

An Experimental Study on Effect of Workshop Training on Research Literacy among Research Scholars

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Abstract - The study aims to investigate the effect of research methodology workshop training on research literacy among the research scholars of Karnataka state Akkamahadevi Women's University, Vijayapura Karnataka. For the present study, the experimental research design was applied with pre-test and post designs with a control group. Research scholars of KSWUB University are considered as a target population for the study. Random stratified sampling method was used to select the sample from the targeted population. The university has conducted 21 days workshop on research methodology covering all the aspects of the research process in the workshop. 30 subjects were selected for the control group and the experimental group for the study. A structured questionnaire was used to assess the level of knowledge of research literacy among the research scholars. Pre-test and post-test were conducted on the research literacy of research scholars before and after the workshop and evaluated the scores of scholars. The significant difference was observed among research scholars in the level of research literacy after the workshop. It can be concluded that the workshop has made a significant impact on the level of research literacy among the research scholars. It is one of the most effective treatment to enhance the level of knowledge of research among the research scholars.

Keywords: Research Literacy, Experimental Designs, Pre-test, Post-test, Research Scholars.

Introduction:

Research students have to read large amounts of information for their research activities. Reading and understanding the research articles, theses, dissertations, and reports are the most difficult and challenging one. They have to understand the qualitative and quantitative aspects of research mythology and statistical techniques to be understood to gain inputs and information on their research area of interest. The number of research students is increasing day by day as they are considered as important contributors to research and research

publications, so, the researchers should have skills and competency in the research to carry out the research more successfully and for the better results. Hence, the knowledge of research is most important and essential for the research scholars, it is very much necessary to evaluate their existing knowledge and study the ways and means to enhance the knowledge of research skills among the research scholars. To understand the concept of research literacy, we have to begin with the concept of Information literacy, it is coined by Paul G. Zukowski (1974) to describe the technique skills known by the information literate for utilizing the wide range of information tools as well as primary sources in modeling the information solutions and their problems. According to the American Library Association (2000) to be information literate, a person must be able to recognize when information is needed and have the ability to locate evaluate and use effectively the needed information (2). Similarly, Research literacy can be defined as ability to read, access, interpret, and evaluate research reports (thesis, research articles). In this connection, an attempt has been in the present study to assess the level of research literacy and measure the cause and effect of the workshop on research literacy of research scholars.

Review of Literature:

The present study is to assess the effect of a training program on research scholars to stimulate their awareness level and knowledge of research methodology with the help of experimental research design. Many studies have been carried out on the concept of research literacy. Research writing requires to read vast amount of empirical literature which consists of a lot of terminologies, jargon, statistical data, and as well as information. Many studies reported barriers towards reading research articles. For instance, Wao et al., (2012) traced the barriers towards reading research articles among doctoral students such as lack of time, psychological physical factors, lack of relevancy, lack of statistical background, language style, and accessibility. Similarly, Waller and Knight (2012) studied problems towards reading research articles such as complex content, the difficulty of finding relevant articles, time commitment, and access problems. Benge et al., (2010) has also made an attempt to assess the impact of workshop training on learning resources materials, a similar study is also conducted by Azam safari (2016) on the effect of workshop training method and electronic teaching method on mathematics learning, the significant results were traced from the workshop training.

Statement of the Problem:

The statement of the problem is “An Experimental Study on effect of Workshop Training on Research Literacy among Research Scholars”
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Need for the Study:

The cornerstone of science is experimental research or creative research. The main purpose of the research is to the extension of knowledge and contributes to the development of theory in their field. It plays a very important role in discovering new things and possible solutions. Research find solutions to many problems and discovering truth and also fill the gap in the knowledge system and change the life better and more professional. It enhances the living standard in society. The research must always be of high quality in order to produce knowledge that is applicable outside of the research setting. If the researchers have competency and skills in their research, they can become good researchers and can produce

good results. Hence, in the present study, an attempt has been made to assess the research literacy skills among the researcher scholars with the help of experimental research design. Hence the proposed study has been undertaken

