DEVELOPMENT AND VALIDATION OF WEB INTEGRATED INSTRUCTIONAL PACKAGE FOR LEARNING DISABLED ELEMENTARY STUDENTS IN ENGLISH LANGUAGE

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ABSTRACT

The present study was conducted to develop and validate the web integrated instructional package for learning disabled elementary students in English language. For this purpose a sample of 100 learning disabled elementary students (dyslexic students) were selected from various schools randomly. Diagnostic test for learning disabled (GLAD) developed by Jayanthi Narayan was used to identify dyslexic students. Further an English grammar achievement test, an opinionnaire for teachers (subject experts) and web package of English grammar was developed by the investigator herself. Mean, S.D & 't'- test were used as statistical techniques for analysis and interpretation of data. It was found that teaching through web integrated instructional package significantly improved the score of experimental group of learning disabled elementary school students of 3rd grade in their academic achievement of English grammar.

INTRODUCTION

The 93rd amendment of our constitution has made education a fundamental human right for all children in the age group of 6 to 14 years, thereby making it mandatory for all children including those with disabilities to be brought under the fold of education. This right is enshrined in the convention on the rights of the child (1989) and the convention on the rights of persons with disabilities (2008).

However, 'Education for all' still remains a distant dream and for disabled it is even more distant in India. In India around 13-14% of all school children suffer from learning disorders. Unfortunately, most educational institutes fail to recognise them or lend a sympathetic ear to their problems which results in labelling such children as failures or duffers. A recent survey of the national centre for promotion of employment for disabled people, revealed that only 0.15% of the student population at school level, 0.52% at the college level and merely 0.1% at university consisted of disabled students, which is negligible as far as 3% reservation by the law is concerned. Only 1.2% of the disabled in India has had any form of education.

Web technologies are rapidly changing and evolving the new processes of teaching and learning by adding elements of vitality to learning environments including virtual environments for the purpose. New technologies make it possible for complicated collaborative activities of teaching and learning by dividing it in space and time, with seamless connectivity between them. Due to its capability to offer anytime and anywhere, access to remote learning resources, web is a potentially powerful tool for offering educational opportunities , both to previously undeserved constituencies including persons with disabilities, as well as all others who for some or the other reasons like cost or time constraints are unable to find a place for themselves in regular classroom learning.

Presently, web technologies are being used as tools for improving the standards of life by improving efficiency and providing enhanced effectiveness. Various kinds of tools developed with the help of web technology assist people with disabilities by providing them with learning opportunities. Web technology makes them capable by providing the ability to access knowledge with the help of suitable digital media. This technology also plays an important role in communicating with peers, thereby promoting collaborative and social learning environment. Also, it helps disabled students in reading, writing, listening and viewing process. New technologies are proving very effective in

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delivering learning assistance to the disabled.
Present study focuses at the needs of the students with learning disabilities who struggle with literacy and explores the types of technology that can help them work around their problems and help them experience success in the classroom and beyond.

RATIONALE OF THE STUDY

In the absence of sufficient data in India about learning disabled children, there is growing concern over how to meet the needs of the learning disabled students. Mainstreaming which is the regular class placement of individuals with mild learning disabilities is necessary in the Indian conditions, while the severe cases are to be referred to the special schools. Mere physical placement in a regular classroom is not enough to ensure academic achievement. If the intervention for the learning disabled students is to succeed, careful planning in all aspects of education especially in preparing instructional strategies/multimedia teaching packages is essential.

The models/products/teaching packages already available are not feasible in our classroom, because of limited facilities. In all schools we come across a considerable number of children with either mild or moderate learning disabilities at all stages of education-pre-primary to higher education. It is in this context that there is an urgent need to study an alternative to improve the academic achievement of children with learning disabilities. A new programme, which can be easily implemented, is the need of the time. The investigator presumes that using some instructional / teaching package based on improved integration of web technology, teachers can enhance the academic achievements of students with learning disabilities.

In last two decades, web technology has shown a potential growth, touching almost every sphere of human life and education is no exception. With a well knitted combination of hardware and software, web technologies are able to provide enhanced learning facility with attention to specific needs of the learners. Anticipating the potential growth in this field, yet there is hardly any software in the current market that deals with language teaching with rich multimedia content which is suitable in Indian context. The investigator aims to develop a web technology based teaching package in English language to enable students to learn the subject at their own pace anywhere, anytime.

OBJECTIVES OF THE STUDY

1 To develop an instructional package for English language with improved integration of web technologies for learning disabled.
2 To test the validity of the web integrated instructional package developed by the investigator.
3 To develop an Achievement test in English language grammar.
4 To develop an opinionnaire to seek the opinion of teachers about the effectiveness of web integrated instructional package as a teaching learning strategy for learning disabled elementary students.
5 To compare the mean achievement test scores of two groups of learning disabled students taught English with and without web integrated instructional package before experimental treatment.
6 To compare the mean achievement test scores of two groups of learning disabled students taught English with and without web integrated instructional package after the experimental treatment.
7 To compare the mean achievement test scores of learning disabled students of experimental group taught English with web integrated instructional package, before and after the experimental treatment.
8 To compare the mean achievement test scores of learning disabled students of control group taught English without web integrated instructional package, before and after the experimental treatment.
9 To compare the mean gain achievement scores of two groups of learning disabled students taught English with and without web integrated instructional package after the experimental treatment.

