A STUDY ON PERCEPTIONS OF TEACHER EDUCATORS TOWARDS INFORMATION AND COMMUNICATION TECHNOLOGY IN TEACHING- LEARNING PROCESS

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Abstract: The use of Information and Communication Technology in education improves the quality of education and brings about desirable changes both qualitative and quantitative. Teacher education need to imbibe the skill of using computers more than anybody else in the educational setup because these teacher educators are the persons who mold the teachers and the input in the process of education. Therefore it is a need to train teachers in the use of Information and Communication Technology to get good results in the field of education. The present study is an attempt to examine the perceptions of teacher educators towards Information and Communication Technology in teaching learning process. Major objectives of the study: To analyze the perception of teacher educators towards applications of Information and Communication Technology in Teaching -Learning Process, to investigate the relationship between Teaching- Learning Process and the application of Information and Communication Technology. The study made use of both primary data and secondary data. Primary data was collected using well-framed questionnaires. Random sampling was used for sample selection and included 200 samples. The study found out that there is a significant difference in the opinion among the teacher educators of three universities with respect to Presentation Facilities and there is no significant difference in the opinion among the teacher educators of three universities with respect to `Computer Awareness', Internet Applications and Operational Skills'. There is significant relationship between Teaching- Learning Process and the application of Information and Communication Technology.

Index Terms - Perception, Technology, Computer, Teaching –Learning process and Application.

I. INTRODUCTION

Information and communication technology is a force that has changed many aspects of the way we live. Information and communication technology is a potentially powerful tool for extending educational opportunities, both formal and non-formal. Information and communication technology greatly facilitates the acquisition and absorption of knowledge, offering developing countries unprecedented opportunities to enhance educational systems, improve policy formulation and execution. Information and communication technology especially computers and internet technologies enable new ways of teaching and learning rather than simply allow teachers and students to do what they have done before in a better way. These new ways of teaching and learning constitute a shift from a teacher-centered pedagogy in its worst form characterized by memorization and rote learning to one that is learner-centered. Information and communication technology supported education can promote that acquisition of the knowledge and skills that will empower students for lifelong learning. Information and communication technology could be used in the classroom in different ways. As a Tutor, As a tool, As a Tutee, As a Teaching Resource, As a Technique of Research, As Information storage, retrieval and dissemination.

Scope of the Study:

This study is conducted in the training institutes under the Karnatak University, Dharwad, Rani Channamma University, Belgavi and Akkamahadevi University,Vijayapur Karnataka. The study took a time period of One year to complete The study shall be useful for teacher trainees to understand the importance of applications of information and communication technology in teaching –learning process.

Review of Related Literature:

"A study on perception of teachers and students toward online classes in Dakshina Kannada and Udupi District" (Abhinandan Kulal, Anupama Nayak,2020) this paper focuses on the impact of online courses on the teachers and students and the study has found that students were very comfortable with the online learning and management was also so supportive to the teachers in conducting the online classes but both students and teachers believe that online education will not replace with traditional one. "Perception of Teachers on Online Teaching In Higher Education During Covid-19 Lockdown"(Singh,2020),, this paper mainly concentrates on the perception of teachers basis on the technical knowledge, communication gap, teacher's burden etc and the study concluded that young teachers are very comfortable in online classes as they are aware about the technology and online tools. "Teacher's Perception about the Use of E-Learning/E dmodo in Educational Activities" (Nurhabibah and Yannuar, 2017), this paper focuses e-learning in teaching and learning process. The perception was investigated in terms of three aspects i.e. perception effects on motivation, ease of use usefulness. "Teachers' Perceptions of the Shift from the Classroom to Online Teaching" (Richard Watson Todd, 2020) this paper focuses on the problems faced by the teachers in the initial days of online education and experience of the teachers after many weeks of online teaching. It has concluded that though the pandemic was affected negatively, but the students learning was not much affected and it had created opportunities that could benefit in long run. Teacher's Perception Towards ICT Integration: Professional Development Through Blended Learning" (Viswa Nathappa, 2016),", this paper focuses blended mode of teaching by using the ICT. It has concluded that blended mode has provided teachers with pleasure, enjoyment while teaching with blended mode and this study may help in determining teacher's professional development for ICT integration in classrooms., "Investigation of Teacher's Attitude towards e learning-A case Study of Panjab" (Sneha Sharma, 2016), this paper tries to analyze the role of gender on perception of teachers towards e-education and concluded that teachers are in the favour of blended mode of education.

