

The Prevalence of Learning Difficulties and Its Academic Impact Among Elementary School Students in Riyadh, Saudi Arabia

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ABSTRACT

Introduction: Learning Difficulty (LD) is a disorder in one or more of basic psychological processes involved in understanding or using language spoken or written, that may manifest itself on student's academic performance.

Objectives: To measure the prevalence of LD among elementary school students in Riyadh city, to identify the types of LD and the most common type among them, to measure the proportion of trained teachers on identifying and dealing with students with LD, and to verify the relation between LD and school performance.

Method: A cross-sectional observational study was conducted in 2015 at public and private girls schools in Riyadh, including a random sample of 24 teachers and 720 students from 1st grade to 6th grade, conducted through a closed-ended questionnaire directed to home teachers. Data was analyzed using SPSS.

Results: The study showed that 172 out of 720 students (23.89%) have some sort of learning difficulty. The most common of all types were dyslexia and dysgraphia, which represent 31.4% and 27.3% respectively. 45.8% of their teachers reported that they have not been trained to identify or deal with this group of students. The academic performance is lower in students with learning difficulty than in normal students, as 68% of students with learning difficulty are below

average while only 14.7 % of the normal children are below average. Dyslexia showed to have the most influence on academic achievements.

Conclusion: The prevalence of students with some type of learning difficulty is considered high, investing in training teachers on dealing with students who have learning difficulties, and providing the environment and support to the students who need it, will improve their performance and achievements.

Keywords: Learning Disorder, Learning Difficulties, Dyslexia, Dysgraphia, Dyscalculia.

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Article History:

Received: 09-09-2017, Revised: 07-10-2017, Accepted: 02-11-2017

Access this article online	
Website: www.ijmrp.com	Quick Response code 
DOI: 10.21276/ijmrp.2017.3.6.051	

INTRODUCTION

Learning difficulty (LD) and sometimes called learning disability is a disorder in one or more of basic psychological processes involved in understanding or using language spoken or written, that may manifest itself in an imperfect ability to listen, think, speak, write, spell or do mathematical calculation.¹

Specific types of learning difficulties include: dyslexia; which is a reading difficulty characterized by problems with accurate or fluent word recognition. Dysgraphia is difficulty in writing, which is described as difficulty with spelling or written expression. Dyscalculia refers to difficulties characterized by problems processing numerical information, learning arithmetic facts, and performing accurate or fluent calculations.²

LD is not caused by economic disadvantage or cultural differences.¹ The aim of this study is to estimate the prevalence of learning difficulties in Riyadh's elementary schools, which has never been measured before in Saudi Arabia, and to correlate it

with their academic achievements. Measuring the proportion of trained teachers on identifying and dealing with students with LD is also part of the study. The results of our study will fill the gap in important data needed for health and educational development by providing a basic database for a better support and education to the affected students, which will improve their school performance and achievements.

OBJECTIVES

1. To measure the prevalence of LD among elementary school students in Riyadh city.
2. To identify the types of LD and the most common type among them.
3. To measure the proportion of trained teachers on identifying and dealing with students with LD.
4. To verify the relation between LD and school performance.

METHODOLOGY

Research Design: An observational cross-sectional study was conducted in 2015.

Study Area: Public and private girls' elementary schools in Riyadh, Saudi Arabia. From 1st grade to 6th grade students and their teachers.

Sample Size, Technique and Method: Each three data collectors went to a school that is four different schools in total. Schools were selected randomly from each region of Riyadh City. Then data was collected for all classes from grade 1 to 6 and their teachers. The total number of students was 720, and 24 teachers. Home teachers were the most targeted, we selected our sample randomly excluding absent teachers.

DATA NEEDS

Data Collecting Tool: The data collection was through a closed-ended questionnaire. Teachers classified their students as a student with LD or without LD according to DSM-5 diagnostic criteria. Student's grading system was also used in data collection.

Validity: It was tested prior to distribution to check the accuracy of the questionnaire to make sure that each question is a one way understand question. And that it correctly measures what needs to be measured.

Reliability: It was tested prior to distribution to check the repeatability of the questionnaire to make sure that each question gave the same answer from the same group at different times (Stable and consistent results).

Data Collection: Data on students obtained from their teacher

and the grading system. Data on teachers obtained from principal.

Data Analysis: Once collection was done, clearing have been made by taking out all of the uncompleted questionnaires or invalid answers, and then we tabulated the data manually and by using SPSS statistics software, and measured the proportions and other necessary statistical calculations. The results are presented as percentages in a table manner.

Ethics: Permission from the ministry of education and from each visited school was taken prior to starting. Participant's anonymity is assured and consents were also taken from the respondents. Privacy and confidentiality is highly protected

Table 1: Distribution of the study sample according to with or without a learning difficulty.

Students	Frequency	Percentage
Without LD	548	76.1
With LD	172	23.89%
Total	720	100%

Table 2: Distribution of the study sample according to the learning difficulty variable.

Learning Disability	Frequency	Percentage
Dyslexia	54	31.4%
Dysgraphia	47	27.3%
Dyscalculia	19	11.1%
Others	52	30.2%
Total	172	100%

Table 3: Distribution of the study sample according to the academic performance variable.