Objectives of the Study

The main objectives of the study is to find the cause and effect of workshop training on research literacy among research scholars with help of experimental research design

Methodology:

Pre-test and post-test techniques were used to measure the knowledge gain from the training course. The researcher scholars are engaged in 21 days research methodology workshop organized by the department of Library and Information Science and SC/ST Cell of Karnataka state Akkamahadevi Women's University from 11.10.19 to 1.11.2019 For the present study experimental quasi research design is used, wherein pre-test and the post-test technique is applied with the control group. Before starting the workshop sixty research scholars were selected for the study in which thirty students were considered as Control-group and remaining thirty students were considered as experimental group. A set of structured questionnaire was designed with all the dimensions of research methodology with multiple choice questions and some important questions on five-point scale were also covered thus total 21 questions were asked in the questionnaire and distributed for both the control group and the experimental group before the commencement of workshop. Filled questionnaire were processed and calculated the mean scores of each research scholar . Later they have been exposed to 21 days workshop training for the experimental group on the identified dimension of research methodology, experts in the field of research methodology and statistics were invited for the workshop to deliver the special lecture on the selected theme of research mythology. And at the same time the control group has been kept out of the training program. After the end of the training, the structured questionnaire is again distributed to the same students for both control group and experimental group and calculated the mean score of each the research scholars, later pretest and post scores of control group and experimental group entered in SPSS software separately and find out the difference between the pre-test of control group and experimental group and similarly, the difference between the post-test control group and experimental with the help of F-test.

Experimental Research Design

The experimental research design is concerned with experimentation of the effect of independent variable on the dependent variables, where the independent variable is manipulated through treatment or introversion and the effect of those interversions is observed on the dependent variable.

Research Hypothesis

The workshop training has made greater impact on enhancing the level of research literacy skills among the research scholars.

Data Analysis and Interpretation

In this study, the two statistical methods including descriptive and inferential statistics have been covered. In the descriptive statistics, the central measures of tendency values such as mean and standard deviation have been calculated. In the inferential statistics, pretest and posttest design and Covariance Analysis has been used and based on the research hypothesis.

Research Findings

The main aim of study was to compare the effect of workshop training with help of pre test and post test technique. After the completion of the training program, the post test is again conducted for the control group and experimental group. The covariance of the analysis has been performed. The descriptive indicator in the control group and the experimental group are presented in table -1 according to the provided data, there is a significant difference found between pre-test and post-test scores of the control group and the experimental group of research scholars.

Table-1 Analysis of Covariance of Performance of Research Literacy among the Research Scholars

Variable	Test		Experimental group	Control Group	SOV	Sum of the Square	Df	Mean Square	F -ratio
Research competency	Pretest	Mean	18.8400	17.760	B	38.173	1	19.176	2.98
		SD	1.29929	2.0028	W	960.42	58	6.421	
	Posttest	Mean	24.8600	19.123	B	998.59	1	104.64	9.145*
		SD	2.69966	4.8941	W	209.28	58	11.44	
	Adjusted post test	Mean	25.052	19.586	B	209.683	1	209.683	14.294*
		SD	1.96	2.25	W	982.856	58	14.6693	

