Effectiveness of Online Multimedia Package of Learning Disability on the Performance of the Students at Primary Level

[1] **Vaibhav Gupt,** [2] **Dr. Vibha Kaushik**
[1] Research Scholar, Department of Education, Suresh Gyan Vihar University, Jaipur, India
[2] Assistant professor, Department of Education, Suresh Gyan Vihar University, Jaipur, India

Abstract

The purpose of this study was to find out the effectiveness of online multimedia package of learning disability on the performance of the students at primary level. The study has been designed on experimental research method with pre-post test. In the present study, 50 students of primary level (25 boys and 25 girls) have been selected through purposive sampling for the sample of the study. A self-developed online multimedia package of learning and performance test has been used for data collection. The collected data have been analyzed through mean, SD and t-test. The finding of the study revealed that there is found significant difference in the effectiveness of online multimedia package of learning disability on the performance of the students at primary level. After teaching with online multimedia package, the performance of students has been increased.

Keywords: Online Multimedia Package, Performance, Learning Disability.

Introduction

The state of schooling in India right now is ridiculous. Although we talk about education for all, the bulk of kids still have low academic standing. Their prevalence is startlingly high across all educational levels. Thus, education becomes the exclusive domain of a small number of gifted kids, while the underachievers who are

stigmatized as having a "learning disadvantage" become ossified. The youngster has no idea how complicated the world is when he first steps into it. His mind is empty, and as his interactions with the world grow, he progressively absorbs and accommodates ideas, becoming more and more adapted to his surroundings. He is able to learn certain things and finds it difficult to learn others during the interaction and adjustment phase. As a result, it appears that the youngster is having difficulty learning various skills that are necessary for his growth.

It is expected of children to excel academically, and parents become irate when they don't. Every class has at least 20% of students that receive low grades and are labeled as scholastically behind. Ten percent or so of early children experience learning disabilities. Exam results that show poor performance suggest that the kids have learning disabilities, yet they are nevertheless classified as underachievers. These kids' IQs might be above average or typical. The core issue with learning disabilities is the disparity between their high IQ and subpar academic achievement. The term "invisible handicap" was frequently used to describe the learning-disabled pupil. A kid with learning disabilities typically presents as normal in every way, with the exception of their limited ability to advance academically due to their learning disabilities. Learning Disabilities (LD) affect a particular population of young people with disabilities. According to the Education for All

Handicapped Children Act, a learning disability (LD) is defined as a disorder in one or more basic psychological processes involved in speaking, writing, or listening. An imperfect ability to think, listen, read, write, spell, or perform mathematical calculations can be one of the manifestations of an SLD. The phrase encompasses ailments such developing aphasia, dyslexia, brain damage, and perceptual impairments.

Any child's or adolescent's life revolves around schools and early childhood education programs. People who have learning disabilities face difficulties with learning, self-care, adaptive behavior, functional academics, and life skills. To guarantee that the young person has worthwhile learning opportunities and is completely integrated into the operations of the school or early childhood education program, careful planning and assistance are essential. With competent instruction and a suitably controlled setting, children and young people with learning disabilities can acquire social and communication skills as well as how to manage their stress and behavior. With the use of technology, people with learning disabilities can be enabled to live independently by removing obstacles to their inclusion and independence. Technology is able to make up for a person's functional shortcomings. The gadgets have to be made available for usage all day long and in all contexts, such as the workplace, school, home, and leisure. The types of technology that are accessible, how they are utilized, and the ways in which they are taught to operate the gadget must all be consistent. Building on and using previously acquired abilities can help ensure seamless transitions across devices.

Technology solutions must to be adaptable and tailored to each individual with a learning disability, taking into account their distinct talents. The use of assistive technology, especially the communication gadgets designed to promote early language development, is growing among babies and young children. In special education, individualized learning software is also frequently utilized to teach kids practical skills. To gather and obtain the materials, a wealth of educational resources, including worksheets, songs, rhymes, films, and instructional software classes, are available online.

Additionally, the standard educational resources that are accessible online are enhanced by special education. For pupils with disabilities, the only extra requirement is that they must receive instruction with modifications. Students and people with learning disabilities have more options when it comes to instructional software or CDs that are specifically made for them. Videos, CDs, DVDs, and educational software all have their own limits. As a result, multimedia technology not only offers students more options, but it also makes all audiovisual learning modalities widely accessible in one location.

