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# Elementary Teacher Candidates' Level Of Knowledge On Dyslexia (Case Of Pamukkale University)

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**Abstract**

This study aimed to identify and evaluate elementary teacher candidates' level of knowledge, view and opinions on dyslexia. Case study design was employed in the study. Consequently, holistic single case design that is one of the case study designs was used. The sample consisted of 3rd and 4th year elementary teacher candidates (n=226) at the Elementary Education Department of Pamukkale University. Based on the results of the study, it was seen that the teacher candidates' knowledge on dyslexia was partially true and at some points, wrong. Moreover, examining the teacher candidates' views, it was observed that they knew academic, social and behavioural problems that can be seen in dyslectic individuals, however, they could not produce practical solutions for these problems.

*Key Words:* Dyslexia, elementary teacher candidates, reading skill, qualitative study.

## 1. Introduction

Since information is valuable as it has never been before, today's age is described as the information age. In this age, obtaining information is possible through reading. In primary education, the most basic skills seem to be basal reading and writing. Reading is one of the skills that is used not only in the Turkish course, but also during students' education life and even their whole life. According to Yangın (2002), reading is an activity of recognizing and interpreting symbols in a text. In another definition, reading is a mental activity based on perceiving, comprehending and interpreting words through sense organs (Çelenk, 2003). Özdemir (1983:12) defined reading as "a mental activity based on perceiving printed words through sense organs, comprehending and interpreting them". Individuals exposed to a good reading education at elementary school level can easily acquire knowledge in the rest of their

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lives. On the contrary, those who could not develop a sufficient level of reading skills at elementary school can be unsuccessful in their further education and other areas (Akyol, 2006). An crucial skill like reading not being developed at elementary level causes individuals to face problems during their whole life. It is known that 15% to 20% of students at elementary school level have problems regarding reading-writing skills. Similarly, many students at elementary level can have reading difficulty (dyslexia) (Yılmaz, 2008). Although the reasons for reading difficulty is not known exactly, it is a kindf of reading difficulty causing individuals to pause, make repetitions and skip during reading. Dyslexia is the difficulties arose in learning in spite of intelligence, socio-economic resources and educational opportunities (Bateman, 1967; Critchley, 1970). Individuals with reading difficulty have problems in understanding oral and written language. Besides, they have trouble in basic writing rules, reading speed, pronouncing written words, pronouncing letters and reading comprehension. In general, the characteristics of individuals with reading difficulty include the following: They reverse the letters or words while reading, have short-term memory, cannot concentrate, are weak emotionally, read without thinking, have an inadequate coordination of eye-motor, have difficulty in parsing, learn letters and reading later than their peers, skip letter while writing, speak with pauses, read slowly and if in hurry with mistakes, have an unintelligible handwriting, avoid witting tasks, write shorter compositions in spite of the time they spend, and make grammar, punctuation and letter mistakes (Akyol, 1997, Bingöl, 2003). Dyslectic students are either at the same intelligence level with their peers or higher. Despite the problems they experience, individuals with reading difficulty also have superior characteristics; They have at least a normal level of intelligence, have a vivid imagination, are creative, can look at events from different perspectives, have a high power of empathy, can achieve a noticeable level of improvement in reading if they are given extra time, are foreseeing individuals, and can see the whole picture unlike many people (Altuntaş, 2010). As opposed to popular belief, reading difficulty is a learning difficulty that can be seen in many individuals. In general, 10% of school children have dyslexia. As for other countries, this rate is 3-4% in Spain, 5% in England and Scotland, 10% in Scandinavian countries, 4-15% in the USA and 10-16% in Canada (Bingöl, 2003:68). 50.1% of the children who need special education are categorized as children having learning difficulty. Furthermore, 4.5% of all children at school age are described as having learning difficulty (Mastropieri and Scrugs, 2004). Examining the studies on reading difficulty in our country, in their studies with 39 3rd grade teachers and 105 students with reading difficulty, Baydık, Ergül and Kudret (2012) found that most of the students read wrongly without focusing on punctuation, and most of the teachers were models of prosodic reading and used repetitive reading and phonic analysis, and provided their students feedback regarding reading mistakes. In their thesis study aiming to determine elementary teachers' level of knowledge on dyslexia and their practices towards dyslectic students, Altuntaş (2012) observed that elementary teachers did not have a sufficient level of knowledge on the characteristics of dyslexia, diagnosis of dyslexia and dyslexic education. Besides, the study pointed out that elementary teacher did not conduct specific practices ofr dyslectic students and feel themselves confident in teaching dyslexic students. In a study of Altun, Ekiz and Odabaşı (2011) with 10 elementary teachers, it was revealed that elementary teachers encountered many reading difficulties and used various practices to cope with these. It was also found that the teachers thought the practices were effective to a certain extent, however, did not perceive themselves as sufficient. This study aimed to identify and evaluate elementary teacher candidates' level of knowledge on dyslexia. In life with this aim, the research questions of the study are as follows: 1.What is elementary teacher candidates' level of knowledge on dyslexia based on their views? 2. What are the problems dyslectic students face according to elementary teacher candidates' views? 3. What are the instructional practices that should be applied to dyslectic students based on elementary teacher candidates' views?

