 2.1020, SD = 0.58612) and Morphou region (M = 2.1818, SD = 0.66450) groups, and the Kyrenia region group was more informed than the Nicosia region group (S15). The sixteenth statement questioned whether ADHD is a good reason for students' bad behaviours or not. Significant differences were found when comparing Kyrenia region group with Nicosia region group, comparing Famagusta region group with Nicosia region group, and comparing Morphou region group with Nicosia region group (S16). Famagusta (M = 2.2500, SD = 0.85635), Morphou (M =

2.2273, SD = 0.75162) and Kyrenia (M = 2.2083, SD = 0.83297) region groups seemed to be more conscious than Nicosia region group (M = 1.7551, SD = 0.72257). (See Appendix H)

The twenty-second statement stated "students with ADHD can be differentiated by their physical appearance" (S22). A significant difference was found among Kyrenia and Morphou region groups. Kyrenia region group (M = 2.7500, SD = 0.60792) seemed to be more knowledgeable than Morphou region group (M = 2.1364, SD = 0.83355). Similar significant difference was found in forty-second statement (S42). A significant difference was found among Kyrenia and Morphou region groups. Kyrenia region group (M = 2.2083, SD = 0.58823) was slightly more conscious than Morphou region group (M = 1.7727, SD = 0.61193). (See Appendix H)

A significant mean difference was found between Nicosia and Kyrenia region groups in the thirty-fourth statement. Kyrenia region group (M = 1.6250, SD = 0.64690) was more conscious than Nicosia region (M = 1.9796, SD = 0.59476) group that an assessment/treatment team should assess individuals whether they have ADHD or not (S34). Significant differences was found between Nicosia and Morphou region groups, between Famagusta and Kyrenia region groups, and between Morphou and Famagusta region groups in the responses of working region groups to the twentieth statement (S20). Unfortunately, participant teachers incorrectly believed that all ADHD students need special education. Some students with ADHD need only educational interventions to become successful students. A significant difference was found among the Nicosia region group and Famagusta region group in the twenty-eighth statement. Famagusta region group (M = 1.1250, SD = 0.34157) was more conscious than Nicosia region group (M = 1.5306, SD =

0.58102) that students can be successful with appropriate interventions and adaptations (S28). Twenty-ninth statement states that "students with ADHD cannot learn or acquire a second language" (S29). Significant differences were found when comparing Famagusta region group with Nicosia region group, and comparing Morphou region group and Nicosia region group. Famagusta region group (M = 2.8125, SD = 0.54391) and Morphou region group (M = 2.6364, SD = 0.65795) were more knowledgeable than Nicosia region group (M = 2.3061, SD = 0.61928). The thirty-second statement (S32) questioned whether ADHD students need language therapy or not. Significant differences were detected between Nicosia region group and Famagusta region group, among Kyrenia region group and Nicosia region group, between Famagusta region group and Kyrenia region group, and among Morphou region group and Kyrenia region group. Famagusta region group (M = 1.4375, SD = 0.51235) was the most knowledgeable region group and Kyrenia region group (M = 2.1667, SD = 0.63702) was the least knowledgeable region group for the statement. Famagusta region group (M = 1.4375, SD = 0.51235) was more knowledgeable than Nicosia region group (M = 1.8367, SD = 0.55328) and Kyrenia region group (M = 2.1667, SD = 0.63702). Morphou region group (M = 1.7727, SD = 0.61193) and Nicosia region group (M = 1.8367, SD = 0.55328) were more conscious than Kyrenia region group (M = 2.1667, SD = 0.63702). Significant differences were found in the following statement (S36). Significant differences were found when comparing Nicosia region group with Famagusta region group and Kyrenia region group with Famagusta region group. Famagusta region group (M = 1.1250, SD = 0.34157) seemed to be more knowledgeable than Kyrenia region group (M = 1.5417, SD = 0.77903) and Nicosia region group (M = 1.5714, SD = 0.64550). The significant difference analysis continues with the thirty-eighth statement (S38).

Significant differences were found between Kyrenia region group and Nicosia region group, and among Morphou and Nicosia regions. Morphou region group (M = 2.6818, SD = 0.56790) was more conscious than Nicosia region group (M = 2.3061, SD = 0.65205) and Morphou region group (M = 2.6818, SD = 0.56790) was more knowledgeable than Nicosia region group (M = 2.3061, SD = 0.65205). The following statement was "students with ADHD have problems with short-term memory" (S39). A significant difference was found between Famagusta region group and Morphou region group. Morphou region group (M = 1.6818, SD = 0.56790) seemed to be more conscious than the Famagusta region group (M = 2.1875, SD = 0.65511). A significant difference among Famagusta region group and Morphou region group was found in the participant teachers' responses to the fortieth statement (S40). Morphou region group (M = 1.6818, SD = 0.56790) was more knowledgeable than Famagusta region group (M = 2.2500, SD = 0.77460). Another significant difference was found in the forty-eighth (S48) when comparing Famagusta region group with Nicosia region group. Nicosia region group (M = 1.6327, SD = 0.66752) was more informed than Famagusta region group (M = 2.1250, SD = 0.88506) that ADHD students may not learn as fast as their peers (see Appendix H).

The forty-ninth statement stated "ADHD students cannot stay on a task long enough to complete it properly" (S49). Significant differences were found among Nicosia region group and Famagusta region group, between Kyrenia region group and Famagusta region group, and among Morphou region group and Famagusta region group. Famagusta region group (M = 1.1250, SD = 0.34157) seemed to be the most knowledgeable group for this statement. The following statement was the fiftieth (S50). According to the one-way ANOVA test, significant differences were

found when comparing Nicosia region group with Famagusta region group, and comparing Morphou region group with Famagusta region group. The Famagusta region group (M = 1.5000, SD = 0.51640) was slightly more conscious than Nicosia region group (M = 1.8367, SD = 0.51425) and Morphou region group (M = 2.0000, SD = 0.61721). Significant differences were found in the region groups' responses to the fifty-third statement (S53) when comparing Nicosia region group with Kyrenia region group and Famagusta region group with Nicosia region group. Kyrenia and Famagusta region groups scored same mean score (M = 1.1250). Thus, Kyrenia (M = 1.1250, SD = 0.33783) and Famagusta (M = 1.1250, SD = 0.34157) groups were more knowledgeable than Nicosia region group (M = 1.5306, SD = 0.61583). The final statement was stated "ADHD students cannot perform well in examinations because of their hypersensitivity to their environment" (S64). Significant mean differences were found when comparing Famagusta region group with Nicosia region group and comparing Morphou region group with Famagusta region group. Morphou region group (M = 1.5909, SD = 0.66613) was more conscious than Famagusta region group (M = 2.0625, SD = 0.77190) and Nicosia region group (M = 1.6327, SD = 0.60187) was more knowledgeable than Famagusta region group (M = 2.0625, SD = 0.77190). The significant differences were evident by the difference in region groups' mean scores. Famagusta group seemed to be the most conscious working-region-group and Nicosia-region-group seemed to be the least conscious working-region-group (see Appendix H).

Conclusion

Detailed information about quantitative findings of the study have been presented. EFL teachers' overall awareness of ADHD, awareness of general information about ADHD, causes of ADHD, symptoms of ADHD, treatment strategies and pedagogic information about ADHD has been presented. The quantitative results showed that secondary school EFL teachers were not fully aware about definition of ADHD, types of ADHD, symptoms of ADHD, appropriate and efficient treatment strategies, appropriate teaching strategies and educational interventions for students with ADHD. Significant differences between age groups, experience groups, educational background groups, prior training in special education groups, country of graduation groups and working regions were also presented. Furthermore, it is clear that participant teachers need an informative courses related with special needs of ADHD students. Participant teachers also stated that they had not informed about ADHD and appropriate teaching strategies for ADHD students. In the next and final chapter, summary of the findings, pedagogical implications and suggestions for further research will be presented.

CHAPTER V

CONCLUSION AND RECOMMENDATIONS

Presentation

This chapter presents the major findings of the research study and their relations to the literature in order of research questions. Then, it gives the implications for educational practice and suggestions for further research

Summary of Findings

This research study designed to investigate the secondary school EFL teachers' awareness of attention deficit hyperactivity disorder (ADHD) and to find out teaching strategies and educational interventions for students with ADHD in secondary schools of North Cyprus as mentioned in Chapter I. The research study examined the awareness differences about ADHD according to participant teachers' age, years of teaching experience, educational background, prior training in special education, country of graduation and working regions. The questions of the research study were:

1. What is the level of awareness of ADHD between the secondary school EFL teachers in North Cyprus?
2. Are there any significant differences between secondary school EFL teachers' awareness in terms of a) age, b) years of teaching experience, c) educational background, d) prior training in special education, d) country of graduation, e) type of school that teachers are working at, g) working regions?
3. What sort of teaching strategies and educational interventions do the secondary school EFL teachers use for students with ADHD?

