

SELF-EFFICACY OF PROSPECTIVE TEACHERS IN RELATION TO MULTIMEDIA & ACADEMIC STREAM: AN EXPERIMENTAL STUDY

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Abstract

In the regulatory processes through which an individual motivates and gets achievement, self-efficacy beliefs perform key position. It is most important predictor in teacher education regarding use of computer and adopting in their teaching. Keeping this in mind, this present study was undertaken to find out the effect of multimedia package on self-efficacy of prospective teachers in relation to their academic stream. Pre-test post-test quasi experimental research design was adopted in which 60 prospective teachers selected from college of education of Rohtak using random sampling technique on the basis of varied academic stream (science, commerce, arts) out of which 30 prospective teachers were taught through multimedia formed as experimental group (EG) and 30 prospective teachers were taught through conventional method of teaching formed as control group (CG). To measure self-efficacy of prospective teachers, investigator applied standardized tool of Mathur & Bhatnagar's Self -Efficacy Scale (SES-MGBR) (2012). Lesson plans and formative assessment developed through multimedia package for doing teaching learning process in experimental group for nine weeks only. At the end of the experiment, self-efficacy pre-test, post-test and mean gain score was computed. Then, data were subjected to analyzed by using ANOVA and t-test to determine the performance by comparing the mean scores. Results revealed that prospective teachers who are taught through multimedia instructional method show significant increase in their self-efficacy than the prospective teachers who received instructions through conventional method of teaching. Further science stream prospective teachers (Sc), commerce stream prospective teachers (Co), arts stream prospective teachers (Ar) groups did not show much difference in their mean gain self-efficacy after the experiment treatment. There was no significant interaction effect of Instructional treatment and academic stream on mean gain self-efficacy scores of prospective teachers. In conclusion, this study had proven that teaching through multimedia instructional package enhance the prospective teachers' self-efficacy.

Keywords: Multimedia Teaching, Conventional Teaching, Self-eEficacy, Academic Stream, Prospective Teachers.



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INTRODUCTION

Multimedia knowledge is indispensable tool for prospective teachers, who must be amalgamate multimedia into content presentation and instruct with cognitive instruments. Multimedia technology is not only better than tradition method of teaching but also provide
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varied experience to students and make teaching leaning programmed fascinating. According to Dahmer (1993), “the combination of capabilities in technologies that used to be separate - it can combine things like text, graphics, sounds and still or motion pictures in a smooth way to present information. print, telecommunications, video, broadcasting and computers have merged, and the result is now call multimedia.”.Latest technology with easy to handle and necessary ones are to be utilized. Then it would be possible to make optimum use of them in a most efficient manner. In multimedia approach, number of modes, media and modus operands are used as powerful means of communication. Self-efficacy beliefs play a key role in the regulatory processes through which an individual’s motivation and performance attainments are analyzed. Efficacy beliefs included the people capability to in completing a particular activity in a particular time period; persistence while confronted with hindrances and résistance of worst situations. Keeping this in mind. The construct of educational beliefs is broad. The researches have been refined into more specific sub-constructs include belief about teacher efficacy, epistemological beliefs, self-concept & self-efficacy. The self-efficacy is of interest because of the role of it is proposed to play in determining behavior. As proposed by Bandura, self-efficacy is specific to particular set of behaviours and comprises two components, efficacy expectations and outcome expectations. Perceived self-efficacy with respect to computers has been found to be a crucial factor in decisions about using them and increased performance with computer related tasks are found to be significantly higher levels of computer self-efficacy. A study confirmed the reliability of the instrument and found that most significant predictor of self-efficacy for computer use among teacher education students were frequency of computer use. (Albion, 1996).

CONCEPTUAL FRAMEWORK

The study done by Ibrahim and Watts (2014) found that students engage in online discussion activities by using different audio-visual elements effect on their self-efficacy and learning outcome. Chifari&Ascoilillo (2004) founded that in training on ICT for teachers, self-efficacy is one of the competent factors in programming. Olalere (2005) found that teaching practicum or other mastery experiences in teacher training seemed to have a significant effect on pre-service teacher’s self-efficacy in relation to gender. Sabzian et. al (2013) found that physics -efficacy beliefs about mathematical literacy are higher than mathematics prospective teachers while the difference was not statistically significant. It revealed that there was significantly increase in science teaching outcome expectancy (STOE) and an overall increase in the self-efficacy beliefs among prospective teachers and it alter the in the process

of watching multimedia cases. (Nthiga, 2016). Naemi&Naemi (2017) evaluated the effect of smart training on self-efficacy and self-regulation in science course of male students and disclosed that there was significant difference between the scores of two groups, and smart training increased the self-efficacy and self-regulation more than traditional method. It concluded from review of different studies that these studies conducted on different subject efficacy and gender base only not related to intelligence level, locality and academic stream of prospective teachers. This study fills this gap and pave path for further research in this field.

