

Academic Achievement Of Students With And Without Learning Disabilities In Inclusive Education

Kanwal Ejaz¹, Dr. Muhammad Arshad Dahar² & Prof. Dr. M. Imran Yousuf³

¹PhD Scholar, Assistant Professor & ³Chairman/ Professor,
Department of Education, Pir Mehar Ali Shah Arid Agriculture University-Rawalpindi (Pakistan)
Corresponding Author: Dr. Muhammad Arshad Dahar (drarshad1969@uar.edu.pk)

ABSTRACT

The current study aimed to explore the progress regarding academic achievement of learning disabled and without learning disabled children. This Research's extensive body examined the results of inclusion for special need students having learning disabilities. Collaborative team teaching effects explored on the development of learning disabled students. Inclusive setting practices lean towards effective outcomes for this special group of children.

Method: an experimental study with 2 groups having with and without learning disabilities in inclusive setting with support of special teacher has been conducted. Academic achievement of experimental and control has been compared over forty days. Children having with and without learning disabilities in experimental group show more progress in academic achievement of English subject. The data was analyzed using t.test.

To conclude this study Collaborative Team Teaching (CTT) in inclusive setting is an appropriate learning technique for primary students having learning disabilities who need broad support. Recommendations are that parents must be developed friendly environment for their children and build friendly relationship. Importance should be given on the development of such curriculum which would be effective in inclusive setting.

Keywords: Academic Achievement, Learning disabilities, Inclusive education

Introduction

Learning Disabilities and Academic Achievement

Dysgraphia (writing disabilities), dyslexia (reading disabilities) and dyscalculia (mathematics disabilities) of the learning disabilities are main key causes of academic underachievement in school going children (Karande et al., 2005). As per Fuchs et.al., (2000) Many studies conducted in developed countries and US proposed that school going learning disabled children practice more academic

difficulties in studies as compared to their other class mates.

Most prominent type of learning disabilities is Reading disability (dyslexia). School going 80% children who are learning disabled are affecting by this disability. (Karande et. al, 2005; Lemer, 1989; Lyon, 1996; Martin, & Carvalho, 2008). Reading disabled children face difficulty in her or his ability in remembering written words and this problem in turn disturbs and affects the ability to read anything or spell and write it. (Paediatr, 1999). Furthermore,

deficiency in this area impedes the improvement, development and achievement of many academic areas of math's reasoning skills, science knowledge and English. (Lemer, 1989).

While disabilities in maths are lower as compared to reading disabilities. Nearly 4 to 8 % school going children are affected by this. (Fuchs et al., 2008). Students having mathematical disabilities show problems in mathematical reasoning, arithmetic calculations or sometimes both (Lyon, 1996). As per Fuchs et al. (2008) mathematical and reading disabilities are considered major hurdle to academic achievement. Researches indicates that children having both deficits (reading and math's) are at high risk of deficiency as compared to their fellows. (Fuchs, 2000; Hanich et al., 2002; Jordan & Hanich, 2003).

Jordan and Hanich (2003) surveyed the mathematics and reading achievement and definite mathematical capabilities in 74 students above four stages during 2nd and 3rd grades. The students were classified into four groups these are: normal reading disabilities but moderate in math (MMD); moderate in reading and math's both (MRD/MMD); normal in math but moderate in reading difficulties (MRD); and normal in math and reading. The MMD group exposed positive results over the MMD/MRD group in problem solving. Finally Jordan and Hanich (2003) resulted that language and reading strangeness support students recompense for deficits in certain areas of mathematics.

To support of previous reviewed studies, the author Fuchs (2000) studied 18 math's disabled students of 18 fourth class and 22 students having both reading and mathematical disabilities. In result reading inconsistencies were considered affective with math's problem solving. So the language organization of the current problem converted more complex as the student's problem solving performance decreased.

As per Fletcher et al (2002) students having reading problems often have difficulty in math's and if these students language is extra persistently impaired than these students may face special problem while solving mathematical word problem. Appearance of language problem may disturb these students math's ability (Geary, 1993). Furthermore, As per Fletcher et al (2002) these learning disabled students might forget necessary procedures and number facts for effective implementation of computational and mechanical arithmetic.