Review of Related Literature

- Van, De (2023) studied on Effects of multimedia on psychometric characteristics of cognitive tests: A comparison between technology-based and paper-based modalities. The study aims to investigate the effects of delivery modalities on psychometric characteristics and student performance on cognitive tests. A first study assessed the inductive reasoning ability of 715 students under the supervision of teachers. A second study examined 731 students' performance on the application of the control-of-variables strategy in basic physics but without teacher supervision due to the COVID-19 pandemic. Research measurement showed that the online format fitted to the data better in the one-dimensional model across two conditions. Under teacher supervision, paper-based testing was better than online testing in terms of reliability and total scores, but contradictory findings were found in turn without teacher supervision. Although measurement invariance was confirmed between two versions at item level, the differential bundle functioning analysis supported the online groups on the item bundles constructed of figure-related materials. Response time was also discussed as an advantage of technology-based assessment for test development.

- Antonis, Theofilidis (2022) studied on Learning Difficulties and Reading Comprehension in the First Grades of Primary School. This paper is a study on the concept of learning disabilities and reading comprehension. Specifically, it studies the learning difficulties and the reading ability in terms of the school performance of the students of the first grades of primary school. Conclusions: Learning difficulties can also cause emotional problems in children as they feel that they are lagging behind compared to the rest of the class. Our goal is to include children with learning disabilities in the classroom by adapting the lesson to the children and not the children in it. Our main concern should be the valid and timely diagnosis of difficulties and effective intervention to address them.

Correspondence to: Vibha Kaushik, School of Education, Engineering, Suresh Gyan Vihar University, Jaipur
Corresponding author. E-mail addresses: vibha.kaushik@mygyanvihar.com

- Khasawneh, Saleem (2021) studied on The effectiveness of using multimedia in the developing the concepts of the English language grammar concepts for people with learning difficulties. This study aimed at knowing the effect of the method of using multimedia in the development of the concepts of English language grammar for people with learning difficulties in the province of Irbid, and the study seeks to give answers to the following research question: -What is the effect of using the multimedia method in developing the concepts of the English language for people with learning difficulties in the province of Irbid? The study sample consisted of (100) male and female fourth-grade students with learning difficulties at the schools that follow Irbid's second educational directorate. The results of this study illustrated the superiority of the student group that studied using computer multimedia as cognitive tools accompanied by discussion in understanding English language grammars over the other groups. In the light of these results, the study recommends the importance of discussion accompaniment to the use of computer multimedia as cognitive tools in teaching for effective participation of the student in this process.
- Munir (2018) studied on The Effectiveness of Multimedia in Education for Special Education (MESE) to Improve Reading Ability and Memorizing for Children with Intellectual Disability. This research aimed to find out MESE effectiveness in learning related to reading skills and memorizing. MESE was very attractive and had interactive ability that provided opportunity to learners for independent study. The method used was SSR (Single Subject Research). The results showed that learning by using MESE application enhanced reading skill and memorizing. The analysis of the student's worksheet of reading ability and memorizing showed positive result though several sessions showed a decline and or a stable.

Rationale of the Study

Under the aegis of information and communication technology, education around the globe is undergoing significant paradigm transformations in teaching and learning techniques. It is possible that learning via projects and problems, inquiry and design, discovery and invention, creativity and variety, action and reflection, is more appropriate for the modern day than learning by facts, drill and routines, rules and procedures, which was more adaptable in the past. This sheds light on how technology may be used to provide people with intellectual disabilities with thorough understanding of basic science ideas via multimedia. There haven't been many studies done in this field, particularly when it comes to kids with learning disabilities. As a result, the researcher thought that it was necessary to do research on creating a multimedia teaching technique that would support and enhance the learning abilities of kids with learning disabilities. The public and experts alike will find the study's conclusions to be eye-opening, and they will be urged to introduce these kids to the digital world. The ultimate goal of special education is social inclusion, which will be made possible as a result.

Teaching and learning for students with learning disabilities is a special process that presents challenges for the teachers, and they must each adopt a different strategy. According to recent studies, children with learning disabilities can benefit greatly from the use of online multimedia learning packages. This helps to give kids with special needs a supportive teaching and learning environment that will prepare them for learning on their own. Learning disabled children struggle greatly to understand subjects like Maths, Science and English. However, using the Online Multimedia Package of Learning improves understanding of tasks and abstract concepts.

