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A STUDY ON TECHNOLOGY KNOWLEDGE AND SKILLS IN SCIENCE TEACHING FOR VISUALLY IMPAIRED STUDENTS

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ABSTRACT:
The main aim of the study is investigated in the survey method and used the adapted tool on Technology. The sample size is 20, irrespective of both independent and dependent variables. They conclude that there will be a need for more Knowledge and usage of Technology for students with visual impairment. So the study revealed that to create more awareness of Technology for visual impairment to develop their capacity and potentiality. Assistive technology device means any item, piece of equipment, or product system, whether acquired commercially off the shelf, modified, or customized, that is used to increase, maintain, or improve the functional capabilities of a child with a disability. The term does not include a medical device that is surgically implanted, or the replacement of that device." -IDEA, 2004.
Keywords : Technology, Knowledge, Skills, Visually Impaired, and Science

a. Technology:
Technology is the body of knowledge, aptitude, methods, and procedures employed in the manufacture of commodities, the provision of services, or the accomplishment of goals like conducting scientific research. Technology can be the understanding of techniques, processes, and the like, or it can be a feature built into machinery that enables use without intimate familiarity with how they function.

b. Knowledge:
Webster's Dictionary defines Knowledge as "the fact or condition of knowing something with familiarity gained through experience or association." In practice, though, many possible, equally plausible definitions of Knowledge exist. A frequently used definition of Knowledge is "the ideas or understandings which an entity possesses that are used to take effective action to achieve the entity's goal(s). This Knowledge is specific to the entity which created it."

c. Skills:
A skill is the capacity to complete an action with predetermined outcomes, frequently in a predetermined amount of time, energy, or both. Domain-general and domain-specific skills are two common categories for skills.

d. Visually Impaired:
(b) "Blindness" refers to a condition where a person suffers from any of the following conditions, namely:
(i) Total absence of sight; or
(ii) visual acuity not exceeding 6/60 or 20/200 (Snellen) in the better eye with correcting lenses;
(iii) Limitation of the field of vision subtending an angle of 20 degrees or worse

e. Science:
Science is a systematic effort that constructs and organizes Knowledge through verifiable explanations and predictions of the universe.

INTRODUCTION:
The word "technology" can also be used to refer to a collection of techniques. In this context, it is the current state of humanity's Knowledge of combining resources to produce desired products, solve problems, fulfill

needs, or satisfy wants; it includes technical methods, skills, processes, techniques, tools, and raw materials. The term "visual impairment" describes a wide range of conditions that affect the clarity of vision and visual field. Technology can be invaluable for people with visual impairments, both as a tool for learning and communication and for providing visual stimulation. By using a computer with appropriate software and hardware, the visually impaired user can be given access to standard resources. For example, speech synthesis can read a word-processed file to a blind person without translating it into Braille. Assistive technology devices are available in various categories to address the functional capabilities of students with disabilities. Categories of Assistive Technology include:

- *Academic and learning aids.*
- *Aids for daily living.*
- *Assistive listening devices and environmental aids.*
- *Augmentative communication.*
- *Computer access and instruction.*
- *Environmental control.*
- *Mobility aids.*
- *Pre-vocational and vocational and vocational aids, recreation and leisure aids, seating and positioning, and visual aids.*

Arslantas and Gul (2022) studied "**Digital Literacy Skills of University Students with Visual Impairment: A Mixed-Methods Analysis**." The study found high levels for several self-reported technical and cognitive sub-factors of DL skills and lower levels for the social sub-factor. Comparative analysis revealed no significant difference between Gender, level of VI, and type of school. The results showed that daily use of the Internet had a significant positive effect on DL scores, and that there was a negative correlation between DL and the age of starting to use Technology.

Revathi (2021) studied the **"Effectiveness of Adapted Science Instruction for Teaching Learning of Science Temperature Concepts among Students with Visual Impairment."** The areas of science and mathematics have traditionally been inaccessible to students with Visual Impairment. Hence it needs adapted materials and instructional methods to understand and perform science experiments for the visually impaired. This study aims to study the Effectiveness of Adapted Science Instruction on Leaning Science Temperature concepts among students with Visual Impairment. The Investigator adapted the Science Temperature concept Activities per the needs of Students with Visual Impairment. A visually impaired sample from Grades VI to VIII was trained, and the effectiveness of the Adapted Instruction was found.