*significance $\alpha = .05$ Table value =4.08

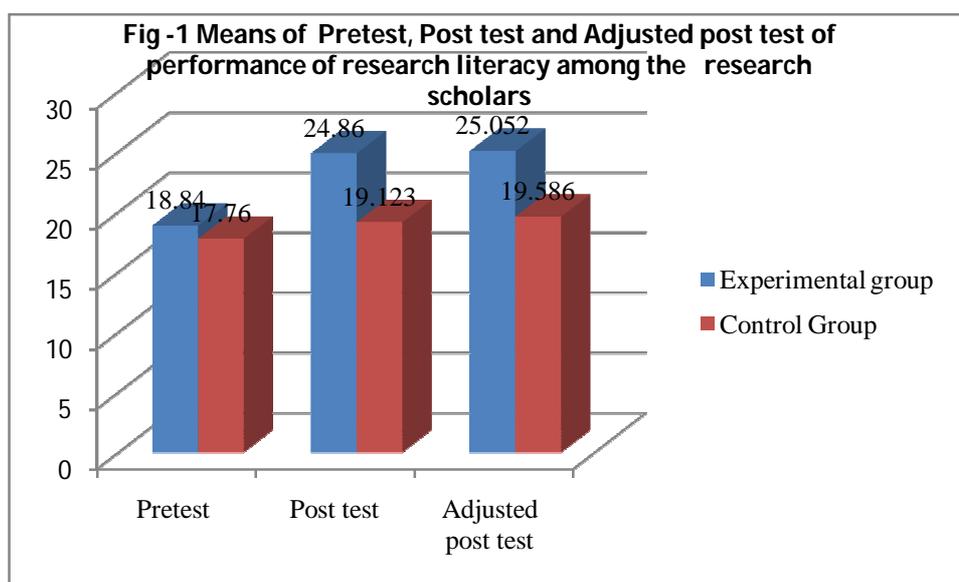


Table- 1 Shows that the pre-test mean scores of the experimental group and control group of research scholars with respect to their research literacy. It is observed that mean scores of pretest of experimental group and control group are 18.8400 and 17.600 and their standard deviation are 1.29929 and 2.0028 respectively. The obtained ‘F’ Ratio value is 2.921 ($F=2.921, 1, 58, \alpha =.05$) at 5% level of significance, which is less then the table value ($F=4.08$), hence the null hypothesis is accepted. It indicates that the research literacy among the pre test experimental group and control group of research scholar is found almost similar.

Further, Table- 1 shows that the post-test mean scores of the experimental group and control group of research scholars with respect to their research literacy. It is observed that mean scores of post-test of experimental group and control group are 24.8600 and 19.123 and their standard deviation are 2.6996 and 4.8941 respectively. The obtained ‘F’ Ratio value is 9.456 ($F=9.456, 1, 58, \alpha =.05$) at 5% level of significance, which is much more than the table value ($F=4.08$), hence the null hypothesis is rejected. It indicates that the research literacy of the experimental group and Control the group of research scholars are found different. The research literacy is more among the experimental group when compared to the control group. Finally, it can be concluded that workshop training given to the experimental group has made a significant impact on the research knowledge of the research scholar.

To minimize the effect of pretest on posttest a adjusted posttest has performed, hence, the adjusted post-test mean scores of experimental and Control Group are 25.052 and 19.586 and their standard deviation are 1.96 and 2.25 respectively. The obtained ‘F’ Ratio value is 14.294 ($F=14.294, 1, 147, \alpha =.05$) 14.294 at 5% level of significance, which is much more than the table value ($F=4.08$), hence the null hypothesis is rejected and an alternative hypothesis is accepted. It can be concluded that there is a significant difference is found between the experimental and Control groups with respect to their research literacy.

Table -2 Analysis of Covariance of Performance of Statistical Competency among the Research Scholars

Variable	Test		Experimental group	Control Group	SOV	Sum of the Square	Df	Mean Square	F -ratio
Statistical competency	Pretest	Mean	15.3400	14.460	B	38.173	1	19.087	2.921
		SD	1.49929	2.1202	W	960.42	58	6.533	
	Posttest	Mean	21.8100	15.123	B	998.59	1	104.64	11.145*
		SD	2.19966	1.8941	W	209.28	58	9.388	
	Adjusted post test	Mean	22.052	17.586	B	209.683	1	209.68	15.294*
		SD	1.26	1.25	W	982.85	58	13.709	

