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ASSESSMENT OF RESEARCH SKILLS AMONG THE TEACHING FACULTY MEMBERS: A CASE STUDY OF KARNATAKA STATE AKKAMAHADEVI WOMEN'S UNIVERSITY, VIJAYAPURA

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RESEARCH ARTICLE

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Abstract

The study evaluate the research skills of faculty members of Karnataka state Akkamahadevi Women University, Vijayapura. Recognizing the importance of research for national development and well being. Research makes important contributions to the expansion of industries and government businesses. The universities have to establish Research Policy to foster a vibrant research ecosystem. A total of 60 faculty members across 18 departments were surveyed. The study reveals that department of Physical Education and the Department of Education have higher representation, primarily male faculty aged between 50 to 60 years, with most them are either Professors or Assistant Professors and mainly from Social Science and Education followed by sciences. The findings indicate that the faculty members generally well versed with the fundamentals of research. However, significant gap in their knowledge of research ethics and research metrics. The study identified a significant difference in the level of research skills based on faculty designation. The study concluded that the research skills are directly correlated with the research productivity of the faculty members. The study recommended for the establishment of comprehensive research policy and training program to enhance the research competency and culture at the university level.

Keywords: Research skills, faculty members, KSAWUV, research productivity

1.0 Introduction

Research skills refers to the ability of a researcher to carry out a research to create new concepts and understandings, ability to find an answer to question or solutions to a problem, how to use data collection tools. Further it is an ability to gather information about a topic, review the information, analyse and interpret data in a way to support solutions. Research is conducted to evaluate hypotheses and share the findings in the most suitable ways. The research skills are very much necessary to carry out the research independently in right direction. It also helps the advancement of career of the faculty members. Therefore, it is very much necessary to assess and identify the level of research skills of teaching faculty of KSAWUV.

2. Review of Literature

McCabe and McCabe (2000) revealed that academic staff members in higher education institutions, especially universities are provide the opportunity to focus on research and develop a research program and later share the outcome of the research findings with students and others to develop professional and research skills. Research provide good platform for the teaching faculty members to become competent teacher and researcher. It develop academic knowledge and reinforces the skill needed for effective knowledge transfer, it fill the gap of previous research and create an opportunities for future research. According to Rashid (2001). Research is conscious effort to collect, verify and analyze information. Research can be understood as having two broad components knowledge creation and knowledge dissemination. Ochai and Nidosa (1998) opined that the fruits of research are new knowledge and facts, which are communicated through scholarly communications and seminars/ / Confirences. In any university setup the advancement of individual teachers depends largely on the quality and quantity of their research publications, which are communicated through different literary forms like journal articles, books, technical

reports, articles in conference volumes and other types of publications(Bassey Akuegwu, Udida and others, 2008). The present study is mainly focus on the research skills and productivity of teaching faculty members of Karnataka State Akkamahadevi Women's University, Vijayapura to assess the level of research skills and competence. The study would be help to the university authority to assess the current status of the research skills and competence in the university, based on the results; they can develop a research policy. It would be helpful make better decision in terms of faculty research skills and research productivity.

3. Objectives of the Study

1. To find out the demographic profile of the faculty members under study.
2. To find out how faculty members perceive their research skills in understanding about the research basics, use of research methods, applications of technological tools and report writing.
3. To study the level of research productivity among the faculty members of KSAWUV
4. To examine the relationship between faculty members' research skills and their research productivity.

4. Hypotheses

1. There is a notable difference in the level of research skills among the faculty members based on their designations.
2. There is no significant relationship between the research productivity and the research skills of the faculty members of KSAWUV

5. Research Methodology

The present study employed a mixed method of research approach both Quantitative and Qualitative methods, to collect and analyse the required research data in two phases. In the first phase, the structure questionnaire was developed based on perceived research skills including, basics research skills, applications of research methods, use of technological tools and research report writing skills. In the second phase a quantitative method was used to collect details of research publications of the faculty members over last fifteen years (2010-2023). The research data is collected personally and supplemented with information from the university's annual reports and official website. The researcher is also collected additional information from Scopus database from 2010-2023. Data analysis was conducted using MS Excel and SPSS software.

6. Data Analysis and Interpretation

The study focused on 60 presently working permanent faculty members examine their research skills and productivity from 2010 to 2023, which was considered as a main source of data for the study.

