IMPACT OF E - EDUCATION ON TEACHING AND LEARNING PERFORMANCE IN ENVIRONMENTAL SCIENCE AT GRADUATE LEVEL

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ABSTRACT:

In the current study aims to study the Impact of E-Education on Teaching & Learning Performance in Environmental Science at Graduate Level. 10 Researches done in India and 10 researches from foreign origins were studied in order to gain an understanding of the existing research and debates relevant to a particular topic or area of study. The Descriptive i.e. Survey research method was utilized in order to carry out this study. The research tools & techniques used are Questionnaire, Pre & Post. Statistical tools used were ANOVA, Sample T-test, Demographic Variables, Factor Analysis and further alike terms like tables, graphs, diagrams, etc. This specific specimen consists of responses from 11 Teacher respondents along with 134 Student respondents which were further analyzed and interpreted. The outcomes show that the marks obtained by the students when taught with the help of E-Education & latest technological tools with comparison to when taught with the traditional methods increased which invites our attention towards the fact that when education is given with the assistance of E-Learning, the students understood the concept more clearly, and in a less span of time. Along with the same, the results of the study also represented that teachers if trained accordingly, would handle the E-Educational tools easily. Considering the same, Conclusions, Recommendations, etc were given.

KEYWORDS: *Impact, E-Education, Graduate Level.*

INTRODUCTION:-

Learning is one of the key factors for sustainable development.The importance of education, especially in developing countries, is increasing with increasing pressure, as an example related to the developed world, global competitiveness. It is estimated that educational settings are different in developing countries than in developed countries, such as lower quality of learning and higher probability of having more distance to schools in rural areas. Chimbombo, says that country-specific conditions regarding compulsory and free learning should be improved in order to gain general access to education. Learning and Teaching activities can be defined as interactions between learners and the environment, which will lead to a planned outcome. It is a planned outcome that makes Learning And Teaching a purposeful activity. Learning and Teaching is defined as a change in behaviour.

In other words, Learning and Teaching is approached as the end result of some process. It can be recognized or viewed. Learning and Teaching in behaviour through experience, instruction, or practice is a measurable and relatively permanent change. Although individual learning is selective, collective learning is essentially political. Its results largely depend on the strength of

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1

the group. Learning and Teaching cannot be measured by itself, but it can have consequences. Learning and Teaching is the product of interaction. Based on the intuition of learning and teaching are design, learners and teacher can interact with content and / or with other people, teachers and educators? Many teachers put a lot of effort into designing their teaching to maximize interaction value. Every year, more and more people in the world connect to the network, increase their bandwidth, and integrate more with everything in the world. Connectivity to this network has become the key to opportunity, success and fulfilment for individuals. Use of E-Education & Utilization of E-Educational tools wherever needed saves money, time and other important resources and teachers can easily handle it along with a point of view of students, they understand rock like hard theories and concepts very easily as animation, audio, etc helps the human psycho to do so.

Objectives of Research : The proposed research work will be carried out with specific objectives. To develop the multimedia software package, for the subject of Environmental Science at graduate level.
1. To study the effectiveness of traditional teaching on graduate students
2. To study the effectiveness of teaching by multimedia software package
3. To compare the performance on the basis of the traditional method of teaching learning and multimedia software package teaching learning on graduate students

Hypothesis of the Research :
1. E-Education & multimedia is useful for students of environmental science subject at graduate level of B.A II & B.COM II.
2. After teaching the same with adaption of e-educational tools and multimedia assistance, understanding level of the student's increases and the concepts that are very difficult melt out to be easy.
3. E-Education marks the positive, significant and constructive impact on Teaching and Learning Performance at Graduate Level.
4. E-Education is an effective tool to facilitate the teaching learning process at graduate level.
5. The tools of E-Education and e-leaning are supplementary to the traditional mode of teaching learning.
6. A group of students under the Experiment gained significantly in the subject of Environmental Science; the level of performance/ understanding of the subject matter are significantly high compared to control group who follow traditional method of teaching after conducting the test prepared by the Researcher.
7. The strategy based e-education policy is highly useful for all inclusive education at graduate level.

Limitation of Research work : This research is limited only to the Colleges affiliated to P.A.H.S. University, Solapur & only B.A. 2nd & B.Com. 2nd year students. This research is limited to only Environmental Science. The impact of E-Education on teaching learning performance in Environmental Science is only to be considered; no other aspect or factor are not considered and acceptable.

Methodology : The research study was constructed for the sake of finding out the impact of E-Education on Teaching Learning Performance in Environmental Science at Graduate Level. Descriptive Research Method i.e. Survey Method was used accordingly for this particular research study. This study was conducted on a sample of 1072 students from B.Com II Year (Commerce) & B.A II Year (Arts), out of which 240 were selected for the Pre & Post test, Out of which 134 responded.

Research Tools and Techniques : This aspect of the study included a Questionnaire for Teacher Respondents & a Pre & Post Test for Student Respondents.

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2

Statistical Tools : For the current study, the research scholar has utilized ANOVA, Sample T- test, Demographic Variables, Factor Analysis and further alike terms like tables, graphs, diagrams, etc.

Analysis of Data :
4.4.2 Conformity Factor Analysis for e-Learning (Teaching and Learning) Practices :-

Table No. 4.7 : E-Learning Practices of Faculties/Respondent

- **Factor 1: Teaching Efficiency :-**

Variable	Mean	S.D	Factor Loading	Eigen Value	%
Get guest lecturers and experts from CDROM for teaching	3.56	1.084	0.813		
Create audio and video graphics in CD-ROM for teaching	3.89	1.053	0.693	9.397	26.193
Providing multisensory stimulation through music and sound effects	2.67	1.503	0.657		

- **Factor 2 : Support :-**

Variable	Mean	S.D	Factor Loading	Eigen Value	%
Preparation of Multimedia Presentation with 2D/3D Animation	3.73	1.103	0.839		
Video Conferencing Techniques for Interaction with Student	3.86	0.996	0.728	2.905	8.032

- **Factor 3 : Digital and Services :-**

Variable	Mean	S.D	Factor Loading	Eigen Value	%
Uses of digital library to gather study information	3.49	1.074	0.794		
Interaction with Student by using Social Media	3.91	0.883	0.761	2.251	6.031
Increase motivation and confidence in students by using Social Media	3.79	1.164	0.684		

- **Factor 4 : Resources :-**

Variable	Mean	S.D	Factor Loading	Eigen Value	%
Assigned topic related information download from the internet	3.71	1.203	0.854		
Printer uses for learning material	3.70	1.158	0.738	2.058	5.518

