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A Study on the Teacher Educators Perceptions towards the Use of PCS in the Teaching-Learning Process

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Abstract – According to the study, education consists in changing natural growth. It should consider & reconcile the inborn existence of a human being in the ways of society. Education involves improving the child's behavior. The instructor must adjust the student's actions toward current social circumstances. In other words, behavioral adjustment in the direction of social ideals or circumstances should take place. Education is a development process, and it will make a person self-reliant, mentally mature, socially successful, culturally refinable, morally virtuous and spiritually advanced. In the field of teacher education, computer education is already a compulsory subject, with teachers and students beginning to apply PCS training in all areas of teacher education. During PCS preparation, teachers were found to be receptive to the integration of PCS education in the meaning of facilities, knowledge, skills, applications and assessment. The investigator took the present research problem on the expectations of teacher educators in the application of computer in the teaching learning process following a number of previous investigations & research articles in journals, and several research papers published on this topic.

Key Words – Education, PCS, PCS Training

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INTRODUCTION

Education is the procedure of human development. It is a tremendous source for enlightening, empowerment and emancipation of the human life. The essential intend of education is to professionalize individuals to become socially efficient. The system of education promotes the exposition of learner's potentialities, competencies, interests, attitudes and values for the greater cause of the social and human satisfaction. The success of any nation depends on the quality of education. Again the quality of education depends on the quality of teachers & quality of teachers to a large extent depends on teacher education. Teaching is basically a social practise that not only influences the child's learning but also his / her overall personality. The teacher is now designated as an assistant who encourages a child to learn in any possible way. He is called the friend, the philosopher who helps the child to grow his cognitively.

In all facets of life, contact plays a crucial role. It allows people to share & understand meanings because it is the core of every society. Teacher education is the acquisition of that type of knowledge, skill and ability which help a teacher to discharge his professional duties and responsibilities effectively and efficiently. Communication though has a major role in all walks of life; it has a further more significant place in the teaching learning processes. Research has shown that the teaching comprises of mainly two components *viz.* the knowledge of the teacher and his mastery over the communication skills for the transfer of the knowledge. The either one without the other defeats the meaning as well as the purpose with which it was introduced. A teacher may be very knowledgeable, but this knowledge will not serve the purpose unless it is transferred in a manner it is intended to. On the basis of the medium, communication had been divided into two parts viz. Verbal communication and the non verbal communication. . Verbal communication involves the use of the language whereas the non verbal communication is essentially based on the use of expressions, gestures, actions etc. Both the forms of the communication are extremely important for complete transfer/understanding of the content yet when it comes to the teaching learning processes, verbal communication plays a much more vital role in the transfer of the knowledge. Thus teacher occupies a very important position in teaching learning process. So well-organized teacher

education system is essential for better planned and more meaningful education. Because teacher education is an integral part of the education which is closely linked to reconstruction and reformation of the society.

RESEARCH METHODOLOGY

Research is a systematic analysis relating to some formal protocols & results and findings reporting. The research is described as "a formal method of analysis systematic & empirical." Study has proven to be a fundamental and effective instrument for advancing the human race. If no progress in the world, but in a comprehensive research effort there would have been very little progress.

Initially, research has drawn its spirit & pattern from the physical sciences, through which attempts have been made to explain the physical world around us. The use of systematic & coordinated study of observed phenomena is defined by research. Work has been undertaken to advance the field of finding new facts, which in turn contribute to better ways to do things and better goods & conveniences for living and enjoying life in general.

Computer education in the field of teacher education is now mandatory & both teachers & students have started using PCS training in all areas of teacher education. It is noticed that, when using PCS in the teacher education , teachers have always been receptive to the integration of PCS education in the context of facilities, knowledge , skills, applications and assessments. This research on standards of the application of PCS training to teacher training is also believed to be undertaken.

EDUCATIONAL RESEARCH

Education research is known as the "prominent key" to open new doors & perspectives in education. Educational research should concentrate on the search for solutions to unanswered issues. It should aim at creating new media to respond to those functional needs that have not been met previously.