HYPOTHESES

1 There exists no significant difference between the mean achievement test scores of two groups of learning disabled students

taught English with and without the web integrated instructional package before experimental treatment.

2 There exists no significant difference between the mean achievement test scores of two groups of learning disabled students taught English with and without the web integrated instructional package after experimental treatment.

3 There exists no significant difference between the mean achievement test scores of learning disabled students of experimental group taught English with web integrated instructional package, before and after the experimental treatment.

4 There exists no significant difference between the mean achievement test scores of learning disabled students of control group taught English without web integrated instructional package, before and after the experimental treatment.

5 There exists no significant difference between the mean gain achievement test scores of two groups of learning disabled students taught English with and without web integrated instructional package after the experimental treatment.

DESIGN OF THE STUDY

In the present study, a pre-test, post-test control group quasi experimental design was employed with a random sampling for selecting 9 schools of Delhi and purposive sampling for two groups of learning disabled (dyslexics) elementary school students . Two groups of students involved in the present study were designated as the experimental group and the control group. The experimental group of learning disabled students was taught through web integrated instructional package for English grammar and the control group of learning disabled students was taught through conventional teaching method.

Design of the present study comprised of mainly three stages. The first stage constituted pre-testing of all the learning disabled students of both the groups i.e. the experimental and the control group on achievement test for English grammar. The second stage consisted the experimental treatment, which involved the teaching of all the 9 chapters of English grammar through web integrated instructional package to the experimental group and through conventional method to the control group. During the third and the final stage of the study, the students were post-tested on the achievement test in English grammar.

STUDY VARIABLES

For the present investigation three types of variables have been identified and are listed below:-

Independent Variables

I. Web integrated instructional package for English grammar.

II. Conventional method of teaching.

As the effectiveness of web integrated instructional package for English grammar was to be studied, the web package was used as independent variable. Web package developed by the investigator was used to see its impact on the achievement of leaning disabled elementary students in English grammar. The students of experimental group were taught through web integrated instructional package while the students of control group were taught through conventional method of teaching. Therefore, the web package for English grammar and the conventional method of teaching were the two independent variables recognised for the present study.

DEPENDENT VARIABLES

Achievement of learning disabled elementary students in English grammar was taken as dependent variable. This dependent variable was measured twice during the course of the study, first it was measured before the experimental treatment and secondly it was measured after the experimental treatment.

INTERVENING VARIABLES

Such variables which affects the learning outcomes of the students and influences both independent as well as the dependent variables are called intervening variables. For the present study intervening variables such as socio-demographic status, learning disability, class, type of schools, contents to be taught intelligence of students, time and duration of the teaching period, teacher etc were successfully controlled experimentally.

CONTROL EMPLOYED

Above mentioned intervening variables can affect the results of the study significantly. Thus, they were controlled by the researcher employing suitable control techniques mentioned below :

I. Types of subjects There are many types of learned disabled students, for the present study the researcher chose to conduct her study only on dyslexics and thus managed to get them diagnosed with the help of diagnostic test (GLAD) and then include only dyslexic students.

II. Type of school and its infrastructure The sample for the study was selected from similar kinds of school, their location, infrastructure, size, management etc.

III. Grade level Elementary school students of 3rd grade were selected for the study and the standard was kept constant throughout the study.

IV. Time and duration of the period Both the group of students were taught for the same number and duration of periods. Both the groups were taught for 32 periods each and the duration of each period was 50 minutes.

V. Teacher Both the groups of students i.e. the experimental as well as the control group were taught by the investigator herself to avoid any kind of variation other than the teaching method.

VI. Content Both the groups of students were taught the same content matter i.e. the 9 topics of English grammar.

VII. Socio demographic status Both the groups of students belonged to similar socio demographic status. This was assessed through Format II of Grade Level Assessment Schedule (Glad) developed by Jayanthi Narayan.

TOOLS USED FOR THE STUDY

1 English Language Achievement Test. (developed by the investigator)

2 Opinionnaire for English language teachers. (developed by the investigator)

3 Instructional Package for English Language using improved integration of web technologies (developed by the investigator).

4 Diagnostic test for learning disabled students (GLAD).
It also includes Socio-Demographic data sheet (Format II).
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POPULATION AND SAMPLE

For the present study all the learning disabled elementary school students of Delhi constitute the population.

Though the primary aim of the research is to discover principles that have universal application, but to study the whole population in order to arrive at the generalizations would be impractical, if not exactly impossible. To overcome this problem a sample is drawn from the population to conduct a study..

For the present study random sampling technique was used for selecting 9 elementary schools of Delhi out of which 2 of them had 2 branches each and then purposive sampling was employed to draw the sample comprising 100 learning disabled (dyslexics) elementary students from those elementary schools of Delhi. All the students selected for sample belonged to 3rd grade level intelligence as confirmed through the application of grade level assessment device developed by Jayanthi Narayan. Two groups were formed from this sample i.e. experimental group and control group, each consisting of 50 students.