Secondary school EFL teachers' awareness of ADHD. According to the participant secondary school EFL teachers' responses to the 65 statements in the second part and first question of the third part, it can be said that secondary school EFL teachers were not fully conscious about definition of ADHD, types of ADHD, symptoms of ADHD, treatment of ADHD and appropriate teaching strategies and educational interventions for ADHD students. The findings of this study about the awareness of ADHD can be supported with different research studies in different countries. Perold, Louw and Kleyhans (2010) reported that there was lack of knowledge about epidemiology (prevalence of ADHD), genetic factors, beneficial educational interventions and purpose of behavioural rating scales among primary school teachers in Cape Town Metropole. Brook, Watemberg and Geva (2000) have done a research to assess school teachers' knowledge about ADHD and they also reported that overall knowledge about ADHD was insufficient in Holon city. Elementary school teachers' overall knowledge about ADHD was found as insufficient by Nur and Kavakcı (2010) in Sivas region. Similar findings were reported by Funk (2011) in Ohio; by Garcia (2009) in Los Angeles and by Rodrigo, Perera, Eranga, Williams and Kuruppuarachchi (2011) in Sri Lanka. Unfortunately, no studies on this topic have been traced in North Cyprus. Thus the researcher could not support findings of this study with native research studies' findings.

Majority of the participant EFL teachers (83%) stated that they had not been informed about ADHD while they were undergraduate students. They also mentioned that they had not been informed about ADHD while they were EFL teachers. Furthermore, almost all of the participant secondary EFL teachers (96%) mentioned that they had not done any research on ADHD. According to this data, participant EFL teachers' lack of awareness about ADHD may be caused by lack of

informative course about ADHD in curriculums of English language teaching departments of universities. Moreover, it can be said that Ministry of Education have not informed secondary school EFL teachers via in-service training courses about ADHD and effective teaching strategies and educational interventions for ADHD students.

Significant differences between participant EFL teacher groups. The teacher groups were determined according to participant secondary school EFL teachers' responses to the demographic questions in the first part of the questionnaire. Participant teachers were separated to the groups according to their age, teaching experience, educational background, prior training in special education, country of graduation and teachers' working regions. According to the results of the study, it seemed that participants' awareness is not related with their age, teaching experience and educational background but it seemed like prior training in special education and country of graduation and working region increase participant teachers' knowledge but the researcher believes that EFL teachers need an informative course related with ADHD. According to participant EFL teachers' responses to the questions in the third part of the questionnaire, it can be said that participant teachers were not clearly aware about the definition of ADHD, types of ADHD, symptoms of ADHD, treatment of ADHD and appropriate teaching strategies and educational interventions for ADHD students.

Educational interventions and teaching strategies that secondary school EFL teachers use for students with ADHD. According to secondary school EFL teachers responses to statements 19, 20, 21, 23, 28, 29, 31, 32, 36, 37, 38, 39, 40, 41, 45, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, it can be said that the participant EFL teachers' awareness of educational interventions and

teaching strategies are limited. Moreover, participant EFL teachers stated that they had not been informed about effective teaching strategies and educational interventions for ADHD students. Furthermore, participant EFL teachers' responses to the second question in the second part of the questionnaire supported that participant EFL teachers' pedagogic information about ADHD was limited.

Pedagogical Implications

According to the results of the study, it is clear that participant teachers were neither informed nor trained about ADHD. Therefore, participant teachers had insufficient knowledge about beneficial teaching strategies, interventions and coping skills concerning ADHD. This negatively affects participant teachers' teaching performance in the classrooms where there is a student with ADHD or there are more than one. Therefore, teachers are the most important part of diagnosis. The knowledge about the facts about ADHD, coping skills and efficient teaching strategies, interventions and strategies are more important for language teachers, even the teachers who use English language all the time (including giving instructions to the students). It is important because students with ADHD have problems with focusing and stay focused until the end of the activity. A language classroom becomes the most difficult environment to attend because they cannot follow the instructions, activities while the teacher and the classmates use a language that the ADHD students are not native. It can be said that teachers' knowledge about ADHD is very important. Thus, an effective informative course is recommended. The course should include description of ADHD, cause of ADHD, symptoms of ADHD, appropriate treatment of ADHD, effective teaching strategies with appropriate activities, and effective classroom management skills. Furthermore,

activity and material adjustment skills can be introduced. The course can be added to the university curriculums for future secondary school EFL teachers. Moreover, same course is recommended for secondary school EFL teachers who are currently working in lower and upper secondary schools in North Cyprus. In-service training courses or seminars can be appropriate to inform secondary school EFL teachers about ADHD and effective teaching strategies. This idea can be supported with the other researchers' recommendations. Brook, Watemberg and Geva (2000), Garcia (2009), Onder and Kavakcı (2010), and Rodrigo, Perera, Eranga, Williams and Kuruppuarachchi (2011) also recommended appropriate and comprehensive training (with in-service training or adding a course in undergraduate degree curriculum) for teachers. According to McNamara and McNamara (1993) ADHD training program should include the following subjects;

1) Characteristics of students with ADD
2) Methods of identifying students with ADD
3) Etiology, treatment, and course of ADD
4) Techniques and strategies for effectively teaching students with ADD
5) Educational, psychological, and social needs of ADD students
6) Understanding the family of ADD students
7) Networking with physicians, mental health professionals, and parents to design and implement a multimodal treatment plan for the ADD student (p.172).

Special education teachers should be funded in secondary schools to help teachers and ADHD students. Furthermore, schools should work with parents, professionals and specialists to help students with ADHD. Parents and professionals should be work as treatment team as mentioned before.

Suggestions for Further Research

The research study focused on the secondary school EFL teachers in Nicosia, Famagusta, Kyrenia and Morphou regions with a cluster sampling method. Because of the limitations, not all public and secondary schools were included in the study. A further research may include all schools. A further research may focus on all secondary school teachers (not only the EFL teachers) or primary school teachers instead of secondary school teachers because ADHD students need teachers' assistance for other subjects. Furthermore, teachers play very important role in diagnosis team and treatment team for students with ADHD. A further research study can be done on determining ADHD students' prevalence in North Cyprus. Determining the prevalence rate may emphasize the importance of studies related with ADHD.

A further research on parents' awareness about ADHD can be done. Parents and teachers can observe an individual's behaviours and reactions to the events. Most of the professionals ask questions to the parents and teachers for a proper diagnosis of ADHD. Furthermore, parents play very important role in diagnosis and treatment of ADHD.

A research study can be done about primary school teachers' awareness of ADHD. Early diagnosis and treatment is very important for an individual with ADHD. Behavioural problems can be treated easier while the individuals are children and individuals with ADHD can learn how to manage their problems related with ADHD.

There are also different special needs that primary and/or secondary school students have so, a further research may focus on these special needs. Speech and language impairment, memory difficulty, dyscalculia, dysgraphia, auditory

processing disorder, visual processing disorder, organizational learning disorder, autism spectrum disorder can be given as examples of special needs.

Conclusion

According to the results of the study, the participant secondary school EFL teachers were not fully aware of ADHD and ADHD students' special needs. Moreover, participant teachers were not aware of effective treatment and teaching strategies. The participant EFL teachers also stated that they had not been informed about ADHD and efficient teaching strategies for ADHD. The participants also stated that they have never done a research about ADHD. According to the results, the secondary school EFL teachers should be informed about ADHD. Furthermore, secondary school EFL teachers should be informed about effective teaching strategies for mainstreaming classrooms.

REFERENCES

ADHD Working Group. (2004). Attention deficit hyperactivity disorder (ADHD): A practical guide for schools. Retrieved September 28, 2013, from http://www.deni.gov.uk/adhd_-_a_practical_guide_for_schools.pdf

ADHD-Europe. (2006). Contribution to the EC green paper on improving the mental health of the population. 1-12. Retrieved June 14, 2013, from http://ec.europa.eu/health/ph_determinants/life_style/mental/green_paper/mental_gp_co073_en.pdf

Amen, D. G. (2002). *Healing ADD; The breakthrough program that allows you to see and heal the 6 types of ADD.* New York, NY: Berkley Books.

American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: American Psychiatric Publishing.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: American Psychiatric Publishing.

