Impact of Research Methodology Training on Research Skill Development of Faculties

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Abstract

The study aims to analyze the perception of faculties on their research skill development through research methodology training conducted by Bagiswori College, a renowned community college in Bhakapur district affiliated to Tribhuvan University. The training schedule, teaching pedagogy and learning environment are taken as independent variables and research skill development is taken as dependent variable. Data are collected through closed ended questionnaire. Five point Likert scale using strongly disagree, disagree, agree to some extent, agree, strongly agree was made to know the perception of participated faculties on research skill development through research methodology training. The study has used regression, mean score, t-test and F-test for the analysis of data. The study has found that the teaching pedagogy and the learning environment of research methodology training have significant impact on perceived faculties' research skill development and training schedule of research methodology training has not significant impact on perceived faculties' research skill development.

Key words: *Training, Research Methodology, Research Skill Development, Faculties*

I. Introduction

Training is the efficient process of getting knowledge, abilities, skills and the behaviour to meet the requirements of the job. It involves the use of formal processes to import knowledge and help people to acquire the skills necessary for them to perform their jobs satisfactorily (Armstrong, 2009). Training is essential for both an employee and an organization. From an organizational point of view, training of employees is essential for operations and advancement of the organization. From an employee point of view, training activities are important for skills and development, employee performance and career advancement (Athar & Shah, 2015).

Training and development leads to superior knowledge, skills, abilities, attitude, and behavior of employees that eventually enhance organizational performance (Thang & Buyens, 2008). Training and development is a systematic approach where an individual can improve him/herself for the assigned job which ultimately create a good team building habit in any organization (Kraiger & Ford, 2007). Training and development programs, as one of the vital human resource management practice, positively affects the quality of the employee, knowledge, skills and capability and thus results in higher employee performance on job (Guest,1997).

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It is found that various training and development programs are conducted by colleges/campuses to develop skill and knowledge of their faculties. A research methodology training is highly focused by faculties as well as colleges/campuses to compete the challenges in teaching and research activities. University Grants Commission of Nepal has been providing financial support to the colleges/campuses for faculties' research skill and capacity development through research methodology training and seminar. Bagiswori College, a renowned community college in Bhaktapur district, conducted 5-day long research methodology training for faculties with the financial support of University Grants Commission of Nepal from 5th Jestha 2075 (19th May 2018) to 9th Jestha 2075 (23rd May 2018).

The perceived research skill development of faculties from training is required to evaluate whether such a type of research methodology training is fruitful for faculties or not. Therefore, the objective of the study is to analyse the perception of faculties on their research skill development through research methodology training conducted by Bagiswori College affiliated to Tribhuvan University.

II. Review of Literature

Kamal-Al-Den and Rakha (2016) found that there is a positive impact of training programs in Deanship of Development and Quality-Najran University (DDQ-NU) on improving faculty members' skills. Ahmed, Ahmad and Channar (2016) found that training and development does have a significant impact on the performance of an individual faculty member. Ginns et al. (2010) examined that positively related to training courses and quality of work environment have a positive impact on teachers' approaches.

Nasreen and Mirza (2012) found that the training programs were more instrumental in improving teachers' skills and attitudes in old universities as compared with that in new universities. Kayani et al. (2011) noted that organizing training in the form of seminars, workshops, lectures, and conferences in higher education is necessary to expose faculty members to the modern trends and enhance managerial and administrative skills.

Sibtah et al. (2016) revealed that there is positive impact of faculty training and development practices on performance of faculty members, which ultimately affects the overall performance of the university positively. Pareek and Rao (1992) expressed that the training and development and professional development have a key role in organizational development and these objectives can be achieved by providing skills development programs, short courses, and expert courses to the employees of organizations, including educational institutions and universities.

Rahman and Parveen (2006) reported that training and skill building for faculty are the key factors of better performance and professional development of faculties in Bangladeshi universities. Schmalenberg and Kramer (2008) concluded that there is a significant positive association between training and development and faculty's performance in universities.

III. Research Methodology

Research Design

To fulfill the objective of the study, a set of questionnaire was formulated and distributed to the respondents i.e. the participants of research methodology training. The questionnaire was self-administered and the collected data were classified, tabulated, processed and analyzed. The training schedule, teaching pedagogy and learning environment are taken as independent variables and research skill development is taken as a dependent variable. The study has used regression, mean score, t-test and F-test for analysis. The Statistical Package for Social Science (SPSS) was used to analyze the data. Five point Likert scale using strongly disagree, disagree, agree to some extent, agree, strongly agree was made to know the perception on research skill development through research methodology training. The reliability of scales was analyzed using Cronbach's alpha. The descriptive and analytical research design was used in the study.

