ISSN E: 2709-8273
ISSN P:2709-8265
JOURNAL OF APPLIED LINGUISTICS AND TESOL
JALT

ROLE OF SPECIAL EDUCATION TEACHER TRAINING IN USAGE OF TECHNOLOGY WITH PROFESSIONAL EXCELLENCE: STAKEHOLDERS PERSPECTIVES

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Abstract

This study was conducted to find out the role of special education teacher training in usage of technology with professional excellence. The specific objectives of the research was (1) To investigate the role of special education teachers' training in usage of technology with professional excellence (2) To investigate the opinion of teachers regarding the current status of assistive technology usage in special education institutes (3) To ascertain the difference between teachers' opinion regarding the role of special education teachers' training in usage of technology with professional excellence on the base of demographics i.e. gender, age, qualifications, district, no of in-service trainings, designation, school level, area of teaching, and teaching experience. To achieve the objectives, this study used quantitative cross sectional survey design.

All the male and female 489 special education teachers (137 male and 352 female) from Multan and DG Khan divisions were considered as population for this study. As the population of the special education teachers in Multan and DG Khan Divisions was small, therefore, the researcher used census sampling technique to select the all population as sample. A 52-item questionnaire, self-structured was used to investigate role of special education teacher training in usage of technology with professional excellence: stakeholders' perspectives. Four hundred and eighty nine (489) questionnaires were distributed among the special education teachers and 455 finally were returned with response rate of 93.04%. The researcher used both the descriptive and inferential statistical techniques to analyze the collected data of 455 participants by using SPSS (25 Version). It was concluded on the base of findings that teacher training play vital role in usage of technology with professional excellence.

Keywords: Assistive Technology, Teachers Training, Professional excellence.

1.1 Introduction

Educators are the fundamental foundation in the instructional process. Instruction is the process of transmitting knowledge from one generation to the subsequent generation. Instructional methods are techniques employed by educators to convey knowledge, including the lecture method, direct approach, grammar-translation method, inquiry-based method, and question-answer method. Assistive Technology (AT) denotes the technology tools employed by educators in their teaching, including mobile devices, multimedia, computers, the internet, and electronic media. The twenty-first century is characterized by technological advancement. Technology has significantly influenced the educational process in this advancing technological landscape. Effective instruction primarily relies on technology. The majority of educators are utilizing assistive technology for instruction.

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ISSN P:2709-8265
JOURNAL OF APPLIED LINGUISTICS AND TESOL
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The implementation of assistive technology has rendered instruction more efficient and remarkable. It has enhanced the quality of education. Educators utilize assistive technology for lecture preparation. They employ technology to augment their comprehension of their subjects. Assistive technology aids educators in the delivery of lectures. The majority of educators utilize PowerPoint presentations and multimedia to convey their teachings. It fosters collaboration between students and educators. It fosters creativity in educators. E-learning enhances pedagogical techniques and learning processes (Saleem et al., 2019).

1.2 Literature Review

Teacher training in the utilization of technology from the standpoint of professional excellence stakeholders. Impact of technology and training on the performance of educators in special education schools and institutions. We analyze the impact of teachers' training and technology usage on the provision of special education for children's needs. Teacher training is a crucial component in addressing the contemporary educational difficulties of the 21st century, since it significantly enhances the professional competence of educators. This training is crucial for fostering fair and high-quality education by providing educators with the requisite skills and knowledge to adapt to varied learning contexts and effectively engage students in significant learning experiences (Scherer, 2018).

Technology is the use of scientific knowledge to address human needs. Two straightforward dictionary definitions of technology are provided (1) technology is a tool for increasing human productivity; and (2) technology is the employment of machines to replace physical labor. Technology is defined by UNESCO as the knowledge and creative process that can help people solve problems and better control over the natural and artificial environments in an effort to improve the condition of people (UNESCO, 1985).

Educators are the fundamental foundation in the educational process, as they significantly facilitate the transfer of knowledge across generations. Instructional methods, including the lecture method, direct method, grammar-translation method, inquiry-based approach, and question-answer method, are strategies employed by educators to enable the transformation of knowledge. Information and Communication Technology (ICT) encompasses the technological instruments employed by educators in their teaching, such as mobile devices, multimedia, computers, the internet, and electronic media, to augment the learning experience and engage students more effectively (Gomez et al., 2021) Teacher training, or professional development, is a crucial component of the educational framework. Its objective is to augment educators' competencies and expertise, hence enhancing student learning results. This literature review examines multiple facets of teacher training, encompassing its significance, diverse models, problems, technology integration, and prospective developments.