It's not always the situation that students suffering with one disability have lead over their other fellows who suffers from dual disabilities. Many researches on learning disabilities have showed a co-morbidity of math's and reading disabilities. (Conners & Schulte, 2002; Knopik et al., 1997; Knopik & DeFries, 1999). As per Lewis, Hitch, and Walker (1994) existence of mathematics and reading disabilities in epidemiological sample of British schoolchildren (n = 1206) in British students to be 2.3%. Likewise 7.6% children with combination of math and reading problems in 799 students of 4th and 5th grade also presented. Both researches supported covariance in mathematical and reading difficulties. (Conners & Schulte, 2002; Knopik et al., 1997; Knopik & DeFries, 1999; Light & DeFries, 1995).

There are many studies which indicated the significance that association exists among spelling and mathematics. The researcher Osted (1998) examined association among spelling and mathematical disabilities. as per Osted in another study of students of second, fourth and sixth grade through cross-sectional data found that around half of the children having disabilities in math had also problem in spelling. After reviewing the literature association appears between reading and math difficulties as well as spelling and math deficits. Moreover, reading difficulties also influence spelling (Lemer, 1989; Paediatr, 1999).

Collaboration

As per Hantzidiamantis, (2011). The term Collaboration is commonly used when talking about teachers how they collaboratively work to make perfections in organization, teaching, and evaluating the abilities of diverse students. A comprehensive definition of collaborative team teaching that forms from the basis word to how teamwork narrates to expert's educationist is necessary in order for teachers to completely apprehend the significance of collaboration. Furthermore, the word collaboration is taken from the term "colabre or co-labor, which meaning is working together" (Welch, 1998).

Interdependence between team teachers is essential element. As per Snell & Janney (2005) "working together in a team means that positive connectedness exists among team teachers who agree to work and partition their resources and rewards and to operate from a foundation of shared values" (p. 6). Special and regular teacher further settled the understanding of teamwork by concentrating on the associations of the persons who are involved in the action of work together while teaching. The strength of the work being done is dependent on the collaborative team teachers to have a progressive influence on one and all. Additionally, the collaborative team teachers decide to share their separate resources during collaborative team teaching (Snell & Janney, 2005). Finally, they explained that the individuals' working together relate to each other through shared values (Snell & Janney, 2005).

Communication between team teachers is necessary element throughout the process of teaching. Thayer-Bacon and Brown's (1995) concept of collaborative team work is "collaboration and communication that occur amongst teachers who are in a shifting relation with each other and are able to mutually communicate with each other through a mutual

spoken and non-spoken language consequently, they are potentially able to influence each other. (Thayer-Bacon & Brown, 1995). This description compliments Snell and Janney by signifying the interconnection of collaborative team teachers deviations founded on the mode they know the collaboration they have between them. In combine team work individual teachers working jointly in a team should know each individually words and actions, and be capable to understand them that can impact a change in them. This is the sense of teamwork that highlights the importance of shared values among teachers. (Thayer-Bacon & Brown, 1995).

On the base of earlier theoretical understandings of teamwork, Idol at el said teamwork as a procedure agreeing individuals having varied knowledge to produce clarifications to conjointly well-defined difficulties (Van Garderne et al., 2012). Whereas preceding descriptions relies on the connections and interactive abilities among teachers working together, Idol, Nevin & Paolucci-Whitcomb enlarge a level of responsibility to the collaboration by stating that groups collaborate to solve problems. Collaboration is a mutual work and effort between team teachers which is "a mutual effort to plan, implement, and assess the learning program for a given student" (p.5). This explanation deals with teachers that the collaborative work, in which they participate is planned to polish their arrangements, instruction, or evaluation performs to reach children.

As per these definitions, Team teaching occurs when teachers shared their work in combinable way to affect their teaching methods. Collaboration which happens in preparation, teaching and evaluating and children's learning occurs to resolve a known difficulty linked to a children's achievement. Teachers with this level of understanding are commonly capable to use it more appropriately.

Characteristics for Successful Collaboration

According to Thayer-Bacon & Brown (1995) there are numerous features for effective collaboration have been acknowledged, these characteristics contain teachers' capability toward: transfer information related children; keeping in-depth knowledge and understanding of curriculum; remain aware of their physical activity; and keeps interactive abilities. Furthermore, during the procedure the collaborative team should contain of manifold viewpoints; or be capable to work under recognized characters (Fisher et al., 2003; Friend & Cook, 2010; Jones, 2011; Ripley, 1997; Thayer-Bacon & Brown, 1995; Voltz et al., 1994). To assess and refine their abilities and skills in collaborative team teaching a plan of these characteristics is provided.