Block, J., & Smith, M. (2012). ADD/ADHD treatment in children finding treatments for kids and teens. Retrieved January 04, 2013, from Help Guide: http://www.helpguide.org/mental/adhd_add_treatments_coping.htm

Brand, S., Dunn, R., & Greb, F. (2002). Learning styles of students with attention deficit hyperactivity disorder: Who are they and how can we teach them? *Learning Styles, 75*, 268-273. Retrieved December 13, 2013, from http://web.ebscohost.com.library.neu.edu.tr:2048/ehost/pdfviewer/pdfviewer?sid=7d096797-dc67-4da8-b1e2-7d65ccb8a776%40sessionmgr115&vid=1&hid=121

Brock, S. E. (2002). Helping the student with ADHD in the classrooms: Information for teachers. *Special Needs*, 1-3. Retrieved September 9, 2013, from http://www.nasponline.org/resources/handouts/revisedpdfs/adhd.pdf

Brook, U., Watemberg, N., & Geva, D. (2000). Attitude and knowledge of attention deficit hyperactivity disorder and learning disability among high school teachers. *Patient Education and Counselling*, 247-252. Retrieved June 15, 2013, from http://web.ebscohost.com.library.neu.edu.tr.2048/ehost/detail?vid=3&sid=f2fb04c6-2d0b-450d-a1b8-51889b5d69a76%40sessionmgr112&hid=121&bdata=JnNpdGU9ZWhvc3QtbGl2ZQ%3d%3ddb=eric&AN=EJ624437

Carr-Fanning, K. (2011). *The a to zee of ADHD*. Retrieved July 01, 2013, from http://www.hadd.ie/sites/default/files/publications/The%20A%20-%20Zee%20of%20ADHD.pdf

Carr-Fanning, K., & McGuckin, C. (2012). Brief history of ADHD. Retrieved February 18, 2014, from http://www.adhdeurope.eu/common-issue-texts/history/1246-a-brief-history-of-adhd.html

CHADD. (2008a). The disorder named ADHD. Retrieved June 20, 2013, from http://www.help4adhd.org/documents/WWK1.pdf

CHADD. (2008b). Managing medication for children and adolescents with ADHD. Retrieved June 29, 2013, from http://www.help4adhd.org/documents/WWK3.pdf

Cohen, L., Manion, L., & Morrison, K. (2007). *Research methods in education* (6th ed.). New York, NY: Routledge.

Copeland, E. D., & Love, V. L. (1995). *Attention without tension:Teacher's handbook on attention disorders (ADHD and ADD)* (1st ed.). Plantation, Florida: Speciality Press.

Cunningham, S., & Moor, P. (2002). *New headway pronunciation course.* Oxford: Oxford University Press.

Denscombe, M. (2010). *The good research guide.* Berkshire: McGraw-Hill.

Di Giulio, R. C. (2007). *Positive classroom management: A step-by-step guide to helping students succeed.* Thousand Oaks, CA: Corwin Press.

Ercan, E. S., Kandulu, R., Uslu, E., Ardic, U. A., Yazici, K. U., Basay, B. K., . . . Rohde, L. A. (2013). Prevalence and diagnostic stability of ADHD and ODD in Turkish children: A 4-year longitudinal study. BMC Psychiatry. doi:10.1186/1753-2000-7-30

Erşan, E. E., Doğan, O., Doğan, S., & Sümer, H. (2004). The distribution of symptoms of attention deficit /hyperactivity disorder and oppositional defiant disorder in school age children in Turkey. Retrieved September 19, 2013, from http://www.ncbi.nlm.nih.gov/pubmed/15619047

Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2012). *How to design and evaluate research in education* (8th ed.). New York, NY: McGraw-Hill.

Freeborn, D. (1998). *From old English to standard English.* MacMillan Press.

Funk, J. D. (2011). Assessing Ohio's teacher knowledge of attention deficit hyperactivity disorder (ADHD): Are current teachers adequetely prepared to meet the needs of students with ADHD? Retrieved April 28, 2013, from http://www.cehs.ohio.edu/gfx/media/pdf/funk.pdf

Garcia, M. J. (2009). Teacher knowledge of attention deficit-hyperactivity disorder(ADHD) and effective classroom interventions. Retrieved April 28, 2013, from http://gradworks.umi.com/1466207.pdf

Green, C. (1990). Foreword. In G. Serfontein, *The Hidden Handicap* (pp. 5-6). Brookvale: Sımon Schuster.

Grohol, J. M. (2010). Famous people with ADHD. Retrieved April 3, 2013, from Psych Central: http://psychcentral.com/lib/2010/famous-people-with-adhd/

HADD. (2005). *Attention deficit hyperactivity disorder, ADHD and education: A resource for teachers.* Retrieved July 1, 2013, from http://www.hadd.ie/sites/default/files/publications/ADHD-and-Education.pdf

Hallahan, D. P., & Kauffman, J. M. (2006). *Exceptional learners: Introduction to special education* (10th ed.). Boston, MA: Pearson Education.

Hallowell, E. (2012). Ferrari engines, bicycle brakes. *Educational Leadership*, 36-38. Retrieved September 19, 2013, from

http://web.ebscohost.com.library.neu.edu.tr:2048/ehost/pdfviewer/pdfviewer?sid=aa997364-7f0f-4ae2-8d54-60264e3712e0%40sessionmgr115&vid=1&hid=112

Heward, W. L. (2006). *Exceptional children: An introduction to special education* (8th ed.). (A. P. Sharp, Ed.) Upper Saddle River, NJ: Pearson Education, Inc.

IDA. (2008). At-Risk Students and the Study of Foreign Language in School. Just the Facts, 1-3.

Lange, K. W., Reichl, S., Lange, K. M., Tucha, L., & Tucha, O. (2010). The history of attention deficit hyperactivity disorder. *Attention Deficit Disorders*, 241-255. doi:10.1007/s12402-010-0045-8.

McNamara, B., & McNamara, F. J. (1993). *Keys to parenting a child with attention deficit disorder.* New York, NY: Barron's Educational Series.

Michaud, C. (2012). English the preferred language for world business: poll. Retrieved April 18, 2013, from http://www.reuters.com/article/2012/05/16/us-language-idUSBRE84F0OK20120516

Millar, D. (2003). Attention deficit hyperactivity disorder: *Information & Guidance for Schools*. Retrieved September 28, 2013, from http://www.gateshead.gov.uk/DocumentLibrary/Education/Leaflets/SEN/adhd%20guidance.pdf

Moskovosky, C. (2001). The critical period hypothesis revisited. Proceedings of the 2001 Conference of the Australian Linguistic Society, 1-5. Retrieved March 30, 2013 from http://www.als.asn.au/proceedings/als2001/moskovsky.pdf

Newport, E. (2002). Language development, *Critical Periods in.* Intermediate Article. Retrieved March 31, 2013 from http://www.bcs.rochester.edu/people/newport/Newport-ECS-A0506.PDF

Nunan, D. (1999). *Second language teaching & learning.* Florance: Heinle & Heinle Publishers.

Nur, N., & Kavakci, O. (2010). Elementary school teachers' knowledge and attitudes realted to attention deficit hyperactivity disorder. *Journal of Society for Development in New Net Environment in B&H, 4*, 350-355. Retrieved September 19, 2013, from http://web.ebscohost.com.library.neu.edu.tr:2048/ehost/pdfviewer/pdfviewer?sid=c31c2b57-3cd4-4257-879b-1dbdc1f94159%40sessionmgr198&vid=1&hid=112

Pallant, J. (2007). *SPSS survival manual; A step by step guide to data analysis using SPSS for Windows.* Berkshire, England: McGraw-Hill.

Parker, H. C. (1999). *Put yourself in their shoes: Understanding teenagers with attention-deficit hyperactivity disorder.* Plantation, FL: Specialty Press.

Perold, M., Louw, C., & Kleynhans, S. (2010). Primary school teachers' knowledge and misperceptions of attention deficit hyperactivity disorder (ADHD). *South African Journal of Education*, 457-473. Retrieved March 15, 2014, from http://www.sajournalofeducation.co.za/index.php/saje/article/view/364/211

Rey, J. (1995). *Is my teenager in trouble?* Gold Coast: Mc Phersons.

Rodrigo, M. D., Perera, D., Eranga, V. P., Williams, S. S., & Kuruppuarachchi, K. (2011). The knowledge and attitude of primary school teachers in Sri-Lanka towards childhood attention deficit hyperactivity disorder. *Ceylon Medical Journal*, 51-54. Retrieved January 22, 2014, from http://www.researchgate.net/publication/51521860_The_knowledge_and_attitude_of_primary_school_teachers_in_Sri_Lanka_towards_childhood_attention_deficit_hyperactivity_disorder

Saville-Troike, M. (2006). *Introducing second language acquisition.* Cambridge: Cambridge University Press.

