TEACHER'S ATTITUDE TOWARDS UTILISING FUTURE GADGETS IN EDUCATION

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ABSTRACT

Today's era is an era of modernization and globalization. Everything is happening at a very fast rate whether it is politics, societal reforms, commercialization, transportation, or educational innovations. In every few second, technology grows either in the form of arrival of the new devices/gadgets with millions of apps and these latest technological objects may be in the form of hardware/software devices. We are the educationists, teachers, students and stakeholders of present Indian educational system. These gadgets/devices are partly being used by us or most of them are still unaware of these innovative technologies due to the mass media or economical factor. So, there is a need to improvise ourselves towards utilizing the future gadgets in order to explore the educational uses, barriers and preparatory-needs of these available devices for educational purposes. This paper aims to study the opinion of the teacher-educators about the usage of future gadgets in higher education. It will also contribute towards establishing the list of latest technological devices, and how it can enhances the process of teaching-learning system.

KEYWORDS

Futurology, Future Gadgets, Technological devices, Educational Technology.

1. INTRODUCTION

Human mind is born to think, to act and to implement new learning skills in the process of education for overall development of individuality. In the era of innovations, man is continuously innovating and implementing new tools, techniques and strategies in the process of teaching-learning environment no matter whatever be the level education- Formal, Non-Formal or Informal level. The best teaching-learning strategies promotes healthy classroom environment with better skills. It will further enhance the student's intellectual level and cognitive motor skills. The decreasing effect of traditional classroom activities using Paper-Pen-Pencil method towards innovative classroom practices that supports with latest technological devices such as Mobile

Phones, Image Capturing devices, Ultra-projectors, Bluetooth & Scanning devices, e-textbooks, e-readers, and various teaching devices.

The better learning skill development among learners, students, and other stakeholders can take place in the classroom environment, where the teacher has to play the most important role. In classroom teaching both teaching-learning activities goes side by side. Both teaching and learning are complimentary to each other. If the things cannot be learned properly at the initial stage, it would not be able to impart knowledge to the others. So, the classroom teaching-learning environment should be conducive, supportive and most important thing is that it must be interactive. No doubltely, in traditional teaching method nothing can be recalled easily, whereas in modern smart classrooms, 100 techniques that could be adopted by the teachers to make their teaching-learning process more effective and enthusiastic. These techniques if adopted by the teacher reduces their teaching burden, enhances students skills using real-live models in the classrooms by experiencing them with the virtual-reality, simulations, 3-D models, e-learning etc. These new devices, objects, gadgets and techniques of teaching-learning process are called as the pedagogical strategies. These strategies will help to sharpen and outline the behavior of the students in term of cognitive, affective and psycho-motor skills.

2. OBJECTIVES OF THE STUDY

➢ To identify the future gadgets that can be used in education for teacher educators.
➢ To explore the educational utilization of the future gadgets that can be used in educational purpose.
➢ To analyze the perceptions of teacher educators about the use of future gadgets that can be used in educational purpose.
➢ To analyze the perceptions of teacher educators regarding barriers about the use of future gadgets that can be used in educational purpose.
➢ To analyze the perceptions of teacher educators regarding preparatory-needs about the use of future gadgets that can be used in educational purpose.
➢ To prepare the roadmap for the future gadgets that can be used in educational purposes.

3. HYPOTHESES OF THE STUDY

Null Hypotheses

Ho. 1: There is no significant difference in the perceptions amongst stakeholders in education about the

(i) The utilization of future gadgets that can be used in education.
(ii) Barriers of utilizing the future gadgets that can be used in education.
(iii) Preparatory needs to utilize the available future gadgets in education.

Ho. 2: There is no significant difference in the perceptions of the stakeholders and gadgets expert in education about the

(i) The utilization of future gadgets that can be used in education.

(ii) Barriers of utilizing the future gadgets that can be used in education.
(iii) Preparatory needs to utilize the available future gadgets in education.