Research Gap:

Review of related literature revealed that there is not much research work has been done on Perceptions of Teacher Educators towards Information and Communication Technology. Sensing the gap the researcher has conducted this study to contribute something to this field.

Research Methodology

- **Research Problem:**

  A Study on Perceptions of Teacher Educators towards Information and Communication Technology in Teaching- Learning Process"

- **Objectives:**

  1. To analyze the perception of teacher educators towards applications of Information and Communication Technology in Teaching -Learning Process,
  2. To investigate the significant interrelationship between Teaching- Learning Process and the application of Information and Communication Technology.

- **Hypothesis:** The null hypotheses were set up for the present study.

  1. $H_0 1$: There is no significant difference among the teacher educators of three universities with respect to `Presentation Facilities'.
  2. $H_0 2$: There is no significant difference among the teacher educators of three universities with respect to `Computer Awareness'.
  3. $H_0 3$: There is no significant difference among the teacher educators of three universities with respect to `Computer Operational Skills'.
  4. $H_0 4$: There is no significant difference among the teacher educators of three universities with respect to ` Internet Applications'.
  5. $H_0 5$: There is no significant difference among the teacher educators of three universities towards the Overall perceptions in Teaching Learning Process'.

- **Operational Definitions:**

a) **Teacher Educators:** Any person male are female teacher educator or principal working in collages of teacher education, a part of the total sample (200) who answered the opinion Questionnaire and whose responses were considered in the analysis.

b) **Teaching -Learning Process:** Teaching is a process of communication for achieving certain objectives these objectives should be desirable and specific to various groups of learners. Teaching aims at helping learners to learn are change their behavior in a relatively permanent manner and involves arrangement of situations for facilitating learning. Learning is the modification of behavior and consists of all changes in thinking, feeling and doing in course of life. The teaching learning process is made effective and efficient through various strategies and techniques among student's behavior modeling and other learning skills are essential.

- **Sample and Sampling**

Simple Random method of sample selection was used to select samples for the study. 200 teacher educators of Karnatak University, Dharwad, Rani Channamma University, Belgavi and Akkamahadevi University,Vijayapur Karnataka were selected randomly.

- **Data Collection tools:**

Investigator himself prepared and standardized the too needed for his study. The tools used in this study were: a) Personal information sheet and b) Teacher Educators' Opinion Questionnaire towards Information and Communication Technology applications in teaching learning process (TOITLP)

- **Data Collection procedure:**

Copies of Teacher Educators' Opinion Questionnaire towards Information and Communication Technology application in teaching learning process developed and standardized by the investigator were administered to the Teacher Educators' studying different colleges under Karnatak University, Dharwad, Rani Channamma University, Belgavi and Akkamahadevi University,Vijayapur,Vijayapur district. The filled in data from Teacher Educators' have been collected by the investigator. The responses were given by the Teacher Educators' were relevant to the subject. Prior to the administration of the different tools the permission from the Principals of all the selected Training colleges were taken for the collection of data.

- **Statistical techniques used:**

The investigation has been carried out by the descriptive statistical analysis, such as `calculating measures of central tendency like Mean and calculating measures of `dispersion like Standard Deviation. For testing the null hypotheses, the 'F'- test and Analysis of Variance have been used by the investigator.

- **Limitation of the Study**

The analysis, Interpretation and conclusion of the study is limited to the university of Karnatak University, Dharwad, Rani Channamma University, Belgavi and Akkamahadevi University,Vijayapur,Vijayapur. Hence the conclusion cannot be completely generalized through the state or country.