Schultz, B. K., Storer, J., Watabe, Y., Joanna, S., & Evans, S. W. (2011). School-based treatment of attention-deficit/hyperactivity disorder. *Psychology in the Schools*, 48. doi:10,1002/pits.20553.

Segal, J., & Smith, M. (2013). ADD/ADHD and school; Helping children with ADHD succeed at school. Retrieved September 19, 2013, from HELPGUIDE: http://helpguide.org/mental/adhd_add_teaching_strategies.htm

Serfontein, G. (1990). *The hidden handicap.* Brookvale: Simon Schuster.

Spohrer, K. E. (2003). *Supporting children with attention deficit hyperactive disorder.* Birmingham: The Questions Publishing.

Tinsley, T., & Board, K. (2013). Languages for the future. *British Council.* Retrieved May 15, 2014, from http://www.britishcouncil.org/sites/britishcouncil.uk2/files/languages-for-the-future-report.pdf

Train, A. (2005). *ADHD; How to deal with very difficult children.* London: Souvenir Press.

Turketti, N. (2010). Teaching English to children with ADHD. *AYMAT Individual Thesis/SMAT IPP Collection.* Retrieved October 20, 2013, from http://digitalcollections.sit.edu/cgi/viewcontent.cgi?article=1489&context=ipp_collectionTeaching English To Children With ADHD (2).pdf

U.S. Department of Education. (2006). Teaching children with attention deficit hyperactivity disorder: Instructional strategies and practices. Retrieved April 28, 2013, from http://www2.ed.gov/rschstat/research/pubs/adhd/adhd-teaching-2006.pdf

UNESCO. (2009). Teaching children with disabilities in inclusive settings; Embracing diversity: Toolkit for creating inculsive learning-friendly environments specialized booklet 3. (C. Haddad, Ed.). Retrieved May 03, 2013, from http://unesdoc.unesco.org/images/0018/001829/182975e.pdf

Zhang, C. (2009). A study of age influence in L2 acquisition. *Asian Social Science,* 5(5), 133-136. December 5, 2013, from http://www.google.com.tr/url?sa=t&rct=j&q=age%20effect%20on%20l2%20acquisition&source=web&cd=50&cad=rja&ved=0CH4QFjAJOCg&url=http%3A%2F%2Fwww.ccsenet.org%2Fjournal%2Findex.php%2Fass%2Farticle

%2Fdownload%2F1733%2F1617&ei=s6-
OUYWlJseotAaLtIGoDA&usg=AFQjCNFr

APPENDICES

Appendix A

Questionnaire

Dear Teacher,

This questionnaire is designed to examine your knowledge about Attention Deficit Hyperactivity Disorder (ADHD) and your attitude towards students with ADHD in North Cyprus. Please respond sincerely to all items. Your responses will be used for research purposes only and will never be used for any other purposes. Please contact me if you need any further explanation.

Thank you for your participation.

Selçuk Karayaprak
MA Student
ELT Department
Near East University
Phone: 05338428500

Prof. Dr. Sabri Koç
Supervisor
ELT Department
Near East University
E-mail: sabrikoc46@gmail.com

****

Teacher Questionnaire

Part I: *Please mark the appropriate box.*

1. Your age:
   ☐ 20-29 ☐ 30-39 ☐ 40-49 ☐ 50-59 ☐ 60-69
2. Years of teaching experience:
   ☐ 0-9 ☐ 10-19 ☐ 20-29 ☐ 30-39 ☐ 40-45
3. Do you hold a postgraduate degree?
   ☐ Yes ☐ No
   a. If "Yes", degree held: ☐ MA/Med./MSc ☐ PhD
   b. What is your area of postgraduate study? _____
4. Have you had previous training in special education?
   ☐ Yes ☐ No
5. The country of the university that you graduated from:
   ☐ Cyprus ☐ Turkey ☐ Europe Other _____
6. Type of school that you are working at present:
   ☐ Public ☐ Private ☐ Vocational ☐ Technical
7. Region of the school:
   ☐ Nicosia ☐ Kyrenia ☐ Famagusta ☐ Morphou ☐ Trikomo

Part II: *Please mark the appropriate box for each statement. "***True***" indicates that you accept the statement as correct; "***False***" indicates that you accept the statement as incorrect and "***No Idea***" indicates that you do not have adequate information about the statement.*

No	Statements	True	No Idea	False
1	3-5% of students have ADHD.			
2	ADHD affects only childhood period.			
3	ADHD affects only adolescence period.			
4	ADHD is a temporary condition			
5	ADHD is a neurobiological condition.			
6	ADHD is a lifelong condition.			
7	ADHD is a hereditary condition.			
8	Wrong parenting causes ADHD.			
9	ADHD is an environmental disorder.			
10	Harsh discipline causes ADHD.			
11	All students with ADHD have brain injury.			
12	ADHD is a trendy condition and it does not exist.			
13	All students with ADHD are hyperactive.			
14	Lack of neurotransmitters causes ADHD.			
15	Difference between a student's mental capacity and academic success is defined as ADHD.			
16	ADHD is a good reason for students' bad behaviours.			
17	One of the main characteristics of having ADHD is excessive motor activity.			
18	One of the main characteristics of having ADHD is impulsivity.			
19	ADHD students are not eligible for regular classrooms.			
20	All students with ADHD should take special education.			
21	Schools should provide appropriate and effective procedures for students with ADHD.			
22	Students with ADHD can be differentiated by their physical appearance.			
23	ADHD students are eligible to receive special education services.			
24	Medication therapy can be used to treat ADHD students.			
25	Behavioural therapy can be used to treat students with ADHD.			

No	Statements	True	No Idea	False
26	One of the main characteristics of having ADHD is distractibility.			
27	One of the main characteristics of having ADHD is inattentiveness.			
28	With appropriate interventions and adaptations, students with ADHD can be very successful.			
29	Students with ADHD cannot learn or acquire a second language.			
30	Medication is the only way to treat students with ADHD.			
31	Educational interventions are not required when ADHD students take medication treatment.			
32	ADHD students may need language therapy.			
33	Medication and behavioural therapy should not be applied together.			
34	Only a treatment team can diagnose whether an individual have ADHD or not.			
35	Teachers are responsible from each student's development.			
36	ELT teachers can design or adjust strategies, materials and activities to provide better opportunities for teaching English to the students with ADHD.			
37	Teachers can adjust the classroom environment for students with ADHD.			
38	Students with ADHD cannot learn a second language.			
39	Students with ADHD have problems with short-term memory.			
40	Students with ADHD have poor writing skills.			
41	ADHD causes academic failures.			
42	All individuals with ADHD are hyperactive.			
43	Using strict and inflexible rules help ADHD students to improve their inappropriate behaviours.			
44	Students with ADHD develop poor self-esteem.			
45	Crowded environments are the most difficult place for students with ADHD and classrooms can be given as an example.			
46	ADHD students behave without thinking consequences.			
47	ADHD students have poor time management skills which cause academic failures.			
48	ADHD students may not learn as fast as their peers.			
49	ADHD students cannot stay on a task long enough to complete it properly.			
50	ADHD students cannot ignore unnecessary internal stimuli.			

No	Statements	True	No Idea	False
51	ADHD students cannot ignore unnecessary external stimuli.			
52	ADHD students have difficulties with taking notes.			
53	ADHD students' inappropriate behaviours may distract their classmates and teachers.			
54	Students with ADHD have short attention span.			
55	Students with ADHD can be impulsive.			
56	ADHD students cannot sit still and they have excessive motor activity.			
57	ADHD students have poor listening skills.			
58	ADHD students have difficulties with expressing their thoughts and feelings by writing where they can successfully express themselves verbally.			
59	Students with ADHD usually forget to bring necessary materials to the classroom.			
60	ADHD students cannot set priorities properly.			
61	ADHD students can try to answer questions before the question is asked completely.			
62	ADHD students can be aggressive.			
63	Students with ADHD have difficulties with remembering verbal information.			
64	ADHD students cannot perform well in examinations because of their hypersensitivity to their environment.			
65	Lack of physical activity in classrooms worsens ADHD symptoms.			

Part III: *There are four questions in this part. Please answer these questions sincerely. Use blank pages to answer these questions.*

1. Can you please define attention deficit hyperactivity disorder (ADHD)? What are the types of ADHD?

2. Have you ever had a student with ADHD in your classroom? Yes ☐ No ☐

a. If your answer is "Yes",

I. Is there any procedure that teachers should meet? If there is a procedure that teachers should meet can you please explain the procedure?

II. What kind of strategies or interventions did you use for students with ADHD?

b. If your answer is "No", imagine that you are informed that there is a student with ADHD in your classroom, what would you do?

3. Have you ever been informed of ADHD? Yes ☐ No ☐

   a. If "Yes", how, where and by whom?