Sample Selection

The population for the study was total participants on the 5 days long research methodology training organized by Bagiswori College from 5th Jestha 2075 (19th May 2018) to 9th Jestha 2075 (23rd May 2018) with the financial support of University Grants Commission (UGC) - Nepal. There were 41 participants from different constituent and community campuses/colleges and institutions from Bhaktapur and Kavrepalanchok districts. Therefore, total 41 questionnaires were distributed but the 35 usable questionnaires were selected as sample for the study using purposive sampling. The questionnaire was filled by the participants at the end of the training.

Data Collection Procedure

The study was based on the primary data and collected through the questionnaire including closed-ended questions. For the collection of required data and information, questionnaire was prepared including respondents' profile and various variables. The respondents filled out the questionnaires following the given instructions. Then the responses were collected from the respondents.

Research Framework

The conceptual framework of the study is as follows:

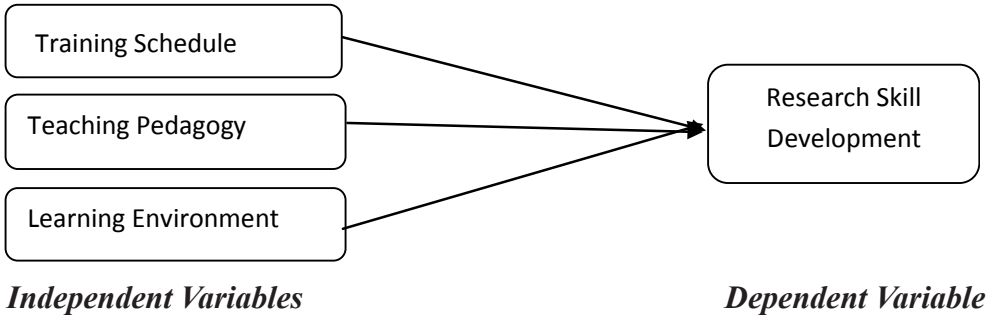

Figure 1: Conceptual Framework of Faculties' Research Skill Development

Research Hypotheses

To study the perception of faculties on their research skill development through research methodology training, the following three hypotheses were set:

Hypothesis 1 (H1): Training schedule has significant impact on the perceived faculties' research skill development.

Hypothesis 2 (H2): Teaching pedagogy has significant impact on the perceived faculties' research skill development.

Hypothesis 3 (H3): Learning environment has significant impact on the perceived faculties' research skill development.

Regression Model

The multiple regression model of the study is as follows:

$RSD = \beta_0 + \beta_1 TS + \beta_2 TP + \beta_3 LE + u$

Where;

RSD = perception of faculties on research skill development

TS = perception of faculties on training schedule

TP = perception of faculties on teaching pedagogy

LE = perception of faculties on learning environment

β_0 = Constant term

$\beta_1 - \beta_3$ = Coefficient

u = Error term

IV. Results Analysis

Respondents Profile

The male respondents (80 percent) are higher than female respondents (20 percent). The respondents' below 40 years old, 40 - 50 years old and above 50 years old are 65.72 percent, 60.26 percent, 28.57 percent and 5.71 percent respectively (table 1). The percentage of respondents having Masters' Degree is 91.4 percent and the rest are M. Phil. Degree holders (8.6 percent). The highest participation is 60 percent from the Faculty of Management followed by 34.29 percent from the Faculty of Humanities and Social Science and 5.71 percent from Faculty of Science. The percentage of having the teaching experience in colleges/campuses less than 5 years, 5-10 years and more than 10 years is 34.3 percent, 31.4 percent and 34.3 percent respectively.