4. OPERATIONAL DEFINITIONS

FUTURE GADGETS- The Future gadgets referred to all those devices, tools and teaching aids that may not be used in Indian scenario or partly being used as sign of novelty.

EDUCATION - Education may be termed as the process of imparting knowledge and skills for overall development. It may be formal, non-formal, and in-formal education.

5. VARIABLES USED IN THE STUDY

The present research study has two types of variables one is independent variable and other is dependent variable.

Independent Variables: The independent variables are the background variables such as gender, age, stream, and teaching classes.

Dependent Variables: The dependent variables are the perception of teacher educators about the use of future gadgets teaching/instruction domain of education.

6. DELIMITATIONS

The present study is limited to one Union Territory i.e. Chandigarh region. Further the study is limited to teachers and educationists teaching in various educational, technical and professional institutions under the colleges, institutes and universities of Chandigarh region.

RESEARCH DESIGN

The investigator has used exploratory survey method to study the present problem. The self-made opinionnaire scales were administered on teachers to study their opinions.

7.1. Tools Used

The data can be classified into two broad categories namely quantitative and qualitative data. The data in the present study is based on mixed method research design. For the present study tools used are as follows:-

I.	Content Analysis Tables: - Collect data for future gadgets (Through newspapers, internet, magazines, journals, etc.).
II.	Perception scale of Teacher Educators/ Educationalists about the use.
III.	Perception scale of Teacher Educators/ Educationalists about the barriers.
IV.	Perception scale of Teacher Educators/ Educationalists about the preparatory-needs.

7.2. Collection of Data and Scoring

The tools have been administered on the 100 teacher-educators of professional, technical, and vocational courses. The collected tools have been scored in the following manner. In this tool regarding teaching/instruction domain about the use of future gadgets, the rating were based on the three point scale such as Least Relevant, Relevant, and Most Relevant and scored as 1, 2, 3 respectively. The tool was administered to teachers of engineering, technical and professional teachers of Chandigarh region of various educational institutions. The pilot study has been done on 10 experts of reputed educational institution of Chandigarh. The few statements were modified as per the expert's suggestions. Thus, for the present study only content validity of the tool has been was established.

7.3. Population and Sample

In the present study the population means the entire number of teacher educators and future gadgets availability in mass media. The sample for the present study consisted of 100 teacher educators randomly selected from the Chandigarh regions. The investigator has used simple random sampling followed by stratified simple random technique to study the attitudes of teachers towards future gadgets utilization with respect to background variables such as gender, age, streams and teaching-classes-wise. The investigator has selected a list of 234 gadgets using Content-Analysis techniques using purposive sampling method.

7.4. Statistics Used

The investigator has used "Chi-Square" test (Test of independence), frequency tables and graphical representation for the analysis and interpretation of the data.

8. MAJOR FINDINGS

The analysis of data collected from the sample leads to the following conclusions:

1.   There is no significant difference in the perception of teacher's about the utilization of available future gadgets in education in teaching/instruction domain with respect to gender. (See in Graph No.-1).
2.   There is no significant difference in the perception of teacher's about the utilization of available future gadgets in education in teaching/instruction domain with respect to age. (See in Graph No.-2).
3.   There is no significant difference in the perception of teacher's about the utilization of available future gadgets in education in teaching/instruction domain with respect to streams. (See in Graph No.-3).
4.   There is no significant difference in the perception among teachers about the utilization of available future gadgets in education in teaching/instruction domain with respect to teaching-class. (See in Graph No - 4).
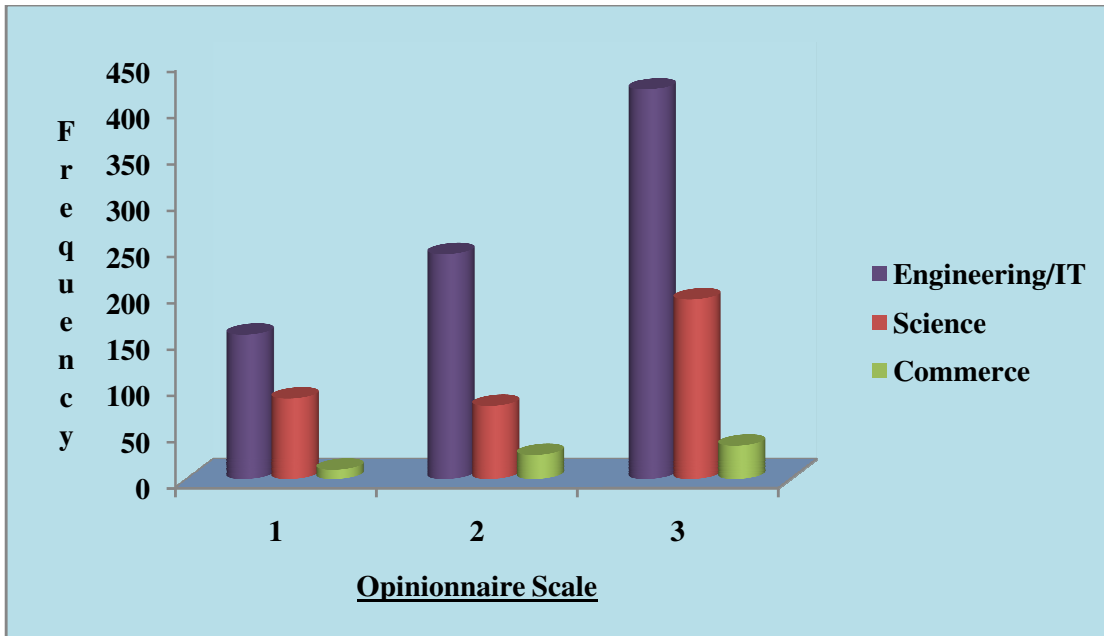
Graph-1:- Test of Independence between (Chi-Square)-Gender-Wise perceptions of teachers about the use of available Future Gadgets in education related to Teaching/Instruction domain of education.
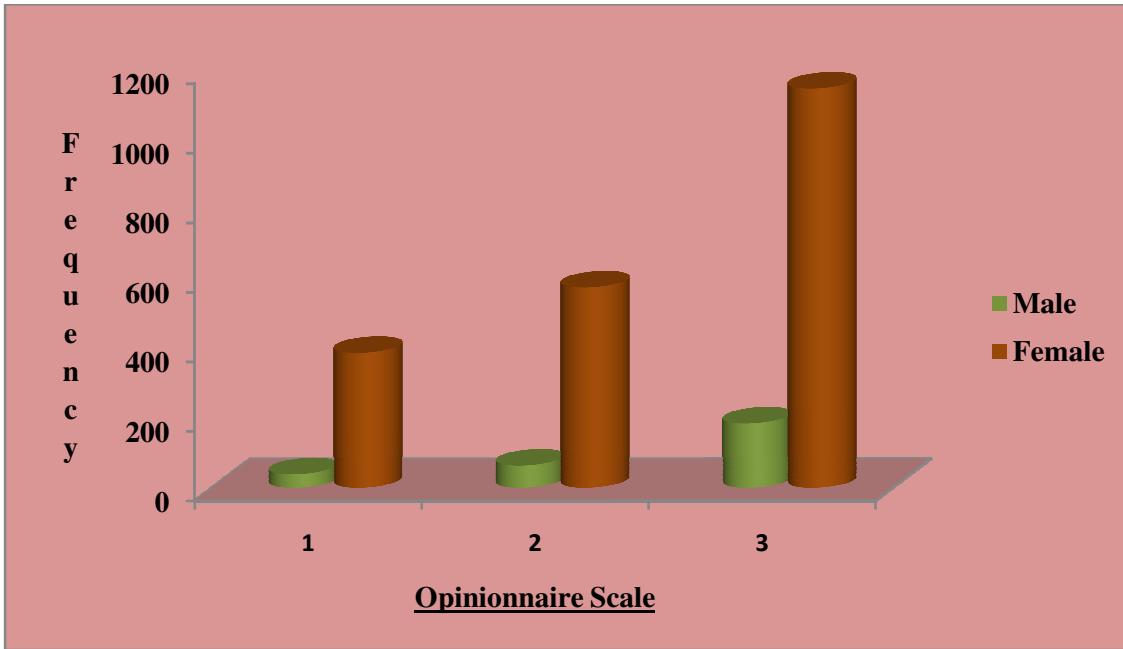
Graph-2:- Test of Independence (Chi-Square) - Age-Wise perceptions of teachers about the use of available Future Gadgets in education related to Teaching/Instruction domain of education.
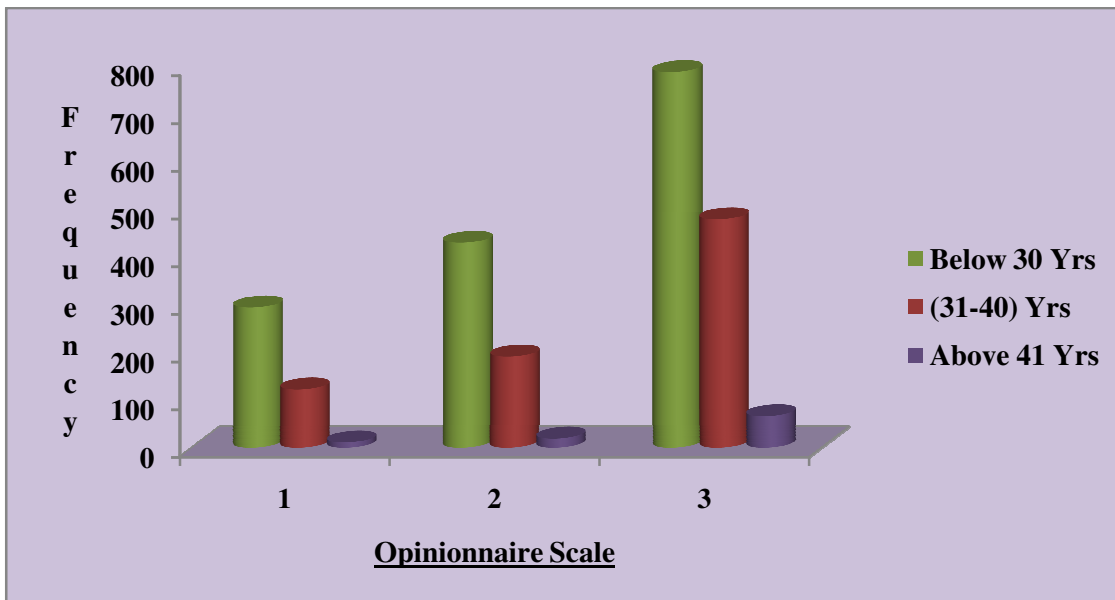