DATA COLLECTION

By the survey process , the data is obtained by the census procedure. The sample approach only gathers the information from a subset of the population and draws this data for the whole population. Sampling is a rural, urban & semi-urban component study of the Andhra Pradesh State regions.

In order to classify the educator colleges & educators for the collection of data, the investigator followed simple random sampling techniques. Under a simple random sampling process, education colleges were chosen. Out of 40 educational colleges in Visakhapatnam, in the Districts of Chittoor & Srikakulam of Andhra Pradesh. Randomly picked above 40 Colleges of education. 15 of the 22 educational colleges in the district of Visakhapatnam; 15 of the 41 in the provins of Chittoor, 10 of the 43 in the district of Srikakulam in the State of Andhra Pradesh. In the plain, random sampling technique, the teacher educators were chosen five in each college in number. Together 200 pupils from 40 schools of education have been randomly selected for the analysis at three districts in Andhra Pradesh.

STATISTICAL TECHNIQUES

This analysis is qualitative, both qualitative & quantitative methods have been used to analyse data obtained. Quantitative data with basic statistical methods are analysed. The research was performed through descriptive statistical analysis including a calculation of central trend assessment like mean, & calculation of dispersion measures such as deflection standards. The 't' test and the Variance Analysis was used by the researchers to test null hypotheses. In order to define the impact of the variables under analysis, analyses of (ANOVA) variances with Scheffe's post hoc test (if ANOVA is significant). The data have been coded and prepared for SPSS analysis.

RESEARCH TOOL

John W. Best notes that, such as the tools in the carpenter 's box, every method of study is ideal for a specific purpose in a particular situation. The principles and threats or weaknesses of each data collection unit.

The methods used to obtain new facts or explore new fields are called "tools." Choosing appropriate instruments or equipment is of critical importance. Various methods for the collection of various data types are suitable. For this reason the investigator could use one or more of the tools together, two kinds of tools are created by the investigator, which are called standardised tools and instruments.

SAMPLE DISTRIBUTION

The questionnaire will be administered to teachers of colleges of education Visakhapatnam, Chittoor & Srikakulam districts of Andhra Pradesh. The investigator directly addressed the chosen B.Ed., schools, & circulated the questionnaire to the sampled respondents. The aim & method for filling the questionnaire will specifically explain to the teachers who served as respondents. The distribution of sampled respondents based on the form of college, gender , age, professional qualifications, designation, professional experience & teaching subjects will represented.

Table 1.1: Sample distribution of teacher educators by their sex wise

Gender	Frequency	Percent
Male	122	61.00
Female	78	39.00
Total	200	100.00

Table 1.1 illustrate, overall of the teacher educators 61.00 percent (122) are males & rest of 39.00 percent (78) are females who are occupied for the present research. The total teacher educators available are 200 and are collected all together.

Table 1.2 Sample distribution of teacher educators by their Age wise

Age	Frequency	Percent
Below 35 years	84	42.00
35 to 45 years	81	40.50
Above 45 years	35	17.50
Total	200	100.00

Table 1.2 illustrate, 42.00% (84) of teacher educators are younger than 35 years, 40.50% (81%) between the ages of 35 & 45 and 17.50% (35) are older than 45 years, as taken up for the current report. The total number of teachers available is 200 and is collected.

Table 1.3Sample distribution of teacher educators by their locality wise

Locality	Frequency	Percent
Rural	93	46.50
Urban	90	45.00
Semi-urban	17	8.50
Total	200	100.00

Table 1.3 depicted, 46.50% (93) of the pupils are rural, 45% (90) are from the urban community & 8.50% (17) are from the semi-urban region that is being used for the current research. The majority of the educators are rural. The total number of teachers available is 200 are collected.

Table 1.4 Sample distribution of teacher educators by their designation wise

Designation	Frequency	Percent
Lecturer	164	82.00
Principal	36	18.00
Total	200	100.00

Table 1.4 presented, Most teacher educators are teacher (82.00%, 164%) & remaining 18.00%, (36) are teaching personnel that have been studied. The total number of teachers available is 200 are collected.