Share information related children.

Co-teachers working with children having particular disabilities should know disability characteristics but not only the special teacher. According to (Jones, 2011; Voltz et al., 1994) teachers who are working with special need children must have knowledge and understanding of these children characteristics. Knowledge and understanding about students's characteristics permits teachers that how they collaborate in a ways that they should monitor and deliver specific teaching to the children (Jones, 2011; Voltz et al., 1994).

Keep a deep knowledge and understanding of curriculum.

It is necessary for collaborative team teachers to have in-depth understanding about curriculum because school's curriculum is very important for team teachers because they work collaboratively and will share the same understanding of hopes set by the school district for effective learning of special need students. (Fisher et al., 2003; Ripley,

1997) when Teachers understand the detailed, breadth, and learning progresses of their institute's curriculum remain accomplished to bring into line teaching and learning process to meet needs of special need students (Pellegrino et al., 2014; Sharpe & Hawes, 2003).

Awareness related teaching methods.

Self-awareness related instructional practices and teaching also benefits the combined team teaching practice. Teachers become self-aware by increasing viewpoint related their instructional methods. In developing viewpoint, instructors need to cross-examine their beliefs and expectations related about their working. Teachers make improvements which will affects the student's learning after identifying beliefs about their teaching practices. (Friend, 2000; Jones 2011; Ripley 1997; Voltz & Elliott 1997; Voltz et al., 1994).

Possession of interpersonal skills.

Team teacher's interpersonal abilities are the most essential characteristics in effective collaboration. . Persons who shows a progressive approach, own proficient concern, are dedicated to their work, and self-assured about teaching would capable to deliver appreciated work to the co-teaching. According to authors the capability of each member in working combinable with teacher is reliant on the actions, attitudes and believes. (Friend, 2000). To smooth effectiveness of collaborative environment, a optimistic behavior, the specialized commitment and responsibility that each team teacher possess should have a positive impact on the obtainment of a shared goal (Edwards et al., 1996; Friend, 2000; Hernandez, 2013; Juarez-Dappe, 2011; Lorenz, 1999; Mattessich & Monsey, 1992; Schlessman-Frost & Saunders, 1993; Thayer-Bacon & Brown, 1995).

Multiple perceptions related team work

Numerous perceptions on a collaborative team are vital to teamwork. The capability that solves a difficulty as a team work is frequently rely on capabilities each group teacher takes with them to the procedure (Voltz, Elliott & Cobb 1994). Through capabilities, each teacher gain unique perspective they are able to use during collaborative team teaching to help resolve difficulties.

Working in a defined role.

Most important element is flexibility in each member of team while working with their coworkers. Lorenz (1999) discussed that requirement of team teaching is to remain extremely flexible in coaching given to learners who have problems. Flexibility of team teaching is compulsory element as just because of the characteristics which describe disability of learners. (Lorenz, 1999). Such flexibility is required because of the disability characteristics that are aggressive mood, underprivileged social skills, communication deficits and hyperactivity.

Inclusive Education

Inclusion techniques in special education have risen considerably in recent years.15-year period (Burnstein, 2004). Outcome of the Persons having Disabilities in the Workplace Act, More pupils than ever before are receiving special education as a effect of the Persons having Disabilities Education Act (IDEA) and the No Child Left Behind Act (NCLB). Regular education students receive education services in an inclusive context (Rea & Connell, 2005).

Special need children who are seated in inclusive education classes perform improved socially and academically as compared to students in non-inclusive institutes (McCarty, 2006). However, nothing is known about whether this achievement in the inclusive setting comes at the expense of the education of general education pupils. While there is a wealth of material on

special education kids' accomplishment in inclusion classes, there is less evidence on general education students' achievement in the inclusive classroom setting.

An essential aspect in consideration of the success in inclusive setting is the result of the team teaching on the academia's achievement of learners lacking disabilities. Hollowood et al., (1994) examined the influence of the settlement in an inclusive setting on the sum of teaching time and attention given to special need children by co teachers. The investigators likened results of allocated teaching time of six students without disabilities and with disabilities students in the same class on the other side and for without disabilities six students who were taught in non-inclusive setting. The outcomes shown, the settlement of learners having severe disabilities in inclusive setting doesn't have a major impact on the time of teaching enthusiastic to their students having no disabilities. In both classes Strategic educational activities were similar.