OBJECTIVES OF THE STUDY

- 1 To compare the mean self-efficacy scores of prospective teachers adjusted on intelligence and socio-economic status taught through Multimedia Teaching Method (MTM) and through conventional Teaching Method (CTM) before experimental treatment.
- 2 To compare the mean self-efficacy scores of prospective teachers adjusted on intelligence and socio-economic status taught through Multimedia Teaching Method (MTM) and through Conventional Teaching Method (CTM) after experimental treatment.
- 3 To study the main effect of Instructional treatment i.e. Multimedia Teaching Method (MTM) & Conventional Teaching Method (CTM) on the mean gain self-efficacy scores of the prospective teachers after experiment treatment.
- 4 To study the main effect of academic stream (science, commerce and arts) on the mean gain self-efficacy scores of the prospective teachers after experiment treatment.
- 5 To study the interaction effect of Instructional treatment i.e. Multimedia Teaching Method (MTM) & Conventional Teaching Method (CTM) and academic stream (science, commerce and arts) on the mean gain self-efficacy scores of the prospective teachers after experiment treatment.

HYPOTHESES OF THE STUDY

- H1.1 At the end of experiment, the pre-test group of prospective teachers taught through multimedia teaching method attained a significantly higher on self-efficacy score than the group of prospective teachers taught through the conventional method.
- H1.2 At the end of experiment, the post-test-group of prospective teachers taught through multimedia teaching method attained a significantly higher on self-efficacy score than the group of prospective teachers taught through the conventional method.

H₀1.3 There is no significant main effect of instructional treatment i.e. Multimedia Teaching Method (MTM) & Conventional Teaching Method (CTM) on the mean gain self-efficacy scores of the prospective teachers after experiment treatment

H₀1.4 There is no significant main effect of academic stream (science, commerce and arts) on the mean gain self-efficacy scores of the prospective teachers after experiment treatment

H₀1.5 There is no significant interaction effect of instructional treatment i.e. Multimedia Teaching Method (MTM) & Conventional Teaching Method (CTM) and academic stream (science, commerce and arts) on the mean gain self-efficacy scores of the prospective teachers after experiment treatment

DESIGN OF THE STUDY

The present study is pre-test post-test quasi-experimental research design.

SAMPLE

The sample for the study comprises of 60 prospective teachers of varied academic stream (science (18), commerce (16) and arts (26) studied in G.B. College of Education, Rohtak. The 60 Prospective teachers were equally divided and formed as experimental (30 prospective teachers) and control group (30 prospective teachers).

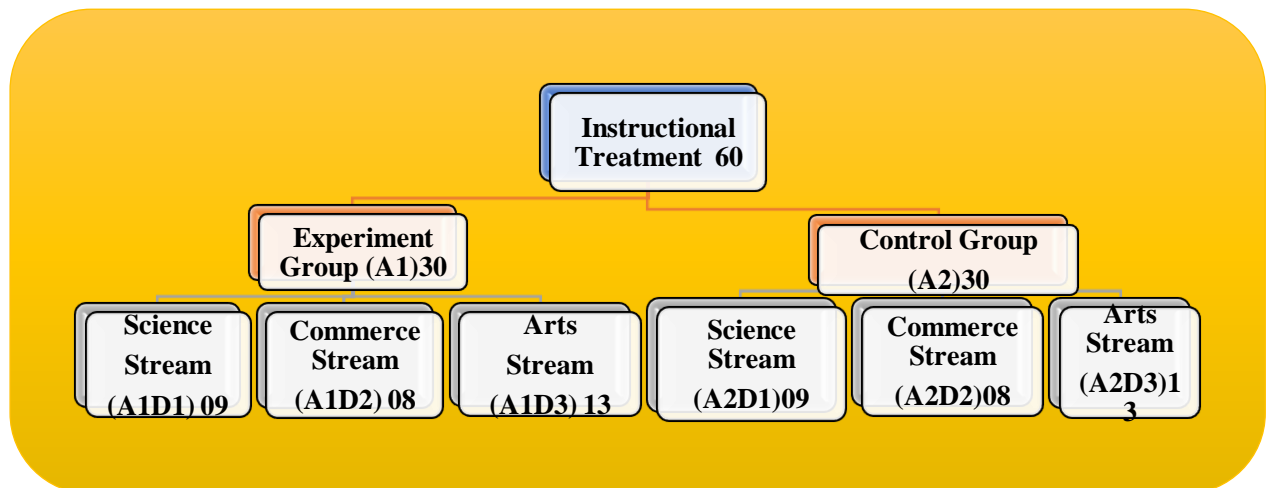


Fig. 1: Schematic layout of 2x3 factorial design and sample of instructional treatment and levels of intelligence on mean gain self-efficacy scores of prospective teachers.