4. Have you ever done research on this subject before? Yes ☐ No ☐

****

Appendix B

Approval Letter from the Ministry of Education, General Secondary Education Department

KUZEY KIBRIS TÜRK CUMHURİYETİ
MİLLİ EĞİTİM BAKANLIĞI
GENEL ORTAÖĞRETİM DAİRESİ MÜDÜRLÜĞÜ

Sayı: GOÖ.0.00.35/13/14/A-66 **07.01.2014**

Sayın Selçuk Karayaprak,

İlgi: 07.01.2014 tarihli yazınız.

Talim ve Terbiye Dairesi Müdürlüğü'nün TTD.0.00.03-12-14/09 sayı ve 07.01.2014 tarihli yazısı uyarınca ilgi başvurunuz incelenmiş olup müdürlüğümüze bağlı okullardagörev yapan İngilizce öğretmenlerine yönelik **"İngilizce eğitim ve öğretiminde öğrenim bozuklukları"** konulu anketin uygulanması müdürlüğümüzce uygun görülmüştür.

Ancak anket uygulanmadan önce anketin uygulanacağı okulların bağlı bulunduğu müdürlükle istişarede bulunulup anketin hangi okulda ne zaman uygulanacağı birlikte saptanmalıdır.

Anket uygulandıktan sonra sonuçlarının Talim ve Terbiye Dairesi Müdürlüğüne ulaştırılması gerekmektedir.

Bilgilerinize saygı ile rica ederim.

Mustafa Borataş
Müdür

Eki: Anket

OB/FA

Tel (90) (392) 228 3136 – 228 8187
Fax (90) (392) 227 8639
E-mail meb@mebnet.net
Lefkoşa-KIBRIS

Appendix C

Approval Letter from the Ministry of Education, Vocational Education Department

KUZEY KIBRIS TÜRK CUMHURİYETİ
MİLLİ EĞİTİM BAKANLIĞI
MESLEKİ TEKNİK ÖĞRETİM DAİRESİ MÜDÜRLÜĞÜ

Sayı:MTÖ.0.00-13-14/ 35 **07 Ocak 2014**

Sayın Selçuk Karayaprak
Master Öğrencisi
Yakın Doğu Üniversitesi
Lefkoşa.

İlgi yazınızda, müdürlüğümüze bağlı okullarda görev yapan İngilizce Öğretmenlerine yönelik olarak "**İngilizce Eğitim ve Öğretiminde Öğrenim Bozuklukları"** konulu anket uygulama istemiyle izin talebinde bulundunuz.

Talebinizle ilgili olarak Talim ve Terbiye Dairesi Müdürlüğü'nce yapılan incelemede, anketi uygulamanız uygun görülmüştür. Ancak sözkonusu anket yapılmadan önce ilgili okul müdürlükleri ile istişarede bulunup anketin ne zaman uygulanacağı birlikte saptanmalıdır. Keza, **anket yapıldıktan sonra da sonuçlarının Talim ve Terbiye Dairesi Müdürlüğü'ne de ulaştırılması gerekmektedir.**

Bilgi edinmenizi ve gereğini saygı ile rica ederim.

Metin Gültekin
Müdür (a)

Dağıtım:
- Tüm okullar

GH/NK

Tel (90) (392) 228 3136 – 22 82257
Fax (90) (392) 227 8727
E-mail meb@mebnet.net

Lefkoşa-KIBRIS

Appendix D

Awareness of the Pedagogic Information about ADHD

S. No	Statement	1-True 2-No Idea 3-False	Frequency	Percent	N	Mean	Std. D.
19	ADHD students are not eligible for regular classrooms.	1 2 3	35 46 30	31.5 41.4 27	111	1.9550	0.76737
20	All students with ADHD should take special education.	1 2 3	50 47 14	45 42.3 12.6	111	1.6757	0.68969
21	Schools should provide appropriate and effective procedures for students with ADHD.	1 2 3	79 30 2	71.2 27 1.8	111	1.3063	0.50078
23	ADHD students are eligible to receive special education services.	1 2 3	55 56	49.5 50.5	111	1.5045	0.50225
28	With appropriate interventions and adaptations, students with ADHD can be very successful.	1 2 3	69 40 2	62.2 36 1.8	111	1.3964	0.52707
29	Students with ADHD cannot learn or acquire a second language.	1 2 3	9 40 62	8.1 36 55.9	111	2.4775	0.64451
31	Educational interventions are not required when ADHD students take medication treatment.	1 2 3	14 62 35	12.6 55.9 31.5	111	2.1892	0.63979

32	ADHD students may need language therapy.	1 2 3	31 67 13	27.9 60.4 11.7	111	1.8378	0.61112
35	Teachers are responsible from each student's development.	1 2 3	59 28 24	53.2 25.2 21.6	111	1.6847	0.80884
36	ELT teachers can design or adjust strategies, materials and activities to provide better opportunities for teaching English to the students with ADHD.	1 2 3	67 35 9	60.4 31.5 8.1	111	1.4775	0.64451
37	Teachers can adjust the classroom environment for students with ADHD.	1 2 3	64 37 10	57.7 33.3 9	111	1.5135	0.65872
38	Students with ADHD cannot learn a second language.	1 2 3	9 38 64	8.1 34.2 57.7	111	2.4955	0.64489
39	Students with ADHD have problems with short-term memory.	1 2 3	26 69 16	23.4 62.2 14.4	111	1.9099	0.6425
40	Students with ADHD have poor writing skills.	1 2 3	28 66 17	25.2 59.5 15.3	111	1.9099	0.63181
41	ADHD causes academic failures.	1 2 3	50 46 15	45 41.4 13.5	111	1.6847	0.70042
45	Crowded environments are the most difficult place for students with ADHD and classrooms can be given as an example.	1 2 3	44 60 7	39.6 54.1 6.3	111	1.6667	0.59289

47	ADHD students have poor time management skills which causes academic failures.	1 2 3	46 57 8	41.4 51.4 7.2	111	1.6577	0.61045
48	ADHD students may not learn as fast as their peers.	1 2 3	40 51 20	36 45.9 18	111	1.8198	0.71603
49	ADHD students cannot stay on a task long enough to complete it properly.	1 2 3	62 46 3	55.9 41.4 2.7	111	1.4685	0.55301
50	ADHD students cannot ignore unnecessary internal stimuli.	1 2 3	29 75 7	26.1 67.6 6.3	111	1.8018	0.53631
51	ADHD students cannot ignore unnecessary external stimuli.	1 2 3	33 72 6	29.7 64.9 5.4	111	1.7568	0.54299
52	ADHD students have difficulties with taking notes.	1 2 3	57 51 3	51.4 45.9 2.7	111	1.5135	0.55375
53	ADHD students' inappropriate behaviours may distract their classmates and teachers.	1 2 3	77 30 4	69.4 27 3.6	111	1.3423	0.54765
54	Students with ADHD have short attention span.	1 2 3	68 39 4	61.3 35.1 3.6	111	1.4234	0.56487
55	Students with ADHD can be impulsive.	1 2 3	42 61 8	37.8 55 7.2	111	1.6937	0.59989
56	ADHD students cannot sit still and they have excessive motor activity.	1 2 3	66 39 6	59.5 35.1 5.4	111	1.4595	0.59975
57	ADHD students have poor listening skills.	1 2 3	47 53 11	42.3 47.7 9.9	111	1.6757	0.64895

58	ADHD students have difficulties with expressing their thoughts and feelings by writing where they can successfully express themselves verbally.	1 2 3	39 59 13	35.1 53.2 11.7	111	1.7658	0.64604
59	Students with ADHD usually forget to bring necessary materials to the classroom.	1 2 3	50 54 7	45 48.6 6.3	111	1.6126	0.60560
60	ADHD students cannot set priorities properly.	1 2 3	53 51 7	47.7 45.9 6.3	111	1.5856	0.61004
61	ADHD students can try to answer questions before the question is asked completely.	1 2 3	54 51 6	48.6 45.9 5.4	111	1.5676	0.59729
62	ADHD students can be aggressive.	1 2 3	48 57 6	43.2 51.4 5.4	111	1.6216	0.58859
63	Students with ADHD have difficulties with remembering verbal information.	1 2 3	38 67 6	34.2 60.4 5.4	111	1.7117	0.56226
64	ADHD students cannot perform well in examinations because of their hypersensitivity to their environment.	1 2 3	44 52 15	39.6 46.8 13.5	111	1.7387	0.68373
65	Lack of physical activity in classrooms worsens ADHD symptoms.	1 2 3	39 67 5	35.1 60.4 4.5	111	1.6937	0.55256