Table 1.5 Sample distribution of teacher educators by their professional experience wise

Experience	Frequency	Percent
Below 5 Years	92	46.00
6 to 10 years	72	36.00
11-15 years	15	7.50
16-20 years	7	3.50
Above 20 years	14	7.00
Total	200	100.00

Table 1.5 presented, The majority of educators, 46.00% of whoms (92) are less than 5 years, 36.00% (72) are from 6-10 years, 7.50% (15) is from 11-15 years, 7.00% (14) are from above 20 years of experience & remainder, from 16-20 years of experience, is from 16% to 20 years of experience. The total number of teachers available is 200 are collected.

Table 1.6 Sample distribution of teacher educators by their qualification wise

Educational Qualification	Frequency	Percent
M.Sc., M.Ed.,	78	39.00
M.A. M.Ed.,	122	61.00
Total	200	100.00

Table 1.6 presented, 61.00% (122) most of teaching staff are MA, MED, trained staff, & remaining 39.00% (78) are M.Sc., M.Ed. qualified for this research. Mainstream of teaching staff members The total number of teachers available is 200 are collected.

Table 1.7 Sample distribution of teacher educators by their teaching subject wise

Subject Teaching	Frequency	Percent
Mathematics	27	13.50
Physical Science	23	11.50
Biology	24	12.00
Social Studies	30	15.00
English	25	12.50
Telugu	23	11.50
Foundations of Education (Philosophy)	18	9.00
Educational Psychology	11	5.50
Educational Technology and Computer Education	5	2.50
School Management and Systems of Education	12	6.00
Personality Development and Communicative English	2	1.00
Total	200	100.00

Table 1.7 depicted, Most of the teachers are social studies instructor 15.00% (30); 13.50% (27) are

teachers of maths; 12.0% (25) teach English; 12.00% (24) teach biology; 11.50% (23) teach the physical sciences; 9.00% (18) teach the education institutions; 6.00% (12) teach the administration of schools & education systems;

The teaching of personality development & communicative English, as well as the remaining 1.00 percent (2) was taught in the current course of study. The total number of teachers available is 200 are collected.

ANALYSIS AND INTERPRETATION OF DATA

The researcher would be able to draw meaningful conclusions and proper conclusions based on such study and interpretation. In order to evaluate the inherent facts or assumptions, data analysis requires a review of the tabulated content. When data obtained are carefully processed & systematically analysed, research in every area is said to be more meaningful and meaningful to accomplish. It includes separating existing complex variables into simpler bits and integrating the sections into new interpretation arrangements.

Table 1.1: Variance analysis (ANOVA) – Expectations of teacher educators in relation to presentation facilities depending on their district.

Area	District	N	Mean	Groups	Sum of Squares	df	Mean Square	F-value	P-value
Presentation Facilities	Krishna	44	40.05	Between Groups	396.35	2	198.18	7.07**	0.00
	Guntur	88	43.26	Within Groups	5519.65	197	28.02		
	Prakasam	66	40.75	Total	5916.00	199			

**Significant at 0.01 level

In Table 1.1, it indicates that df values are 2 & 197, and that the squares are 396.35 & 5519.65, respectively, & mean square values are 198.18 & 28.02, respectively, for teacher educationers based on their District & Group Presentation Facilities. The F-value is 7.07, & p-value is 0.00, important at level 0.01. This indicates that there is a big difference in the presentation facilities between the teacher teachers that are focused on their district. The null hypothesis is thus ignored.

Graph-1: Mean Comparison between Visakhapatnam, Chittoor & Srikakulam districts teacher educators with respect to Presentation Facilities

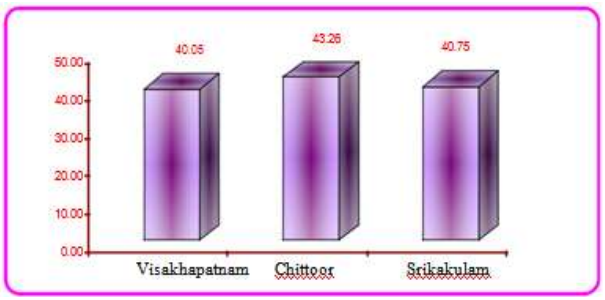


Table 1.2: ANOVA – Perceptions of teacher educators computer awareness based on their district

