Research Article

A Study on the Aptitude of Teachers and Disabled Graduates towards Usage of Technology in Teaching-Learning Process

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ABSTRACT

The purpose of this study was to examine the aptitude of teachers and disabled graduates towards usage of technology in teaching-learning process. The investigation elicited the attitude of teachers and disabled students with regard to usage of Technology in education. Therefore, the survey method is the suitable method which is used for the present study. Qualitative analysis was made on the data collected through the scale 'Attitude towards Usage of Technology for Disabled- Student Scale'. Mean, Standard deviation and Student 'f were applied for interpreting the results of the scores. Teachers revealed that the loco-motor disabled persons are using technology as that of non-disabled persons whereas the visually impaired persons are deprived of it. Also revealed that they will use technology in teaching to the disabled if they are provided with equipment and required training facilities. Most of the visually impaired graduates said that they have not accessed technology for their leaning. They are not aware of what technology can be helpful to them.

Keywords: Teachers' Aptitude, Disabled Graduates, Technology Integration, Teaching-Learning Process, Special Education

Introduction

Technology is defined as a systematic development of methods, machines or processes that help in the achievement of a given objective. The Individuals with Disabilities Education Act (U.S.A) amendments of 1997 defined that term "Assistive Technology" as" any item, piece of equipment or product system that is used to increase, maintain or improve the

functional capabilities of the individuals with disabilities." Assistive Technology can be broadly conceptualised as any technology with the potential to enhance the performance of person with disabilities. It includes both low technologies and high-tech devices, and it incorporates technologies designed specifically for people with disabilities as well as general public. The above definition is used in this study.

If disabled persons are to function fully in this society, they must have access to the myriad technologies that can improve communication, information processing, and learning. While technological advances are making in-roads in the reduction of the impact ofmotoric, sensory, and cognitive disabilities, the real potential is yet to be met.

The computer is second only to the printing press in its impact on the way in which humans acquire and distribute information. As computers are reduced in size and cost, their impact is multiplied geometrically. The computer has two characteristics that are particularly significant for disabled individuals:

* as hardware decreases in size, it generally increases in capacity; and
* the more sophisticated computers become, the easier they are touse.

These characteristics are very important for handicapped individuals in several respects. First, as computers become smaller, they also become more portable. For example hand-held microcomputers can be attached to wheelchairs to improve mobility. Second, as computers become easier to use, they are more accessible to the handicapped. For example, reducing the number of keystrokes required to perform ce1iain computer functions has greatly facilitated their use.

Microprocessor-based technology facilitates communication in two ways: as a compensatory device for sensory disabilities and as an assistive device for individuals whose physical impairments make communication difficult. Examples of compensatory devices include talking computer terminals that can translate text into speech (Stoffel, 1982); special adaptive devices for microcomputer that can provide visual displays of auditory information by translating sound into text (Vanderheiden, 1982); and Cognivox, an adaptive device for Apple personal computers that combines the capabilities of voice recognition and voice output (Murray, 1982) - Enyclopaedia of Special Education.

For individuals with motoric disabilities, communica6on aids have been developed that allow them to operate computers with single-switch input devices. These devices may be as simple as game paddles and joysticks or as sophisticated as screen-based optical head pointing systems. Keyboard enhancers and emulators help individuals with restricted movement by reducing the number of actuations necessa1y for communication. For example, Minispeak is a semantic compaction system that can produce thousands of clear, spoken sentences with as few as seven keystrokes (Baker 1982). Adaptive communication devices can also be linked with microcomputers to help the disabled control their living environments (e.g., by I11Illling appliances, answering the telephone, or adjusting the thermostat).

The Technology has become common to all nowadays. But, it is still strange for the disabled persons because of many reasons. The present investigation helps us to understand the attitude of teachers who are handling disabled persons in the classroom and disabled graduates on computers in teaching and learning process.

OBJECTIVES

The following are the objectives of the present study.

* To study the attitude of teachers and disabled graduates towards the usage technology in teaching and learning process.
* To identify the mental setting of teachers in teaching to the disabled persons through technology
* To elicit the information how effective the usage of technology in the learning of disabled graduates.
* To collect the information regarding the availability software specific to their disability condition.
* To elicit the suggestion from the teachers and disabled persons with regard to availability and accessibility of technology in learning process.
* To suggest the effective use of technology in teaching learning process.

HYPOTHESIS

* The investigator framed the following null hypotheses for the present study.

* There is no significant difference between the attitude of teachers and disabled graduates towards the usage technology in teaching and learning process.
* There is no significant difference between the male and female teachers with regard to the usage of technology for the learning of disabled persons.
* There is no significant difference between the rural and urban teachers with regard to the usage of technology for the learning of disabled persons.
* There is no significant difference between the attitude of visually impaired graduates and loco-motor disabled graduates in line with the usage of technology.
* There is no significant difference between the male and female disabled graduates with regard to the usage of technology for the learning of disabled persons.
* There is no significant difference between rural and urban disabled graduates with regard to the usage of technology for their learning of disabled persons.

METHODOLOGY

Sample

A total of 20 Loco-motor impaired graduates, 20 Visually impaired graduates and 20 College Teachers were selected as the sample through random sampling technique.