Table-1 Department wise Distribution of the Faculty Members

Sl no	Department	Frequency	%
1	Bioinformatics	2	3.3
2	Chemistry	1	1.7
3	Commerce	1	1.7
4	Computer science	5	8.3
5	Economic	3	5.0
6	Education	8	13.3
7	Electronics	1	1.7
8	English	3	5.0
9	Food processing	5	8.3
10	Hindi	4	6.7
11	Journalism and mass communication	3	5.0
12	Kannada	3	5.0
13	Library and information science	3	5.0
14	Management studies	3	5.0
15	Physical education	8	13.3
16	Social Work	3	5.0
17	Sociology	2	3.3
18	Women studies	2	3.3
	Total	60	100.0

It is observed that the department of Physical Education and the Department of Education have the highest number of faculty members, both together constituting nearly 26.6% of the total population, followed by the Department of Computer Science, which accounts nearly 8.3% of the faculty members, and the department of Hindi, which represents 6.7%. Furthermore, nearly seven departments have only three faculty members each. Meanwhile, the departments of Commerce, Chemistry and Electronics each have only one faculty member.

Table-2 Gender wise distribution of faculty members

Sl no	Gender	Frequency	%
1	Male	42	70.0
2	Female	18	30.0
3	Total	60	100.0

Table-2 shows the gender wise distribution of the faculty members, among the 60 faculty members, large majority (42-70%) of the respondents are male faculty members and remaining 30% of the respondents are female. This indicates that the representation of male faculty members is greater than the female counterparts. Therefore, the university authorities should ensure adequate representation of female faculty in the future appointments

Table-3 Age wise distribution of the faculty members

Sl no	Age	Frequency	%
1	31 to 40 years	17	28.33
2	40 to 50 years	20	33.33
3	50 to 60 years	23	38.34
	Total	60	100.00

Table-3 reveals the age wise distribution of the faculty members under study, the majority of faculty members are between 50 to 60 years old, followed by 33.33% of the faculty members belongs to the 40 to 50 years age group. Nearly 28.33% of the faculty members are between 31 to 40 years old. It can be concluded that, a large majority of the faculty members are over 40 years old, indicating that they possess significant teaching experience.

Table-4 Educational qualification of the faculty members

Sl no	Qualification	Frequency	%
1	Ph.D	53	88.3
2	P.D.F	5	8.3
3	NET/SET/JRF	2	3.3
	Total	60	100.0

Table-4 reveals the educational Qualification of the faculty members. Most of the faculty members (88.3 %) under study holds PhD qualification, while, 8.3 % have a PDF as their higher research degree. Only 3.3% of the faculty members have cleared NET/SET/JRF eligibility. It can be analyzed that nearly 88.88% of the faculty members have a PhD degree, which is essential for teachers who are working in a the university environment

Table-5 Designation wise distribution of the faculty members

Sl no	Designation	Frequency	%
1	Senior Professor	5	8.3
2	Professor	30	50.0
3	Associate Professor	1	1.7
4	Assistant Professor	24	40.0
	Total	60	100.0

Table-5 indicates the designation of the faculty members under study. The majority (50.0%) of the respondents working as a Professors, while, 40.0% working as Assistant Professors. Another 8.3% of the faculty members are working as a Senior Professors, and hardly, 1.7 % working as a Associate professor. It can be concluded that majority of faculty members are either Professors or Assistant Professors in the KSAWUV.

Table-6 Length of the service of the faculty members

Sl no	Length of the service	Frequency	%
1	Less than 5 years	4	6.67
2	5 to 10 years	6	10.00
3	10 to 15 years	8	13.33
4	15 to 20 years	23	38.33
5	20 to 25 years	12	20.00
06	> 25 years	7	11.67
	Total	60	100.0

Table -7 presents the total teaching experience of the faculty members under study. Nearly 38.33% of the faculty members have 15 to 20 years of teaching experience, followed by 20% of the faculty members have 20 to 25 years of teaching experience. Another, 10% have 5 to 10 years of teaching experience. Finally, only 6.67% have less than 05 years of teaching experience. The analysis reveals that the large majority of the faculty members have more than 15 years of teaching experience at KSAWUV