Area	District	N	Mean	Groups	Sum of Squares	df	Mean Square	F-value	P-value
Computer Awareness	Visakhapatnam	44	183.05	Between Groups	945.94	2	472.97	1.35 NS	0.26
	Chittoor	88	185.22	Within Groups	68775.56	197	349.11		
	Srikakulam	66	180.25	Total	69721.50	199			

NS: Not Significant

Table 1.2 shows that df values are 2 and 197 respectively & square sums are 945.94 & 68775.56 and mean squares are 472.97 & 349.11 corresponding to the 'Computer Knowledge' results from teacher education, which are focused on their district between groups & within the groups The F-value is 1.35 & p-value is 0.26, not significant. This indicates that there is no substantial difference between computer knowledge teachers depending on their district. The null hypothesis is therefore appropriate.

Graph-2: Mean Comparison between Visakhapatnam, Chittoor & Srikakulam districts teacher educators with respect to Computer Awareness

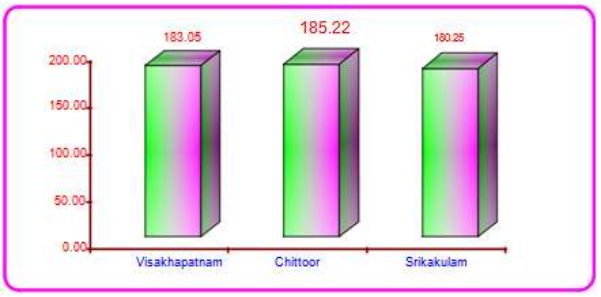


Table 1.3: Display significant gaps in presentation facilities between male & female teacher educators.

Area	Sex	N	Mean	Std. Dev.	t-value	P-value
Presentation Facilities	Male	122	40.66	5.67	2.54*	0.01
	Female	78	42.82	6.17		

*Significant at 0.05 level

Table 1.3 indicates that women teacher educators have a slightly higher mean perception of 'presenting services' (42.82) than male teachers (40.66). The 't' value is 2.54 & p-value at 0.01, important at the level of 0.05. This indicates an important disparity in the presentation facilities between male & female teacher educators. The null hypothesis is thus ignored.

Graph-3: Mean comparison of the presentation facilities between male & female teacher educators.

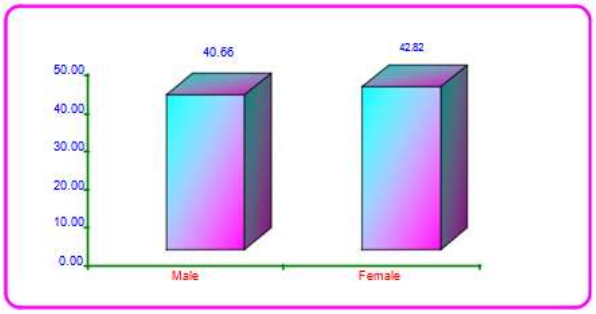


Table 1.4: ANOVA Perceptions of teacher educators in Presentation Facilities based on their age group

Area	Age	N	Mean	Groups	Sum of Squares	df	Mean Square	F-value	P-value
Presentation Facilities	Below 35 years	84	40.71	Between Groups	20.14	2	10.07	0.36[NS]	0.70
	35 to 45 years	81	40.26	Within Groups	5514.98	197	27.99		
	Above 45 years	35	39.86	Total	5535.12	199			

NS: Not Significant

Table 1.4 indicates that df values, 2 and 197 respectively and the sum of the squares, 20.14 & 5514.98 and mean squares are 10.07 and 27.99, are based on ANOVA findings for teacher educators in terms of 'Presentation facilities' based on their Age Groups between groups & within groups. The value of F is 0.36 & the value of p is 0.70, that is not significant. This indicates that there is no major difference in the 'presentation facilities' for teacher teachers depending on their age group. The null hypothesis is appropriate.