TOOLS USED

Following tools were used for the purpose of collecting data related to different variables covered in the study:

- **Kalia & Sahu's** Socio-Economic Status Scale -Urban and Rural (SESS-UR-KASS)(2012) [13] to measure the socio-economic level of prospective teachers.

- **Self -Efficacy Scale (SES-MGBR) (2012)** developed by Mathur & Bhatnagar was used to measure self-efficacy of the prospective teachers. The test consists of 22 items related to 8 areas as Self-regulatory skills, Self-influence, Self-confidence, Social achievement, Self, Self-evaluation, Self-esteem, Self-cognition. The self-efficacy scale is highly reliable having reliability in male, it ranges between 0.73 to 0.81 and in female, it ranges between 0.79 to 0.86 and highly valid having concurrent validity coefficient of self-efficacy scale, the scale was compared with the views of experts' rating, validity range in male 0.73 and 0.81 and in female 0.76 to 0.83.
- **Multimedia package for prospective teachers (MPPT)** is developed by investigator was used. The package was developed by using software such as Adobe Photoshop 0.7 version, Adobe sound booth, and Swish MX 2.0.

PROCEDURE FOLLOWED

To examine the effect of multimedia teaching method (MTM) on the self-efficacy of prospective teachers, two groups were formed i.e. experimental group that taught through the multimedia teaching method (MTM) and control group are taught by conventional teaching method (CTM). To know the prospective teachers' self-efficacy, the investigator applied Self -Efficacy Scale (SES-MGBR) (2012) developed by Mathur & Bhatnagar. The nine weeks experimental treatment given through multimedia package developed by investigator to experimental group and conventional teaching to control group and applied Self -Efficacy Scale before and after experimental treatment to both the groups and collected pre-test, post-test and mean gain scores.

STATISTICAL TECHNIQUES APPLIED

1. Descriptive statistic such as Mean, S.D. were worked out on the score of self-efficacy.
2. Two-way analysis of variance (ANOVA) with 2x3 factorial design was employed to study the main effects and interaction effect of independent variables (instructional treatments and levels of intelligence) on dependent variable (self-efficacy) supplement by t-test. To test the assumption of homogeneity of variable for ANOVA, Levene's test was employed.

ANALYSIS AND DISCUSSION

1. Comparison of self-efficacy scores of experimental and control groups (Before Experimental Treatment)

Considering the objective 1, this section deals with the comparison of self-efficacy scores (Achievement test scores) of the two groups experimental group (EG), & control group (CG) of prospective teachers at pre-test phase then self-efficacy scores were subjected to 't-test'.

The means, S.D.'s and t-values of both the groups (EG & CG) at pre-test phase have been presented in table .1.

Table 1 t-values for difference in Self-efficacy Scores of Experimental and Control Group (Before Experimental Treatment)

Variable	Group	N	Mean	S.D.	df	't' value	Remarks
Pre-test Self-Efficacy score	Experimental	30	66.45	6.99	58	1.85	Not Significant
	Control	30	67.45	5.70			

