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Factors Affecting the Perceptions of Teachers towards Integration of ICT in School Curriculum

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ABSTRACT
Teaching is said to be a nation building activity and the teacher is the architect of the future. Teaching has become one of the most challenging professions in our society where knowledge is expanding rapidly and modern technologies are demanding teachers to learn how to use these technologies. Information and Communication Technology (ICT) can influence student learning to a great extent when teachers are digitally literate and understand how to integrate it with curriculum. As the teacher plays a significant role in the teaching-learning process, teachers should equip themselves with ICT competencies to design new learning environments using modern technologies in the field of education. The present study is an attempt to explore the factors that influence the perceptions of teachers towards integration of ICT in school curriculum. The researchers used a well prepared and standardized questionnaire as the tool for collection of data from a sample of 1000 teachers (120 Headmasters and 880 School Assistants) selected from 120 secondary schools located in the three north coastal districts, viz., Srikakulam, Vizianagaram and Visakhapatnam in Andhra Pradesh using Stratified Random Sampling technique. The data were analyzed using Percentage Analysis. The profiles of teachers with high positive perceptions have been prepared. The preferences of teachers on components under different dimensions have been identified. The findings of the study revealed that teachers working in secondary schools perceived very high towards integration of ICT in school curriculum with regard to the dimension, "Working environment and support services for ICT integration in school programme" (44.4%) followed by the other dimensions, "Teachers' beliefs in the use of ICT in school programme" (38.5%); and "Teachers' use of ICT for instructional purposes" (38.5%). The study suggested the administration to realize the need for providing orientation to the teachers by organizing a number of in-service training programmes on the effective use of ICT tools in classroom teaching.

Key words: Information and Communication Technology (ICT), integration, perceptions, secondary school teachers, teaching-learning process, school curriculum.

INTRODUCTION

Education is an effective means of social reconstruction. It is the process of facilitating learning. It helps in the acquisition of knowledge, skills, values, morals, beliefs and habits necessary for the human living. It helps to increase the productivity, achieve national and emotional integration and accelerate the process of modernization. It cultivates social, moral and spiritual values among people. Teaching has become one of the most challenging professions in our society where knowledge is expanding rapidly and modern technologies are demanding teachers to learn how to use these technologies. Information and Communication Technology (ICT) can impact student learning to a great extent when teachers are digitally literate and understand how to integrate it with curriculum.

Curriculum and Pedagogy are two important aspects in the teaching learning process at secondary level. The curriculum should be transacted applying suitable pedagogy in secondary schools. As the teacher plays a significant role in

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the teaching-learning process, teachers should equip themselves with the necessary competencies in the use of ICT to design new learning environments using modern technologies in the field of education.

CONCEPT OF 'INFORMATION AND COMMUNICATION TECHNOLOGY (ICT)'

Information and communication technology (ICT) can be understood as a diverse set of technological tools and resources used to transmit, store, create, share or exchange information. These technological tools and resources include computers, the internet (websites, blogs and emails), live broadcasting technologies (radio, television and webcasting), recorded broadcasting technologies (podcasting, audio and video players, and storage devices) and telephony (fixed or mobile, satellite, video-conferencing etc.).

Information and Communication Technology (ICT) in education is the mode of education that uses technology to support, enhance and optimize the delivery of information. Worldwide research has shown that ICT can lead to an improved student learning by adopting better teaching methods. According to the document on **National Policy on Information and Communication Technology (ICT) in School Education (2012)**, Information and Communication Technologies are defined as all devices, tools, content, resources, forums and services; and those that can be converted into or delivered through digital forms, which can be deployed for realizing the goals of teaching learning, enhancing access to and reach of resources, building of capacities, as well as management of the educational system.

NEED FOR THE PRESENT INVESTIGATION

With the convergence of technologies, it has become imperative to take a comprehensive look at all possible information and communication technologies for improving school education in the country. The comprehensive choice of ICT for holistic development of education can be built only on a sound policy. The National Policy on Information and Communication Technology (ICT) in School Education-2012 endeavors to provide guidelines to assist the States in optimizing the use of ICT in school education within a national policy framework. The policy aims at preparing youth to participate creatively in the establishment, sustenance and growth of a knowledge society leading to all round socio-economic development of the nation and global competitiveness. The very objective of the policy is to devise, catalyze, support and sustain ICT and ICT enabled activities and processes in order to improve access, quality and efficiency in school education. Hence, it is the need of the hour to take necessary steps by all the stakeholders to integrate ICT in school curriculum.