Graph-4: Mean comparison of teachers in the age group under 35, 35 to 45 and over 45 with the presenting facilities

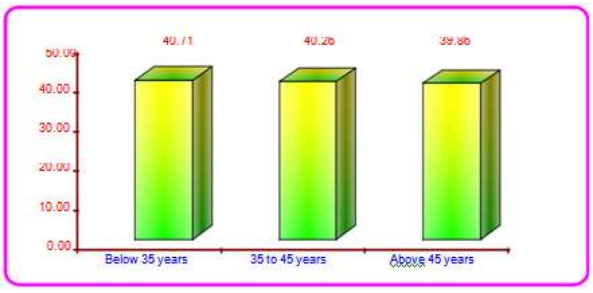


Table 1.5: ANOVA Perceptions of teacher educators in Computer Awareness based on their age group

Area	Age	N	Mean	Groups	Sum of Squares	df	Mean Square	F-value	P-value
Computer Awareness	Below 35 years	84	183.27	Between Groups	402.48	2	201.24	0.58[NS]	0.56
	35 to 45 years	81	181.07	Within Groups	68618.94	197	348.32		
	Above 45 years	35	179.54	Total	69021.42	199			

NS: Not Significant

The results from Table 1.5 indicate that the df values are 2 & 197, and the number of the squares is 40,48 &68,618,14 and the mean squares are 201.24 & 348,32 respective. In Table 4.10, the results from ANOVA for machine consciousness of educators based on their age group between groups & between groups. The F-value has been found to have a 0.58 and the p-value to be 0.56. This indicates that there is no significant difference in 'computer knowledge' amongst teacher educators depending on their age group. The null hypothesis is appropriate.

Graph-5: Mean comparison of computer awareness educators below 35, 35 to 45 & over 45 years old

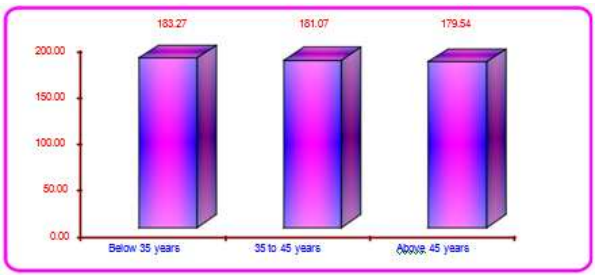


Table 1.6: ANOVA Perceptions of teacher educators in Presentation Facilities based on their Locality

Area	Locality	N	Mean	Groups	Sum of Squares	df	Mean Square	F-value	P-value
Presentation Facilities	Rural	93	39.41	Between Groups	1168.56	2	584.28	19.59**	0.00
	Urban	90	44.17	Within Groups	5875.44	197	29.82		
	Semi-urban	17	38.82	Total	7044.00	199			

**Significant at 0.01 level

Table 1.6 indicates that, with the ANOVA findings, the DF values for teacher educators are 2 & 197 respectively and the squares total is 1168.56 & 5875.44 and mean squares are five hundred eighty and two hundred. The F-value was established at 0.01 level at 0.59 & p-value is 0.00. This demonstrates that there is a significant difference in the presentation facilities amongst teacher educators based on their locality. The null hypothesis is ignored.

Graph-6: Mean Comparison Presentation Facilities between Rural, Urban & Semi-Urban area teacher educators

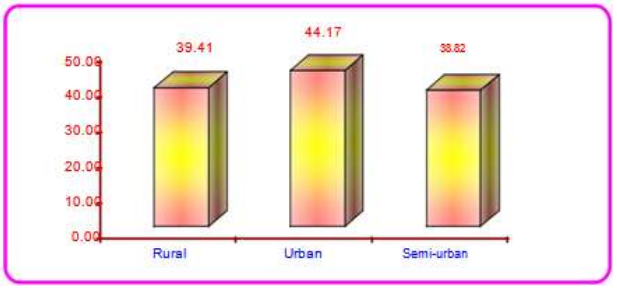


Table 1.7: ANOVA Perceptions of teacher educators Presentation Facilities based on their experience