Graph-3:- Test of Independence (Chi-Square) - Stream-Wise perceptions of teachers about the use of available Future Gadgets in education related to Teaching/Instruction domain of education.

Graph-4:- Test of Independence (Chi-Square) - Teaching-Classes Wise perceptions of teachers about the use of available Future Gadgets in education related to Teaching/Instruction domain of education.
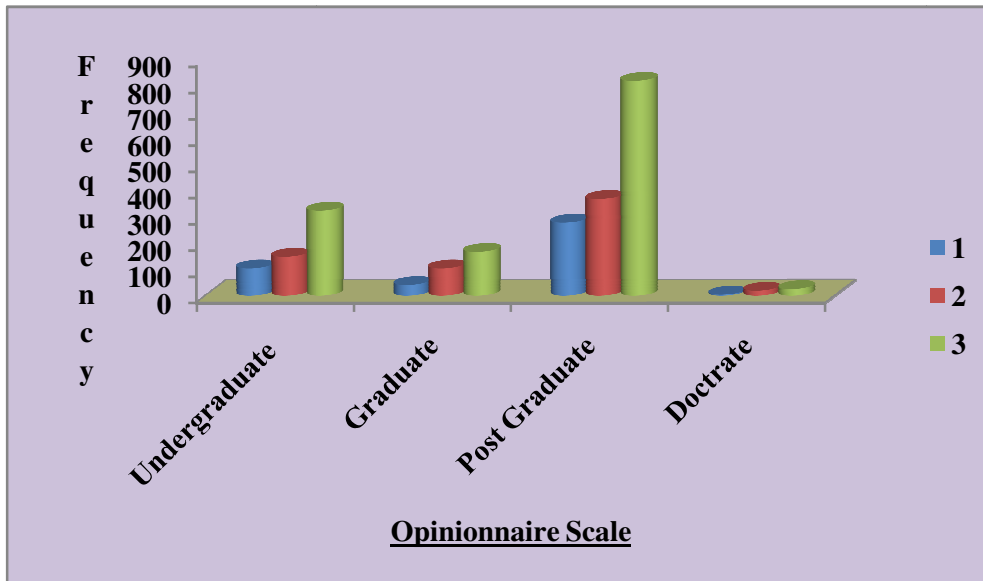
9. LIMITATIONS

➢ Due to lack of time, cost and energy, it was not possible to standardize the tool and establishing reliability of the tool, so above results should be considered in the limitations of the tool.

➢ Due to limitation of the time the present research study involved only the teacher and educationists of engineering, technical, and professional courses of Chandigarh region, India only.

➢ The background variables such as medium of instruction (Local, Regional or English level), and locality (rural/urban) could also have been included in the study.

➢ The study could also included school level teacher educators or on students, administrators, principals, educationists and other stakeholders.

➢ The special education could also be included in the present study.

10. CONCLUSIONS

The conclusion of the study is presented according to the analysis of data based on objectives and hypothesis.

10.1 Objective-Wise Conclusions

Objective 1: To identify the future gadgets that can be used in education for teacher educators.

It is possible to identify the future gadgets that can be used for educational purposes for teachers in teaching/instruction. The researcher investigated 234 available future gadgets that can be used for educational purposes in teaching/instruction domain.

Objective 2: To explore the educational utilization of the future gadgets that can be used in educational purpose.

It is possible to explore the educational uses of future gadgets for teacher-educators especially in teaching/instruction domains.

Objective 3: To study the opinion of teacher educators about the future gadgets utility with respect to their background variables regarding teaching/instruction domain of education.

The opinions of the teachers have been taken, in which most of the teachers have positive attitude towards the use of future gadgets in education. It may be because of their awareness and keen interest in the future gadgets that may effectively be used in teaching/instruction purposes thereby saving time, cost and energy with the availability of course content to the masses.

Objective 4: To analyze the perceptions of teacher educators about the use of future gadgets in teaching/instruction domains of education with respect to the gender, age, streams and teaching classes.
By analyzing the available future gadgets according to the gender-wise, it has been found that the maximum number of female teachers (1148) found that the utilization of future gadgets to be highly relevant, whereas, most of the male teachers (185) opined future gadgets to be of most usefulness in terms of teaching/instruction domain of education. Similarly, By analyzing the available future gadgets according to the teaching-class wise, it has been found that the maximum number of teachers teaching at post-graduate level (818), most of the teachers teaching at

undergraduate level (324), some of them teaching at graduate level (167) and very few of them teaching at doctorate level (25), opined the future gadgets to be of highly relevancy regarding the use of future gadgets in teaching/instruction domain of education. So on for age and streams.