Table-8 Designation versus Faculty wise Distribution of Teachers

Sl no	Designation	Faculty					Total
		Arts	Commerce	Science	Social Science	Education	
1	Senior Professor	2(40.0)	0 (.0)	1(20.0)	2(40.0)	0(.0)	5(8.3)
2	Professor	4(13.3	2(6.7)	4(13.3)	9(30.0)	11(36.7)	30(50.0)
3	Associate professor	0(.0)	0(.0)	0(.0)	(1(100.)	0(.0)	1(1.67)
4	Assistant professor	4(16.7)	2(8.3)	9(37.5)	4(16.7)	5(20.8)	24(40.0)
	Total	10 (16.7%	4 6.7%	14 23.3%	16 26.7%	16 26.7%	60 100.0%

X^2=12.513 df= 12 p>.451 R= NS X^2 table = 21.026

The above table-8 shows the distribution of faculty members by designation and faculty of subject. The majority of the faculty members (30-50%) hold the position of Professor, while 40.0% of them are Assistant Professor. Only 8.3% of the faculty members are Senior Professors. The majority of the faculty members belong to the Social Science and Education faculties, followed by the Science and Technology faculty. A Chi-Square test was conducted to analyse the relationship between the designation versus faculty (X^2=12.513, df= 12). Since the calculated chi-square value is less than the critical value from the table, hence, we accept the null hypothesis. It indicates that the distribution of teachers across the faculties is similar

Table-9 Research skills among the faculty members

Sl	Statement	Mean	SD
01	Ability to Select an appropriate research problem	4.3	1.1
02	Knowledge about the sequence of the research process	4.0	1.2
03	Familiarity with various types of research methods	3.2	1.0
04	Are you comfortable with selecting and applying different research designs	3.7	1.5
05	Extent of knowledge you have about experimental research.	3.2	1.3
06	How well can you identify different types of data and variables	3.6	1.3
07	How knowledgeable are you about population and sample methods	3.8	1.4

08	Do you understand the concept of population parameters and sample statistics.	3.9	.9
09	Level of familiarity with the concept of research ethics?	2.9	1.2
10	Knowledge about plagiarism detection software	3.6	1.3
11	Level of understanding and knowledge of research metrics	2.5	1.1
12	Extent of aware related to the issues of research misconduct	3.3	.7
13	Extent of knowledgeable about the various bibliographical database	3.9	1.2
14	comfortable with usage of statistical software	3.8	1.3

The primary objective of the study was to assess the level of research skills among the faculty members under study. In this regard, a set of questions related to the research methodology was asked in the five point scale. Based on the data collected, the corresponding means and Standard deviations (SD) were calculated. It is observed from the table that the Ability to Select an appropriate research problem has received the highest mean score of 4.3 with an SD of 1.1, this indicates that a majority of the faculty members are well versed in the selecting the research topic for their students or for their own research projects. Following this, knowledge about the sequence of the research process scored mean value of 4.0 with an SD of 1.2. Further, faculty members demonstrated varying level of understanding regarding the concept of population parameters and sample methods with mean score of 3.9 and 3.8 and corresponding SDs of .9 and 1.4 respectively. However, the faculty members exhibited, the least knowledge regarding the "concept of research ethics and research metrics". The above analysis suggests that faculty members generally are well versed with the fundamentals of research. There is significant need for the improvement in their understanding of research ethics and research metrics. Therefore, the training this area is recommended to enhance their knowledge and skills.

Table-10. Mean, SD and F value among the different designation of the faculty members with respect to Research skills

H_o : There is no significant difference in the level of research skills according to the designation of the faculty members.
H_1 : There is a significant difference in the level of research skills according to the designation of the faculty members.
To test this hypothesis ANOVAs test was applied as presented in the following table.