The investigator was unable to locate any particular studies focused on children with intellectual disability. Theoretically, it is clear that applying the Online Multimedia Package of Learning will benefit the children with intellectual disabilities. It is evident from a review of the literature that there is a pressing need for this kind of study because of the experiences researchers has had teaching and learning children with intellectual impairments. It has also been noted by special educators and teacher candidates that children with learning disabilities require an efficient online multimedia learning package to cover all subject matter. Hence the researcher proposes to make a scientific study on the efficiency of Online Multimedia Package of Learning on learning science concept in children with moderate Learning Disability at primary level. The problem will be worded as; Effectiveness of Online Multimedia Package of Learning Disability on the Performance of the Students at Primary Level."

Correspondence to: Vibha Kaushik, School of Education, Engineering, Suresh Gyan Vihar University, Jaipur
Corresponding author. E-mail addresses: vibha.kaushik@mygyanvihar.com

Objective of the Study

To find out the effectiveness of online multimedia package of learning disability on the performance of the students at primary level.

Hypothesis of the Study

There will be no significant difference in the effectiveness of online multimedia package of learning disability on the performance of the students at primary level.

Analysis and Interpretation of Data

Hypothesis 1 - There will be no significant difference in the effectiveness of online multimedia package of learning

Methodology of the Study

The study has been designed on experimental research method with pre-post test. In the present study, 50 students of primary level (25 boys and 25 girls) have been selected through purposive sampling for the sample of the study. A self-developed online multimedia package of learning and performance test has been used for data collection. The collected data have been analyzed through mean, SD and t-test.

disability on the performance of the students at primary level.

Table 1: Significant difference in the effectiveness of online multimedia package of learning disability on the performance of the dysgraphia students

Students	Test	N	Mean	SD	t-value	Result
Dysgraphia students	Pre-test	16	44.37	14.23	2.17	Rejected
	Post-Test	16	55.39	15.42		

Interpretation

From the above table, it is apparent that the mean scores of pre and post-test of dysgraphia students is 44.37 and 55.39 and standard deviation is 14.23 and 15.42 respectively. With the help of mean and SD the t-value found to be 2.17.

The calculated value of `t' i.e. 2.17 is greater than the tabular value of at the 0.05 level of significance on 30 df. So the calculated value of `t' is significant. Hence, it is concluded that online multimedia package of learning disability affects the the performance of the dysgraphia students at primary level.

Graph 1:Mean & SD of the effectiveness of online multimedia package of learning disability on the performance of the dysgraphia students

Correspondence to: Vibha Kaushik, School of Education, Engineering, Suresh Gyan Vihar University, Jaipur
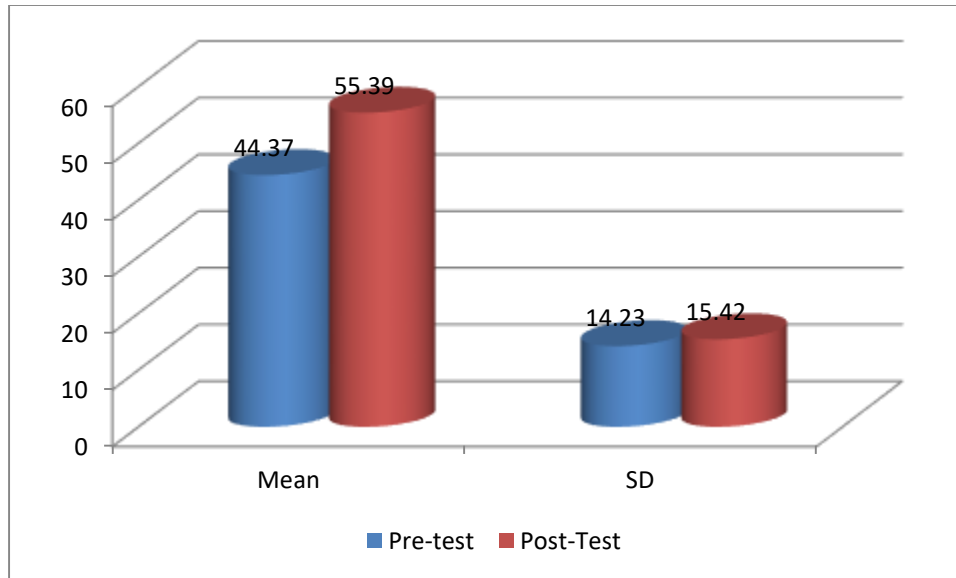*Corresponding author. E-mail addresses: vibha.kaushik@mygyanvihar.com*