Analysis and Interpretation of Data:

Table -1:

Analysis of Variance (ANOVA) – Perceptions of teacher educators of three universities with respect to `Presentation Facilities'

Area	University	N	Mean	Group	Sum of Squares	df	Mean Square	F-value	P-value
Presentation Facilities	Akkamahadevi University, Vijayapur	44	40.05	Between Groups	396.35	2	198.18	7.07	0.00
	Karnatak University,Dharwad	88	43.26	Within Groups	5519.65	197	28.02		
	Rani Channamma University, Balgavi	68	40.75	Total	5916.00	199			

Interpretation: Table-1, shows that, the ANOVA results of teacher educators of three universities with respect to `Presentation Facilities' between groups and within groups, the df values are 2 and 197 respectively and sum of squares are 396.35 and 5519.65 and mean squares are 198.18 and 28.02

respectively. The F-value is found to be 7.07 and the p-value is 0.00, which is significant at 0.01 levels. This shows that there is a significant difference among the teacher educators of three universities with respect to `Presentation Facilities'. Hence, the null hypothesis is rejected and alternative hypothesis is accepted i.e. "There is a significant difference among the teacher educators of three universities with respect to Presentation Facilities". The above data can represented graphically as follows:
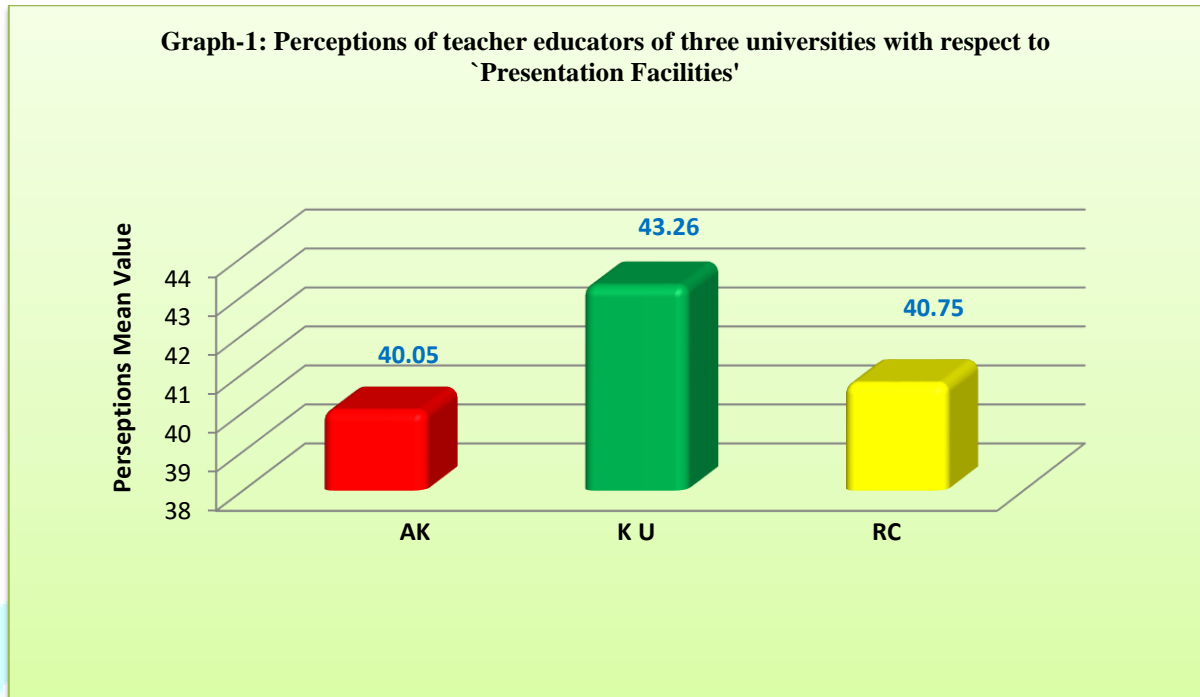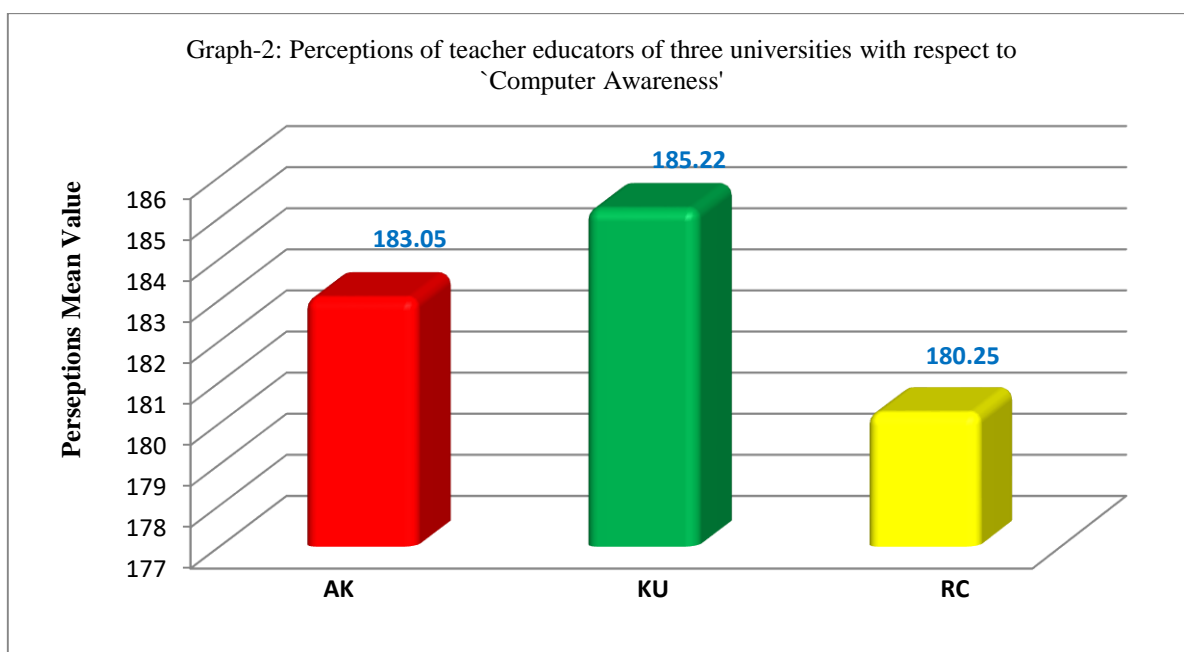
Graph-1: Perceptions of teacher educators of three universities with respect to `Presentation Facilities'

