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Effectiveness of Photoshop Training in Improving Spellings of Dyslexic Students

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Abstract:

Spelling errors is one of the most common characteristics of dyslexics. The present study proposes the use of Photoshop the graphic designing software for catering to this challenge. 56 dyslexic students from a local special school participated in this study. This research made use of the two equivalent post test experimental design. 28 students comprising of the control group were trained through the traditional method. Photoshop training was given to the experimental group [n=28]. Both the groups were also matched in terms of age and IQ. After a training period of four weeks, administration of a written spelling test was given to both the groups. The effectiveness of Photoshop training for spelling improvement was checked statistically through t-test. On the basis of statistical analysis of the data it can be stated that Photoshop training is useful for bringing about improvement in spellings among dyslexic students.

Keywords : *Spelling errors, Dyslexic students, Photoshop*

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I. INTRODUCTION

Dyslexia is one of the most common learning disability that is known to the world. It is characterized by difficulties in language skills such as reading, writing and spellings [1]. Though these students face difficulty in their language comprehension it is a well known fact that being dyslexic does not hint towards a low IQ level [2]. Recent researches have also suggested that dyslexics have a good memory of pictures [3]. Taking these aspects into consideration the present study tried using the graphic designing software: Photoshop for bringing about improvement in the spellings of the dyslexic students. Today's generation has a natural liking towards technology and its tools. Taking selfies, uploading it to various social networking sites, getting motivated by the number of likes obtained on their respective uploads makes them enthusiastic and inspired. The idea of using Photoshop as a prospective tool for this study was derived from the above mentioned likings of today's generation. The objective of this study was to check the effectiveness of Photoshop in improving the spelling abilities of the dyslexic students. Photoshop is a software that helps the user to enhance and beautify the images. It also allows the user to blend the pictures in a variety of ways. In this study the pictures that were used comprised of a list of spellings that were available on the internet in the form of colourful images. The students were simply asked to concentrate on the blending and enhancing effects of Photoshop. This training was hence a fun activity as there was no cognitive load on the students to remember and recollect the spellings. However, since the students were using their training to blend and enhance pictures of spellings it was also expected that the pictorial representation of these spellings would slowly get transferred to their long term memory. This would thus help the students to remember the spellings if required. Herein lays the importance of this research.

II. PROCEDURES

56 dyslexic students from a local special school participated in this study. The IQ of all the students was measured by using Bhatia's Battery of Performance Test of Intelligence. The students were found to have an average intelligence. All the participants of this study were in the age group of 12-13 years. Before implementing the actual program all the participants were given a spelling test comprising of 40 words. The two groups were thus matched and this also ensured that the results obtained would be solely due to the implementation of the researcher's program. A control group [n=28] and an experimental group [n=28] was then constituted. The two groups were given training for a period of 4 weeks. A set of 50 difficult English words were then selected. The control group was taught the 50 spellings using the drill method. The control group was asked to recollect and write the spellings after the drill sessions. The experimental group was trained in basic Photoshop skills. The same set of 50 difficult English words was presented to them in the form of colourful images. They were asked to concentrate on the image blending and enhancing aspects. After the end of 4 weeks both the groups were given a spelling test together at the same time. The test comprised of the same 50 words that were used by the researcher in the study.

III. RESULTS

The following table shows the mean scores of the control and experimental groups.

IV. TABLE I

Details	Post test mean scores	
	Control group [n=28]	Experimental [n=28]
Mean	19.44	23.03
Standard Deviation	7.32	7.91

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It can be clearly seen that the mean scores of the experimental group is more as compared to the control group. In order to determine the statistical significance difference between two means "t test" was used to analyse the data of the study.

Summary of the t-test is as follows

V. TABLE II

Post test	Coefficient of correlation	df	t- value
Control group [n=28]	0.74	27	3.84
Experimental group [n=28]		27	

The t value in the C table for df 27 is 2.77 at 0.01 level of significance for two tailed test. The obtained value 3.84 was greater than table value of 2.77, which was significant. Hence, it was concluded that Photoshop training is useful for bringing about improvement in spellings among dyslexic students.

VI. DISCUSSION

The findings of this research indicate that Photoshop training program is more effective than traditional training in improving the spellings of dyslexic students. There was no pressure on the experimental group to remember spellings and this helped them to focus on the activity in a better way. The blending and image enhancing activities of Photoshop required them to view the minute details of the images carefully. The images constituted of spellings and this constant exposure of the spellings helped in generating a memory in the minds of the students. Since, this activity was prolonged for a period of 4 weeks it is believed that these spellings were encoded in the long term memory of these students. After the training was complete both the groups were given the test on the same spellings. It is believed that the students of the experimental group performed better in this test as they could successfully retrieve the images of the spellings from their long term memory when demanded. The control group were exposed to the same spellings and were asked to remember them through drilling. However, there was a certain pressure on the students as they had to remember and learn those words. Dyslexic students face difficulty in remembering spellings especially related to mirror images. Though the same spellings were given to the experimental group the mirror images had a certain colour coding. Hence during the retrieval process most likely the students of the experimental group could recollect the difference in the colours of the alphabets that they had viewed as images.

VII. CONCLUSIONS

This program was implemented for a period of 4 weeks. This is a short duration of time to come to a definite conclusion. However, irrespective of the time given to this research the results obtained are positive. Thus, it is important to extend this research in terms of both time and space for coming to a definite conclusion. Parents and teachers should also understand the dimensions of this research and try to use similar ways for improving the spellings of dyslexic students. This research is one of its kinds as till date no research has been done for improving spellings of dyslexic students using Photoshop training. Thus, in conclusion it can be stated that it is high time that we start testing some unexplored potential resources and tools as it might actually provide us with a specific solution related to the challenges of special education.

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