- **Factor 5 : Information Collecting :-**

Variable	Mean	S.D	Factor Loading	Eigen Value	%
For preparation of shapes drawing tools should use	3.86	1.021	0.709		
Make available course material on internet	3.92	0.987	0.702	1.917	5.081
Search Engine Uses	2.61	1.109	0.681		

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3

▪ **Factor 6 : Presentation :-**

Variable	Mean	S.D	Factor Loading	Eigen Value	%
Uses of Presentation Tools	**2.98**	**1.069**	**0.834**		
With the help of CD-ROM describe images related to subject	**3.71**	**1.048**	**0.681**	**1.807**	**4.791**

▪ **Factor 7 : Effectiveness of Tim :-**

Variable	Mean	S.D	Factor Loading	Eigen Value	%
Personal chat with student to make confidence with them	**3.29**	**1.182**	**0.723**		
Habitual of educational website visit through internet	**3.89**	**0.938**	**0.697**	**1.714**	**4.487**

▪ **Factor 8 : Knowledge :-**

Variable	Mean	S.D	Factor Loading	Eigen Value	%
Using Excel and other tools prepare students mark list	**3.73**	**0.910**	**0.643**		
Use the Internet to effectively present topics for multimedia presentations.	**3.89**	**0.971**	**0.628**	**1.187**	**3.148**

From the above table it was found; Professors practice e-learning in educational institutions for graduate level, which is very useful and valuable in teaching. From the data obtained, it is worth noting that e-learning methods are available in educational institutions. Hearing practice is drawn with eight components. Reliability of the scale item evaluated with the application of Cronbach's alpha in component analysis. The range of values of all components shows an internal consistency between 0.628 and 0.854. Further to test the sample, Kaiser-Meyer-Olkin measured the adequacy of sampling, which was found to be 0.806. This indicates that the sample is good enough for sampling.

Furthermore, the full significance of the correlation metric has been examined by the Bartlett test as well as the validity of the data for component analysis. According to the Kaiser-Meyer-Alkin measure of the adequacy of the sample and Bartlett's sophistication test, the KMO figures differ between 0 and 1. A 0 indicates that the sum of the partial correlations is greater than the sum of the correlations, indicating the prevalence Correlation pattern. Nearby values indicate that the correlation patterns are relatively compact and therefore factor analysis should produce different and reliable components.

Kaiser recommends accepting values greater than 0.5 as acceptable. Further more value between 0.5 and 0.7The value difference between, 0.6, 0.7 and 0.8 are good. The values 0.8 and 0.9 age good and values above 0.9 are great. Barlett's test evaluates zero hypotheses which are the original correlation matrix which is measured as an identification matrix, in order to work for component analysis we need to know some of the relationships in the variables. The table shows the specific percentage of differences of all components arising from factor analysis, the professors followed e-learning methods in the educational institution of e-learning.

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Table No. 4.8 : KMO and Barlett's Test

Sampling Adequate of Kaiser-Meyer Olkin		0.806
Bartlett's test for sphericity	Chi.Square	2734.803
	Df	681
	Sig.	0.000 36.279

The table shows linear elements in the data set. The metrics of the initial correlation obtained show that most objects have a coefficient greater than 0.6. A close examination of the rotating component matrix shows that some objects are internally related while some are highly cross. Therefore, as suggested by Brown (2006), based on the criteria of component loading, cross loadings, ethnicity, behavior and interpretability, some items were not excluded. Eigen values are related to each component that represents the difference explained by that particular linear component and also displays the Egan value in terms of the percentage of difference.

So, factor 1 gives an explanation of the total variation of 26.193, then subtracts all the components with engine values greater than 1, so we have eight factors. Eigen values are again correlated with these elements and are displayed in columns labeled as the sum of the sum of the square loadings. In this last part of the table, the engine values of the components after rotation are shown. Rotation is the effect of the adaptability of the component elements and one consequence of this data is that the relative importance of the seven components is equalized.

Before rotation, factor 1 is counted as more variation, while the remaining seven, however, after removal is only 8.728. The main factor analysis works on the initial assumptions that all variations are common; therefore, these communities are all 1 before removal. Disabled and removed species in the column show general differences in the data structure, while the original 43% are retained by the original elements and the original 39 are extracted from the original variables.

The above table 4.8 describes about e-Learning Practices of Faculties/Respondent shows that the rotated factor which having extracted eight factors. Identification of faculty followed e-learning practices with the variables of guest lecturers and experts from CDROM for teaching at the factor loading value of 0.813, creating of audio and video graphics in CD-ROM for teaching at the factor loading value of 0.693 and provided of multisensory stimulation through music and sound effects at loading factor of 0.657.

Factor 2 which is called Support is extracted with two variables only, one with the Preparation of Multimedia Presentation with 2D/3D Animation at loading value of 0.839 and second is Video Conferencing Techniques for Interaction with Student at loading factor of 0.729.

Factor 3 which is called as 'Digital and Service' with three variables that are Uses of digital library to gather study information at factor loading value of 0.794, Interaction with Student by using Social Media at factor loading value of 0.838 and increased motivation and confidence in students by using Social Media at factor loading value of 0.684 are available in all times.

Factor 4 called as 'Resources' clubbed with two variable, faculties are assigned topic related information download from the internet at factor loading value of 0.854 and uses printer for learning material at the factor loading value of 0.738.

Factor 5 called as 'Information collection' clubbed with three variables that are uses of preparation of drawing shape tools at factor loading value of 0.709, make available of course material on internet at factor loading value of 0.702 and uses of search engine at 0.681.

Factor 6 called as 'Presentation' which is clubbed with two variables that are 'uses of presentation tool at factor loading value of 0.834' and another variable is 'describes images related to the subject with the help of CD-ROM' at 0.681 factor loading value.

Factor 7 called as 'Effectiveness of Time' which has clubbed with two variables that is 'to improve the confidence in student faculties have personal chat with them' at 0.723 factor loading value and 'habitual of educational website visit through internet' at 0.697 factor loading value.

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Factor 8 called as 'Knowledge' which has clubbed with two variable that are 'using excel and other tools prepare student mark list' at 0.643 factor loading value and another variable 'uses of internet to effectively present related topics for multimedia presentation' at 0.628 factor loading value.