Appendix E

Significant ANOVA Results for Age Groups and Awareness of ADHD

S. No.	Statements	Age	N	Mean	Std. D.	Mean Diff.	Sig.	F
1	3-5% of the students have ADHD.	20-29	8	2.0000	0.75593	(20-29)-(50-59) 0.66667*	0.026*	2.244
		30-39	57	1.7544	0.66227			
		40-49	37	1.5946	0.49774			
		50-59	9	1.3333	0.50000			
2	ADHD affects only childhood period.	20-29	8	2.5000	0.53452			
		30-39	57	2.4912	0.68460	(30-39)-(40-49) 0.30204*	0.042*	1.648
		40-49	37	2.1892	0.70071			
		50-59	9	2.2222	0.83333			
3	ADHD affects only adolescence period.	20-29	8	2.5000	0.53452			
		30-39	57	2.5614	0.56750	(30-39)-(40-49) 0.31816*	0.010*	2.450
		40-49	37	2.2432	0.59654			
		50-59	9	2.5556	0.52705			
4	ADHD is a temporary condition.	20-29	8	2.5000	0.53452	(20-29)-(40-49) 0.71622*	0.009*	
		30-39	57	2.2807	0.72591	(30-39)-(40-49) 0.49692*	0.001*	4.793
		40-49	37	1.7838	0.58382			
		50-59	9	2.1111	0.92796			
5	ADHD is a neurobiological condition.	20-29	8	1.3750	0.51755			
		30-39	57	1.8070	0.54898	(30-39)-(20-29) 0.43202*	0.025*	
		40-49	37	1.7838	0.41734	(40-49)-(20-29) 0.40878*	0.039*	1.861
		50-59	9	1.6667	0.50000			
6	ADHD is a lifelong condition.	20-29	8	1.2500	0.46291			
		30-39	57	1.7544	0.73874			
		40-49	37	1.9189	0.59528	(40-49)-(20-29) 0.66892*	0.014*	2.398
		50-59	9	2.0000	0.86603	(50-59)-(20-29) 0.75000*	0.027*	
11	All students with ADHD have brain injury.	20-29	8	1.7500	0.88641			
		30-39	57	2.5614	0.59814	(30-39)-(20-29) 0.81140*	0.001*	
		40-49	37	2.2973	0.66101	(40-49)-(20-29) 0.54730*	0.035*	4.601
		50-59	9	2.1111	0.78174			
12	ADHD is a trendy condition and it does not exist.	20-29	8	2.2500	0.88641			
		30-39	57	2.5263	0.62977	(30-39)-(40-49) 0.28307*	0.040*	
		40-49	37	2.2432	0.59654			2.671
		50-59	9	2.0000	0.70711	(50-59)-(30-39) -0.52632*	0.025*	
14	Lack of neurotransmitters causes ADHD.	20-29	8	1.6250	0.51755			
		30-39	57	1.9123	0.34230	(30-39)-(20-29) 0.28728*	0.012*	
		40-49	37	2.0270	0.16440	(40-49)-(20-29) 0.40203*	0.001*	4.356
		50-59	9	2.0000	0.00000	(50-59)-(20-29) 0.37500*	0.011*	

15	Difference between a student's mental capacity and academic success is defined as ADHD.	20-29	8	1.3750	0.51755			
		30-39	57	2.4386	0.59814	(30-39)-(20-29) 1.06360*	0.000*	8.789
		40-49	37	2.2432	0.49472	(40-49)-(20-29) 0.86824*	0.000*	
		50-59	9	2.1111	0.60093	(50-59)-(20-29) 0.73611*	0.008*	
16	ADHD is a good reason for students' bad behaviours.	20-29	8	1.5000	0.75593			
		30-39	57	1.9474	0.83283			
		40-49	37	2.1351	0.71345	(40-49)-(20-29) 0.63514*	0.040*	2.496
		50-59	9	2.4444	0.72648	(50-59)-(20-29) 0.94444*	0.014*	
19	ADHD students are not eligible for regular classrooms.	20-29	8	1.6250	0.74402			
		30-39	57	2.0526	0.81111	(30-39)-(50-59) 0.60819*	0.027*	2.245
		40-49	37	2.0000	0.66667			
		50-59	9	1.4444	0.72648			
20	All students with ADHD should take special education.	20-29	8	1.1250	0.35355			
		30-39	57	1.8070	0.71810	(30-39)-(20-29) 0.68202*	0.008*	3,327
		40-49	37	1.6757	0.62601	(40-49)-(20-29) 0.55068*	0.037*	
		50-59	9	1.3333	0.70711			
26	One of the main characteristics of having ADHD is distractibility.	20-29	8	1.2500	0.46291			
		30-39	57	1.4035	0.52981			
		40-49	37	1.6216	0.49167	(40-49)-(30-39) 0.21811*	0.044*	2.596
		50-59	9	1.2222	0.44096	(50-59)-(40-49) -0.39940*	0.036*	
27	One of the main characteristics of having ADHD is inattentiveness.	20-29	8	1.6250	0.74402			
		30-39	57	1.5263	0.62977	(30-39)-(50-59) 0.41520*	0.048*	1.962
		40-49	37	1.6216	0.49167	(40-49)-(50-59) 0.51051*	0.019*	
		50-59	9	1.1111	0.33333			
28	With appropriate interventions and adaptations, students with ADHD can be very successful.	20-29	8	1.5000	0.75593			
		30-39	57	1.2807	0.49115			
		40-49	37	1.5676	0.50225	(40-49)-(30-39) 0.28687*	0.010*	2.456
		50-59	9	1.3333	0.50000			
29	Students with ADHD cannot learn or acquire a second language.	20-29	8	2.0000	0.75593			
		30-39	57	2.6140	0.59023	(30-39)-(20-29) 0.61404*	0.011*	2.746
		40-49	37	2.4054	0.64375			
		50-59	9	2.3333	0.70711			
31	Educational interventions are not required when ADHD students take medication treatment.	20-29	8	1.8750	0.64087			
		30-39	57	2.2281	0.59814			
		40-49	37	2.0811	0.68225	(40-49)-(50-59) -0.58559*	0.013*	2.876
		50-59	9	2.6667	0.50000	(50-59)-(20-29) 0.79167*	0.010*	
33	Medication and behavioural therapy should	20-29	8	1.8750	0.64087			
		30-39	57	2.0702	0.56251			
		40-49	37	2.1081	0.56685			1.496

	not be applied together	50-59	9	2.4444	0.72648	(50-59)-(20-29) 0.56944*	0.047*	
39	Students with ADHD have problems with short-term memory.	20-29	8	1.5000	0.75593	(20-29)-(40-49) -0.44595*	0.046*	7.083
		30-39	57	2.0526	0.61007	(30-39)-(20-29) 0.55263*	0.011*	
		40-49	37	1.9459	0.46821	(40-49)-(50-59) 0.72372*	0.001*	
		50-59	9	1.2222	0.44096	(50-59)-(30-39) -0.83041*	0.000*	
41	ADHD causes academic failures.	20-29	8	1.6250	0.91613			
		30-39	57	1.5965	0.65081			
		40-49	37	1.8919	0.69856	(40-49)-(30-39) 0.29540*	0.046*	1.791
		50-59	9	1.4444	0.72648			
45	Crowded environments are the most difficult places for students with ADHD and classrooms can be given as an example.	20-29	8	2.1250	0.83452	(20-29)-(30-39) 0.47588*	0.033*	
		30-39	57	1.6491	0.58221			
		40-49	37	1.6486	0.53832	(40-49)-(20-29) -0.47635*	0.039*	2.105
		50-59	9	1.4444	0.52705	(50-59)-(20-29) -0.68056*	0.018*	
50	ADHD students cannot ignore unnecessary internal stimuli.	20-29	8	1.6250	0.91613			
		30-39	57	1.7018	0.49875			
		40-49	37	2.0000	0.40825	(40-49)-(30-39) 0.29825*	0.008*	2.769
		50-59	9	1.7778	0.66667			
57	ADHD students have poor listening skills.	20-29	8	2.0000	0.92582	(20-29)-(50-59) 0.66667*	0.035*	
		30-39	57	1.7193	0.67492			1.704
		40-49	37	1.6216	0.54525			
		50-59	9	1.3333	0.50000			
60	ADHD students cannot set priorities properly.	20-29	8	1.1250	0.35355			
		30-39	57	1.5439	0.56915			
		40-49	37	1.7838	0.62960	(40-49)-(20-29) 0.65878*	0.005*	3.261
		50-59	9	1.4444	0.72648			
63	Students with ADHD have difficulties with remembering verbal information.	20-29	8	1.5000	0.53452			
		30-39	57	1.7895	0.58970	(30-39)-(50-59) 0.45614*	0.024*	2.181
		40-49	37	1.7297	0.50819			
		50-59	9	1.3333	0.50000			
64	ADHD students cannot perform well in examinations because of their hypersensitivity to their environment.	20-29	8	1.5000	0.75593			
		30-39	57	1.6842	0.65895			
		40-49	37	1.9730	0.68664	(40-49)-(30-39) 0.28876*	0.042*	3.118
		50-59	9	1.3333	0.50000	(50-59)-(40-49) -0.63964*	0.011*	
65	Lack of physical activity in classrooms worsens ADHD symptoms.	20-29	8	2.0000	0.53452	(20-29)-(50-59) 0.66667*	0.013*	
		30-39	57	1.7018	0.56584			2.170
		40-49	37	1.7027	0.51988			
		50-59	9	1.3333	0.50000			

*The mean difference is significant at the $p < .05$ level.