Table 1

Respondents Profile

Category	Number of Respondents	Percentage
Gender		
Male	28	80
Female	7	20
Age		
Below 40 years old	23	65.72
40 - 50 years old	10	28.57
Above 50 years old	2	5.71
Educational Qualification		
Masters	32	91.4
M. Phil.	3	8.6
Faculty		
Management	21	60
Humanities	12	34.29
Science	2	5.71
Teaching Experience		
Below than 5 years	12	34.3
5 - 10 years	11	31.4
More than 10 Years	12	34.3

Source: Opinion Survey, 2018

Reliability Test

The reliability of questionnaire relating to the impact of research training methodology on faculties' research skill development is given in following table:

Table 2

Reliability Statistics

Variables	No. of item	Cronbach's Alpha
Training Schedule	5	0.771
Teaching Pedagogy	5	0.821
Learning Environment	5	0.717
Research Skill Development	5	0.737

The value of Cronbach's Alpha of training schedule, teaching pedagogy, learning environment, and research skill development of faculties are 0.771, 0.821, 0.717 and 0.737 respectively (table 2). For reliability test, the value of Cronbach's Alpha of all variables is more than 0.7 which is enough to accept the questionnaire (George & Mallery, 2009).

Variation of Variables

The value of R Square 0.192 indicates the dependent variable i.e. faculties' research skill development is explained by variation in independent variables i.e. training schedule, teaching pedagogy, learning environment by 19.2 percent. It means that the faculties' research skill development is explained by variation in other variables by 80.8 percent.

Table 3

Variation of Variables

R	R Square	Adjusted R Square	Std. Error of the Estimate
0.439	0.192	0.114	1.80531

Predictors: (Constant), Training Schedule, Teaching Pedagogy, Learning Environment

ANOVA Test

The sum of square of regression and residual is 24.068 and 101.034 (table 4) respectively and the mean square of regression and residual is 8.023 and 3.259 respectively. The F value of the model is 2.462 with p value 0.0081 (< 0.05). It indicates that the model is fitted at 5 percent level of significance.

Table 4

ANOVA Results

	Sum of Squares	df	Mean Square	F	Sig.
Regression	24.068	3	8.023	2.462	0.0081
Residual	101.034	31	3.259		
Total	125.102	34			

Predictors: (Constant), Training Schedule, Teaching Pedagogy, Learning Environment
Dependent Variable: Faculties' Research Skill Development

Mean Score of Training Schedule, Teaching Pedagogy, and Learning Environment

The mean score of different factors of faculties' research skill development by gender, age, educational qualification, faculty and teaching experience in college/campus are discussed as follows:

Table 5

Mean Score of Research Skill Development Variables by Gender

	Mean Score of Responses			
Gender	Training Schedule	Teaching Pedagogy	Learning Environment	Overall Mean
Male	3.54	3.84	3.91	3.77
Female	3.29	3.86	3.63	3.59

Source: Opinion Survey, 2018

Both male and female faculties have pointed out the importance of the training schedule, teaching pedagogy and learning environment for development of research skill indicating mean score of responses more than 3 in all variables. The highest mean score (3.91) of responses of the male respondent are found for the learning environment but the highest mean score (3.86) of responses of the female respondent are found for the teaching pedagogy (table 5). It indicates that male has more emphasis on learning environment and female has more emphasis on teaching pedagogy. Both male and female respondents have given less emphasis for training schedule than teaching pedagogy and learning environment of research methodology training.

Table 6

Mean Score of Research Skill Development Variables by Age

	Mean Score of Responses			
Age	Training Schedule	Teaching Pedagogy	Learning Environment	Overall Mean
Below 40 years old	3.48	3.92	3.82	3.74
40 - 50 years old	3.42	3.66	4	3.69
above 50 years old	4	3.9	3.6	3.83

Source: Opinion Survey, 2018

In table 6, the highest mean score (3.92) of responses from below 40 years old age group is found for teaching pedagogy, the highest mean score (4.00) of responses from 40 – 50 years old age group is found for learning environment and the highest mean score (4.00) of responses from above 50 years old age group is found for training schedule. It indicates that the emphasis of respondents for research skill development on different factors differs significantly.

Table 7

Mean Score of Research Skill Development Variables by Educational Qualification

	Mean Score of Responses			
Educational Qualification	Training Schedule	Teaching Pedagogy	Learning Environment	Overall Mean
Masters	3.49	3.87	3.88	3.75
M. Phil.	3.47	3.6	3.6	3.56

Source: Opinion Survey, 2018

Table 7 shows that the respondents having masters' degree (3.75 overall mean score) have more emphasis for research skill development variables than respondents having M. Phil. degree (3.56 overall mean score).