Teacher training require continuous input from supervising educators regarding their performance. Collaboration among peers is an effective method for training future educators, as both parties instruct same content and receive mutual feedback. Furthermore, objectives must be established with measurable outcomes that can be tracked and associated with professional growth. An exemplary illustration of this is the Japanese approach, wherein a cohort of educators collaboratively develops a lesson and evaluates its efficacy with various student groups until they ascertain that effective learning has been accomplished, then publishing the lesson for the benefit of other

ISSN E: 2709-8273
ISSN P:2709-8265
JOURNAL OF APPLIED LINGUISTICS AND TESOL
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educators. If new technology were integrated, the system would be highly powerful. To facilitate this, a portion of the budget must be allocated for investment in this process by both the educational authorities and the schools" (García et al., 2022).

Effective educator training is essential for cultivating a high-quality educational system. It equips educators with the resources to adjust to evolving educational demands and address varied student needs. Dikmen and Demirer (2022) assert that professional development is most efficacious when it encompasses topic concentration, active learning, coherence, duration, and group engagement. These components enhance teachers' comprehension and implementation of novel educational methods, hence improving student achievement. Darling-Hammond et al. (2017) highlight the beneficial effects of effectively structured teacher training programs on teacher retention and student performance. These strategies foster a friendly educational atmosphere and enhance teacher satisfaction by mitigating burnout and attrition rates.

Australian researchers Massie and Dillon (2006) conducted a study there. The findings showed that attentiveness, classroom behavior, communication, and other skills significantly improved while the amplification devices were in use. Peer interaction, participation in class discussions, and promotion of a more proactive and self-assured role in class discussions are all boosted. The systems made students happier as well. The students might perform better academically if their focus, communication, and classroom behavior were addressed. So, it may be said that assistive technology improves academic performance.

1.3 Significance of Study

This study may significant in the field of special education specifically for the teachers. This research may apprise the teachers about the positive effects usage of technology and change of attitude of students. This study helps teachers understand the importance of teacher training and usage of technology. Teachers were able to get benefit from the guidelines provided in this study to get set goals in teaching activities to improve their understanding and comprehension of curriculum in an effective way. This study is also helpful future researchers in this area of research.

1.4 Research Objectives

The objectives of the study will be to investigate:

1) To investigate the role of special education teachers' training in usage of technology with professional excellence as perceived by special education teachers.
2) To access the opinion of teachers regarding the current status of assistive technology usage in special education institutes.
3) To ascertain the difference between teachers' opinion regarding the role of special education teachers' training in usage of technology with professional excellence on the base of demographics i.e. gender, age, qualifications, district, no of in-service trainings, designation, school level, area of teaching, and teaching experience

1.5 Research Hypotheses

The research hypotheses were as follows:

Ho1: There is no relationship between assistive technologies and academic development students with hearing impairment at elementary level.

Ho2: There are no present practices of using assistive technology in classroom to

ISSN E: 2709-8273
ISSN P:2709-8265
JOURNAL OF APPLIED LINGUISTICS AND TESOL
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develop their academics for the students with hearing impairment.

Ho3: There is no relationship between assistive technology on the academic development of children with hearing impairment on the basis of demographic factors such as gender, locality, and age and disability level.

1.6 Research Design

The research was descriptive in nature.

This study used cross sectional quantitative survey design. The fundamental feature of this design is that data was collected using a questionnaire, ensuring objectivity and accuracy. For this particular research design, a suitable sample was generated from a large population. The data collected was analyzed in order to reach useful conclusions and inferences. The investigator, consequently, used this strategy to assess the role of special education teacher training in usage of technology with professional excellence: stake holders perspectives

1.7 Population

In the present study population comprised of all the male and female special education teachers from two divisions Multan and DG Khan was the population of this study. The population of study consists of 455 special education teachers from two divisions Multan and DG Khan. The population of the study was comprised 489 special education teachers (137 male and 352 female).