Appendix F

Significant ANOVA Results for Experience Groups and Awareness of ADHD

S. No.	Statements	Experience	N	Mean	Std. D.	Mean Diff.	Sig.	F
1	3-5% students have ADHD.	0-9	17	2.0000	0.61237	(0-9)-(20-29) 0.50000*	0.007*	2.539
		10-19	59	1.6949	0.65005			
		20-29	32	1.5000	0.50800			
		30-39	3	1.6667	0.57735			
4	ADHD is a temporary condition.	0-9	17	2.4118	0.61835	(0-9)-(20-29) 0.56801*	0.008*	2.790
		10-19	59	2.1695	0.72284	(10-19)-(20-29) 0.32574*	0.038*	
		20-29	32	1.8438	0.67725			
		30-39	3	2.3333	1.15470			
6	ADHD is a lifelong condition.	0-9	17	1.3529	0.49259	(10-19)-(0-9) 0.49452*	0.010*	2.845
		10-19	59	1.8475	0.71471			
		20-29	32	1.9063	0.68906	(20-29)-(0-9) 0.55331*	0.008*	
		30-39	3	2.0000	1.00000			
11	All students with ADHD have brain injury.	0-9	17	2.1765	0.80896			2.588
		10-19	59	2.5424	0.62483	(10-19)-(20-29) 0.32362*	0.031*	
		20-29	32	2.2188	0.65915			
		30-39	3	2.0000	1.00000			
12	ADHD is a trendy condition and it does not exist.	0-9	17	2.4706	0.71743	(0-9)-(20-29) 0.43934*	0.022*	4.385
		10-19	59	2.5085	0.62623	(10-19)-(20-29) 0.47722*	0.001*	
		20-29	32	2.0313	0.59484			
		30-39	3	2.6667	0.57735			
14	Lack of neurotransmitters causes ADHD.	0-9	17	1.7647	0.43724			2.348
		10-19	59	1.9492	0.34360	(10-19)-(0-9) (0.18445)*	0.030*	
		20-29	32	2.0000	0.00000	(20-29)-(0-9) 0.23529*	0.011*	
		30-39	3	2.0000	0.00000			

15	Difference between a student's mental capacity and academic success is defined as ADHD.	0-9	17	2.0588	0.82694			2.536
		10-19	59	2.3898	0.58772	(10-19)-(0-9) 0.33101*	0.049*	
		20-29	32	2.2188	0.49084			
		30-39	3	1.6667	0.57735	(30-39)-(10-19) -0.72316*	0.046*	
16	ADHD is a good reason for students' bad behaviours.	0-9	17	1.7647	0.83137			2.457
		10-19	59	1.9322	0.82763			
		20-29	32	2.2500	0.67202	(20-29)-(0-9) 0.48529*	0.041*	
		30-39	3	2.6667	0.57735			
18	One of the main characteristics of having ADHD is impulsivity.	0-9	17	1.5294	0.62426			2.223
		10-19	59	1.7627	0.50306			
		20-29	32	1.7500	0.50800			
		30-39	3	2.3333	0.57735	(30-39)-(0-9) 0.80392*	0.016*	
33	Medication and behavioural therapy should not be applied together.	0-9	17	1.9412	0.65865			1.382
		10-19	59	2.1186	0.52800			
		20-29	32	2.0938	0.64053			
		30-39	3	2.6667	0.57735	(30-39)-(0-9) 0.72549*	0.050*	
36	ELT teachers can design or adjust strategies, materials and activities to provide better opportunities for teaching English to the students with ADHD	0-9	17	1.5882	0.79521			1.774
		10-19	59	1.3559	0.58021			
		20-29	32	1.6563	0.65300	(20-29)-(10-19) 0.30032*	0.034*	
		30-39	3	1.3333	0.57735			

37	Teachers can adjust the classroom environment for students with ADHD.	0-9	17	1.4118	0.71229			
		10-19	59	1.4068	0.59069			
		20-29	32	1.7813	0.70639	(20-29)-(10-19) 0.37447*	0.009*	2.597
		30-39	3	1.3333	0.57735			
39	Students with ADHD have problems with short-term memory.	0-9	17	1.8235	0.80896			
		10-19	59	2.0508	0.53896	(10-19)-(20-29) 0.30085*	0.023*	2.924
		20-29	32	1.7500	0.56796	(30-39)-(10-19) -0.71751*	0.044*	
		30-39	3	1.3333	0.57735			
40	Students with ADHD have poor writing skills.	0-9	17	1.6471	0.49259			
		10-19	59	2.0000	0.61588	(10-19)-(0-9) 0.35294*	0.038*	
		20-29	32	1.7813	0.65915	(20-29)-(30-39) -0.88542*	0.018*	3.469
		30-39	3	2.6667	0.57735	(30-39)-(0-9) 1.01961*	0.009*	
50	ADHD students cannot ignore unnecessary internal stimuli.	0-9	17	1.7059	0.68599			
		10-19	59	1.7288	0.48532			
		20-29	32	2.0000	0.50800	(20-29)-(10-19) 0.27119*	0.021*	2.129
		30-39	3	1.6667	0.57735			
60	ADHD students cannot set priorities properly.	0-9	17	1.2941	0.46967			
		10-19	59	1.5932	0.59069			
		20-29	32	1.7500	0.67202	(20-29)-(0-9) 0.45588*	0.013*	2.323
		30-39	3	1.3333	0.57735			

*The mean difference is significant at the $p < .05$ level.

Appendix G

Significant ANOVA Results for Country of Graduation and Awareness of ADHD

S. No.	Statements	Country	N	Mean	Std. D.	Mean Diff.	Sig.	F
1	3-5% students have ADHD.	Cyprus	49	1.8163	0.69742	Cy-Tr 0.26276*	0.029*	2.624
		Turkey	56	1.5536	0.50162			
		Europe	6	1.8333	0.75277			
9	ADHD is an environmental disorder.	Cyprus	49	2.2653	0.67006	Cy-EU 0.59864*	0.031*	2.471
		Turkey	56	2.2500	0.57997	Tr-EU 0.58333*	0.034*	
		Europe	6	1.6667	0.81650			
14	Lack of neurotransmitters causes ADHD.	Cyprus	49	1.9184	0.34380	Cy-EU 0.58503*	0.000*	17.369
		Turkey	56	2.0179	0.13363	Tr-EU 0.68452*	0.000*	
		Europe	6	1.3333	0.51640			
16	ADHD is a good reason for students' bad behaviours.	Cyprus	49	1.8367	0.82530	Cy-Tr -0.39541*	0.010*	2.886
		Turkey	56	2.2321	0.71328	Tr-EU 0.73214*	0.029*	
		Europe	6	1.5000	0.83666			
26	One of the main characteristics of having ADHD is distractibility.	Cyprus	49	1.4286	0.54006			2.886
		Turkey	56	1.5179	0.50420	Tr-EU 0.51786*	0.020*	
		Europe	6	1.0000	0.00000			
32	ADHD students may need language therapy.	Cyprus	49	1.7959	0.64484			2.872
		Turkey	56	1.9286	0.56752	Tr-EU 0.59524*	0.023*	
		Europe	6	1.3333	0.51640			
33	Medication and behavioural therapy should not be applied together.	Cyprus	49	1.9592	0.57588			3.451
		Turkey	56	2.1786	0.57547			
		Europe	6	2.5000	0.54772	EU-Cy 0.54082*	0.032*	