Table 2: Significant difference in the effectiveness of online multimedia package of learning disability on the performance of the dyslexia students

Group	Test	N	Mean	SD	t-value	Result
Dyslexia students	Pre-test	17	42.86	14.57	3.62	Rejected
	Post-Test	17	61.67	15.69		

Interpretation

From the above table, it is apparent that the mean scores of pre and post-test of dyslexia students is 42.86 and 61.67 and standard deviation is 14.57 and 15.69 respectively. With the help of mean and SD the t-value found to be 3.62. The calculated value of `t' i.e. 3.62 is greater than the tabular value of at the 0.05 level of significance on 30 df. So the calculated value of `t' is significant. Hence, it is concluded that online multimedia package of learning disability affects the the performance of the dyslexia students at primary level.

Graph 2: Mean & SD of the effectiveness of online multimedia package of learning disability on the performance of the dyslexia students

Correspondence to: Vibha Kaushik, School of Education, Engineering, Suresh Gyan Vihar University, Jaipur
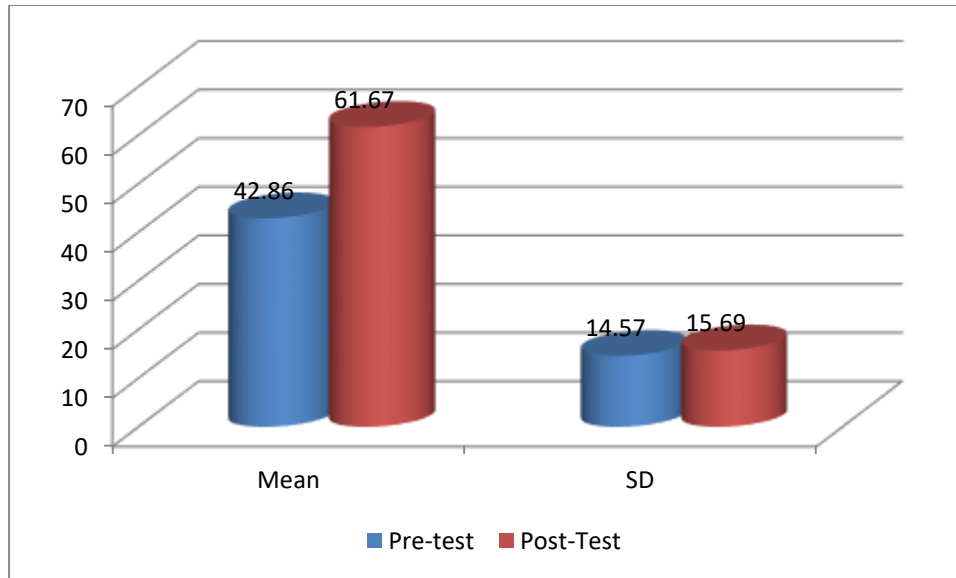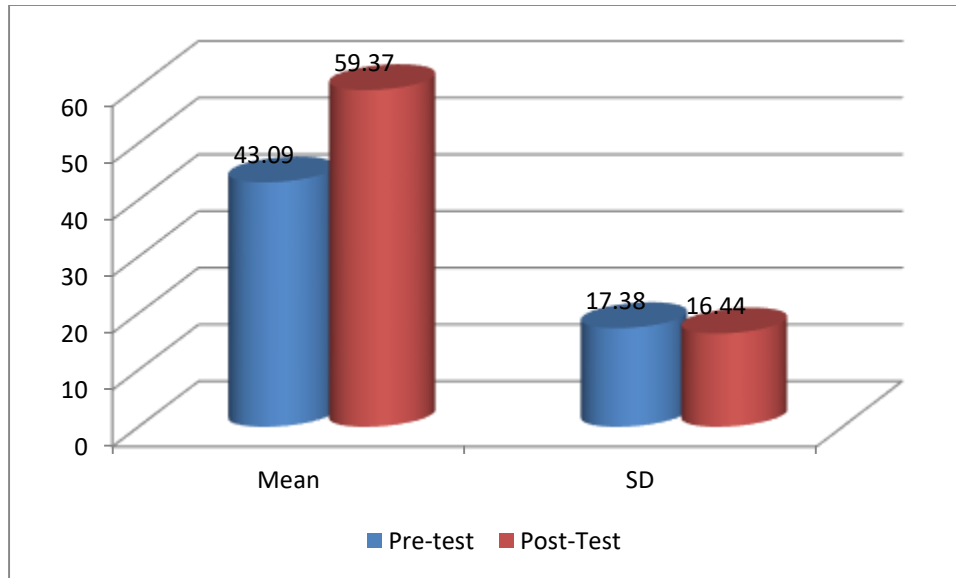*Corresponding author. E-mail addresses: vibha.kaushik@mygyanvihar.com*