Significance of the Study

This study has the potential to extend the related researches by observing learning disabilities of students regarding academic and behavioral responses in academic achievement. This study will be helpful for curriculum developers in development of such curriculum which will fulfill the diversity of students in inclusive setting. This study will also be effective for teachers to recognize best practices of collaborative team teaching for effective learning. Finally, it will be beneficial for students to overcome their weakness in the specific subject.

Hypotheses

Null Hypothesis

H01: There would be no differences between the mean pretest academic achievement score of

students with learning ability and without learning disability in the experimental group and the mean pretest academic achievement score of students with learning ability and without learning disability in the control group.

Alternate Hypothesis

H1: There would be significant differences between the mean posttest academic achievement score of students with learning ability and without learning disability in the experimental group and the mean posttest academic achievement score of students with learning disability and without learning disability in the control group.

Research Objectives of the study

1. To compare the mean pretest academic achievement scores of students with learning disability in the experimental group and the mean pretest academic achievement scores of students without learning disability in the control group.
2. To compare the mean posttest academic achievement scores of students with learning disability in the experimental group and the mean posttest academic achievement scores of students without learning disability in the control group.

Methodology

Experimental research design is used in this research. The researcher applied an experiment to collect data about students with and without learning disabilities in inclusive setting. A strong co-teaching technique (one teach, one assist) to be used regarding the need for implementation in Pakistani schools at primary stage to increase learning of students. Pretest-posttest control group was the experimental design for the study.

Research Participants

General and special primary school Teachers taught through Collaborative Team Teaching to the Research participants in the Muslim Model School. Population of research participants has characteristics that represent the population studied. (Gall et al., 2015). Purposive sampling was the technique used to select participants from the population.

Data Collection

Self-developed test used to measure academic achievement of students with and without learning disabilities. English test containing 30 marks was fulfilling the objective of the study. Teacher distributed the test after giving full understanding about the subject test.

Population of this research was students of primary school of Lahore. In this research children of district Lahore were selected. 30 students with and without disabilities were selected for each group. In each group 13 students were with disabilities and 17 were without learning disabilities. Purposive sampling technique was used to collect data. Learning disabled students were identified through (LDES) 4th edition by Stephen B McCarney (2018). The LDES-4 is a standardized scale consisting of 88 items, which were divided it into further 7 sub-scales: Listening, Thinking, Speaking, Reading, writing, Spelling, Mathematical Calculations.

Data was run in a form of numerical report. This numerical report was made in October 2021 after implementation of collaborative team teaching through general and special teacher in inclusive setting classroom.

Data Analysis

This section firstly covers the detailed results of: Identification of students with learning disabilities with the standardized scale (LDES-2) in the experimental group and the control group which was finalized with the help of an expert of

Special Education center. Secondly, self-developed test.

H01: There would be no differences between the mean pretest academic achievement score of students with learning ability and without

learning disability in the experimental group and the mean pretest academic achievement score of students with learning ability and without learning disability in the control group.

Table 1

Significance of difference between the mean pretest Academic Achievement (English) score of students with learning disability in the experimental group and the mean pretest Academic Achievement score of Students with learning disability in the control group.

Variable	Experimental Group		Control Group		T	P
	M	SD	M	SD		
English Subject	7.54	2.93	9.69	4.71	1.18	.26

Note: M= Mean, SD= Standard deviation,

The above table shows mean pretest of academic achievement (English from experimental and control group) with learning disabilities school children. The results revealed that mean English

pretest academic achievement score of experimental (M1=7.54) and control group (M2=9.69) is not much different from each other but found more in the control group.