1.8 Sample Size and Sampling Technique

Census method was used as sampling technique to select the required sample of teachers of Special Education schools and institution. This methodology was the best option for sample selection.

1.9 Procedure of Instrument Development

A questionnaire was prepared after evaluating the pertinent literature. The questionnaire is a helpful tool for collecting data from a large number of potential participants. A formal, set of closed-ended questions is provided to each participant in a study to complete. Five-point rating systems were used to design the survey, respectively. During the arising of questionnaire researcher used concise and objective technique. A survey is a technique for acquiring ordered and structured data. Additionally, same process was used to conduct an exhaustive literature review. The literature review gave the subjects or categories of the investigation. The questionnaire was based on 52 closed-ended

1.9.1 Opinion of Expert

Three experts (List attached as Appendix-A) were consulted to check the content validity of the tool for purpose of tool validation, they read the content and made few grammatical mistakes in the statements. Furthermore they suggested corrections of the grammatical mistakes for better and clear understanding. The questionnaire was corrected according to the experts' opinion.

1.9.2 Pilot Testing

To ensure the content validity of the tool pilot testing is conducted. Data were collected from 11 special education teachers randomly selected from the Multan district. However these participants were not included in the sample. It is found understandable and valid. Therefore, the questionnaire was considered valid to conduct the study.

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1.9.3 Reliability of Instrument

To check the reliability, data obtained during pilot testing, analyzed by reliability method Cronbach alpha in which correlation coefficient was checked among variables. In this method, coefficient of correlation was obtained among the variables and factors and reliability of these factors is tested. Cronbach Alpha value was .75 which is considered valid and reliable.

Table 1 Reliability of Tool

Statements	Respondents	Cronbach Alpha
52	Special Education Teachers	.75

Table 1 shows the Cronbach Alpha value of the tool was .75 which shows the tool was highly reliable.

1.10. Data collection

The use of a questionnaire to collect statistics is a more green method of gather data. It takes less time, is much less steeply-priced, and lets in for facts collection from an exceedingly large sample. After essential permission was attain from the administration of school, the researcher turned to the teachers, the tools were briefly explained, and they were instructed to mark the optical answer sheet with their preferred options. The researcher delivered the questionnaire to the teachers via a variety of channels, including self, Google Forms, WhatsApp, email, and postal courier. The rate of returns was 100%.When the instruments are collected, the optical solution sheet is processed and then the statistics is used when you want to view the records. Response size was calculated to get a general rating from them. The frequency of each item is then tested to see in which areas people feel safe.

1.11 Data analysis

The actual evaluation is imperative to realize output of facts which have been accrued. In the respective studies look at, we've got carried out one of a kind statistical equipment by way of the usage of software program SPSS which might be:

1.11.1 Descriptive Analysis

Defining the average values of variables acquired from the facts is an important part of descriptive analysis. Mean, standard deviation, and frequency value are all covered by its unique elements.

1.11.2 Inferential Statistics

Inferential statistics were used to analyze the difference between teachers' opinion on the base of demographics i.e. gender, posting, experience, qualification, designation.

1.12 Analysis and interpretation of data

Table 2 Factor wise analysis of Teachers Data

S. No	Factors	Mean
1.	Role of Special Education Teacher Training in Usage of Technology with Professional Excellence on the basis of Professional Development	3.85
2.	Role of Special Education Teacher Training in Usage of Technology with Professional Excellence on the basis of Academic Performance	3.97
3.	Role of Special Education Teacher Training in Usage of Technology with Professional Excellence on the basis of Teaching effectiveness	3.87

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4.	Role of Special Education Teacher Training in Usage of Technology with Professional Excellence on the basis of Teacher attitude and Assistive Technology	4.12
5.	Role of Special Education Teacher Training in Usage of Technology with Professional Excellence on the basis of Learning Environment	3.82
6.	Role of Special Education Teacher Training in Usage of Technology with Professional Excellence on the basis of Class Room Management	3.68
7.	Role of Special Education Teacher Training in Usage of Technology with Professional Excellence on the basis of Positive Teacher Student Relationship	3.87
8.	Teacher Training in Usage of Technology with Professional Excellence on the basis of Collaboration and Communication with Stakeholders	4.28
9.	Teacher Training in Usage of Technology with Professional Excellence on the basis of Professional Excellence and Continuous Improvement	4.28
Over all Mean		3.97

Table 2 Explore the Role of Special Education teacher training in usage of technology with Professional Excellence: Stakeholders Perspectives. The mean value also support the claim.