Chandrasekaran et al. (2020) studied "**Knowledge of Science Concepts among the Students with Visual Impairment at Upper Primary Level**." The study aimed to investigate the level of understanding of science concepts by students with visual impairment. The study revealed that students with visual impairment face challenges in understanding science concepts.

METHODLOGY

Settings:

The present study was conducted in special and inclusive schools of the visually impaired. The schools are clustered in the main cities of the districts.

Sample Selection of the Study:

Sample selection is a significant aspect of a research study. The sample selection should be done with maximum care. The selection and application of proper sampling procedures make a research study more objective. The right approach depends upon the design used, the nature of the statistical treatment, and the availability of the sample with awareness. Purposive sample techniques selected the students comprising 10 from special schools and 10 from inclusive schools.

Variables of the study:

The selection of proper variables is an essential aspect of research. The present study aims to find the Knowledge and Technology skills among visually impaired students. The main independent variables are

age, Gender, nature of disability, and types of schools. The main dependent variables are Knowledge of Technology and skills in Technology.

Design of the study:

The study aims to find the level of Knowledge and skills on Technology among visually impaired students. The interview method was followed to get the required data within a particular time.

Interview:

The interview method of research typically involves face-to-face meeting in which a researcher (interviewer) ask an individual a series of question.

Research tool:

The researcher constructed the tool with the help of expertise in the field of research. The tool which consists of two dimensions aspects 1. Knowledge on Technology it carried 15 questions and 2. Based on skill on Technology, it carried 20 questions to investigate the level of Knowledge and skills on technology inventory with a 2-point rating scale, namely yes or no settings.

RESULTS AND DISCUSSION

Analysis and Interpretation:

1.2 Knowledge and Skill on Technology for Students with Visual Impairment.

The table 1.2 present the knowledge and skill on technology for students with visual impairment.

Correlations

		Knowledge	*Skill*
Knowledge	*Pearson Correlation*	*1*	*.530**
	Sig. (2-tailed)		*.016*
	N	*20*	*20*
Skill	*Pearson Correlation*	*.530**	*1*
	Sig. (2-tailed)	*.016*	
	N	*20*	*20*

****. Correlation is significant at the 0.05 level (2-tailed).***

For the above table 1.1, the co-relation of value is 0.530 with df 20 for the Knowledge on Technology for students with visual impairment. The correlation value is 0.016 with df 20 of skills on Technology for students with visual impairment. It shows that the exposure and Knowledge on Technology of students with visual impairment did impact the Technology of students with visual impairment. Hence the hypothesis stated that "there is a significant difference in the mean Knowledge and skill on technology score of visual impairment students.

Table: 1.2 knowledge and skill on technology for students with visual impairment with respect to Gender.

Group Statistics						
Gender		*N*	*Mean*	*t-test*	*Std. Deviation*	*Std. Error Mean*
Knowledge	*1.00*	*10*	*10.8000*	*3.673*	*.78881*	*.24944*
	2.00	*10*	*8.3000*	*3.673*	*2.00278*	*.63333*
Skill	*1.00*	*10*	*14.9000*	*6.518*	*2.76687*	*.87496*
	2.00	*10*	*7.9000*	*6.518*	*1.96921*	*.62272*

The above table 1.2 reflects, it is evident that the co-related t- value is 3.673 with df 11.7 for the Knowledge on Technology of students with visual impairment and the co-related t-value is 6.518 with df 16.25 for the skills on Technology of students with visual impairment with respect to Gender is significant. It indicates that the Knowledge on Technology for boys and girls with visual impairment significantly differs. Hence the hypothesis stated that "there is a significant difference in the mean score of Knowledge on Technology and skills on Technology for students with visual impairment with regard to Gender is rejected.

CONCLUSION

In the current scenario, Technology is very important to all of them, especially for visually impaired students technology is a boon because it's easily accessed and adopted the level of their convenience. So first, this study has revealed that students with visual impairment to create an awareness of Knowledge about Technology and also provide hands-on experience exposed to them then only they might be exposure on Technology to create an accessible environment for them and also to enhance and empower the efficacy of a techno lifestyle for quickly adapting to the world.

FUTURE SCOPE

The Scope of the study will benefit the visually impaired students to gain Knowledge of Technology. It is expected to benefit both special educators and students to understand the usage of Technology in their life. In the future, this finding will help the administrator to understand the level of using Technology in the school sector.

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