Table -2:

Analysis of Variance (ANOVA) – Perceptions of teacher educators of three universities with respect to Computer Awareness.

Area	University	N	Mean	Group	Sum of Squares	df	Mean Square	F-value	P-value
Computer Awareness	Akkamahadevi University, Vijayapur	44	183.05	Between Groups	945.94	2	472.97	1.35	0.26
	Karnatak University,Dharwad	88	185.22	Within Groups	6877556	197	34911		
	Rani Channamma University, Balgavi	68	180.25	Total	69721.50	199			

Interpretation: Table 2 shows that, the ANOVA results of teacher educators of three universities with respect to `Computer Awareness' between groups and within groups, the df values are 2 and 197 respectively and sum of squares are 945.94 and 68775.56 and mean squares are 472.97 and 349.11 respectively. The F-value is found to be 1.35 and the p-value is 0.26, which is not significant. This shows that there is no significant difference among the teacher educators of three universities with respect to `Computer Awareness'. Hence, the null hypothesis is accepted. The above data can represented graphically as follows:

Graph-2: Perceptions of teacher educators of three universities with respect to `Computer Awareness'

Table -3:

Analysis of Variance (ANOVA) – Perceptions of teacher educators of three universities with respect to Computer Operational Skills.

Area	University	N	Mean	Group	Sum of Squares	df	Mean Square	F-value	P-value
Computer Operational Skills	Akkamahadevi University, Vijayapur	44	**103.59**	**Between Groups**	**383.98**	2	191.99	2.82 NS	0.06
	Karnatak University,Dharwad	88	**106.59**	**Within Groups**	13416.78	197	68.11		
	Rani Channamma University, Balgavi	68	103.96	**Total**	**13800.76**	199			

Interpretation: Table 3 shows that, the ANOVA results of teacher educators of three universities with respect to `Computer Operational Skills' between groups and within groups, the df values are 2 and 197 respectively and sum of squares are 383.98 and 13416.78 and mean squares are 191.99 and 68.11 respectively. The F-value is found to be 2.82 and the p-value is 0.06, which is not significant. This shows that there is no significant difference among the teacher educators of three universities with respect to `Computer Operational Skills'. Hence, the null hypothesis is accepted. The above data can represented graphically as follows:
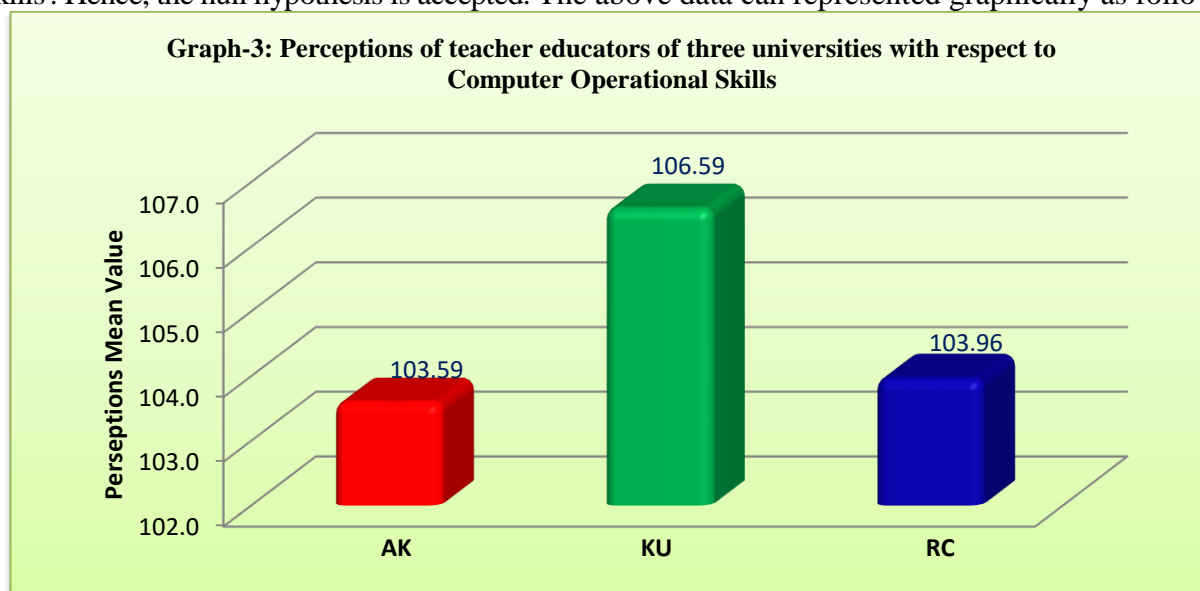

Graph-3: Perceptions of teacher educators of three universities with respect to Computer Operational Skills

Table -4:

Analysis of Variance (ANOVA) – Perceptions of teacher educators of three universities with respect to Internet Applications

Area	University	N	Mean	Group	Sum of Squares	df	Mean Square	F-value	P-value
Internet Applications	Akkamahadevi University, Vijayapur	44	48.86	**Between Groups**	299.67	2	149.83	**4.43**	**0.01**
	Karnatak University,Dharwad	88	5134	**Within Groups**	666401	197	3383		
	Rani Channamma University, Balgavi	68	48.88	**Total**	6963.68	199			