PROCEDURE FOLLOWED

Present experimental research was conducted in the following three phases:

Phase I : Administration of pre-test (pre-testing phase)

Phase II : Teaching with and without web package (treatment phase)

Phase III : Administration of post-test (post-testing phase)

STATISTICAL TECHNIQUES EMPLOYED

Aiming to achieve the objectives of the present research study, investigator statistically analysed the data collected using following techniques:

a) Descriptive statistics such as mean and standard deviations (SD) were worked out on the scores of achievement in English grammar.

b) 't' test was employed to test the significance of difference between the means of learning disabled students achievement in English grammar on pre-test, post-test and mean gain scores.

FINDINGS OF THE STUDY

I. No significant difference was found in the pre-test mean achievement scores of learning disabled elementary school students of experimental group and control group. Thus, we can say that both the groups were found to be very much similar in respect to their achievement scores.
II. It was found that those learning disabled elementary school students who were exposed to the web integrated instructional package achieved much higher scores on achievement test in comparison to those who were exposed to the conventional method of teaching.
III. Significant difference was found in the pre-test & post-test mean achievement scores of learning disabled elementary school students of experimental group taught through web integrated instructional package.
IV. Significant difference was also found in the pre-test & post-test mean achievement scores of learning disabled elementary school students of control group taught through conventional method.
V. It was found that experimental group of learning disabled elementary school students who were taught through web integrated instructional package achieved significantly higher mean gain score on achievement test as compared to the control group learning disabled elementary school students taught through conventional method.

Therefore, it can be concluded from the above stated findings of the study that teaching through web integrated instructional package significantly improved the score of experimental group of learning disabled elementary school students of 3rd grade in their academic achievement of English grammar.

CONCLUSION

The results arrived at during present study indicates that the post test for achievement mean scores of the experimental and the control group differ significantly in favour of the experimental group taught through web integrated instructional package. This findings leads us to the conclusion that learning disabled elementary students of 3rd grade who were taught English grammar through web integrated instructional package developed by the investigator show significant improvement in their academic achievement in English grammar than those learning disabled elementary students of same grade who received instruction through conventional method. This further suggests that web integrated instructional package is effective and contributes towards raising the academic achievement of learning disabled elementary students in English grammar. The experimental method proves to be more meaningful and remarkably effective as compared to the traditional classroom teaching strategy.

The conclusion of the study can also be expressed in terms of its global importance for educational purpose vis-a-vis the tested hypotheses of the study. Prima-facie, the main focus of the study addresses the multi-sensorial approach of the technologically innovative teaching-learning process which constituted integration of web technology into education and its extent of impact on education for sustainable development of each and every learner in school setting which is deemed to be a miniature society based on technology. The two fold fundamental variables of the study include:

i. The teaching strategy, i.e. web integrated instructional package.
ii. The learning outcomes of learning disabled students in terms of academic achievement.

The results of the study can also be interpreted in the context of global perspectives on education expected by various world organisations working towards the development and universalization of quality education for all. The rapid spread of electronic communication has the capacity to affect quality and efficiency of basic education throughout the world in dramatic ways. The ease with which students gather knowledge and information over the internet on virtually any topic

has the potential to transform instructional content and pedagogical practice.

EDUCATIONAL IMPLICATIONS

The present investigation clearly indicates that switching from conventional lecture or simple chalk and board method of teaching to a web integrated instructional package, the level of academic achievement of learning disabled elementary students does no deteriorate rather it quite significantly improved. It also implied that web integrated instructional package proved to be more tangible in its effectiveness on achievement than the conventional method of teaching. This package was favourably accepted by the subject teachers and they find it very convenient and useful for classroom teaching.

1. Web integrated instructional package helps the teachers as well as students to make their teaching-learning process interesting and completely interactive.
2. Web integrated instructional package changes the role of a teacher in a way that teacher is no longer only the dispenser of education, but rather plays the role of a facilitator. Teacher actively encourages students to participate in classroom dialogue and activities, provide constant feedback and continuous motivation. Students feel being essential part of the teaching learning process.
3. Web integrated instructional package sessions act as a source of co- curricular entertainment. Use of such packages can be combined to include online games, recreational activities such as verbal puzzles or riddles, classroom quiz competitions etc.
4. When technology is integrated effectively into the subject matter, teacher grows into the role of advisor, content expert and coach. Teachers can prepare amazing lesson plans with the help of web integrated instructional package.
5. Along with general academic achievement web integrated instructional package can help students develop other important skills like, creative thinking, comprehension, critical analysis and synthesis of knowledge.
6. Web integrated instructional package provides new learning stimuli to the learners and also help them learn at their own pace and convenience.
7. Present study has important implication for aspiring teachers. They can learn to develop new and improved technology integrated instructional packages and keep themselves updated with the new ways of using technology in classroom so that they can match the demands of modern world education.

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