Table 8

Mean Score of Research Skill Development Variables by Faculty

	Mean Score of Responses			
Faculty	Training Schedule	Teaching Pedagogy	Learning Environment	Overall Mean
Management	3.62	4.03	3.85	3.83
Humanities	3.33	3.58	3.9	3.61
Science	3.1	3.5	3.7	3.43

Source: Opinion Survey, 2018

The highest mean score (4.03) of responses of the respondents from the Faculty of Management is found for the teaching pedagogy but the highest mean score of responses of the respondents from the Faculty of Humanities and Social Sciences (3.90) and Faculty of Science (3.70) are found for the learning environment (table 8). It indicates that respondents from the Faculty of Management have more emphasis on teaching pedagogy and the respondents from the Faculty of Humanities and Social Sciences and the Faculty of Science have more emphasis on learning environment.

Table 9

Mean Score of Research Skill Development Variables by Teaching Experience

	Mean Score of Responses			
Teaching Experience	Training Schedule	Teaching Pedagogy	Learning Environment	Overall Mean
Below than 5 years	3.4	3.78	3.9	3.69
5 - 10 years	3.38	3.8	3.67	3.62
More than 10 years	3.68	3.95	3.98	3.87

Source: Opinion Survey, 2018

In table 9, the faculties having more than 10 years teaching experience give importance for learning environment (highest mean score 3.98) while least emphasis is given to training schedule of research methodology training by faculties having 5 -10 years teaching experience. The highest overall mean score (3.87) of faculties having more than 10 years teaching experience indicates that the faculties of this group agree with all the factors of research skill development.

Regression Results

The multiple regression model of the study as per regression result is

RSD = 13.339 + 0.333 TS + 0.887 TP + 1.827 LE

From this equation, it is clear that learning environment has the highest positive influence in faculties' research skill development followed by teaching pedagogy and training schedule of

research methodology training.

The t value of training schedule is 0.590 and p value is 0.000 (0.560 > 0.05). It indicates the training schedule is not significant at 5 percent level of significance. Therefore, the alternative hypothesis is rejected i.e. training schedule has not significant impact on faculties' research skill development. The beta co-efficient and t value of teaching pedagogy of research methodology training is 0.887 and 1.158 respectively. The p value of teaching pedagogy of research methodology training is 0.0.025 (0.025 < 0.05) and it indicates that the teaching pedagogy of research methodology training is significant at 5 percent level of significance. The teaching pedagogy of research methodology training has significant impact on faculties' research skill development because alternative hypothesis is rejected.

Table 10

Regression Results

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	13.339	2.583		5.164	0
Training Schedule	0.333	0.565	0.127	0.59	0.56
Teaching Pedagogy	0.887	0.766	0.267	1.158	0.025
Learning Environment	1.827	0.705	0.484	2.591	0.014

Dependent Variable: Faculties' Research Skill Development

Similarly, the t value and p value of learning environment of research methodology training is 2.591 and 0.014 (0.014 < 0.05) respectively. It means the learning environment of research methodology training is significant at 5 percent level of significance. So, the alternative hypothesis is accepted i.e. learning environment of research methodology training has significant impact on faculties' research skill development.

V. Conclusion

Male faculties have more emphasis on learning environment but female faculties have more emphasis on teaching pedagogy. The faculties having masters' degree have more emphasis for research skill development variables than respondents having M. Phil. Degree. The faculties from the Faculty of Management have more emphasis on teaching pedagogy and the faculties from the Faculty of Humanities and Social Sciences and the Faculty of Science has more emphasis on learning environment.

Teaching pedagogy and learning environment of research methodology training have significant

impact on faculties' research skill development and training schedule of research methodology training has not significant impact on faculties' research skill development. Learning environment has more influence on perceived faculties' research skill development than training schedule and teaching pedagogy.

VI. Limitations

The study was mainly confined to perception of faculties on their research skill development through research methodology training conducted by Bagiswori College. So, the findings of the study cannot be generalized to faculties of colleges/campuses all over the country. The training schedule, teaching pedagogy and learning environment were only taken for analysis of faculties' research skill development.

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Appendix

List of Participated College/Campus, Institution and number of Faculties on Research Methodology Training

S.N.	Name of the college/campus and Institution	Address (District)	Number of Participants
1	Bhaktapur Multiple Campus	Bhaktapur	1
2	Bagiswori College	Bhaktapur	30
3	Khwopa College	Bhaktapur	1
4	Basu College	Bhaktapur	1
5	Adarsha Azad College	Bhaktapur	1
6	University Grants Commission	Bhaktapur	3
7	Kavre Multiple Campus	Kabhre	1
8	Indreshwor College	Kabhre	2
9	Sanjivani College	Kabhre	1

Source: Official Records of Bagiswori College, 2018