*Significant at 0.05 level

Interpretation: Table 4 shows that, the ANOVA results of teacher educators of three universities with respect to 'Internet Applications' between groups and within groups, the df values are 2 and 197 respectively and sum of squares are 299.67 and 6664.01 and mean squares are 149.83 and 33.83 respectively. The F-value is found to be 4.43 and the p-value is 0.01, which is significant at 0.05 levels. This shows that there is a significant difference in the opinion among the teacher educators of three universities with respect to 'Internet Applications'. Hence, the null hypothesis is rejected and alternative hypothesis is accepted i.e. "There is a significant difference among the teacher educators of three universities with respect to Internet Applications". The above data can represented graphically as follows:
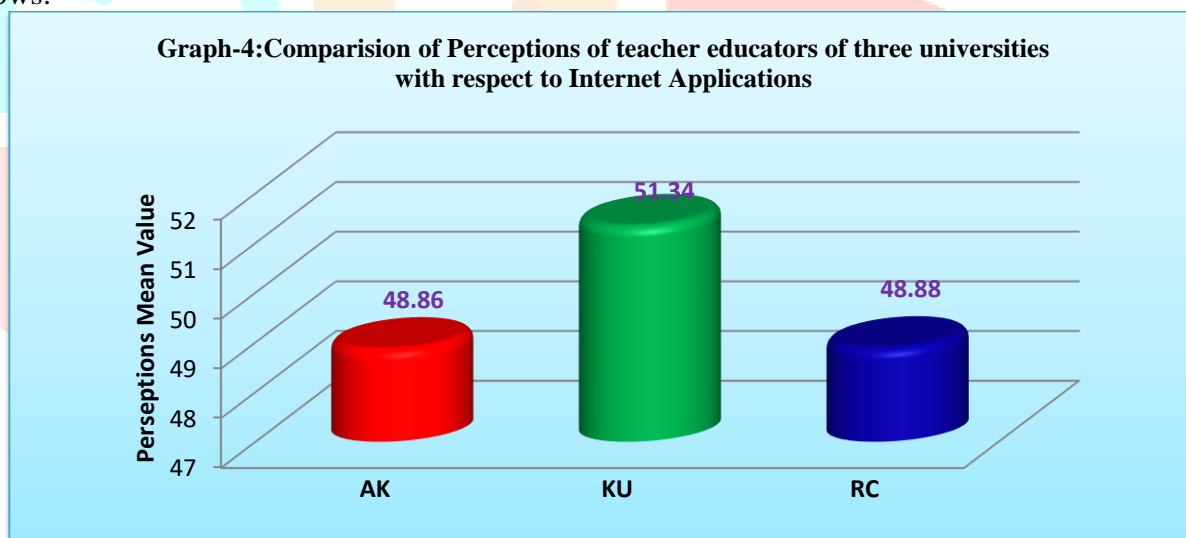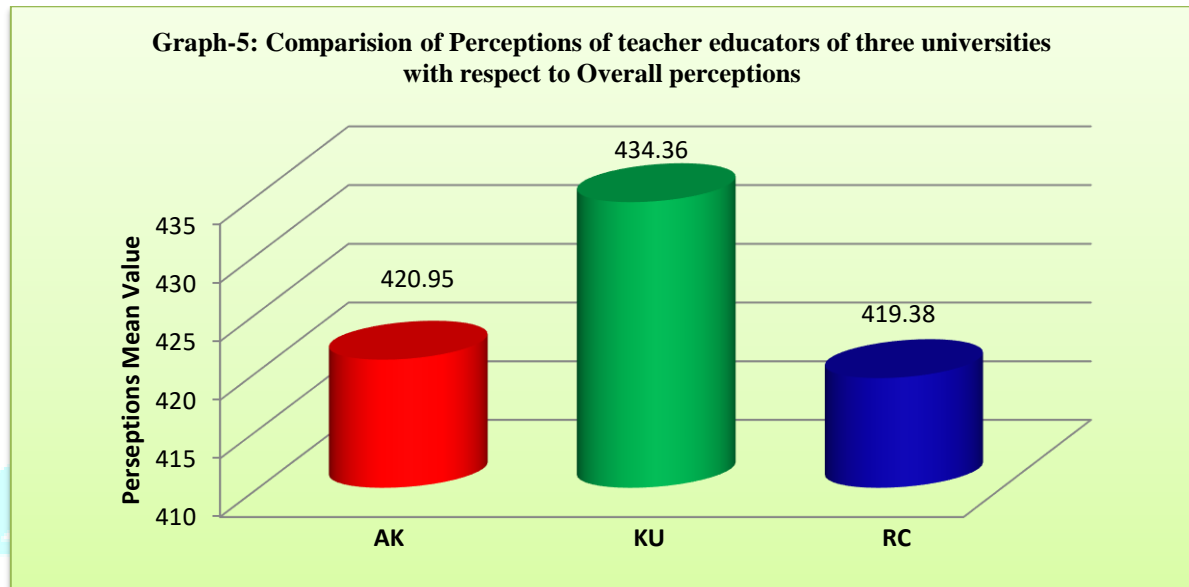