Table 3 Opinions in role of teachers training in usage of technology with professional excellence on the basis of gender.

Variables	Category	N	Mean	SD	dF	t	Sig
Gender	Male	166	4.0443	.42809	443	2.416	.002
	Female	279	3.9301	.51121			

Table 4. shows the difference between male and female students' opinion. The mean score of female teachers (.51121) is slightly greater than the mean score of male teachers (.42809). However, the calculated significance value .002 is less than tabulated significance level 0.05, which indicates that there is statistically significant difference between teachers' opinion by gender.

Table 5 Difference between Teachers' Opinions by Age

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.465	4	.116	.495	.739
Within Groups	105.674	450	.235		
Total	106.139	454			

Table 5 indicates the difference between teachers' opinions by age. The calculated significance value is (.739) greater than tabulated significance level 0.05. This shows that there is statistically no significant difference between teachers' opinions by age. F value (.495) also supports the claim.

Table 6 Difference between Teachers' Opinions by Academic Qualification.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4.458	3	1.486	6.569	.000
Within Groups	101.569	449	.226		
Total	106.027	452			

Table 6 indicates the difference between teachers' opinions by academic qualification. The calculated significance value is (.00) less than tabulated significance level 0.05. This shows that there is statistically significant difference between teachers' opinions by academic qualification. F value (6.569) also supports the claim.

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ISSN P:2709-8265
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Table 7 Difference between Teachers' Opinions by Professional Qualification

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.111	3	1.037	4.540	.004
Within Groups	103.028	449	.226		
Total	106.139	454			

Table 7 indicates the difference between teachers' opinions by professional qualification. The calculated significance value is (.004) less than tabulated significance level 0.05. This shows that there is statistically significant difference between teachers' opinions by professional qualification. F value (4.540) also supports the claim.

Table 8 Difference between Teachers' Opinions by District

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	31.539	7	4.506	26.992	.000
Within Groups	74.447	446	.167		
Total	105.986	453			

Table 8 indicates the difference between teachers' opinions by district. The calculated significance value (.00) is less than tabulated significance level (0.05). This shows that there is statistically significant difference between teachers' opinions by district. F value (26.992) also supports the claim.

Table 9 Difference between Teachers' Opinions by No. of Service Training

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.592	4	.148	.632	.640
Within Groups	105.546	450	.235		
Total	106.139	454			

Table 9 indicates the difference between teachers' opinions by No. of Service Training. The calculated significance value (.640) is greater than tabulated significance level (0.05). This shows that there is statistically no significant difference between teachers' opinions by No. of Service Training. F value (.632) also supports the claim.

Table 10 Difference between Teachers' Opinions by Designation

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.611	5	.522	2.265	.047
Within Groups	103.528	449	.231		
Total	106.139	454			

Table 10 indicates the difference between teachers' opinions by Designation. The calculated significance value (.047) is less than tabulated significance level (0.05). This shows that there is statistically significant difference between teachers' opinions by Designation. F value (2.26) also supports the claim.

Table11 Difference between Teachers' Opinions by School Level

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.008	4	.252	1.079	.366
Within Groups	105.130	450	.234		
Total	106.139	454			

Table 11 indicates the difference between teachers' opinions by School Level. The calculated significance value (.366) is greater than tabulated significance level (0.05). This shows that there

ISSN E: 2709-8273
ISSN P:2709-8265
JOURNAL OF APPLIED LINGUISTICS AND TESOL
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is statistically no significant difference between teachers' opinions by School Level. F value (1.079) also supports the claim.

Table 12 Difference between Teachers' Opinions by Area of Teaching

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.816	4	.454	1.958	.100
Within Groups	104.323	450	.232		
Total	106.139	454			

Table 12 indicates the difference between teachers' opinions by Area of Teaching. The calculated significance value (.100) is greater than tabulated significance level (0.05). This shows that there is statistically no significant difference between teachers' opinions by No. of Service Training. F value (1.958) also supports the claim.