Academic Performance	Frequency of LD	Percentage of LD	Frequency of normal students	Percentage of normal students
Week	117	68%	92	14.7%
Average	46	27%	135	21.6%
Above average	6	3.5%	264	42.2%
Excellent	3	1.7%	135	21.6%
Total	172	100%	626	100%

Table 4: Distribution of the study sample according to the academic performance variable and the learning disability variable.

Learning Difficulty	Academic Performance									
	Weak	%	Average	%	Above Average	%	Excellent	%	Total	%
Dyslexia	35	20.34%	19	11.04%	-	-	-	-	54	31.4%
Dysgraphia	33	19.2	11	6.4%	2	1.2%	1	0.6%	47	27.32%
Dyscalculia	15	8.7%	3	1.7%	1	0.6%	-	-	19	11.04%
Others	34	19.74%	13	7.5%	3	2.3%	2	1.2%	52	30.22%

Table 5: Distribution of the study sample according to the Teachers' qualification variable.

Teachers' qualification	Frequency	Percentage
	Yes	Yes
Certified trainer	2	8.33%
Certified course	8	33.33%
Not qualified	14	58.33%
Total	24	100%

RESULTS

As it appears in Table (1): 172 out of 720 have ben reported as LD students by their teachers, which represents 23.89% of the total students. As it appears in Table (3): The academic performance is higher in normal students than in student with learning disability. In Table (4): 67.98% of LD students have a weak academic performance. In Table (5): 58.33% of the teachers are not qualified to identify or deal with students with LD. In Table (6): most of the teachers claimed that they are able to identify and/or deal with students with LD from their experience.

Table 6: Distribution of the study sample according to the Teachers' ability variable.

Teachers' Ability	Frequency	Percentage
		Yes
Can identify students with LD	18	75%
Know the proper way to deal with LD students	20	83.3%
Not familiar with LD	4	16.67%
Total	42	Some teachers are counted twice (in the first and second variables)

DISCUSSION

Our results showed that the students with learning difficulty in Riyadh city schools represent 23.89% of the total students, while 58.33% of their teachers are not qualified to identify and deal with them, and 16.67% of them were not familiar with LD. The study revealed that 23.89% of the students have a type or more of learning difficulty. Dyslexia appeared to be the most common between these students 31.4% followed by Dysgraphia 27.32% and then Dyscalculia 11.1%. The results also showed that the academic performance is affected in most of the students with LD. They generally have lower scores compared to normal students, as 68% of LD students have a weak performance, compared to only 14.7% of normal students with a weak performance.

Our results showed similar results to other studies conducted in different countries. A study in India, 2010, to assess the level of awareness about learning disabilities among the Primary School teachers, found that majority of the respondents (66.2%) were found to have low level of overall awareness about learning disability, compared to the unqualified teachers which we measured and presented 58.33%.³ The other study in Iran, done in 2014, aimed to measure the prevalence of learning difficulties, their results indicated that frequency of learning disabilities in Kerman primary school was 40.74%. Math disability was 13.9%, reading disability was 36.9%, and writing disability was 4.5%.⁴ While the study conducted in India 2012, which aimed to measure the prevalence of specific learning disabilities (SpLDs) such as dyslexia, dysgraphia and dyscalculia among primary school children. Found that the prevalence of specific learning disabilities was 15.17% in sampled children, whereas 12.5%, 11.2% and 10.5% had dysgraphia, dyslexia and dyscalculia respectively.⁵ Compared to our results, which showed 31.4% dyslexic, 27.3% had dysgraphia, and 11.1% had dyscalculia. With a difference that there study in India showed dysgraphia to be the most common in their region, while our study in Riyadh and the study conducted in Iran showed that Dyslexia is more common in these areas.

CONCLUSION

The prevalence of students with a type or more of learning difficulty is considered high, 172 out of 720 students (23.89%) have some sort of LD. Dyslexia and dysgraphia being the most common types. Most of their teachers have not been trained to identify or deal with this group of students. And as expected, the academic performance is lower in students with LD than in normal students, as 68% of students with LD are below average. Dyslexia showed to have the most influence on academic achievements.

RECOMMENDATIONS

Investing in training primary school teachers on how to identify and deal with students who have learning difficulties, by

implementing a course during the undergraduate level for the future teachers to be qualified to identify and properly deal with this group of students. And providing the environment to the students who need it by establishing a good support system within the school for the students who need special attention during their education which will improve their academic performance, achievements, and productivity. We also recommend future researchers to implement a more precise assessment of students and to cover a larger area for a more accurate statistics.

ACKNOWLEDGMENT

Special thanks to the Ministry of Education, Almaarefa colleges for Science and Technology, our supervisor Dr. Mona Hassan, and to all participants.

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Source of Support: Nil.

Conflict of Interest: None Declared.

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Cite this article as: Najla S. Ewain, Alia Alkheib, Atheer Alhoshan, Ghada Al Qahtani, Lama Alotaibi, Leejin Bin Kleib, Marah Alatrash, Norah Alqartun, Reem Alomairi, Seham Alanazi, Shatha Sulaiman. The Prevalence of Learning Difficulties and Its Academic Impact Among Elementary School Students in Riyadh, Saudi Arabia. Int J Med Res Prof. 2017 Nov; 3(6):263-65. DOI:10.21276/ijmrp.2017.3.6.051