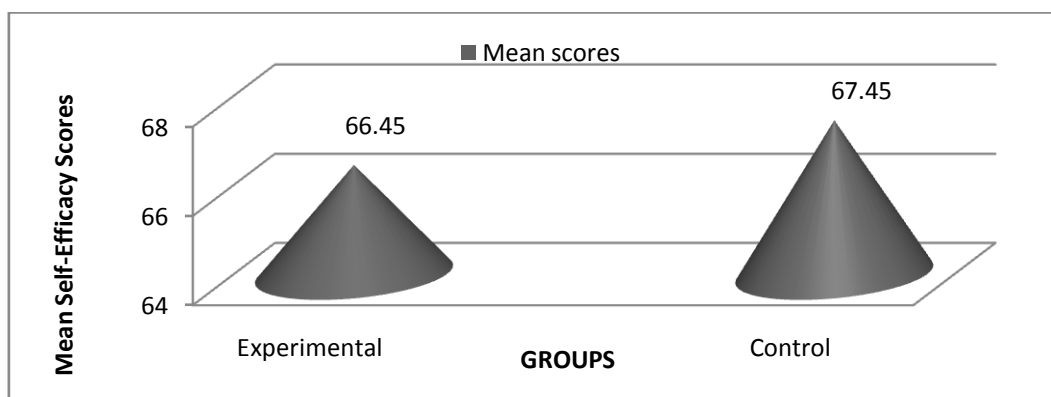


Fig. 2 Comparison of Pre-test Mean Self-Efficacy Scores of Experimental & Control Group (Before Experimental Treatment)

The results displayed in table 1 reveals that the t-value 1.85 of pre-test scores of experimental group and control group is not significant. The mean value for experimental group was found to be 66.45 while for control group it was 67.45. Thus, the **directional hypothesis H1.1**, ‘*At the end of experiment, the pre-test group of prospective teachers taught through multimedia package attained a significantly higher on self-efficacy score than the group of prospective teachers taught through the conventional method.*’ is **rejected**. It may therefore be concluded that there was no significant difference in the self-efficacy scores of both the groups (experimental & control) before conducting experiment. The mean scores are further presented graphically in fig. 2.

2. Comparison of self-efficacy scores of experimental and control groups(After Experimental Treatment)

Considering the objective 2, This section deals with the comparison of self-efficacy scores (Achievement test scores) of the two groups experimental group (EG), & control group(CG) of prospective teachers at post-test phase then self-efficacy scores were subjected to ‘t-test’.

The means, S.D.'s and t-values of both the groups (EG & CG) at post-test phase have been presented in table 2. The mean score of self-efficacy of experimental and control group are further being presented graphically in fig. 3

Table 2 t-values for difference in Self-efficacy Scores of Experimental and Control Group (After Experimental Treatment)

Variable	Groups	N	Mean	S.D.	df	't' value	Level of Significance
Post-test Self-efficacy scores	Experimental	30	83.40	7.75	58	4.36	Significant At 0.01 level
	Control	30	75.60	6.03			

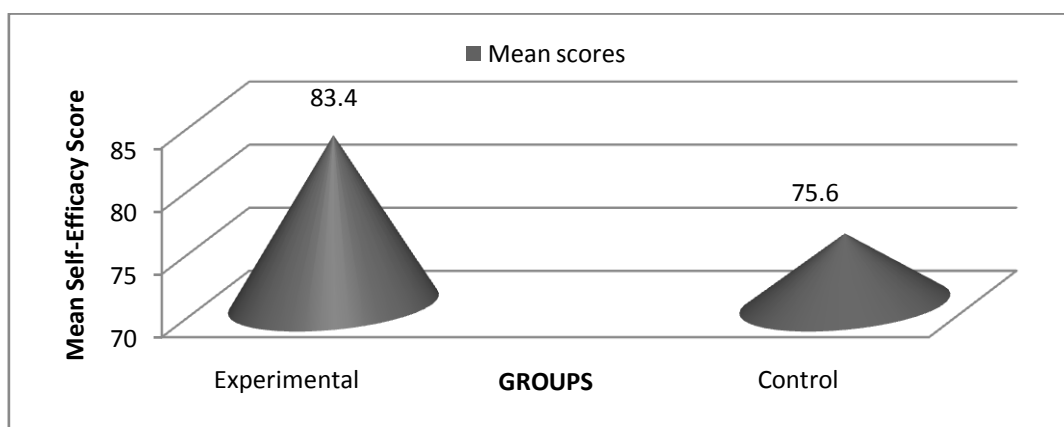


Fig. 3: Comparison of Post-test Mean Self-Efficacy Score of Experimental & Control Group (After Experimental Treatment)