Table 13 Difference between Teachers' Opinions by Years of Experience in Special Education

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.178	4	.045	.189	.944
Within Groups	105.961	450	.235		
Total	106.139	454			

Table 13 indicates the difference between teachers' opinions by Years of Experience in Special Education. The calculated significance value (.944) is greater than tabulated significance level (0.05). This shows that there is statistically no significant difference between teachers' opinions by No. of Service Training. F value (.944) also supports the claim.

1.13 Discussion

The study aimed to examine the role of training for special education teachers in the utilization of technology from the standpoint of professional excellence stakeholders. Teacher training, or professional development, is a crucial component of the educational framework. It seeks to augment educators' competencies and expertise, hence enhancing student learning results. Comprehensive training programs enable educators to remain informed about contemporary educational methodology, technology innovations, and pedagogical techniques. Such programs enhance the comprehensive development of educators, empowering them to provide superior education and improve results for students with special needs. Teacher training in ICTs must encompass learning management systems, applications, collaborative tools, and the pedagogical methodologies for their implementation.

Furthermore, educators remain perpetual novices due to the continual emergence of new technology. The utilization of ICT has facilitated and enhanced the instructional 78 process. It has enhanced the quality of education. Educators utilize information and communication technology to prepare their lectures. Information and Communication Technology assists educators in the delivery of lectures. The majority of educators utilize PowerPoint presentations and multimedia to convey their teachings. It fosters collaboration between students and educators. It fosters creativity in educators. E. Learning enhances pedagogical practices (Salamat et al., 2018).

Jabeen and Khalil (2023) identified a favorable association between training and teacher performance, indicating that ongoing professional development is crucial for upholding excellent teaching standards. The results demonstrate a favorable correlation between training and the performance of teachers. Educators who engaged in training programs exhibited considerable enhancement in their instructional methodologies, classroom management, and student involvement. Information and Communication Technology (ICT) has transformed education by offering innovative tools and resources that enhance teaching and learning. Differentiated

ISSN E: 2709-8273
ISSN P:2709-8265
JOURNAL OF APPLIED LINGUISTICS AND TESOL
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education, a pedagogical strategy that customizes instructional techniques and resources to accommodate the varied requirements of pupils, can be substantially improved using information and communication technology (ICT).

1.14 Conclusion

The primary aim of the study was to examine the impact of special education teachers' training on their utilization of technology with professional proficiency. The majority of participants said that the training of special education teachers plays a crucial role in the utilization of technology. Professional quality is essential in all occupations. Educators employ technology in instruction for professional enhancement. The utilization of technology enhances the engagement of subject matter. Educators remain informed by participating in training on contemporary research and pedagogical techniques.

The second purpose of the study was to examine instructors' perceptions about the existing utilization of assistive technology in special education institutions. Teachers are cognizant of the utilization of assistive technologies. Educators are knowledgeable about several forms of assistive technology. They underwent instruction in the application of assistive technology, and educators are proficient in its utilization. It is advantageous for educators and learners.

The third objective of the study was to ascertain the difference between teachers' 80 opinion regarding the role of special education teachers' training in usage of technology with professional excellence on the base of demographics i.e. gender, age, qualifications, district, no of in-service trainings, designation, school level, area of teaching, and teaching experience. The result revealed that there is statistically significant difference by gender, academic qualification, professional qualification, district, designation and there is no statistically significant difference by age, no. of service training, school level, area of teaching and years of experience in special education.

1.15 Recommendations

Following recommendations were made on the results and conclusions:

1. Teachers need further training in usage of specific AT is recommended because it improves the teachers' skills.
2. Teachers should receive training on the usage of technology.
3. Teachers should use A.T to help students understand complex topics.
4. Teacher training and using A.T enhance the capabilities of students to do better in school.
5. A.T helps students grasp complex topics.
6. Use of technology create a positive learning environment.
7. Computers provide quick access to information.
8. Students learn more through Assistive Technology (AT).
9. Lecturers should be given skills improving service such as workshop, training, seminars, which will increase their ability to handle modern technology for delivering their services.
10. Government should improve in their attitude of seeing education as a dump ground for political and carryout her responsibilities of providing funds to ensure effective services for the good of her citizens in education sectors is effectively and efficiently meet

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