## 2. Method

Case study design was employed to identify teacher candidates' level of knowledge. Correspondingly, holistic single case design which is one of the case study designs was used. Case study aims to reveal the existing samples of practices with the question 'how?' (Yıldırım and Şimşek, 2005). Case study is a distinguishing approach used in seeking answers for scientific questions (Mcmillan, 2000). Case study is actually the way to examine the context of the study, gather data systematically, analyse the data and revealing results based on the analysis.

*2.1. Sampling*

The sample of the study consisted of 3rd and 4th year elementary teacher candidates (n=226) at the Elementary Education Department of Pamukkale University in 2012-2013 academic year. Convenience sampling that is used in qualitative studies was employed in this study. Convenience sampling facilitates the data gathering process. The researcher chooses a case which is close and convenient to him/her (Yıldırım and Şimşek, 2000, pp. 74-75). The participants was coded as A1, A2, A3, A4, A5, A6 in the analysis process.

*2.2. Data gathering and analysis*

An open-ended question form was developed by the researchers to measure elementary teacher candidates level of knowledge on dyslexia. The question form was revised based on the feedback obtained from the students. Expert opinion was then taken from three faculty members and two senior students. The question form was finalized following the expert opinion. Open coding was used to analyse the data. The data were read line by line by the researchers and the codes of the study were revealed. The related codes were combined and the themes were created. Interpretations were made based on the themes. By calculating the reliability coefficient of the codes identified by the researchers, the reliability of the study was strengthened. The agreement values for the 5 questions are as follows:  the first question 84; the second question 91, the thired question 86, the forth question 100, and the fifth question 86.

## 3.  Findings

To address the first research question of the study, the theme "elementary teacher candidates' level of knowledge on dyslexia based on their views" was revealed. The codes that were combined in this theme included: 1. "Elementary teacher candidates' level of true knowledge on dyslexia", 2. "Elementary teacher candidates' level of wrong knowledge on dyslexia". While 73 of the 226 teacher candidates asnwered the question form stated true views on dyslexia, 22 candidates expressed partially true views. On the other hand, 101 candidates provided wrong information. 20 candidates stated that they had no knowledge on dyslexia.  According to the findings of the study, the quotations regarding the code "elementary teacher candidates' true knowledge on dyslexia" are as follows:

*I know that dyslexia is a reading difficulty and many letters are confused. I know that many scientists like Einstein and Beethoven had dyslexia. (E,A1)", "It is the case of reading letters in the reverse order and having problems in concentration and consequently experiencing reading difficulties. (B,A16)", "It is individuals having trouble in combining syllables and words. (B,A16)", "It is the case of reading letters and numbers in revers order. Reading the letter E as 3. (E,A46)".*

Within the study, 103 teacher candidates provided corret answers regarding dyslexia. Examining the code "elementary teacher candidates' true knowledge on dyslexia", the candidates stated that dyslectic individuals confuse letters and words, have problems in combining letters and words, and emphasized concentration problems as a reason for their reading difficulties. Based on the findings, it can be concluded that the teacher candidates' knowledge on dyslexia was accurate, but insufficient. According to the findings of the study, the quotations regarding the code "elementary teacher candidates' wron knowledge on dyslexia" are as follows:

*"I know that this situation can turn back to normal through education at an early age. (B,A97)", "I know that reading difficulty is a result of the lack of reading habit, (B, A99)", "Dyslexia is not something that cannot be overcome, it can be overcome by the help of the teacher and the family (B,A12)", "Dyslexia is mostly seen in gifted individuals. (E,A70)"*

Within the study, 101 teacher candidates provided answers which were not accurate with regard to dyslexia. Examining the code "teacher candidates' wrong knowledge on dyslexia", it can be seen that they had wrong knowledge mostly on the reasons of dyslexia and overcoming this problem. Besides, ıt was observed that the candidates were affected by the movie "Taare Zameen Par (Every child is special)" they watched in the sense that every dyslectic individual would be gifted. Moreover, teacher candidates thought that the reasons for dyslexia were related to reading less and the teachers and family not sufficiently taking care of the children. To address the second research question of the study, the theme "the problems dyslectic students face based on elementary teacher candidates' views" was revealed. The codes that were combined in this theme included:  1. "Dyslectic students'

academic problems based on elementary teacher candidates' views", 2. "Dyslectic students' social behavioural problems based on elementary teacher candidates' views". According to the findings of the study, the quotations regarding the code "dyslectic students' academic problems based on elementary teacher candidates' views" are as follows:

*"Since the child has difficulty in reading, it affect his/her level of academic achievement. (B,A4)", "The teachers conduct the lesson at a normal pace, but the child cannot comprehend the subject exatly and this causes him/her to have difficulties (B,A21)", "Dyslectic students fall behind their friends and are treated as lazy and thus, don't have a future academically. (B,A103)", "They learn how to read later than their friend, they sometimes repeat their grade although there is no obstacle in terms of intelligence. (B,A87)".*

It was observed that the teacher candidates gave correct asnwers regarding the academic problems the dyslectic students face. With regard to academic problems, they stated academic failure, falling behind peers, being slow in lessons, learning to read late, and repeating grades. It was seen that teacher candidates thought the reason for dyslectic students have academic problems is due to their teaching not paying enough attention to them individually. According to the findings of the study, the quotations regarding the code "dyslectic students' social and behavioural problems based on elementary teacher candidates' views" are as follows:

*"Since they have difficulty in reading, they are sometimes teased by their friends, (B,A3)", "Due to their difficulty in reading, they may see themselves in a lower social status and isolate themselves from the society. (B,A4)", "They have problems such as not being able to speak in public, attend such activities, and express themselves appropriately". (B,A11)", "The individual may act aggressively due to his/her reading difficulty, and may be harmful for his environment. (B,A18)", "They cannot tie their shoes due to perceptive disorder. (B,A93)", "They can be too active and unhandy. (E,A95)"*

The teacher candidates views regarding dyslectic individuals' social problems seems to have both true, and partial or wrong information. Besides, the candidates' views revealed that these individuals' problems in reading and writing affect their academic success, and as a result of this, they are isolated by their family, friend and the society, and thus have self-reliance problems. As for the individuals behavioural problems, the candidates mostly focused on negative behaviours and these individuals can be harmful to the environment and their friends due to their failure in the courses. The candidates also stated that dyslectic individuals had problems such as disturbing the class, being aggressive, too active, unhandy, having difficulty in putting on clothes. To address the third research question of the study, the theme "instructional practices towards dyslectic students based on elementary teacher candidates' views" was revealed. The codes that were combined in this theme included: 1. "Instructional tools that should be used for dyslectic students based on elementary teacher candidates' views", 2. "The most appropriate class arrangement for dyslectic students based on elementary teacher candidates' views". According to the findings of the study, the quotations regarding the code "instructional tools that should be used for dyslectic students based on elementary teacher candidates' views" are as follows:

*"Paper, notebooks and desks that are suitable for these students should be available. (B,A204)", "There should be letters with larger fonts for these students. (B,A201)", "In order for them to be able to make a better improvement, there should be materials which are simple and carefully prepared. (B,A195)","The tools for these students should be those that they can touch and materialise. (B;A177)", "For students with reading difficulty, materials containing more visuals and less writing should be chosen. (B,A148)"*

Based on the candidates' views, it is seen that they had a sufficient level of knowledge on the tools and materials that should be used for dyslectic individuals. The views included using visuals and larger font sizes, videos and visuals, and preparing materials to make abstract subjects concrete. Moreover, accurate information such as that the materials should be appropriate to the learners' cognitive level was observed. According to the findings of the study, the quotations regarding the code "the most appropriate class arrangement for dyslectic students based on elementary teacher candidates' views" are as follows:

*"An environment in which they would learn by experiencing should be created to make learning permanent (B,A173)", "The classroom should be arranged considering the individual differences (E,A160)", "Such students can sit on the front desks so that they can freely communicate with the teachers (B,A151)", "Students with reading difficulty should not be spread around the class, but paired with those who are good at reading so that their peers can help (B,A62)".*

Regarding the code "classroom arrangement for dyslectic students", the teacher candidates' statements revealed views such as that these students should sit on front desks so that they can be easily seen by the teacher, experiential

learning should be used for making learning permanent, arranging the class based on the levels of students and if necessary, these students should be paired with successful students in the class.