The results displayed in table 2 revealed that the t-value 4.36 of post-test self-efficacy scores of experimental and control groups is significant at 0.01 levels. The mean value for experimental group was found higher (M= 83.40) than the control group (M= 75.60) on post-test self-efficacy scores. Thus, the **directional hypothesis H1.2** of the study, 'At the end of experiment, the post-test-group of prospective teachers taught through multimedia package attained a significantly higher on self-efficacy score than the group of prospective teachers taught through the conventional method' stands **retained**. It can therefore be concluded that multimedia teaching was found to be more effective in raising the self-efficacy of prospective teachers as compare to conventional teaching method. It was found that prospective teachers taught through multimedia teaching method showed better self-efficacy as compared to the group that taught through conventional teaching method means multimedia package helps to enhance the self-efficacy of the prospective teachers. The results are in tune with conclusions drawn by various researches done in abroad as well as in India. The result has

been consonance by the Ibrahim & Callaway (2014) who investigate that the pre-service teachers' self-efficacy mean scores were higher after using flipped bases compared to lecture based and the differences were statistically significant. However, Grover (2016) suggested that there is significant positive relationship of both between computer attitude and self-efficacy of prospective teachers. It also seeks to determine how much pre-service teachers' self-efficacy contributes to the prediction of their sense of internet self-efficacy and reported that there is a significant relationship between pre-service teachers' internet self-efficacy and their self-efficacy. It was concluded that multimedia package used in teaching of prospective teachers helped to develop the self-efficacy of prospective teachers.

3 Effects of instructional treatment and academic stream on mean gain self-efficacy scores of prospective teachers

In order to study the effect of instructional treatment and academic stream, first to check the homogeneity of variance, Levene's test of Equality of Variance has been applied on the data and it reports that F_{Levene} is 0.899 with degrees of freedom Df 5, 54 ($p = 0.488$) which does not fall in the critical region this means to acceptance of H_0 ($\sigma^2A = \sigma^2B = \sigma^2C = \sigma^2D = \sigma^2E = \sigma^2F$). Therefore, it is reasonable to believe that the variance of six groups are homogenous i.e. the groups are assumed to have similar or equal variances.

The summary of descriptive statistics i.e. means and SD.'s of sub samples of 2x3 design for mean gain self-efficacy scores of prospective teachers with respect to instructional treatment and academic stream have also been presented in the table- 3 and fig. 4. The summary of Two-Way ANOVA (2x3) for post-test mean gain self-efficacy scores of prospective teachers with respect to instructional treatment and academic stream has been further presented in table- 4, which is analyze in terms of main effects and interaction effect

Table- 3 Summary of descriptive statistics i.e. Means and S.D.'s of sub samples of cells of mean gain self-efficacy scores of prospective teachers

Group of Treatment	Academic Stream	N	Mean	S. D.
Experimental	Science	9	18.44	9.17
	Commerce	8	10.63	4.37
	Arts	13	12.08	5.71
Control	Science	9	6.9	7.40
	Commerce	8	4.9	9.31
	Arts	13	5.9	6.68
Total	Science	18	12.50	10.13
	Commerce	16	9.25	7.17
	Arts	26	9.54	6.62

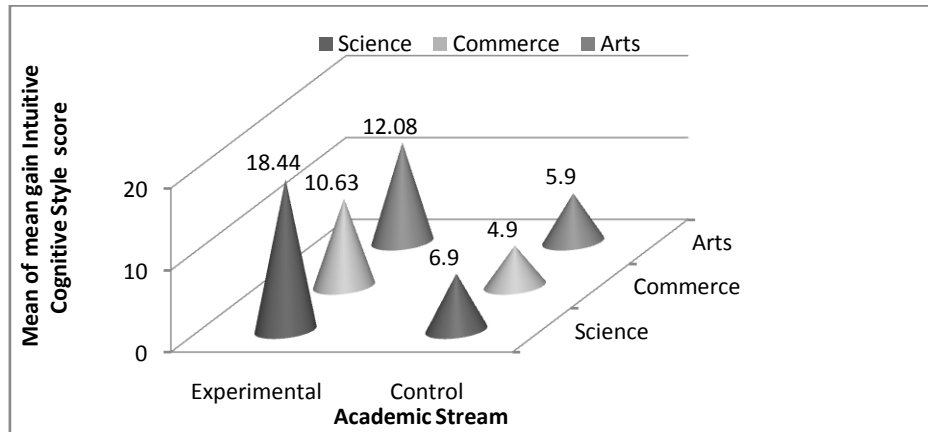


Fig 4: Summary of mean score different sub sample for mean gain self-efficacy scores of prospective teachers

Table- 4 Summary of Two-Way ANOVA (2x3) for mean gain score of self-efficacy of prospective teachers

Sources of Variation	Df	SS	MS	F-Ratio	p-value
Instructional Treatment(A)	1	620.88	620.88	12.07	0.001**
Academic Stream (D)	2	119.69	59.85	1.163	0.320*
Treatment x Stream (A x D)	2	200.09	100.05	1.95	0.153*
Between Cells	5	953.53			
Within Subjects	54	2778.12	51.45		
Total	59	3731.65			