Area	Experience (in years)	N	Mean	Groups	Sum of Squares	df	Mean Square	F-value	P-value
Presentation Facilities	Below 5	92	40.32	Between Groups	5.52	4	1.38	0.05 NS	1.00
	6 to 10	72	40.43						
	11-15	15	40.87	Within Groups	5529.60	195	28.36		
	16-20	7	40.29						
	Above 20	14	40.07	Total	5535.12	199			

NS: Not Significant

The results of ANOVA for teacher education showed in Table 1.7 that df values are 4 & 195 and squares are 5.52 & 5529.60 and median squares are 1.38 & 28.36 respective, based on their own experience among group and group. It is noticed that the f-value is 0,05, & p-value is 1,00. This indicates that the experience of teacher educators as regards 'presentation services' makes no substantial difference. The null hypothesis is appropriate.

Graph-6: Mean comparison Presentation Facilities of less than 5 years, 6-10 years, 11-15 years, 16-20 years &over 20 years of instructor experience in teaching equipment

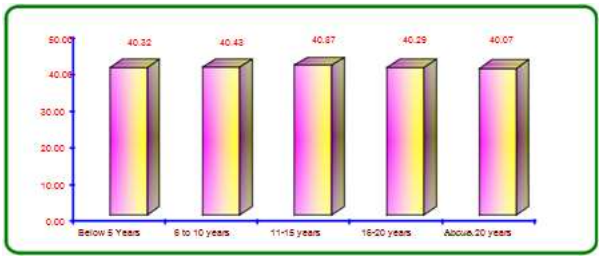


Table 1.8: Distinguishing significantly M.Sc., M.Ed. & M.A. M.Ed., professor educators for presentation facilities.

Area	Educational Qualification	N	Mean	Std. Dev.	t-value	P-value
Presentation Facilities	M.Sc., M.Ed.,	78	43.97	4.25	9.18**	0.00
	M.A. M.Ed.,	122	38.08	4.54		

**Significant at 0.01 level

Table 1.8 indicates that the mean understanding of the 'Submission Facilities' (43.97) by M.Sc., M.Ed., trained teacher educators is far higher than the M.A. M. Ed., educators (38.08) eligible teachers. The 't' value is 9.18 & p-value is 0.00, important at the stage 0.01. Which demonstrates that M.Sc., M.Ed. and M.A. are significantly different. M.Ed., professor-trained educators in terms of facility presentations. The null hypothesis is thus ignored.

Graph-7: Mean Comparison Presentation Facilities between M.Sc., M.Ed., & M.A. M.Ed., qualified teacher educators

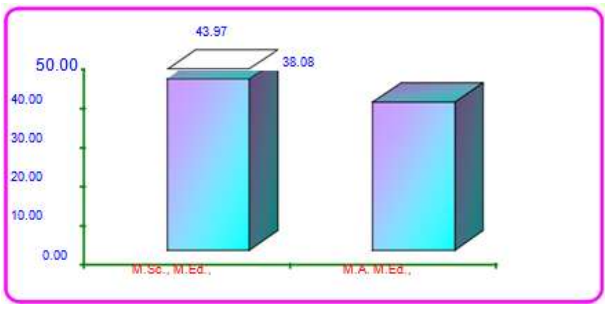


Table 1.9: ANOVA Perceptions of teacher educators Computer Operational Skills based on their Subject Teaching

Area	Subject Teaching	N	Mean	Groups	Sum of Squares	df	Mean Square	F-value	P-value
Computer Operational Skills	Mathematics	27	102.15	Between Groups	1101.71	10	110.17	1.69 NS	0.09
	Physical Science	23	109.17						
	Biology	24	101.83	Within Groups	12321.04	189	65.19		
	Social Studies	30	101.47						
	English	25	104.56	Total	13422.76	199			
	Telugu	23	104.13						
	Foundations of Education Philosophy	18	103.11						
	Educational Psychology	11	104.27						
	Educational Technology and Computer Education	5	107.20						
	School Management and Systems of Education	12	103.00						
	Personality Development and Communication English	2	101.00						

NS: Not Significant

Table 1.9 indicates that df values, respectively, are 10 & 189, and squares are 1101.71&12321.04 in total and mean 110,17 & 65.19 in terms of 'computer operational skills' based on their topic teaching between groups and in groups. The F-value was 1.69 & p-value was 0.09, not important. This indicates that there is no significant difference in computer operational skills between teachers based on their subject teaching. The null hypothesis is appropriate.