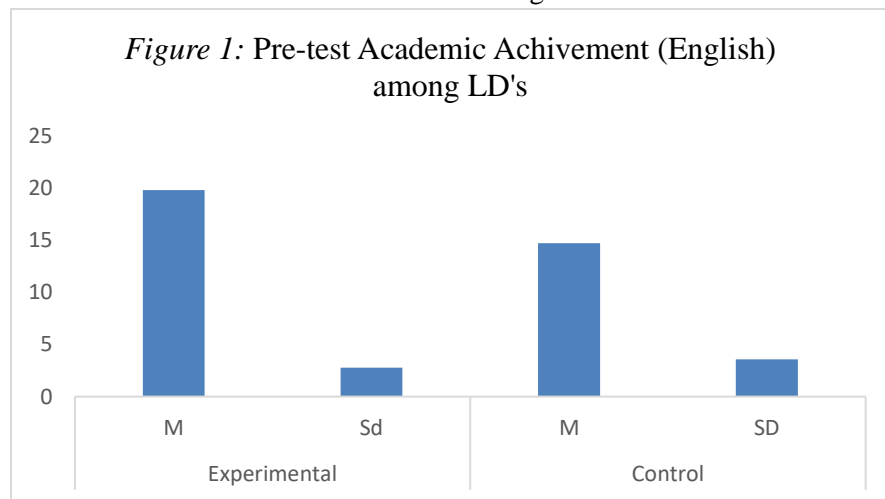


Table 2

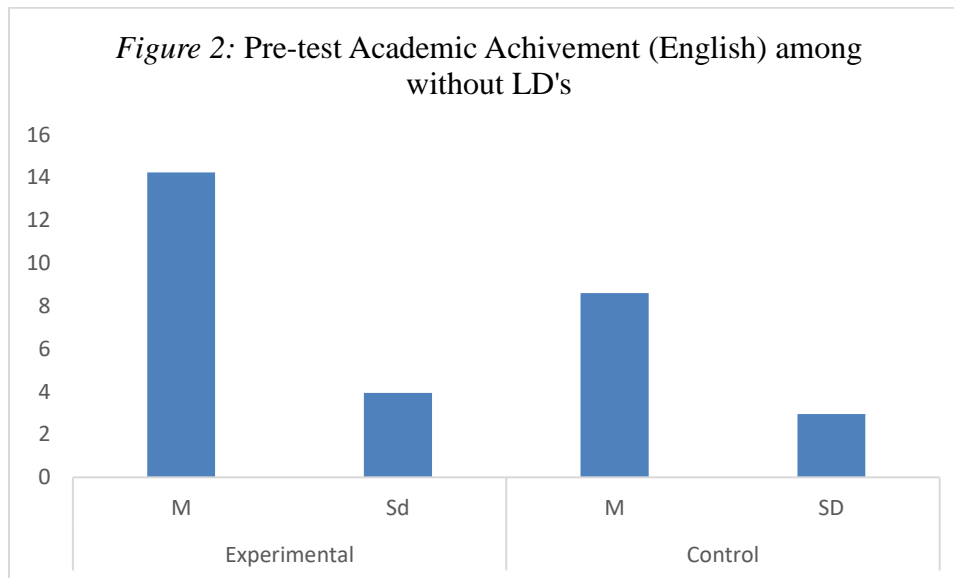
Significance of difference between the mean pretest Academic Achievement (English) score of students without learning disability in the experimental group and the mean pretest Academic Achievement score of Students without learning disability in the control group.

Variable	Experimental Group		Control Group		T	p
	M	SD	M	SD		
English Subject	13.65	4.03	15.23	4.32	1.18	.26

Note: M= Mean, SD= Standard deviation,

The above table shows mean pretest comparison of academic achievement English from experimental group (M1=13.65) and control group (M2=15.23) without learning disabilities among school children. The results revealed that

academic performance of the children in the English subject has not found much difference in the control group from experimental mean but found little bit more in the control group.



H1: There would be significant differences between the mean posttest academic achievement score of students with learning ability and without learning disability in the experimental group and the mean posttest academic achievement score of students with learning disability and without learning disability in the control group.

Table 3

Significance of difference between the mean posttest Academic Achievement (English) score of students with learning disability in the experimental group and the mean posttest Academic Achievement score of Students with learning disability in the control group.

Variable	Experimental Group		Control Group		T	P
	M	SD	M	SD		
English Subject	15.38	3.50	11.15	5.08	2.06	.05*

Note: M= Mean, SD= Standard deviation, *p<.05

The above table shows mean posttest comparison of academic achievement English from experimental group (M1=15.38) and control group (M2=11.15) with learning disabilities among school children. The results revealed that

academic performance of the children in the English subject has found more in the experimental group as compared to the control group.