The investigator, after going through the literature available in the area, proposes to study the factors affecting the perceptions of teachers working in secondary schools towards integration of Information and Communication Technology (ICT) in school curriculum.

OBJECTIVES OF THE STUDY

The main objective of the present study is to find out the factors affecting the perceptions of secondary school teachers towards integration of ICT in school curriculum.

The study also aims at finding out the influence of different dimensions of ICT integration in school curriculum, viz., (i) Teachers' beliefs in the use of ICT in school programme; (ii) Teachers' use of ICT for instructional purposes; and (iii) Working environment and support services for ICT integration in school programme

HYPOTHESES OF THE STUDY

The following hypotheses have been formulated for the present investigation:

(i) There is no significant difference in the perceptions of secondary school teachers with regard to the dimension, 'Teachers' beliefs towards the use of ICT in school programme'

(ii) There is no significant difference in the perceptions of secondary school teachers with regard to the dimension, 'Teachers' use of ICT for instructional purposes'.

(iii) There is no significant difference in the perceptions of secondary school teachers with regard to the dimension, 'Working environment and support services for ICT integration in school programme'.

LIMITATIONS OF THE STUDY

The study is limited to find out the influence of three dimensions of ICT integration in school curriculum, viz., "Teachers' beliefs towards the use of ICT in school programme", "Teachers' use of ICT for instructional purposes" and "Working environment and support services for ICT integration in school programme" on the attitude of teachers working in the secondary schools located in the three north coastal districts of Andhra Pradesh, viz., Srikakulam, Vizianagaram and Visakhapatnam.

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METHODOLOGY

(a) Sample: The sample of the study consists of 1000 teachers (120 Headmasters and 880 School Assistants) selected from 120 secondary schools located in Srikakulam, Vizianagaram and Visakhapatnam districts of Andhra Pradesh using Stratified Random Sampling technique.

(b) Research Tool: The researchers used a well prepared questionnaire consisting of 40 items as the tool of research for the present investigation. The tool was initially administered to 100 teachers (10 Headmasters and 90 School Assistants) under Pilot study. The measures of reliability, validity and objectivity of the tool have been calculated. Further, the researchers conducted item analysis for the items included in the tool. Out of 40 items selected for the tool, the discriminating power of 35 items has been found positive and is negative in respect of 5 items. The items whose discriminating power is negative have been removed; and the final tool consists of 35 items which are pool proof in all respects. The final tool has been administered to 1000 teachers (120 Headmasters and 880 School Assistants) working in the Secondary Schools in Srikakulam, Vizianagaram and Visakhapatnam districts of Andhra Pradesh.

STATISTICAL INTERPRETATION OF DATA

The data collected has been analyzed using Percentage Analysis. The investigators thought it relevant to convert the obtained scores into percentages with a view to know the percentage of acceptances of the respondents on a particular item in relation to the other items included in the scale. A percentage frequency distribution is a display of data that specifies the percentage of observations that exist for each data point or grouping of data points. It is a very useful method of expressing the relative frequency of survey responses and other data. This application of using percentages is particularly important in analyzing or comparing the attitudes of individuals on a particular criterion in comparison with other criteria.

PROFILE OF HIGH ACCEPTANCES OF RESPONDENTS ON DIFFERENT ITEMS IN THE SCALE, DIMENSION-WISE

To know the high acceptances of all the subjects on different items included in the tool, the investigators have calculated the total score obtained from all the respondents in respect of each item under the four different dimensions, taking into consideration the score relating to 'Agree' and 'Strongly Agree' for favorable (positively worded) statements and 'Disagree' and 'Strongly Disagree' for unfavorable (negatively worded) statements. The total score given by all the respondents for each item in the tool has been calculated; and then the total scores for all the 35 items have been converted into percentages. The higher percentage score indicates a higher level of perceptions of teachers with regard to that particular component.