4.4.3 Testing of ANOVA for Variables :-

Table No. 4.9 : Significance Difference between e-learning practices of faculty and educational qualification

Demography of Faculties	Variable factors of e-Learning	Mean Square	F-value	Sig.
Educational Qualification	Teaching Efficiency	0.904	1.073	0.392
	Support	2.127	2.286	0.037
	Digital Services	2.931	4.717	0.004
	Resources	0.248	0.283	0.937
	Information Collection	0.762	0.891	0.492
	Presentation	0.458	0.413	0.837
	Effectiveness of Time	1.725	1.803	0.158
	Knowledge	0.631	0.637	0.683

The ANOVA output of e-learning practice and the educational qualifications of the respondents are presented in the table. It can be seen from the table that the basic value of the variable and the academic practice component of the educational qualification in the institution. There is no statistically significant difference in the square responses to the eight components of the academic qualification and the six components of the e-learning methods. The critical value in the teaching efficiency variable 0.392 is greater than the p value of 0.05.The variable resources significant value 0.937 is greater than p-value of 0.05, the variable 'Information Collection' significant value is also greater than p-value of 0.05, also the variable 'Presentation' significant value is greater than 0.837, and significant value 0.158 of variable 'Effectiveness of Time' is also greater than p-value of 0.05, and also the significant value 0.683 of variable 'Knowledge' is greater than p-value of 0.05, it is seems that out of eight variables significant value of educational qualification are greater than p-value of 0.05, whereas the significant value of two variables of educational qualification are less than p-value of 0.05, in which the variable 'Support' significant value 0.037 is less than p-value of 0.05 and the variable 'Digital Service' significant value 0.004 is also less than p-value of 0.05.

It means statistical mean difference of 'Educational Qualification' six variable are greater than p-value of 0.05 and 'Support' and 'Digital Service' variables are showed statistical mean significant reply for educational qualification.

Discussion :-

In the faculty population, e-learning practice components include variables such as teaching efficiency, support, digital and services, resources, information gathering, presentation, time effectiveness, knowledge. The study found that the academic qualifications of professors were being used at the master's degree, other, undergraduate and doctoral levels. The purpose of this research is to describe what is currently known about the academic qualifications of the faculty and the e-learning practice by analyzing the existing literature to reflect on further research. Faculty teaching efficiency creates an entirely new learning environment for students through e-learning practice, so different skills are required to be successful. Efficiency motivates students and is committed to learning. E-learning practice provides support for instruction to students studying in classrooms and institutions. Digital shows to use digital library, email in digital content to collect study material. Source content is information downloaded from the Internet and printers. It has been found that information is collected from search engines to create documents and gather information. The presentation is illustrated by

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PowerPoint slides and images. Practice that focuses on the e-learning and teaching process is based on working strategies and practice standards for a virtual learning environment. According to the evidence, alignment practice based on teaching and learning principles can support online learning courses by developing a model of the learning and teaching process. Through professors, a large number of researchers have turned their attention to e-learning practice. In summary, the meanings of more than two separate groups are compared, one way to intervene from the mixed oak results. The results show the average score of faculties' e-learning practice according to their academic qualifications, which shows the differences in the media; The F-test was performed to examine the significance of differences in media. The p-value 0.001<0.05 shows statistical difference between the mean at 0.05% significant level. Thus, the qualifications of faculty members of graduate level have a significant impact on their studies in e-learning.

Moreover, the value of Eta Square (n^2 = 0.04) is that Cohen believes that the effect of academic qualification on the e-learning practice of professors in e-learning is small. Mustafa Harun Kane's research was conducted and no difference was found between the academic qualifications of the professors and their methods of using e-learning in the institutions (F = .357, p = .732). Whereas the mean values of faculties who had done their Ph.D. degree qualification having significantly favourable opinion than those who had a master's degree and a bachelor's degree,so hypothesis were rejected based on data results.

The hypothesis was rejected on the basis of ANOVA's one-way results which reflect the uniqueness of faculties at graduate level 'academic qualifications and their methods of using e-learning in the institution. The results confirm the findings of Gorder (2008) which showed a significant relationship between e-learning practice and the academic qualifications of professors.

Table No. 4.10 : Significance Difference between e-learning practices and Age of Faculties

Demography of Faculties	Variable factors of e-Learning	Mean Square	F-value	Sig.
	Teaching Efficiency	0.591	0.712	0.603
	Support	1.538	1.710	0.168
	Digital Services	1.159	1.687	0.172
Educational Qualification	Resources	0.627	0.719	0.597
	Information Collection	1.166	1.421	0.243
	Presentation	2.559	2.613	0.047
	Effectiveness of Time	0.416	0.404	0.822
	Knowledge	0.868	0.897	0.482

The above table 4.10 describes about the significant mean difference between e-learning practices and age of faculties of graduate level. To check for differences, different age groups and e-learning methods, one-way analysis of variance testing is used among professors by age. To establish which groups differ significantly from each other, the Tookie HSD Post HOC test is performed for multiple pair-wise comparisons. Age differences between e-learning methods are investigated by ANOVA. This result of age is shown in Table 4.10. the mean score of age of the respondent group of 25-34, 35 – 44, 45 – 54, 55 – 65 and above 65 years of age. Since statistically significant group differences exist, a Tukey HSD post is examined to compare several pairs to change attitudes in each age group so that the groups within the group differ significantly from the other groups. The results of the Tukey HSD Post HOC test are presented in the table. There is a statistically significant difference in response to one of the seven e-learning practitioner factor variables for education eligibility.

Out of eight variables of educational qualification the variable 'teaching efficiency' significant value is 0.603 which is greater than 0.05 of p-value, and the variable 'support' variable significant value 0.168 is greater than 0.05 of p-value, also variable 'Digital Services' significant value is 0.172 is greater

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than p-value of 0.05, and variable 'Resources' significant value is 0.597 is greater than 0.05 of p-value, and significant value 0.243 of 'Information Collection' variable is greater than 0.05 of p-value, also significant value 0.822 of 'Effectiveness of Time' variable is greater than 0.05 of p-value and significant value 0.482 'Knowledge' variable is greater than 0.05 of p-value, whereas significant value 0.047 of variable 'Presentation' is less than the 0.05 of p-value.

It means of out of eight variable of e-learning only one variable 'Presentation' factor shows statistically mean difference for different age group, and remaining seven variables 'Teaching Efficiency', 'Support', Digital Services', 'Resources', Information Collection', Effectiveness of Time', and 'Knowledge' factor shows not statistically mean significant response of age group.

Discussion :-

Also, the ANOVA test is applied to check the difference in squares between age-specific demographic variables according to the study components of e people. E-learning practice components include variables such as teaching efficiency, support, digital and services, resources, information gathering, presentation, time effectiveness, knowledge. The results show that e-learning practice had a significant difference in age for the use of professors in institutions.