36	ELT teachers can design or adjust strategies, materials and activities to provide better opportunities for teaching English to the students with ADHD.	Cyprus Turkey Europe	49 56 6	1.5510 1.4643 1.0000	0.70891 0.60194 0.00000	Cy-EU 0.55102*	0.049*	2.014
37	Teachers can adjust the classroom environment for students with ADHD.	Cyprus Turkey Europe	49 56 6	1.5102 1.5714 1.0000	0.68076 0.65663 0.00000	Tr-EU 0.57143*	0.044*	2.080
39	Students with ADHD have problems with short-term memory.	Cyprus Turkey Europe	49 56 6	2.0816 1.7679 1.8333	0.60679 0.53906 0.98319	Cy-Tr 0.31378*	0.008*	3.662
42	All individuals with ADHD are hyperactive.	Cyprus Turkey Europe	49 56 6	1.8980 1.9643 2.5000	0.74288 0.57094 0.83666	EU-Cy 0.60204*	0.039*	2.183
45	Crowded environments are the most difficult places for students with ADHD and classrooms can be given as an example.	Cyprus Turkey Europe	49 56 6	1.7959 1.5357 1.8333	0.61168 0.50324 0.98319	Cy-Tr 0.26020*	0.024*	2.861
55	Students with	Cyprus Turkey	49 56	1.6939 1.6429	0.58467 0.55362			2.108

	ADHD can be impulsive.	Europe	6	2.1667	0.98319	EU-Tr 0.52381*	0.042*	
56	ADHD students cannot sit still and they have excessive motor activity.	Cyprus	49	1.4082	0.53690			
		Turkey	56	1.4464	0.56952	Tr-EU -0.55357*	0.031	2.711
		Europe	6	2.0000	1.09545	EU-Cy 0.59184*	0.022*	
57	ADHD students have poor listening skills.	Cyprus	49	1.7551	0.63017	Cy-EU -0.57823*	0.035*	
		Turkey	56	1.5357	0.57094	Tr-EU -0.79762*	0.004*	5.105
		Europe	6	2.3333	1.03280			

*The mean difference is significant at the $p < .05$ level.

Appendix H

Significant ANOVA Results for Working Regions and Awareness of ADHD

S. No	Statements	Region N-Nicosia K-Kyrenia F-Famagusta M-Morphou	N	Mean	Std. D.	Mean Diff.	Sig.	F
2	ADHD affects only childhood period.	Nicosia	49	2.3673	0.63554			
		Kyrenia	24	2.1250	0.79741			
		Famagusta	16	2.6250	0.71880	F-K 0.50000*	0.027*	1.837
		Morphou	22	2.4545	0.67098			
4	ADHD is a temporary condition.	Nicosia	49	0.62133	0.08876	N-K 0.43282*	0.016*	
		Kyrenia	24	0.72106	0.14719	F-K 0.45833*	0.048*	2.241
		Famagusta	16	0.77460	0.19365			
		Morphou	22	0.83355	0.17771			
15	Difference between a student's mental capacity and academic success is defined as ADHD.	Nicosia	49	2.1020	0.58612	N-F -0.52296*	0.003*	
		Kyrenia	24	2.4583	0.58823	K-N 0.35629*	0.017*	4.208
		Famagusta	16	2.6250	0.50000	F-M 0.44318*	0.025*	
		Morphou	22	2.1818	0.66450			
16	ADHD is a good reason for students' bad behaviours.	Nicosia	49	1.7551	0.72257			
		Kyrenia	24	2.2083	0.83297	K-N 0.45323*	0.020*	
		Famagusta	16	2.2500	0.85635	F-N 0.49490*	0.028*	3.395
		Morphou	22	2.2273	0.75162	M-N 0.47217*	0.019*	
20	All students with ADHD should take special education.	Nicosia	49	1.7755	0.74345	N-M 0.36642*	0.033*	
		Kyrenia	24	1.4583	0.50898	F-K 0.60417*	0.006*	4.257
		Famagusta	16	2.0625	0.68007	M-F -0.65341*	0.003*	
		Morphou	22	1.4091	0.59033			
22	Students with ADHD can be differentiated by their physical appearance.	Nicosia	49	2.4082	0.67449			
		Kyrenia	24	2.7500	0.60792	K-M 0.61364*	0.004*	
		Famagusta	16	2.5000	0.73030			2.993
		Morphou	22	2.1364	0.83355			
28	With appropriate interventions and adaptations, students with ADHD can be very successful.	Nicosia	49	1.5306	0.58102	N-F 0.40561*	0.007*	
		Kyrenia	24	1.2917	0.46431			
		Famagusta	16	1.1250	0.34157			2.941
		Morphou	22	1.4091	0.50324			

29	Students with ADHD cannot learn or acquire a second language.	Nicosia	49	2.3061	0.61928	F-N 0.50638*	0.006*	3.234
		Kyrenia	24	2.4583	0.65801			
		Famagusta	16	2.8125	0.54391	M-N 0.33024*	0.042*	
		Morphou	22	2.6364	0.65795			
32	ADHD students may need language therapy.	Nicosia	49	1.8367	0.55328	N-F 0.39923*	0.018*	5.229
		Kyrenia	24	2.1667	0.63702	K-N 0.32993*	0.024*	
		Famagusta	16	1.4375	0.51235	F-K -0.72917*	0.000*	
		Morphou	22	1.7727	0.61193	M-K -0.39394*	0.023*	
34	Only a treatment team can diagnose whether an individual have ADHD or not.	Nicosia	49	1.9796	0.59476	N-K 0.35459*	0.033*	1.872
		Kyrenia	24	1.6250	0.64690			
		Famagusta	16	1.6875	0.70415			
		Morphou	22	1.8636	0.77432			
36	ELT teachers can design or adjust strategies, materials and activities to provide better opportunities for teaching English to the students with ADHD.	Nicosia	49	1.5714	0.64550	N-F 0.44643*	0.016*	2.091
		Kyrenia	24	1.5417	0.77903	K-F 0.41667*	0.045*	
		Famagusta	16	1.1250	0.34157			
		Morphou	22	1.4545	0.59580			
38	Students with ADHD cannot learn a second language.	Nicosia	49	2.3061	0.65205	K-N 0.36054*	0.024*	2.769
		Kyrenia	24	2.6667	0.56466			
		Famagusta	16	2.5625	0.72744	M-N 0.37570*	0.022*	
		Morphou	22	2.6818	0.56790			
39	Students with ADHD have problems with short-term memory.	Nicosia	49	1.9184	0.60679	F-M 0.50568*	0.012*	2.194
		Kyrenia	24	1.9167	0.58359			
		Famagusta	16	2.1875	0.65511			
		Morphou	22	1.6818	0.56790			
40	Students with ADHD have poor writing skills.	Nicosia	49	1.8980	0.58612	F-M 0.56818*	0.006*	2.636
		Kyrenia	24	1.8750	0.61237			
		Famagusta	16	2.2500	0.77460			
		Morphou	22	1.6818	0.56790			
42	All individuals with ADHD are hyperactive.	Nicosia	49	1.8980	0.68450	K-M 0.43561*	0.028*	1.968
		Kyrenia	24	2.2083	0.58823			
		Famagusta	16	2.0625	0.77190			
		Morphou	22	1.7727	0.61193			
48	ADHD students may not learn as fast as their peers.	Nicosia	49	1.6327	0.66752	F-N 0.49235*	0.017*	2.437
		Kyrenia	24	1.9167	0.71728			
		Famagusta	16	2.1250	0.88506			
		Morphou	22	1.9091	0.61016			

49	ADHD students cannot stay on a task long enough to complete it properly.	Nicosia	49	1.5306	0.58102	N-F 0.40561*	0.011*	2.529
		Kyrenia	24	1.5417	0.58823	K-F 0.41667*	0.019*	
		Famagusta	16	1.1250	0.34157			
		Morphou	22	1.5000	0.51177	M-F 0.37500*	0.038*	
50	ADHD students cannot ignore unnecessary internal stimuli.	Nicosia	49	1.8367	0.51425	N-F 0.33673*	0.027*	2.988
		Kyrenia	24	1.7500	0.44233			
		Famagusta	16	1.5000	0.51640			
		Morphou	22	2.0000	0.61721	M-F 0.50000*	0.004*	
53	ADHD students' inappropriate behaviours may distract their classmates and teachers.	Nicosia	49	1.5306	0.61583	N-K 0.40561*	0.002*	4.422
		Kyrenia	24	1.1250	0.33783			
		Famagusta	16	1.1250	0.34157	F-N -0.40561*	0.008*	
		Morphou	22	1.3182	0.56790			
64	ADHD students cannot perform well in examinations because of their hypersensitivity to their environment.	Nicosia	49	1.6327	0.60187			2.331
		Kyrenia	24	1.8750	0.74089			
		Famagusta	16	2.0625	0.77190	F-N 0.42985*	0.028*	
		Morphou	22	1.5909	0.66613	M-F -0.47159*	0.035*	

*The mean difference is significant at the $p < .05$ level.