Table 3: Significant difference in the effectiveness of online multimedia package of learning disability on the performance of the dyscalculia students

Group	Test	N	Mean	SD	t-value	Result
Dyscalculia students	Pre-test	17	43.09	17.38	2.81	Rejected
	Post-Test	17	59.37	16.44		

Interpretation

From the above table, it is apparent that the mean scores of pre and post-test of dyscalculia students is 43.09 and 59.37 and standard deviation is 17.38 and 16.44 respectively. With the help of mean and SD the t-value found to be 2.81. The calculated value of `t' i.e. 2.81 is greater than the tabular value of at the 0.05 level of significance on 30 df. So the calculated value of `t' is significant. Hence, it is concluded that online multimedia package of learning disability affects the the performance of the dyscalculia students at primary level.

Graph 3: Mean & SD of the effectiveness of online multimedia package of learning disability on the performance of the dyscalculia students

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Figure: Bar chart showing Mean and SD for Pre-test and Post-Test. Mean Pre-test = 43.09, Mean Post-Test = 59.37; SD Pre-test = 17.38, SD Post-Test = 16.44.

Research Findings

In the result the researcher found that the pre and post mean scores of the performance of the students differed significantly. Therefore, the null hypothesis stated that "There will be no significant difference in the effectiveness of online multimedia package of learning disability on the performance of the students at primary level" is rejected.

Conclusion & Suggestions

Students can depict and communicate their past knowledge using multimedia. Students are engaged, and it offers worthwhile educational possibilities. Students can organize their own knowledge by accessing and interpreting information using multimedia tools. Representing their knowledge to others is beneficial to them. Multimedia stimulates in-depth, thoughtful thought. Multimedia applications are available for teachers to use in various learning settings. It may be utilized as a small group learning station where multimedia takes on the role of the tutee, or as an individual learning station or tutor. It is also possible to link certain teaching activities or sections of a lesson to the multimedia use in each of the three learning environments. When creating multimedia classes, teachers may make the integration process easier by planning out where they will utilize the technology.

Applying good instructional principles to program selection can help maximize the teaching potential of multimedia at all instructional levels. Educators can utilize instructional films, plain text in larger fonts, graphs, charts, and illustrations. In addition to activity-based study techniques like roleplaying or model construction, they can do practical experiments. Rather than only using them as a curriculum supplement, teachers must include them into their lessons as a tool. With the use of multimedia, educators and students may enhance learning experiences and activities by having access to a variety of material. It gives the student the opportunity to engage with a variety of media, which boosts motivation, keeps attention focused, stimulates thought processes, and illustrates material or facts. Because of this, educators and students with learning disabilities now have even more power to alter how schools are run and how children are taught and learn. Multimedia use in education has been growing faster in the last several years, and it appears that this trend will continue.

Correspondence to: Vibha Kaushik, School of Education, Engineering, Suresh Gyan Vihar University, Jaipur
Corresponding author. E-mail addresses: vibha.kaushik@mygyanvihar.com

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Correspondence to: Vibha Kaushik, School of Education, Engineering, Suresh Gyan Vihar University, Jaipur
Corresponding author. E-mail addresses: vibha.kaushik@mygyanvihar.com