The findings of this study suggest that some e-learning methods may be age-related. The intensity of certain age groups affects the use of certain e-learning methods at different levels. In addition, specific factors are not significant relative to the age group. Achieving something with the least possible resources in the shortest possible time with teaching efficiency and really the e-learning practice of the year helped the students to succeed the professors. E-learning practice in particular helps professors to create images for multimedia presentations. Professors use video conferencing techniques to communicate with students. E-learning provides a whole new opportunity to do things digitally. Powerful features in digital can be used creatively in the digital library for study materials in the organization. The faculty communicates to students via email to make them academically efficient. Professors use appropriate e-learning technology to teach functionality to students. At this point the teacher looks for some resources to gain knowledge to convey to the class. E-learning practice is powerful and can be used perfectly by many to compile powerful teaching and learning information. In teaching, instead of printing a copy for each student, professors can create power point presentations to describe the topic. Online chat sessions are a powerful e-learning practice and provide opportunities for teaching students in a way that engages students and boosts their confidence in self-directed participation in course activities.

Subsequently, two separate applications of One-Way Innova were presented, one for Professor e-learning practice scores and the other for age group faculty scores. No significant differences were observed between the groups in attendance total scores at 116. The Cronbach alphas for these two constructions were 0.87 for the presence of specific methods and .92 for the importance of specific methods. According to the research team's understanding of the value of each item in the e-learning practice questionnaire, each item was analysed using a one-way anomaly to determine differences between groups. No significant differences were found between the groups on the individual questionnaire items for the importance of e-learning practice.

ANOVA was used to compare the average scores of age with e-learning practices. The test result in the table specified the probability at 0.431 corresponding to the test statistical value at f = 0.994, it was greater than the alpha 0.05. For this reason there was no statistically significant difference in age groups, the hypothesis was rejected.

Hence one-way ANOVA that shows significant correlation between e-learning practices and faculties age in graduate level has hypothesis rejected based on the results. There was no statistical significance among faculties of graduate level college on e-learning practice and their age.

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4.4.4 One Sample t-Test :-

Table No. 4.11 : Significance Difference between Teaching Experience and Designation of Faculties

Particular	N	Mean	S.D.	Std. Error Mean
Teaching Experience	96	3.42	1.037	0.109
Designation	96	1.96	1.114	0.117

	T	Df	Sig. (2 tailed)	M.D.	95% Confidence Interval of the Difference	
					Lower	Upper
Teaching Experience	31.025	95	0.000	3.217	3.03	3.63
Designation	17.063	95	0.000	1.931	1.78	2.31

In this study, forest samples were T-tested to note the difference between the teaching experience using the professorship and the alluring practice. This table shows a T test to check if there is a significant difference between the teaching experience and designation. Significant discrepancies were found in this demographics variable of e-learning practice when a sample T test was applied, resulting in the professor position and teaching experiences being considered variable. These two variables significant value were found to have a sample test which is less than 0.05.Trough one sample t-test the observed mean value is 3.42 of teaching experience and the between the mean difference is 3.217. The null hypothesis is rejected due to the observed mean value is 0.000 which is less than 0.05. The observed/obtained designated one sample statistic designation mean value is 1.96 and mean difference between is 1.931, which is obtained by SPSS result. The significant value is 0.00 which is less than 0.05 it means the null hypothesis is rejected. With the significant value of 0.05 level, there is evidence to conclude that there is a statistically significant difference between the professorial position and the teaching experience.

Discussion :-

A statistical analysis of a sample shows that the current investigation is essential to answer the various important questions extended by this research. The study has a positive relationship with the teaching experience and Designation. Teachers are studying e-learning in terms of teaching in the learning environment and designation. The findings of this study show similarities in teaching experience and designation for the use of e-learning practice in learning activities. This meant that teachers gaining more knowledge and skills to follow the e-learning practice based on their experience in the teaching environment and designation. Faculty designation based on teaching experience with subtitles for designation in the learning environment. This was because the professional development of designation of faculty gave them the opportunity to update various technologies and benefit from the desirable attitude associated with the teaching experience. There have also been significant differences in the designation of faculties based on their teaching experience in teaching in graduate level.

Teaching experience and designation is required in the faculty instead of students. Instead of students, their identity can be defined as professors and students will have the opportunity to help in the e-learning practice setting. According to survey faculties teaching experience and designation have nothing to do with it. Therefore, the analysis was done to find out whether the designation is different in the teaching experience of the answering teachers. A sample test is not important which shows that there is no difference in the overall designation of the respondents who came with different teaching experiences.

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Important value of T test for the following demographics related to turnover purpose: Gender at 0.349> 0.05, designation at 0.034 <0.05, teaching experience 0.034 <0.05. The teaching experience and designation were considered as controlled variables because significant disparities were found between these demographics and dependent variables when the t-test was applied. These two variables have been found to be of t-test significance which is less than 0.05. According to the study, the teaching experience is related to the designation of the faculties.

Table No. 4.12 : Significance Difference between e-learning practices of faculty and Teaching Experience

Demography of Faculties	Variable factors of e-Learning	Mean Square	F-value	Sig.
Teaching Experience	**Teaching Efficiency**	**0.438**	**0.518**	**0.748**
	Support	**0.696**	**0.742**	**0.582**
	Digital Services	**0.864**	**1.204**	**0.327**
	Resources	**0.723**	**0.831**	**0.529**
	Information Collection	**0.091**	**0.112**	**0.993**
	Presentation	**2.192**	**2.197**	**0.081**
	Effectiveness of Time	**2.347**	**2.489**	**0.047**
	Knowledge	**1.128**	**1.180**	**0.341**

The ANOVA results of the teaching experience of professors and e-learning methods are presented in Table 4.12. Differences in teaching experience towards aerobic practice are tested by ANOVA. This result of teaching experience is described in the table 0 – 3, 4 – 8, 9 – 14, 15 – 20 and more than 20 years respectively. Since statistically significant group differences exist, a Tukeys HSD Post HOC test is performed to check whether the age group is significantly different from the other groups in terms of the number of pairs of different coefficients in each age group.

Out of eight variables of teaching experience six of e-learning practices factor variables in teaching experience there is no significant difference in mean. The variable 'Teaching Efficiency' significant value 0.748 is greater than 0.05 of p-value, and the variable 'Support' significant value 0.582 is also greater than 0.05 of p-value, also the variable 'Digital Service' significant value 0.327 is greater than 0.05 of p-value, also the variable 'Resources' significant value 0.529 is greater than 0.05 of p-value, also the significant value of variable 'Information Collection' 0.993 is greater than 0.05 of p-value, the significant value of 'Knowledge' 0.341 variable is greater than 0.05 of p-value. Also the significant value of variable 'Presentation' 0.081 is greater than p-value 0.05. There is a statistically significant difference in response to one of the eight e-learning practice factor variables for teaching experience. The significant value of variable 'Effectiveness of Time' 0.047 is less than the 0.05 of p-value. It means out of eight variables of teaching experience of e-learning observed statistically significant mean response.