Designation	**N**	**Mean**	**SD**	Summary	Sum of Squares	df	Mean Square	F	Sig.	Rem
Senior Professor	5	40.00	1.2247	Between Groups	444.9	3	148.32	9.65	.00	**S**
Professor	30	34.66	3.2306	Within Groups	860.0	56	15.357			
Associate professor	1	33.00	0	Total	1304.98	59				
Assistant professor	24	30.66	4.8960							
Total	60	33.48	4.7030							

A significant difference was observed between the designation of the faculty members and their research skills ($F=9.659$, $p<0.05$) at 5% level of significance. Consequently, the null hypothesis is rejected and the alternative hypothesis is accepted. This indicates that the research skills of the faculty members vary according to their designation. In another words, faculty members of higher designations such as Senior Professor or professors tend to greater research skills as compared to Assistant professors and Associate professors (table-10). Hence , alternative hypothesis is accepted " **There is a significant difference in the level of research skills according to the designation of the faculty members.**

7. Relationship between research skills and productivity

One of the main objectives of the study was to know the relationship between the research skills and productivity of the faculty members, how research skills influence on the enhance the research productivity, to test this, a Pearson correlation test was applied and presented in the following table

Table-12 Correlation between Research Skills and Research Productivity among the faculty members

Particulars	Parameters	Research Skills	Research Productivity
		Mean 33.4833±4.7	Mean 126.36±122.1
Research Skills	Pearson Correlation	1	.342(**)
	Sig. (2-tailed)		.008
	Sum of Squares and Cross-products	1304.983	11577.367
	Covariance	22.118	196.227
	N	60	60
Research Productivity	Pearson Correlation	.342(**)	1
	Sig. (2-tailed)	.008	
	Sum of Squares and Cross-products	11577.367	880359.933
	Covariance	196.227	14921.355
	N	60	60

A significant and positive relationship was observed between the research productivity and research skills of the faculty members of KSAWUV ($r=0.342$, $p<0.05$) at 5% level of significance. Hence, the null hypothesis is rejected and alternative hypothesis is accepted. It indicates that, the research productivity of the faculty members of KSAWUV increases as their research skills increases. Finally, it can be concluded that the research productivity is dependent on the research skills; both exhibit strong positive correlation and move in the same direction (Table-12). Therefore, **There is a high degree of association between faculty members' research skills and their research productivity .**

8. Findings of the study

The major findings of the study are as follows.

1. There are a total of 18 departments with 60 permanent faculty members. The department of Physical Education and the Department of Education have the highest number of faculty, together constituting nearly 26.6% of the total population. followed by the Department of Computer Science, while, the departments of Commerce, Chemistry and Electronics each have only one faculty member.
2. A large majority (42-70%) of the respondents is male faculty members and the remaining 30% being the female faculty members.
3. The majority of faculty members are between 50 to 60 years old, followed by 33.33% of the faculty members belongs to the 40 to 50 years age group.
4. Most of the faculty members (88.3 %) under study holds PhD qualification, while, 8.3 % have a PDF as their highest research degree.
5. The majority (50.0%) of the respondents are Professors, while, 40.0% are Assistant Professors.
6. The majority of the faculty members are from the Social Science and Education faculties, while 23.3% belong to Science faculty.
7. Nearly 38.33% of the faculty members have 15 to 20 years of teaching experience, followed by 20% of the faculty members have 20 to 25 years of teaching experience.
8. There is association between designation and faculty of subject under study; the distribution of teachers across the faculty appears to be similar.
9. Majority of the faculty members generally are well versed with the fundamentals of research. However, there is a significant need to improve their understanding of research ethics and research metrics,
10. Faculty members of higher designations such as Senior Professor or professors tend to exhibit greater research skills compared to Assistant professors and Associate professors
11. The research productivity is dependent on the research skills; both exhibit strong positive correlation and move in the same direction

9. Conclusion

The findings of the study reveal that faculty members are well versed with the basics of research and they lack in understanding of research ethics and research metrics. Further, faculty in science disciplines demonstrate stronger research

productivity, publishing their work in high quality journals indexed in Scopus and web of science. However, Social Science faculty members need to enhance their competency and skill to publish in quality of journals, as their impact in the research world is relative low. Therefore, it is necessary to develop a research culture and promote high quality research in their fields. The faculty members of KSAWUV should focus on publishing in high quality journals having high impact factor particularly those indexed in databases like Scopus, Web of Science and Pub Med. Efforts should be made to increase the relative growth rate, while simultaneously decreasing doubling time. The university has to organize the faculty development program on Research Methodology, Research Skills, Research Metrics and Statistical tools and techniques on regular base for the faculty members. Finally, it can be concluded that there is significant potential growth in their area of research. Therefore, cross disciplinary research collaboration among the faculty members of University, of KSAWUV should be encouraged to enhance their impact on the research world

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