The high acceptances (total score of 80% and above) of respondents for different components of the dimensions included in the scale together with the percentages are provided in the table given below.

Table showing high acceptances (total score of 80% and above) in respect of all the subjects for different items included in the scale, dimension wise

S. No.	Dimensions of Discourse-Oriented Pedagogy	S. No. of item showing high acceptance	Total number of items showing high acceptances in the dimension	Percentage of high acceptances in the dimension
1	Teachers' beliefs in the use of ICT in school programme	1, 2, 5, 9, 12	5	[[[[38.5
	Teachers' use of ICT			

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2	for instructional purposes	14, 15, 21, 23, 25	5	[[38.5
3	Working environment and support services for ICT integration in school programme.	27, 29, 32, 35	4	44.4
	TOTAL		**14**	

From the above table, it is concluded that teachers working in secondary schools have perceived the highest towards ICT integration in school curriculum with regard to the dimension, 'Working environment and support services for ICT integration in school programme' (44.4%) followed by the other dimensions, "Teachers' beliefs in the use of ICT in school programme" (38.5%); and "Teachers' use of ICT for instructional purposes" (38.5%).

FINDINGS OF THE STUDY

On the basis of the analysis and interpretation of data, the researchers have arrived at the following findings and drawn the conclusions.

(i) Teachers' beliefs in the use of ICT in school programme

From the high score of acceptances (80% and above) given by the teachers with regard to integration of ICT in school curriculum on the dimension, " Teachers' beliefs in the use of ICT in school programme" in respect of items 1, 2, 5, 9 and 12 of the scale, it is concluded that:

(i) Teachers believe that integration of ICT in school curriculum improves the quality of instruction in the teaching-learning process.
(ii) Teachers believe that they can use ICT for instructional design and classroom activities more effectively in their teaching.
(iii) Teachers believe that ICT usage makes it easier to prepare course materials for classroom instruction.
(iv) Teachers are confident that they can use Power Point presentation to explain different concepts in their classroom teaching.
(iv) Teachers can select appropriate software to use in their classroom teaching.

(ii) Teachers' use of ICT for instructional purposes

From the high score of acceptances (80% and above) given by the teachers with regard to integration of ICT in school curriculum on the dimension, " Teachers' use of ICT for instructional purposes" in respect of items 14, 15, 21, 23 and 25 of the scale, it is concluded that:

(i) Teachers integrate ICT in their classroom teaching for the benefit of their students.
(ii) Teachers have expressed that the use of ICT tools in classroom teaching makes them feel comfortable.
(iii) Teachers have expressed that their students take a lot of interest in the lessons they teach using ICT tools.
(iv) Teachers take it a pleasure to use multimedia for teaching purposes.
(v) Teachers use digital technology for purpose of evaluating student performance.

(iii) Working environment and support services for ICT integration in school programme

From the high score of acceptances (80% and above) given by the teachers with regard to integration of ICT in school curriculum on the dimension, "Working environment and support services for ICT integration in school programme" in respect of items 27, 29, 32 and 35 of the scale, it is concluded that:

(i) The headmasters of schools encourage the teachers to use computers effectively in their classroom teaching.
(ii) In faculty meetings, the teachers frequently discuss the ways and means of integrating ICT in teaching different subjects.
(iii)The headmaster arranges guest lectures by the experts in the effective use of ICT in classroom teaching.
(iv)The technical support in the schools to use ICT is adequate.

EDUCATIONAL IMPLICATIONS

(i) The present study helps to make the teachers realize the importance of integrating ICT in school curriculum and its effective use in the teaching-learning process.

(ii) The opinions expressed by teachers towards the use of ICT tools in classroom teaching provide inspiration for the new entrants into the profession.

(iii) The study would certainly help the administration to realize the need for providing orientation to the teachers by organizing a number of in-service training programmes on the effective use of ICT tools in classroom teaching.

(iv) The study highlights the need for the integration of ICT in school curriculum for the benefit of the students in the digital world.

(v) The teachers realize their role as 'facilitators' in guiding the students in the effective use of ICT tools in the classroom teaching.

(vi) The study would help the Academic Organizations like SCERTs, IASEs and the State Departments of Education to take necessary steps to integrate ICT in school curriculum.

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