Discussion :-

The aim of the study is to examine the middle class differences in the teaching experience of professors in the context of e-learning practice factor variables. The results suggest that there was a significant difference in the teaching experience of professors in e-learning methods in educational institutions. In summary, the results indicate that the experience of professor teaching is related to e-learning practice in terms of adoption in the institution. Eight components can be removed in e-learning methods. The components are teaching efficiency, support, digital and services, resources, information gathering, presentation, time effectiveness, knowledge.

There are obvious differences between these mediums and to check the significance of the differences, one-way ANOVA and F-test were conducted. The F-value is 3.382=993, and p-value 0.00<0.05 indicates that there is a statistically significant difference between the instruments at the critical 0.05% level.Thus, the years of experience of employees in the field of e-learning has a significant

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impact on their study in e-learning. Furthermore, according to Cohen, the value of Eta Square (n^2 = 0.078) reflects moderate results in terms of years of experience using e-learning practice skills in organizations.

Roberts, Wallace, and Francis used the analysis of variance (ANOVA) as a test used to compare meanings between three groups, where the required values are obtained from the f-distribution with appropriate degrees of freedom. A separate variable of study was the method of teaching which consists of three methods of teaching lectures, teaching experience of lectures and e-learning methods in the classroom. The dependent variable is knowledge acquisition, as measured by ACS (Acute Coronary Syndrome), a test tool developed for a course with 55 true / false questions.

A significance level of 0.05 was used in the analysis. If the p-value significance is less than or equal to the value level, there is a significant difference in knowledge acquisition. In the example of determining the significant relationship between independent and dependent variables, Tukey's multiple comparisons were also examined to identify the relationship between independent and dependent variables. Mustafa Harun Kane's (2014) research suggests that a one-way analysis (ANOVA) examined the year-to-year variability of this series of dependent variables. The results indicated that faculty with more than 15 years of experience in education showed a very positive opinion.

The difference in experience over the years was not significant. As a result, the hypothesis was rejected. The hypothesis was rejected on the basis of the results of the one-way ANOVA, which showed a significant correlation between the years of experience of professors in educational institutions and the eleventh practice. Harvey Bushel's (2009) research found no difference in the integration of e-learning practice between inexperienced and experienced faculty. In addition, a study by Male's (2011) suggests that there is no significant relationship between e-learning practice and total years of teaching experience.

Table No. 4.13 : Significance Difference between e-learning practices of faculty and Gender

Demography of Faculties	Variable factors of e-Learning	Mean Square	F-value	Sig.
Gender	Teaching Efficiency	5.567	3.158	0.076
	Support	0.049	0.057	0.832
	Digital Services	0.718	0.998	0.328
	Resources	0.741	0.834	0.354
	Information Collection	2.483	3.019	0.089
	Presentation	4.947	4.948	0.024
	Effectiveness of Time	0.071	0.069	0.816
	Knowledge	3.586	3.871	0.057

Interpretation :-

The current analysis was performed using ANOVA to determine the practice of gender and e-learning in the learning environment. Table 4.13 shows the results of the average scores of teacher members following e-learning practice according to their gender. There are obvious differences between these mediums and one-way Anova and F-testing were conducted to check the significance of the differences.

From the above table out of eight variables of gender factor of e-learning practices of faculties there is no statistically significant difference in the responses. The variable 'Teaching Efficiency' significant value 0.076 is greater than 0.05 of p-value, and the variable 'Support' significant value 0.832 is also greater than 0.05 of p-value, also the significant value 0.328 of variable 'Digital Service' is greater than 0.05 of p-value, also the significant value 0.354 of variable 'Resources' is greater than 0.05 of p-value, also the variable 'Information collection' significant value is greater than 0.05 of p-value, and significant value 0.816 of variable 'Effectiveness of Time' is greater than 0.05 of p-value.

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Whereas the two variables are statistically significant difference in mean out of eight variables in e-learning practices factors of variables for gender. The variable 'Presentation' significant value 0.024 is less than the 0.05 of p-value and another variable 'Knowledge' significant value 0.057 is less than the 0.05 of p-value.

These two variable 'Presentation' and 'Knowledge' of factor observed statistical mean response for gender.

Discussion:-

This study used statistical methods of unilateral analysis that represented powerful parametric means of analyzing differences in the average score of a situation. Significance level set to $p < 0.05$. This difference was made to test the gender differences of e-learning practice and teacher members. E-learning practice factors such as teaching efficiency, support, digital and services, resources, information gathering, presentation, time effectiveness, knowledge. Demographic factors such as gender level are key factors in assessing and appreciating teaching performance. It is strongly stated that students with a high level and strong academic backing ground have a broad knowledge of the benefits of using technology and achieving academic success.

They are at risk of new changes in the learning environment that technology offers to e-learning practices. Digital and services are everywhere and this leads to many exciting opportunities for colleges. For this reason, helping colleges make the most of new technology is an important part of the e-learning practice program. Resources The term is used to refer to all educational methods such as downloading information from the Internet and providing educational materials through printers. Many of us use e-learning practice to gather information and learn wherever we choose. Professors are spending free time exchanging information through online chat sessions to increase confidence among students.

Knowledge of using technology to create innovation for students through e-learning practice is the most functional in educational institutions. Abdul HameedKayodebabula (200) research found that gender was important for e-confidence studies [$F (2,404) = 4.561$, $P = 0.17$, $MSE = 16.121$]. H-Post analysis confirmed that there was a really significant interaction between gender and e-learning confidence, $f (2,307) = 0.973$, $p = 0.379$, $MSE = 15.107$. The test showed that the male respondent (19.31%) was higher in $P<0.05$ than the female (19.17%), $P >0.05$. There were no statistically significant results for the area of specialization and e-learning confidence practice [$F (1,304) = 1.107$, $p = 0.294$, $MSE = 15.144$], while the area of gender and specialization did not correlate with e-learning. Confidence Practice [$F (1,304) = 0.818$, $P = 0.367$, $MSE = 15.144$]. Finally, the researcher suggested that only two variables, such as gender and e-learning confidence practice, are statistically significant.

- **Average marks obtained by per student in the Pre test :-**

Let Average marks obtained by per student in the Pre test be **01.**

$$\therefore \; 01 \; = \; \frac{sum\ of\ marks\ obtained\ in\ pre\ test}{total\ no.of\ students}$$

$$= \; \frac{1747}{134}$$

$$= \; 13.0373134328$$

$$= \; 13$$

From the above data, it is clear that on an average a student respondent scored 13 / 25 marks in the Pre test. In terms of percentage a student respondent scored 52% / 100% on an average.