## 4. Discussion and Suggestions

Based on the results of the study, it can be concluded that the teacher candidates did not take any courses related to dyslexia, did not attent any seminars, symposiums or conferences either, only exposed to information regarding the issue in thei basal reading and writing, and teaching methodology course, and they should take in-service training when they start the profession. İn their study aiming to identify teachers' practices regarding the problems encountered in reading difficulty, Baydık, Ergül and Bahap Kudret (2012) emphasized that although the teachers felt themselves sufficient in coping with reading difficulties and most of them did not feel they needed an in-service training, the results of their teaching and evaluation practices showed that they should take an in-service training. The findings of the two study are consistent to a large extent.  It was observed that a majority of the students watched the movie "Taare Zameen Par (Every child is special)" on a dyslectic student's life. Since the student in the movie was gifted in an area, the teacher candidates were mistaken that all dyslectic individuals were the same. Although the teacher candidates' answers regarding dyslexia were correct, their knowledge regarding the instructional practices towards dyslectic students was observed to be insufficient. The fact that 30 of the 226 teacher candidates participated in the study stated that they did not know anything about dyslexia shows that the training towards dyslexia is not enough. In their study, Altuntaş (2012) found that teacher candidates did not have a sufficient level of knowledge on the characteristics of dyslexia, diagnosis of dyslexia and dyslexic education. The findings of the current study is consistent with their study. In a similar study, Altun, Ekiz and Odabaşı (2011) revealed that the teachers thought their practices were effective to a certain extent, however, did not perceive themselves as sufficient. The study also supports these findings. It was seen that the teacher candidates were familiar with the basic characteristics of dislexia such as not being able to recognize letters, skipping some letters and words, reading from reverse order, self-confidence and self-reliance problems, but did not have sufficient knowledge on how to analyse these problems. The fact that most of the candidates thought that dyslexia was a result of not reading enough or negligence of families, students would never be able to learn writing, or they can learn through reading books shows that they lack a considerable level of information regarding dyslexia. It is seen that the candidates were aware of the academic, social and behavioural problems of dyslectic students, but as in the first research question, they did not know how to analyse these problems. The findings support those of Odabaşı's (2011). It was also found that the teachers thought the practices were effective to a certain extent, however, did not perceive themselves as sufficient. Examining the candidates' views, although they stated that dyslectic individuals fell behind their peers in reading and writing, they stated its reason as the teachers and families. Based on the teacher candidates' views, in the social sense, the dyslectic students were introverted and isolated from the society, moreover, they were teased by their peers due to their failure in classes and this caused self-confidend and self-reliance problems in them. The candidated did not have any knowledge on what measure to take in such cases. In their study, Erden, Kurdoğlu and Uslu (2002) stated the reading mistakes of students with reading difficulty. Their study revealed that reluctance in class, lack of concentration and confidence were the behaviours frequently seen in students with reading difficulty. It can be said that both studies are consistent with this finding. Since the dyslectic students were not successful in class and fell behind their peers based on the candidates views, they were marginalized by the rest of the class and the students would disturb the lesson and cause problems. However, similar to the previous statements, the candidates were right about problems but did not have any information on  the measures. Some teacher candidates argued that dyslectic students could be aggressive and may be harmful for their friends. The inaccuracies in their knowledge can affect their attitudes towards these students in the future. Based on the results of the study, it was seen that the candidates had a sufficient level of knowledge on the tools and class arrangements towards dyslectic students. The candidates stated that the tools should be chosen based on the students level and the tools for dyslectic students should contain more visuals. Besides, the letters to be used in teaching reading and writing should be in large font sizes and the teaching process should be supported by videos. Expressing that such students had trouble with abstract concepts, the candidates argued that abstract concepts should be concreatized useind materials, videos and visuals. The candidates' views also revealed that the dyslectic students should be taken care individually and shoud sit where the teacher can easily see them so that they can participate in the lesson and their mistakes can be immediately corrected by the teacher. According to the findings of the study, some of the teacher candidates justified that they did not have a sufficient knowledge on dyslexia because they did not take a course on this issue at

undergraduate level, apart from their basal reading and writing course. In their study, Doğan (2013) developed a scale to measure Turkish and elementary teacher candidates' level of knowledge on reading difficulty, but none of the teachers got full marks. Therefore, the two studies support each ohter. As a result of the study, the following suggestions can be offered: The Higher Education Council should add a course to elementary teaching program as teaching students with dyslexia or reading diffficulty. In this way, teacher candidates can find practical and theoretical solutions for the problems they would encounter in such cases. The teachers can attend seminars and conferences at public training centres or universities. Reading difficulty departments can be found in each city and these can support teachers and families. The Ministry of National Education can prepare a font distingusihing the letters confused by dyslectic students and distribute this to teachers. Since dyslectic students need individual attention, class sizes of such students can be reduced.

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