Objective 5: To analyze the perceptions of teacher educators regarding barriers about the use of future gadgets that can be used in educational purpose.

From the analysis about the perception of teachers regarding barriers about the use of future gadgets, it has been found that female teachers (313) and male teachers (73) experienced maximum barriers regarding the utilization of future gadgets in education. The extent of facing obstacles is less by the female teacher (466) and male teacher (63), whereas it is least for the 382 female and 53 male teacher educators regarding usage of future gadgets.

Objective 6: To analyze the perceptions of teacher educators regarding preparatory-needs about the use of future gadgets that can be used in educational purpose.

The analysis about the preparatory-needs regarding perception of teachers about the utilization of future gadgets showed that 769 female teachers and 150 male teachers have positive perception, less preparatory-needs were shown by the female teacher (472) and male teacher (71), whereas it is least for the 178 female and 10 male teacher educators regarding usage of future gadgets.

Objective 7: To prepare the roadmap for the future gadgets that can be used in educational purposes.

It is possible to prepare a roadmap for further implementation of future gadgets to be used for educational purposes.

10.2 Hypotheses Wise

➤ There is no significant difference in the perception of teacher's about the utilization of available future gadgets in education in teaching/instruction domain with respect to gender.

➤ There is no significant difference in the perception of teacher's about the utilization of available future gadgets in education in teaching/instruction domain with respect to age.

➤ There is no significant difference in the perception of teacher's about the utilization of available future gadgets in education in teaching/instruction domain with respect to streams.

➤ There is no significant difference in the perception among teachers about the utilization of available future gadgets in education in teaching/instruction domain with respect to teaching-class.

11. RECOMMENDATIONS

Technological based learning using future gadgets is one of the approaches in the field of education in which teacher educators works conducively to attain common goal of education as described in the Continuous and Comprehensive Education (CCE), which supported teaching-learning through the use of various teaching methods including lecturing, instructing,

demonstrating, observing and presenting. Putting groups together in a room does not mean cooperative learning is taking place (Johnson and Johnson R.T. 1994).

"I dream that by 2020, schools in India will grow from buildings to symbiotic nerve centers, with walls that are porous and transparent, connecting teachers, students and community to wealth of knowledge that exists in the world. The teacher will be orchestrating learning rather than dispensing information. Teachers should help students turn information into knowledge into wisdom. Peoples of all ages will seek learning to prepare for life in the real world."

These are the words of Dr. A P J Abdul Kalam, who always inspired and encouraged the youth of India towards tackling all kinds of situations, as he said future is in the hands of peoples. Thus the revolution has now begun. The methods of teaching-learning will expect to change drastically in the near future. With technology moving leaps and bounds do not expect classrooms to be on the same mundane places for knowledge and learning. E-learning using advanced technological gadgets and electronic devices is going to play a huge role in future classrooms. Paper textbooks will become obsolete in the coming years. Innovations for future classroom using future gadgets, apple creating and developing educational apps for iPad, Mobile phone devices etc for constructing solid platform for stakeholders.

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Publications:

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- Dr. Surana edited the book "Development of Secondary Education in Rajasthan" (in Hindi), Newai, Rajasthan, Navjeevan Publication, Year -2014, Pages-316, ISBN 978-81-8268-141-5
- Dr. Surana author of book "Principles of Curriculum Design" (in Hindi), Kota, Rajasthan, Vardhman Mahaveer Open University, Govt of Rajasthan, 2010, *ISBN-13/978-81-8496-102-7*
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- **Ms. Rani & Dr. Surana** have published a research paper in *"International Journal of Innovation and Research in Educational Sciences,"* IJIRES International Journal on the topic "Perception of Students about the Use of Future Gadgets in Education". Vol. 2, Issue 3, May 2015. ISSN- 23495219.PP-175-181.
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Chapters in a Book

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