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▪ **Average marks obtained by per student in the Post test :-**

Let Average marks obtained by per student in the Post test be *02.*

$$\therefore \ 02 \ = \ \frac{sum \ of \ marks \ obtained \ in \ post \ test}{total \ no.of \ students}$$

$$= \ \frac{2171}{134}$$

$$= \ 16.2014925373$$

$$= \ 16$$

From the above data, it is clear that on an average a student respondent scored 16 / 25 marks in the Post test. In terms of percentage a student respondent scored 64% / 100% on an average.

▪ **Average difference between** *01 & 02* **:-**

Let Average difference between *01 & 02* be *D.*

$$\therefore D \ = \ \frac{sum \ of \ all \ differences}{total \ no.of \ students}$$

$$= \ \frac{424}{134}$$

$$= \ 3.1641791045$$

$$= \ 3$$

From the above data, it is clear that on an average there is a difference of 3 marks per student respondent i.e. 12% growth difference has been witnessed on an average.

Conclusions from the Primary Data :-

1. In demographic variable of gender wise distribution 58 (60.41%) are male and 38 (39.59%) are the female faculties/respondent. In this demographic researcher has taken both male and female students/respondents.

2. It observed that 43 (44.49%) of the faculties/respondents are between 35 – 44 years of age, then the age group of 25 – 34 are 14 (14.60%), and 25 (26.04%) of the faculties/respondents are between 45 – 54 years of age, 9 (9.37%) of the faculties/respondents are between 55 – 64 years of age and remaining 5 (5.20%) of the faculties/respondents are above 65 years of age.

3. It observed in this study that 39 (40.62) faculties are done their Mater degree, 33 (34.62%) of the faculties are done their Doctorate degree, 16 (16.66%) of the faculties/respondents are done other degree courses and remaining 8 (8.33%) of the faculties are done their Bachelor degree.

4. It observed in this study that 37 (38.54%) faculties/respondent are Assistant professor, 35(36.45%) faculties/respondents are lecturer professor, 12 (12.50%) faculties/respondent are associate professor, 8 (8.33%) are professor and remaining 4 (4.16%) faculties/respondents are at other designation.

5. Teaching experience was also observed in this study and it was observed that most of the respondent 32 (33.33%) from selected faculties/respondent are having 4 – 8 years of experience, 23 (23.97%) of the faculties/respondent are having 0 – 3 years of experience, 20 (20.83%) of the respondent are having 9 – 15 years of experience, 15 (15.62%) of the respondent are having 16 – 20 years of experience and remaining 6 (6.25%) of the respondent are having more than6 years of experience..

6. It was observed in this study that researcher has selected 1072 students/respondent and it was find that 686 (63.99%) of the students/respondent are from B.A. stream and 386 (36.01%) of the student/respondent are from B.Com stream.

7. It was find that most of the 428 (39.92%) selected students/respondent are between 21 – 23 years of age, then 368 (34.32%) are between 18 – 20 years of age, 184 (17.17%) are between 24 – 26 years of age and remaining 92 (8.59%) of the students/respondents are above 26 years of age.

8. It also find in this study that 811 (75.66%) students/respondent are studying in both type (Male and Female Student) of institution, 134 (12.50%) of the students/respondent are studying in only

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girl type of institution and 127 (11.84%) of the student/respondents are studying only boys type of institution.

9. Out of 1072 students/respondents 949 (88.52%) are from local residency, 123 (11.42%) of the students/respondents are from hostel.

10. It also find that out of 1072 students/respondents 670 (62.50%) are from village area and 402 (37.50%) are from town area.

11. Financial analysis of students/respondent are observed in this study and find that most of 417 (38.90%) students/respondents family income between 301000 – 400000 Rs/-, and 294 (27.42%) students/respondents yearly income is less than 100000Rs/-, and 120 (11.19%) between 101000 – 200000 Rs/-, and 107 (9.99%) students family yearly income is between 301000 – 400000 and 134 (12.50%) of the students family yearly income is above 400000.

12. About the internet uses of the students/respondent was also observed in this study and it was found that 842 (78.54%) are using internet, 168 (15.67%) are not using internet and 62 (5.79%) are not given any answer. It means most of the students are internet savvy.

13. It also observed about the chance of internet using and found that 729 (68.00%) students/respondents are daily getting the chance to use the internet, 193 (18.00%) are getting chance once a week, 69 (6.43%) are getting 15 days once and remaining 81 (7.57%) are never getting the chance to use internet.

14. Quality of the e-learning content was also observed in this study and it was found that most of 637 (59.42%) of the students/respondent said it was good content, 365 (34.05) of the students/respondent said it was not good e-content and remaining 70 (6.54%) of the students/respondent not given any opinion.

15. Provided content are useful or not was also studied in this research and it was found that 779 (72.66%) of the students/respondent said provided content is confortable to read from computer, whereas 198 (18.47%) said content is not confortable and remaining 95 (8.87%) are not given any response.

16. It also observed in this study that 634 (72.66%) students/respondent said due to e-learning they are able to improve their performance, 367 (18.47%) said due to e-learning not able to improve their performance and remaining 71 (8.87%) are not given any response.

17. It was also found in this study that 576 (53.73%) students/respondent are feel that due to e-learning they are not able to develop initiative-ness and 305 (28.46%) said they are able to develop initiativeness and remaining 191 (17.81%) respondent are not given any response.

18. Factor analysis of e-learning practices combined 8 key factors namely 'Teaching Efficiency', 'Support', Digital and Services', 'Resources', 'Information Collection', 'Presentation', 'Effectiveness of Time', and 'Knowledge'.

19. Factor analysis of e-Learning (Teaching and Learning) practices of eight factors has been observed, and it was found that out of eight factors, Eigen values are related to each component that represents the difference explained by that particular linear component and also displays the Egan value in terms of the percentage of difference.

20. Significance difference between e-learning practices of faculties and educational qualification and it was found that,there is no statistically significant difference in the square responses to the eight components of the academic qualification and the six components of the e-learning methods, and 'Support' and 'Digital Service' variables are showed statistical mean significant reply for educational qualification.

21. The study was also observed about Significance Difference between e-learning practices and Age of Facultiesand it was found that out of eight variable of e-learning only one variable 'Presentation' factor shows statistically mean difference for different age group, and remaining seven variables 'Teaching Efficiency', 'Support', Digital Services', 'Resources', Information Collection', Effectiveness of Time', and 'Knowledge' factor shows not statistically mean significant response of age group. The one-way ANOVA that shows significant correlation between e-learning practices and faculties age in

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graduate level has hypothesis rejected based on the results. There was no statistical significance among faculties of graduate level college on e-learning practice and their age.