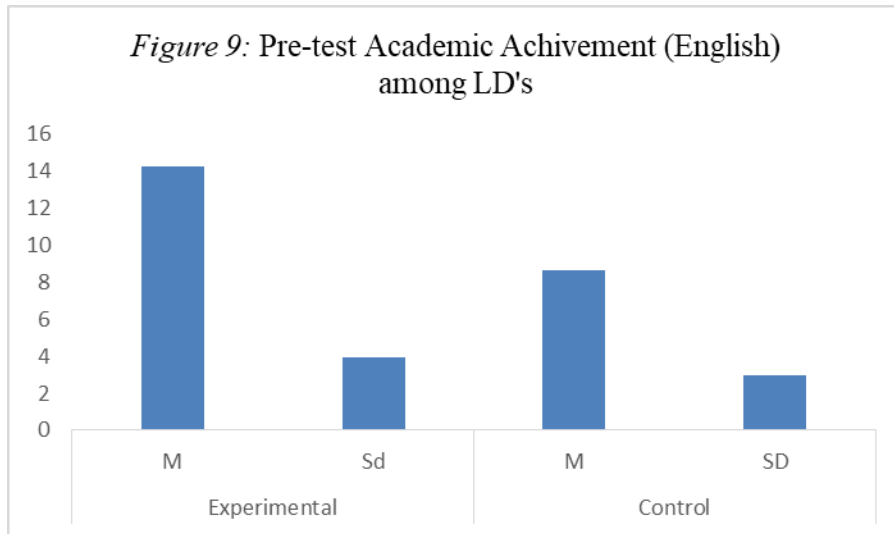


Table 4

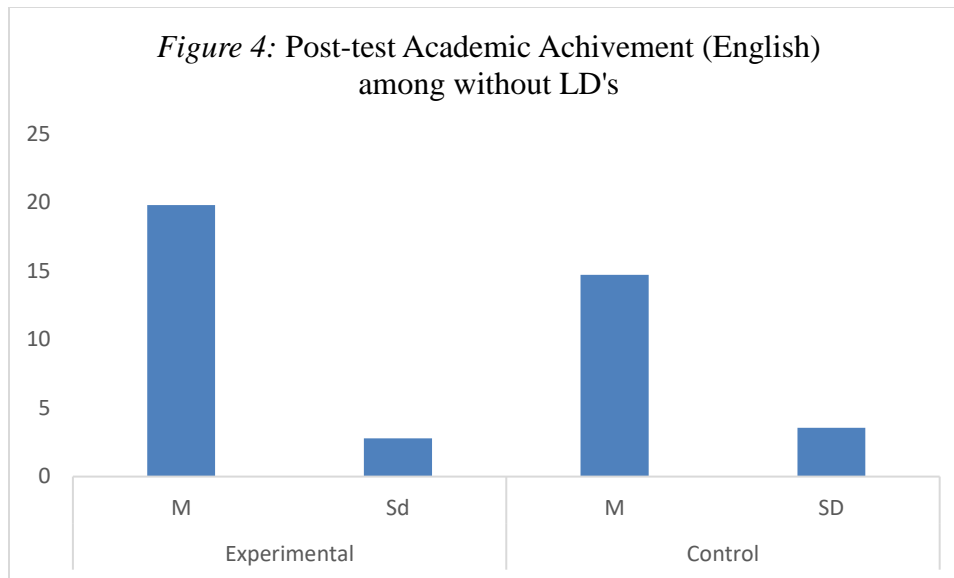
Significance of difference between the mean posttest Academic Achievement (English) score of students without learning disability in the experimental group and the mean posttest Academic Achievement score of Students without learning disability in the control group.

Variable	Experimental Group		Control Group		T	p
	M	SD	M	SD		
English Subject	19.52	3.61	16.52	3.43	2.61	.01**

Note: M= Mean, SD= Standard deviation, **p<.01

The above table shows mean posttest comparison of academic achievement English from experimental group (M1=19.52) and control group (M2=16.52) without learning disabilities among school children. The results revealed that

academic performance of the children in the English subject has found more in the experimental group as compared to the control group.



Findings

Pre-test Academic achievement scores (English) with learning disabilities

i) M. value (7.54) of experimental group compares English Pre-test score from control group M. value (9.69) of students with learning disabilities. The result shows that there is little difference found in academic achievement of English pre-test in both groups (learning disabled).

Research hypothesis is accepted.