*NS= Not Significant

**S= Significant at 0.01 level

Main Effect

(I) Instructional Treatment (A) (MTM & CTM)

On perusal of the Table-4, it is evident that F- ratio 12.07 for main effect of instructional treatment (MTM & CTM) on mean gain self-efficacy scores of prospective teachers is found significant at .01 level of significance leading to the inference that experimental treatment yielded difference in mean gain self-efficacy score of prospective teachers. Therefore, the null hypothesis **Ho 1.3**, 'There is no significant main effect of instructional treatment [Multimedia Teaching Method (MTM) & Conventional Teaching Method (CTM)] on the mean gain self-efficacy scores of the prospective teachers after experiment treatment.' is rejected.

To investigate further, the 't' -value was compute and has been given in Tbble- 5, the mean gain self-efficacy scores for main effect of treatment have been presented graphically in the form of bar diagram in fig. 5.

Table 5 t-values for mean gain self-efficacy scores of prospective teachers with respect to instructional treatment [MTM (experiment group) and CTM (control group)]

Variable	Group	N	Mean	S.D.	Df	't' value	Level of Significance
Mean-gain Self-Efficacy Score	Experimental	30	13.60	4.21	58	4.68	Significant At 0.01 level
	Control	30	7.10	6.40			

A close perusal of Table 5 reveals that the t-value 4.68 for difference in mean gain score of self-efficacy of prospective teachers of experimental and control group is significant at 0.01 level. It is evident that experiment group realize higher mean gain score (M= 13.60 ±4.21) than the control group (M= 7.10 ±6.40) on post-stage gain self-efficacy score. Based on result obtained from analysis of data, the group of prospective teachers taught through multimedia teaching method attain a significantly higher mean gain self-efficacy score than the group of prospective teachers taught through the conventional method.

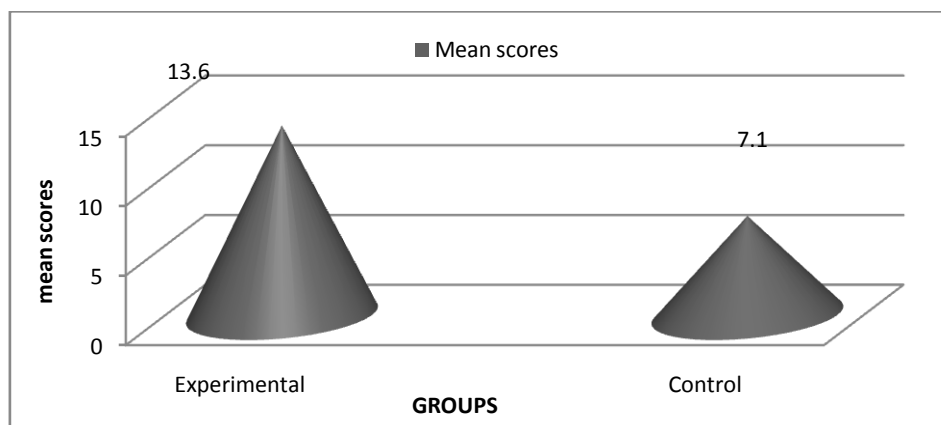


Fig. 5: Comparison of mean gain self-efficacy scores for instructional treatment (experimental (MTM) and control group (CTM))

The findings that prospective teachers taught through multimedia teaching method showed better self-efficacy as compared to the group that taught through conventional teaching method i.e. multimedia package helps to improve the self-efficacy of the prospective teachers. The findings that prospective teachers taught through multimedia teaching method showed better self-efficacy as compared to the group that taught through conventional teaching method i.e. multimedia package helps to improve the self-efficacy of the prospective teachers. The findings that prospective teachers taught through multimedia teaching method

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showed better self-efficacy as compared to the group that taught through conventional teaching method i.e. multimedia package helps to improve the self-efficacy of the prospective teachers. The results are in tune with conclusions drawn by various researches done in abroad.

The present finding agrees with the result of Goker (2006) who revealed that experiential activities such as teaching practicum or other mastery experiences seemed to have a significant impact on the self-efficacy of pre-service teachers. Chilfari et al. (2000) found that self-efficacy towards the computer should be considered one of the important factors in programming further training on ICT for teachers. The results of this study encourage teachers to use abilities that are associated with multimedia package instruction in their classroom activities to enhance prospective teacher's self-efficacy.