Graph-9: Mean Comparison between Mathematics, Physical Science, Biology, Social Studies, English, Telugu, Foundations of Education, Educational Psychology, ET & CE, SM & SE, PD & CE subject teaching teacher educators of Computer Operational Skills

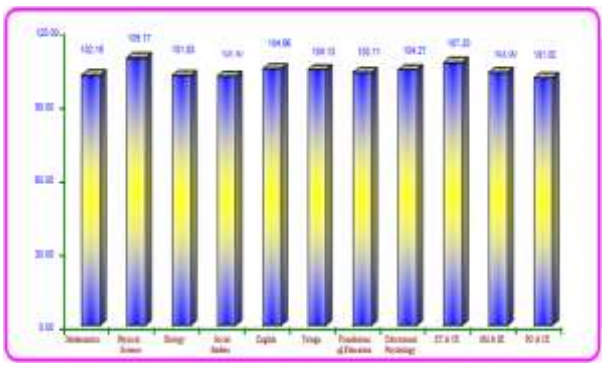


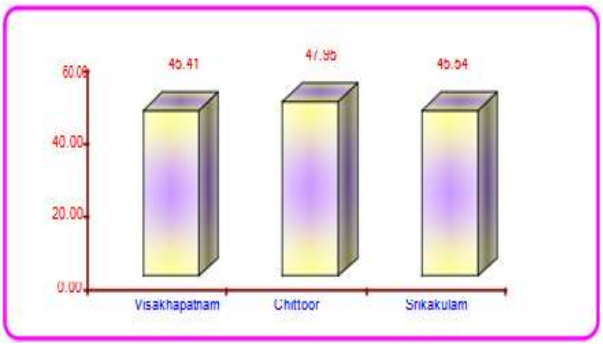
Table 1.10: ANOVA – Perceptions of teacher educators Computer based Evaluation based on their district

Area	District	N	Mean	Groups	Sum of Squares	df	Mean Square	F-value	P-value
Computer Based Evaluation	Visakhapatnam	44	45.41	Between Groups	299.55	2	149.78	4.61*	0.01
	Chittoor	88	47.95	Within Groups	6405.32	197	32.51		
	Srikakulam	68	45.54	Total	6704.88	199			

*Significant at 0.05 level

Table 1.10 indicates that the ANOVA results for teacher educators are 2 & 197, and the Summits are 299.55 & 6405.32 and the Mean squares is 149.78 & 32.51 for 'The Computer based Evaluation' based on their District between classes and within groups. The F value is 4.61 and the p-value is 0.01, important at the stage 0.05. This indicates that there are major variations in 'computer-driven assessment' between teacher education staff based in their districts. The null hypothesis is dismissed.

Graph-10: Mean Comparison of Computer based Evaluation between Visakhapatnam, Chittoor & Srikakulam districts teacher educators



CONCLUSION

The above results in the study indicate that teacher trainers will see the availability and degree of computer education in schools. Educational educators have strong computer skills, but in teacher training institutions the facilities for applying and incorporating computer education are highly nominal. There are very different facilities for presenting computers & their actual use in the college. Just teacher teachers use the Internet in their academic daily updates in a minimal way. Software use is also very limited in the assessment process. They are used at most to tabulate students' marks & grades.

With this scenario in mind, machine learning incorporation into teacher training has become a curriculum, but not in a real sense. Despite its role in the acquisition & sharing of information, Computer Education has not provided due recognition. It is also noted that many of the study's variables have no major impact on perceptions of computer usage in teacher education. The study therefore concludes that computer integration in the education of teachers is still being successfully applied, tracked, promoted and altered from time to time in the field of education teachers in advanced countries worldwide.

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