22. Significance Difference between Teaching Experience and Designation of Faculties with one sample t-test was observed and it was found that the teaching experience and designation were considered as controlled variables because significant disparities were found between these demographics and dependent variables when the t-test was applied. These two variables have been found to be of t-test significance which is less than 0.05. According to the study, the teaching experience is related to the designation of the faculties.

23. The study about significance difference between e-learning practices of faculty and teaching experience was also observed and it was found that six of e-learning practices factor variables in teaching experience there is no significant difference in mean and only one variable having mean significance difference.

24. The study about Significance Difference between e-learning practices of faculty and Gender and it was found that The variable 'Presentation' significant value 0.024 is less than the 0.05 of p-value and another variable 'Knowledge' significant value 0.057 is less than the 0.05 of p-value. These two variable 'Presentation' and 'Knowledge' of factor observed statistical mean response for gender.

25. Conformity Factor Analysis for e-Learning (Teaching and Learning) Practices of Motivation in Factor Analysis of Student/Respondent was observed in this study and it was found that 7 key factors namely 'e-Learning Practices of Student/Respondents', 'Process of Learning and Teaching', 'Effectiveness of e-Learning Content', 'Attention and Participation of e-Learning', 'Motivational Skill in e-Learning', 'Preference in e-Learning', and 'Learning Activities in e-Learning'.

26. Significance Difference between e-learning practices of Demographic of Students/Respondents and Influence Factors of Motivation was also observed in this study and found that out of seven variables there is no statistically difference of five variables, there is mean statistical difference of two variables out of seven motivational factor variables of 'Gender'.

27. The study was also observed about Significance Difference between e-learning practices of Demographic of Students/Respondents and Influence Factors of Motivation and it was found that, out of seven variable there are only two variables which are statistically mean significant difference out of seven variables of internet using, the variable 'Process of Learning and Teaching' significant value is 0.041 which is less than 0.05 of p-value, and variable 'Motivational Skill in e-Learning' significant value 0.027 is less than 0.05 of p-value.

28. The study was also observed about Significance Difference between e-learning practices of Demographic of Students/Respondents and Influence Factors of Motivation in Demographic Factor of Residential Status and it was found that there is statistically mean significant responses for five variables out seven variables of motivational factor of residential status. The variable 'Process of Learning and Teaching' significant value 0.006 is less than 0.05 of p-value and also the variable 'Attention and Participation of e-Learning' significant value 0.056 is less than 0.05 of p-value. It means these two variables 'Process of Learning and Teaching' and 'Process of Learning and Teaching' observes shows a statistically significant mean response for residential status.

29. The study was also observed about ANOVA test on Difference between motivation factor and student age and it was found that out of seven variables of age variable of students motivation factor three variables have mean statistical mean difference. The variable 'Process of Learning and Teaching' significant value 0.049 is less than the 0.05 of p-value, also the variable 'Effectiveness of e-Learning Content' significant value is less than 0.05 of p-value, and the significant value 0.048 of variable 'Preference in e-Learning' is less than 0.05 of p-value and four variables mean are statistically not significance.

30. The study was also observed about Significance Difference between e-learning practices of Students/Respondents Attitude and it was observed that the value of all components ranges from 0.532 to 0.748 which indicates the presence of internal consistency. This study was with seven factors which are 'Digital Media Instruction for Self Study Learning', 'Factor of Technology', 'Intention of Students Behaviour', 'Participation of Student', 'Usages time of Student', 'Feeling of

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Student' and 'Preference for Student'. With the test of Barlett and Kaiser-Meyer-Olkin's test it was found that the initial correlation metrics obtained show that most objects have a coefficient greater than 0.5.

31. The study was also observed about Significance Difference between e-learning practices of Students/Respondents Problems with e-learning and it was observed that, it has five factors those are 'Absence of Accessibility', Absence of Training and Infrastructure', 'Absent of Culture and Connectivity', and 'Unavailability of Software and Hardware'. The value that is factor loading value of all five components is between 0.513 and 0.784 which indicates the current of internal compatibility.

32. Barlett and Kaiser –Meyer-Olkin's Test was observed that the initial correlation metrics obtained show that most objects have a coefficient greater than 0.5. Out of five factors in Students/Respondents problems with e-learning the first factor 'Absence of Accessibility' the observed total variance is 19.812 with the greater than 1 of eigen value

33. The table 4.35 shows student problems with e-learning in their institutions. The factor one having three variable which is called 'Absence of Accessibility', the first variable 'Security Issues related with Internet' with the factor loading value of '0.618', and the second variable 'Unable to Access Material Related to Course/Subject', with factor loading value of '0.603' and the third variable 'Hardware and Software Related Cost' with factor loading value at 0.539.

34. Regression analysis of the impact of residential status with students/respondents e-learning problem with regression which is flexible method for data analysis that may appropriate whenever e-learning factor will be examined with residential status of student/respondents. The value 0.179 is the calculated correlation (R) and 0.033 is the calculated R^2 value that is degree of determination. The degree of determination observes the extent to problem of e-learning factors such as Absence of Accessibility, Absence of Training and Infrastructure, Absent of Culture and Connectivity, Absent of Expert Faculties and Unavailability of Software and Hardware with residential status. The table 4.38 observes that the calculated R^2 is 0.033 that is 33% of the variation in the dependent variable is explained by the problem factors variable.

35. the calculation of ANOVA, it observes that the calculated significant value is less than 0.05, that means residential status which is dependent variable significant predicted by the e-learning problems of students/respondents variables like, Absence of Accessibility, Absence of Training and Infrastructure, Absent of Culture and Connectivity, Absent of Expert Faculties and Unavailability of Software and Hardware.

36. E-Learning problems are having five variable/factors, the above table related with e-learning problems observed absent of culture and connectivity, unavailability of software and hardware are less than the 0.05 of p-value. The significant value of two variables 'Unavailability of Software and Hardware' and 'Absent of Culture and Connectivity' on residential status are greater than 0.05 of p-value. The other three variables 'Absence of Accessibility', 'Absence of Training and Infrastructure' and 'Absent of Expert Faculties' with significance value of 0.384, 0.194 and 0.857 respectively are not significance relation between residential status.