Subjects	Male		Female		Total
	Rural	Urban	Rural	Urban	
Visually Impaired	5	5	5	5	20
Loco-motor disabled	5	5	5	5	20
Teachers	5	5	5	5	20

Tool

The investigator constructed and standardised the tool 'Attitude towards Usage of Technology for Disabled-Student Scale' similar to the Likert type Scale of Summated Ratings.

The supplementary tool interview schedule was prepared to elicit the responses from the teachers and graduate disabled persons.

Research Design

The investigation elicited the attitude of teachers and disabled students with regard to usage Technology in education. Therefore, the survey method is the suitable method which is used for the present study.

Statistical Techniques and Data Analyses

Qualitative analysis was made on the data collected though the scale 'Attitude towards Usage of Technology for Disabled-Student Scale'. Mean, Standard deviation and Student 'f were applied for interpreting the results of the scores.

ANALYSIS AND RESULTS

Quantitative analysis

The student 't' was employed to investigate the effect of independent variables namely gender, locality of teachers and disabled students; disability conditions-orthopaedically impaired and visually impaired, on the dependent variable 'Usage of Technology'. The analysis of the data are tabulated as below.

Table 1: Analysis of Independent Variables and Dependent Variable

S.No.	Variables	f	Test of significance
1	Teachers Graduates	1.53	Not significant at 0.05
2	Male Teachers Female Teachers	0.86	Not significant at 0.05
3	Rural Teachers Urban Teachers	1.02	Not significant at 0.05
4	Visually Teachers Loco-motor disabled	3.23	significant at 0.01
5	Male disabled Female disabled	1.41	Not significant at 0.05

6	Rural disabled Urban disabled	0.96	Not significant at 0.05

* The result reveals that the calculated 'f value of teachers and graduates is 1.53 which is lesser than the table value. Therefore, the null hypothesis 1: "There is no significant
* difference between the attitude of teachers and disabled graduates towards the usage of technology in teaching and learning process" is tenable.
* The calculated 'f value of male teachers and female teachers is 0.86 which is leaser than the table value. Therefore, the null hypothesis 2: "There is no significant difference between the male and female teachers with regard to usage of technology for the learning of disabled persons" is tenable.
* The calculated 'f value of rural teachers and urban teachers Is 1.02 which is lesser than the table value. Therefore, the null hypothesis 3: "There is no significant difference between the rural and urban teachers with regard to usage of technology for the learning of disabled persons" is tenable.
* The calculated' t' value of visually impaired graduates and loco-motor disabled graduates is 3.23 which is higher than the table value. Therefore, the null hypotheses 4: "There is no significant difference between the attitude of visually impaired graduates and loco-motor disabled graduates inline with usage of technology" is rejected.
* The calculated' t' value of male disabled graduates and female disabled graduates is 1.41 which is leaser than the table value. Therefore, the null hypothesis 5: "There is no significant difference between the male and female disabled graduates with regard to usage of technology for the learning of disabled persons" is tenable.
* The calculated 'f value of rural disabled graduates and urban disabled graduates is 0.96 which is lesser than the table value. Therefore, the null hypothesis 6: "There is no significant difference between rural and urban disabled graduates with regard to usage of technology for their learning" is tenable.

Qualitative analysis:

The following are the summary of results obtained through the analysis of interview responses of the subjects.

1. Teachers mentioned that the loco-motor disabled persons are using technology as that of non-disabled persons whereas the visually impaired persons are deprived of it.
2. Teachers said that visually impaired persons are in need of training and special software facilities to access technology. Colleges are not having sufficient provision for the education of visually impaired students to access computers for their education purpose.
3. Teachers observed that most of the visually impaired children are coming from poor family so that they are not able to use technology for their education.
4. Teachers mentioned that they will use technology in teaching to the disabled if they are provided with equipments and required training facilities.
5. Most of the loco-motor disabled persons revealed that they do not have any problem in accessing the technology because there is no need of any adaptation or special software meant for disabled condition.
6. Most of the visually impaired graduates said that they have not accessed technology for their leaning. They are not aware of what technology can be helpful to them.

RECOMMENDATIONS

The following recommendations are made out of the present investigation.

* All the disabled persons will be provided with relevant technology and educational software for the learning.
* Free training on technology usage will be given to all disabled persons.
* All educational institutions should have the provision for technology availability and accessibility for the disabled persons.
* Commercial Internet Centres, Disabled people work places, Job oriented training centres, etc., should have the disability friendly atmosphere to provide equal opportunities for our disabled brethren.
* All software producers should keep in mind that their software should also be viable to all including the disabled.

* District level resource centres should be established to take care of the usage of technology to the disabled persons for their education and employment.

SUGGESTIONS FOR FURTHER RESEARCH

The investigator provides the following suggestions for further researches.

* A study may be conducted to focus what kinds of software programs are needed, where to get and how to access, for the specific disabled persons.
* A training package should be developed for disabled persons according to the mental and physical development, nature of disability and educational qualification.
* Guide books, resource materials and audio assisted devices to provide self learning instructions to the disabled persons on computer are to be developed.
* A study may be conducted to find out the challenges faced by the functionaries of educational institutions and disabled students towards the computer application in teaching and learning process.

CONCLUSION

The Technology should not be a remote access to persons with disabilities. A Jot of advancement has come to make education reachable, accessible and interesting to all. These advanced technologies are to be made easy for the persons with disabilities to enhance their learning and doing fast and perfect. Let us try to bring up our brethren with disabilities together with us in all education and employment opportunities so as to provide them better life in the society.

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