Main Effect

(II) Academic Stream (B)

It can be revealed from table 4 that F-ratio is 1.16 on Df 2,54 for main effect of academic stream on mean gain self-efficacy scores of prospective teachers not significant at 0.01 level ($p=.320$) which indicates that different groups of academic streams has no significant effect on the mean gain self-efficacy scores of prospective teachers. Therefore, the null **hypothesis Ho 1.4**, “*There is no significant main effect of academic stream (science, commerce, arts) on the mean gain self-efficacy scores of the prospective teachers after experiment treatment.*” is **retained**. It means that science stream (Sc), commerce stream (Co), arts stream (Ar) groups do not show any difference in their mean gain self -efficacy after the experiment.

After analysis of different groups, it found that different intelligence group teaching through multimedia package are equal in their self-efficacy. In the context of mean scores, it was found that difference in the mean gain self-efficacy score of science stream ($M=12.50$), commerce stream ($M=9.25$) and arts stream ($M=9.54$) have negligible difference.

Interaction Effect

(III) Instructional Treatment & academic stream (A x B)

The F_{AB} value from table-4 regarding double interaction between instructional treatment (MTM & CTM) and academic stream (Sc, Co & Ar) is 0.334 with Df 2,54 which is not significant at 0.01 level leading to inference that there is not interaction between Instructional treatment and academic stream in mean gain self-efficacy scores of prospective teachers.

Therefore, in pursuance of the objective 5, the **null hypothesis Ho1.5**, "There is no significant interaction effect of instructional treatment [Multimedia Teaching Method (MTM) & Conventional Teaching Method (CTM)] and academic stream (science, commerce, arts) on the mean gain self-efficacy scores of the prospective teachers after experiment treatment." is **retained**. The Interaction effect of instructional treatment and levels of Intelligence on mean gain self-efficacy score has been illustrated in fig.6

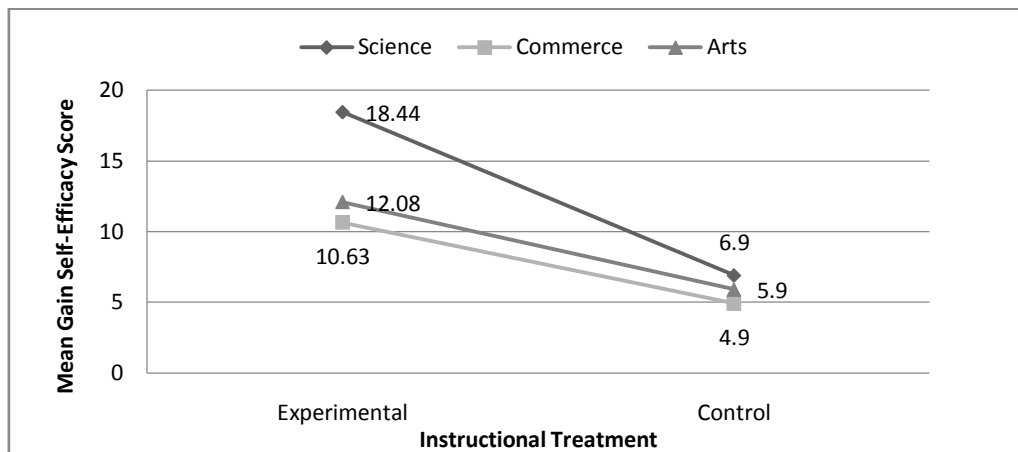


Fig. 6: Interaction effect of instructional treatment and academic stream on mean gain self-efficacy score of prospective teachers

The Interaction effect of instructional treatment and academic stream on mean gain self-efficacy score has been illustrated in fig. 6. The graphical presentation for A×B do not interaction indicates that there is no significant interaction effect instructional treatment i.e. multimedia teaching method (MTM)&conventional teaching method (CTM) used in experimental and control groups respectively and academic stream i.e.Sc, Co&Ar on mean gain self -efficacy score of prospective teachers as the two lines (blue line = science steam;red line= commerce stream; grey line=arts stream) do not interact on experimental and control groups having different instructional treatment.

FINDINGS OF THE STUDY

- 1 It was found that there was no significant difference between the self-efficacy scores of prospective teachers of control group that taught through conventional method and experimental group that taught through multimedia teaching method before experiment treatment. It was revealed that pre-test group of prospective teachers taught through multimedia package similar to group taught through conventional method on self-efficacy scores.
- 2 It was found from analysis of post-test scores that prospective teachers who exposed to multimedia package teaching achieved higher on self-efficacy score in compare to the

prospective teachers who were exposed to conventional method. A significant difference was found between post-test self-efficacy score of experimental group of prospective teachers that taught with the help of multimedia package and control group of prospective teachers that taught through conventional teaching method after experimental treatment.