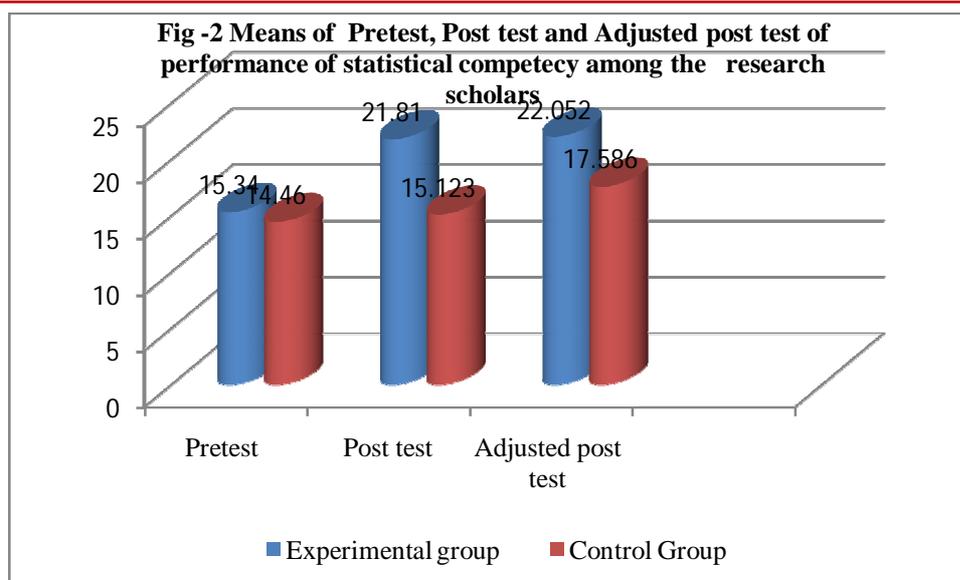


Table- 2 and fig-2 Shows that the pre-test average mean scores of the experimental group and a control group of research scholars with respect to their Statistical competency. It is found that mean scores of pretest of experimental group and control group are 18.8400 and 17.600 and their standard deviation are 1.29929 and 2.0028 respectively. The obtained 'F' Ratio value is 2.921 ($F=, 1, 58, \alpha =.05$) at 5% level of significance, which is less than the table value ($F=4.08$), hence the null hypothesis is accepted. It is observed that no statistical difference of mean scores found between pre test of control group and experimental group with respect to their research literacy skills.

Further, Table- 2 Shows that the post-test mean scores of the experimental group and a control group of research scholars with respect to their Statistical competency. It is noticed that mean scores of post-test of experimental group and control group are 24.8600 and 19.123 and their standard deviation are 2.6996 and 4.8941 respectively. The calculated 'F' Ratio value is 9.456 ($F=9.456, 1, 58, \alpha =.05$) at 5% level of significance, which is much more than the table value ($F=4.08$), hence the null hypothesis is rejected. It indicates that the Statistical competency of the post test of experimental group and Control Group of research scholars are found different. The Statistical competency is more among the experimental group when compared to the control group. So , it can be concluded that workshop training given to the experimental group has made a significant impact on the Statistical competency of the research scholars.

The adjusted post-test mean scores of Statistical competency on experimental and Control Group are 25.052 and 19.586 respectively and their standard deviation are 1.96 and 2.25 respectively. The obtained 'F' Ratio value is 14.294 ($F=14.294, 1, 147, \alpha =.05$) 14.294 at 5% level of significance, which is much more than the table value ($F=4.08$), hence the the null hypothesis is rejected and An alternative hypothesis is accepted. It can be concluded that there is a significant difference is found between the experimental and Control Group with respect to their Statistical competency.

Conclusion:

Number of research scholars are increases day by day as they are considered as important contributors to research and research productivity, so, the researchers should have skills and

competency in the research to carry out the research for more efficiently for the better findings. There has been a significant difference in the mean scores of two groups between pre-test and post-test of the control group and experimental group. From the above discuss, it can be summarized that, the research methodology workshop training has enhances the research literacy skills among the research scholars of Karnataka State Akkamahadevi, Women University, Vijayapura. The study is also consistent with the study conducted by Azam safari and Zahra Hosseini (2016) on the effect of workshop training method and electronic teaching method on mathematics learning, the significant effect of workshop training is observed on the target group of the population of the study. The authority of University or colleges have to organize this type of workshop on research methodology for their research scholars time to time so has to enhance their competency and skills in research.

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