Pre-test Academic achievement scores (English) without learning disabilities

M. value (13.65) of experimental group compares English Pre-test score from control group M. value (15.23) of students without learning disabilities. The result shows that there is not much difference found in academic achievement of English pre-test in both groups (without learning disabled). Research hypothesis is accepted.

Post-test Academic achievement scores (English) with learning disabilities

M. value (15.38) of experimental group compares English Posttest score from control group M. value (11.15) of students with learning disabilities. Findings indicated mean difference

in school children regarding academic achievement in academic achievement of English posttest in both groups. (With learning disabled). Research hypothesis is accepted.

Post-test Academic achievement scores (English) without learning disabilities

M. value (19.52) of experimental group compares English Posttest score from control group M. value (16.52) of students without learning disabilities. Findings indicated mean difference in school children regarding academic achievement of English posttest in both groups. (Without learning disabled). Research hypothesis is accepted.

Discussion

The present study aim was to examine the dissimilarities between traditional teaching method and collaborative team teaching method. This current research was conduct to check the differences among primary special education and general education teacher's collaborative practices and the occurrence of professional relationships, personal requisites and changing aspects of classroom. The first part of this chapter discusses the overview of the findings. Second, I will discuss the findings of each research question in the light of previous literature review.

Third I enlarge my discussion and talk over will about team teaching implications for practice. Finally, conclusions and limitations will be given at the end of this chapter.

Academic Achievement

Collaborative team teaching effect on academic performance of learners was shown by comparing the mean pretest scores of the experimental and control groups and means posttest scores of experimental and control groups after collaborative team teaching. Research depicted the use of the collaborative team teaching technique in experimental group whereas use of traditional teaching method in the control group by using pretest posttest separately comparison between groups. T-test was used to compare results of pretest and posttest results between both groups. The result exposed that students with and without learning disabilities got higher scores in academic results after getting team teaching from with and without learning disabilities learners of control group who were taught with the single teacher approach. The null hypothesis was therefore rejected. This shows that team teaching effort of co-teachers increases students' academic performance.

Pretest

The results revealed that pretest academic performance children having learning disabilities in the English subject has not found much difference in the control group from experimental mean but found more in the control group. Furthermore, in the Mathematic subject has not found much difference in the control group from experimental mean. While academic performance of the children without learning disabilities in the English subject has not found much difference in the control group from experimental mean but found little bit more in the control group and in Mathematic subject has not found much difference in the control group from experimental mean.

Posttest

Posttest results of students with learning disabilities shows great difference between experimental and control group for both English and math subject. The outcomes exposed that academic performance of the children having learning disabilities in the English subject has found more in the experimental group as compared to the control group whereas in the Math subject has found more in the experimental group as compared to the control group.

Children without learning disabilities in academic performance of English subject have found more in the experimental group as compared to the control group. However, academic performance in the Math subject has found more in the experimental group as compared to the control group. A study by Muza, S. H. (2021) shows academic achievement results using the team teaching technique to check the performance of students. The study used quasi-experimental research design. The results revealed that students in experimental group taught collaborative team teaching scored higher as compared to those children who taught through traditional teaching approach in control group.

As per findings of Jang (2006) study the team teaching affects in the field of mathematics. The research findings showed that Team teaching student's math scores were higher as compared to those students' learners who receive teaching through traditional method. Results showed significant difference in respect of student's achievement between two teaching methods.

Generally most experimental students favored collaborative team teaching method to typical traditional teaching method. The dissimilarity between team teachers' expectations of team teaching and its application was obvious. The differences in the teaching strategy also exposed team teachers to challenge and being compared with each other by students in class. Correspondingly, Gerst (2012) studies the effects

of co-teaching classes have on students' social and academic development. Majority of recent Team teaching studies have found positive results in academic achievement and social development of students with diverse needs. Students having difficulties perceive team teaching to be effective and beneficial in the learning process.

Conclusions

On the basis of results, it is concluded that students having learning disabilities required adequate teaching techniques to fulfill learning requirements. However, they are not enough competent in learning and succeeding in progress. Therefore, it is recommended that effective team teachers educational program must be include in collaborative team teaching. Effective curriculum for both with and without learning disabilities in the inclusive setting should be prepared. That will facilitate these special need students to enhance their learning abilities and master numerous learning skills such as knowledge, competence, growth, abilities etc.

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