- 3 There was significant main effect of instructional treatment on mean gain self-efficacy scores of prospective teachers leading to the inference that experimental treatment yielded difference in self-efficacy. After comparing the mean gain self-efficacy scores of experimental and control groups with the help of t-test, a significant difference was found in both the groups. It discloses the fact that prospective teachers of experimental group have higher self-efficacy than the prospective teachers of control group. It can therefore be inferred that prospective teachers who are taught through multimedia instructional method show significant improvement in their self-efficacy than the prospective teachers who received instructions through conventional method of teaching.
- 4 No significant main effect of academic stream on mean gain self-efficacy of prospective teachers leading to inference various academic stream does not show any difference in self-efficacy due to experimental treatment. It exposes that science stream prospective teachers (Sc), commerce stream prospective teachers (Co), arts stream prospective teachers (Ar) groups did not show much difference in their mean gain self-efficacy after the experiment treatment.
- 5 There was no significant interaction effect of Instructional treatment and academic stream on mean gain self-efficacy scores of prospective teachers leading to inference that mean gain self-efficacy score of science stream prospective teachers (Sc), commerce stream prospective teachers (Co), arts stream prospective teachers (Ar) of control group (to be taught through conventional teaching method) and experimental group (to be taught through multimedia teaching method) do not show difference in self-efficacy after experimental treatment.

CONCLUSION

The experimental treatment showed improvement in self-efficacy of prospective teachers who exposed to multimedia teaching as compare to conventional teaching. Mean scores of the prospective teachers in their post-test and mean gain score show that experimental group was perform better than in conventional in terms of self-efficacy. It brings an excitement in experience and enhance the self-efficacy among would be teachers i.e. self-belief to handle the ICT aids in classroom and provide new multisensory learning experiences.

REFERENCE

- Goker S. D. (2006). *Impact of peer coaching on self-efficacy and instructional skills in TEFL teacher education*. *Psychology System*, 34, 239–254.
- Chifari, O, &Ascoilillo, S. (2014). *Web based education, International Conference proceedings of IAS 16-18 feb. 2014, Innsbruck, Austria*.
- Albion, P. (2002). *Pre-service teacher's teaching with computers some factors influencing pre-service teacher's self-efficacy*. In D. Watson et. Al. (eds.) *Networking the learner (724-732)* New York: Springer Science Business Media.
- Dahmer, B. (1993). *When technologies connect. training and development. USA journal*, 47 (1), 46-55.
- Ibrahim, M. & Callaway, R. (2014). *Students' learning outcomes and self-efficacy perception in a flipped classroom*. Arkansas Tech University, United States, retrieved from [http:// SITE.com/ibrahim&llaway/](http://SITE.com/ibrahim&llaway/)
- Grover, P. (2016). *Computer Attitude of Prospective Teachers in relation to Self-Efficacy*. *International Educational Scientific Research Journal [IESRJ]*, 2(5), 47-49. retrieved from: <http://95-437-2-PB.pdf>.
- Kalia, A.K. &Sahu, S. (2012). *Manual and tool of Socio-Economic Status Scale (Urban & rural) (SESS-UR-KASS)*. Agra: National Psychological Cooperation.
- Naemi, A.M. &Namei, A. (2017). *Effectiveness of smart training on self-efficacy and selfregulation in science course of fifth grade students of primary schools*. *International Journal of Educational & Psychological Researches*, 3(1),47-52.
- Nthiga, P.R. (2016). *Effect of Multimedia Cases on Science Teaching Self-Efficacy Beliefs of Prospective Teachers in Kenya*. Dissertation-ALL [http:// surface.syr.edu/etd.](http://surface.syr.edu/etd.)
- Olalere, M. (2005). *An investigation into teachers' self-efficacy in implementing computer education in Nigerian secondary schools*. Retrieved from http://www.ncsu.edu/meridia/sum2005/computer_ed_Nigerian_schools/print.html.
- Mathur, G.P. & Bhatnagar, R.K. (2012). *Manual & Scale of self-efficacy scale*, Agra: National Psychological Cooperation.
- Sabzian, F., Pourhosein, A. &Sodouri, S. (2013). *Use of Technology in Classroom for Professional Development*. *Journal of Language Teaching and Research*, 4(4), 684-692, doi:10.4304/jltr.4.4.684-692.