37. This study shows that regression analysis was performed on analytics such as the difficulties of e-learning factors as independent variables and residential status as dependent variables. The result of the regression used to test the hypothesis is summarized below. According to the above study the problem of e-learning elements was independent and dependent on residential status. The results suggest that five of the two factors have a significant effect on residential conditions, respectively. The rest of the elements have no special effect on the residential elements.

Conclusions from the Teacher Questionnaire :-

1. 36.36% teacher respondents make use of E-Learning in day to day teaching process. However 63.64% of the teacher respondents do not make use of E-Learning in day to day teaching process.

2. 27.27% teacher respondents have created teaching aids for teaching purpose. However, 72.73% of the teacher respondents have not made teaching aids for teaching purpose.

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3. Teacher respondents making use of teaching aids in daily teaching process are 27.27% while 72.73% of teacher respondents do not make use of teaching aids in daily teaching process.

4. Out of total 100% teacher respondents, they motivate their students to understand their concepts via E-Learning. According to 00% teacher respondents, they do not motivate their students to understand their concepts through E-Learning.

5. According to 100% teacher respondents, computer lab is available in their college while 00% teacher respondents admit that computer lab is not available in their college.

6. 63.64% teacher respondents admit that they use mostly conventional teaching method while teaching. However, according to 36.36% teacher respondents, they use non - conventional teaching method while teaching.

7. 54.55% teacher respondents admit that they use e-learning as a sub-method while using non – conventional method for teaching. However, this ratio decreases to 36.36% in terms of using blended learning as a sub-method while using non – conventional method for teaching. 09.09% teacher respondents say that they use co-operative learning as a sub-method while using non – conventional method for teaching. In terms of collaborative learning and other etc methods, there are 00% responses.

8. 100% teacher respondents admit that all the expenses of multimedia infrastructure and tools are provided by college. There are none of the teacher respondents who say that the college does not provide the expenses of multimedia infrastructure and tools.

9. Out of total teacher respondents 72.73% admit that they have computer at their home, 18.18 % of teacher respondents say that they have tablet at their home, in terms of mobile all 100% agree that they have mobile phones at their home. 54.55% teacher respondents admit that they have laptop facility at their home. According to 00% teacher respondents audio video visual facility is available at their home. With relation to YouTube collections all the 100% teachers accept that they have this facility at their home.

10. Out of total teacher respondents 100% admit that they have computer facility at their college, 100% of teacher respondents say that they have LCD screen projector at their college, in terms of video conferencing all 100% agree that they have mobile phones at their college. 100% teacher respondents admit that they have language lab facility at their college. According to 100% teacher respondents module (CD & DVD) facility is available at their college. With relation to smart board all the 100% teachers accept that they have this facility at their college.

11. 36.36% of teacher respondents say that they have taken proper institutional service training for e-learning. However, 63.64% teacher respondents admit that they have not taken any kind of service training for e-learning.

12. 100% of the teacher respondents agree that they use internet facility in study for all the purposes like conducting drills, organizing online tests and taking revisions.

13. 100% of the environmental science teacher respondents agree that they face all the above problems and obstacles such as time spending problems, fluctuations in networks, improper communication, operating issues, etc while teaching online.

14. 72.73% of the teacher respondents agree that they have sufficient information about e-education, multimedia and other relevant terms whereas 27.27% of teacher respondents admit that they do not have sufficient information about e-education, multimedia and other relevant terms.

15. 63.64% of teacher respondents use smart phones whereas 09.09 % teacher respondents use IPhone and 27.27% of the teacher respondents use ordinary keypad phone & smart phone both. In terms of only ordinary keypad phone, the GSM and CDMA handsets, 00% of the teacher respondents use them.

16. 63.64% of teacher respondents have android operating systems in their mobile handsets. 09.09% of the mobile handsets of the teacher respondents consist of IOS operating systems. 27.27% of the teachers state that they have JAVA operating systems in their mobile handsets. In terms of Windows (Microsoft), BlackBerry 10, OS-X operating systems, 00% of the teacher respondents use them.

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17. 100% of the teacher respondents mention that they use E-Tools, Multimedia and other similar gadgets for all the above terms such as to communicate with students, to share data amongst colleagues, to organize doubt clearing sessions for students, to do counselling to students, to raise the education level, to discover new information with the assistance of students, etc.

18. 36.36% of the teacher respondents state that teaching data, information, graphs, modules, etc on blackboard is more effective and easy for the students to understand where as a majority of teacher respondents i.e 63.64% state that teaching data, information, graphs, modules, etc on projector is more effective and easy for the students to understand.

19. 100% of the teacher respondents stated that they are aware of the E-Education promoting & tech. training platforms such as SWAYAM & DIKSHA. 00% of the teacher respondents admitted that they are not aware of the same.

20. 100 % teacher respondents responded and mentioned the answers in the questionnaire sheets accordingly recommending some preventive measures in order to set a limit on screen timings considering its harmful effects on human health.

Conclusions from the Pre & Post Test :-

In result to the pre & post test it has been found that on an average a student scored 13 / 25 marks i.e. 52% / 100% marks in the pre test. When it comes to post test, the number raises up to 16 / 25 marks i.e. 64% / 100% marks on an average. Hence on an average, there is a difference growth observed of 3 marks i.e. 12 %.

Recommendations :-

1. Teachers should make use of E-Education and other similar tools in order to achieve good results.
2. Teachers should create teaching aids for teaching and make use of teaching aids in daily teaching process
3. As a teacher, it is a mutual responsibility of every tutor to keep motivating their students to understand their concepts through E-Learning as it makes understanding harder concept easily.
4. Teachers should make use of e-learning for teaching learning process as more as they can.
5. Teachers are recommended to take official training such as MS-CIT, etc as being trained makes one more confident and perfect.
6. Teachers are recommended to opt for services which have good range such as networks which have good range as facilities can be used without any disturbances and buffering like problems.
7. Teachers are requested to be updated e-educational tools as being aware of them reduces mistakes and improves productivity.
8. Teachers as well as students should use good quality technological gadgets and software's to avoid problems.
9. Teaching should be done via Projector and e-learning as it is easy to understand with the help of pictures and animations.
10. Teachers should participate in E-Education promoting & tech. training platforms such as SWAYAM & DIKSHA with a positive approach as it makes a teachers teaching better.
11. It is not that teachers and students are not aware of the problems in the E –World, but being aware is not enough. Each individual should try to solve problems which come accordingly at his/her level.
12. As seen from the results of Pre & Post test, there is a difference growth of 3 marks i.e. 12 % marks on an average . Hence proved that when teaching and learning is done via E-Educational assistance, the students understand the concepts in more easier way and hence there is a positive climb in the results of students. Thus it is highly recommended that both students and teachers should make use of E-Education wherever necessary.

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