Graph-4:Comparision of Perceptions of teacher educators of three universities with respect to Internet Applications

Table -5:

Analysis of Variance (ANOVA) – Perceptions of teacher educators of three universities with respect to Overall perceptions.

Area	University	N	Mean	Group	Sum of Squares	df	Mean Square	F-value	P-value
Overall perceptions	Akkamahadevi University, Vijayapur	44	420.95	**Between Groups**	10233.19	2	5116.59	**3.57***	**0.03**
	Karnatak University,Dharwad	88	434.36	**Within Groups**	282640.33	197	1434.72		
	Rani Channamma University, Balgavi	68	419.38	**Total**	292873.52	199			

*Significant at 0.05 level

Interpretation: Table 5 shows that, the ANOVA results of teacher educators of three universities overall perceptions towards the Application of Computers in Teaching Learning Process' between groups and within groups, the df values are 2 and 197 respectively and sum of squares are 10233.19 and 282640.33 and mean squares are 5116.59 and 1434.72 respectively. The F-value is found to be 3.57 and the p-value is 0.03, which is significant at 0.05 level. This shows that there is a significant difference among the teacher educators of three universities overall perceptions towards the Application of Computers in Teaching Learning Process'. Hence, the null hypothesis is rejected and alternative hypothesis is accepted i.e. "there is a significant difference in the opinion among the teacher educators of three universities overall perceptions towards the Application of Computers in Teaching Learning Process".

Graph-5: Comparision of Perceptions of teacher educators of three universities with respect to Overall perceptions

Hypotheses Testing
1. H_01: There is no significant difference among the teacher educators of three universities with respect to `Presentation Facilities'.
   - The null hypothesis is rejected and alternative hypothesis is accepted i.e. "There is a significant difference among the teacher educators of three universities with respect to Presentation Facilities".
2. H_02: There is no significant difference in the opinion among teacher educators of three universities with respect to `Computer Awareness'.
   - The null hypothesis is accepted.
3. H_03: There is no significant difference in the opinion among the teacher educators of three universities with respect to `Computer Operational Skills'.
   - The null hypothesis is accepted.
4. H_04: there is no significant difference in the opinion among the teacher educators of three universities towards the Internet Applications in Teaching Learning Process'.
   - The null hypothesis is rejected and alternative hypothesis is accepted i.e. "There is a significant difference among the teacher educators of three universities with respect to Internet Applications".
5. H_05: there is no significant difference in the opinion among the teacher educators of three universities towards the Overall perceptions in Teaching Learning Process'.
   - The null hypothesis is rejected and alternative hypothesis is accepted i.e. "there is a significant difference in the opinion among the teacher educators of three universities overall perceptions towards the Application of Computers in Teaching Learning Process".

Result and Finding:
There is a significant difference in the opinion among the teacher educators of three universities with respect to Presentation Facilities and overall perceptions towards the Application of Computers in Teaching Learning Process". There is no significant difference in the opinion among the teacher educators of three universities with respect to `Computer Awareness', Operational Skills' and Internet Applications

Educational Implications:

Information and Communication Technology is playing very important role in teaching - learning process. It helps to make teaching - learning process more effective. Teacher Trainees are future teachers we must be train well in Information and Communication Technology skills so that they can use their in their teaching –learning process. Teacher Educators who are trainer must have positive perception as per as applications of Information and Communication Technology is concerned.

Conclusion:

From the results obtained in the present study it is found that there is a positive and significant relationship between applications of ICT and Teaching-learning process.All teachers of three universities have more positive perception towards ICT in teaching –learning process. And there is a significant difference in the opinion among the teacher educators of three universities overall perceptions towards the Application of Computers in Teaching Learning Process".

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