

A Study on Development of Research Skills in ODL Setting in Reference to Kkhsou

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ABSTRACT: University education has shifted from traditional teaching-learning methods to research-oriented learning over the last few decades. Universities no longer limit themselves merely to content delivery but have become hubs for research. Teachers and students are now actively and collaboratively involved in various research areas. Furthermore, the National Education Policy (NEP) 2020 strongly emphasizes research-oriented learning right from the undergraduate level. Fostering research skills among higher education learners is now considered an expected learning outcome. Consequently, open and distance universities must plan and perform strategically to cultivate a research environment within their flexible, learner-centric, and indirect teaching-learning setups.

The objectives of this paper are to examine the development of research skills among postgraduate learners of KKHSOU, and to study the significant differences between male and female postgraduate learners in the development of research skills. A descriptive survey method was used for data collection and analysis. The study found that postgraduate learners at KKHSOU possess average to lower levels of research skills. Additionally, there is no significant difference between male and female postgraduate learners in the development of research skills.

KEYWORDS: KKHSOU, Research skills, Open and distance education

INTRODUCTION

Research is a core function in higher education. University learners at the postgraduate level must develop research skills for their career and academic advancement. These research skills encompass analytical, problem-solving, critical thinking, decision-making, digital, and communication skills. The university environment, curriculum design, institutional strategies, and the supervision provided to learners all greatly influence the development of research skills.

The University Grants Commission (UGC) is a statutory body of higher education that has highlighted research skills as an expected learning outcome and a core graduate attribute under the Learning Outcomes-based Curriculum Framework (LOCF). Open and Distance Learning (ODL) institutions are not exempt from these criteria. However, it is a challenging task for ODL institutions to plan a curriculum that considers diverse learner factors while trying to develop research skills within an indirect teaching-learning setting. Despite these challenges, ODL has precisely made provisions for research activities through courses, projects, and field-based activities for postgraduate level learners. By assigning qualified supervisors to conduct research work with guidance and proper training, ODL frameworks aim to help learners develop research skills and overcome learning barriers. However, the learners' own perceptions, active involvement, attitude, discipline, sincerity, and technological exposure play a critical role in successfully developing these research skills. Unlike experienced scientific workers and writers, students do not have any academic practice to rely on and they do not have enough width in an academic field to assume a critical view of what they find, especially online. For that reason academic research skills are among the most important general skills that students should master during their studies (Topalov, J. & Bojanić, B., 2013).

Research skills are considered essential 21st-century skills that apply to academic, workplace, and personal contexts. It requires higher-order thinking that encompasses analyzing, evaluating, and creating meaningful new knowledge. Fundamentally, research involves understanding research methodology, reviewing literature, and formulating objectives, hypotheses, or research questions. It also requires expertise in data collection, data analysis and interpretation, organizing research findings in a methodical way, and managing bibliographies and citations. Van Rossum & Schenk (1984) state that learning is influenced by students' conceptions of their studies. Extending this to research learning, these conceptions encompass the knowledge and beliefs that students have about research and are influenced by research environments and experiences that they are involved in (Balloo, K.; Pauli, R.; Worrell, M. 2018, Vermunt, J.D.; Vermetten, Y.J. 2004). Research skills are defined as actions or tasks that can be taught, practiced and

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performed to establish facts, postulate new ideas, test ideas to collect data and analyze data to draw conclusions (Laidlaw, A.; Aiton, J.; Struthers, J.; Guild, S., 2012). Vieno, K., Rogers, A. Kem., & Campbell (2022) have listed seven research skills based on environmental scan & literature search for U.G and master's levels. These are critical appraisal, information synthesis, decision making, problem solving, data collection, data analysis and communication. These seven skills are regarded as transferable across disciplines and degrees. The importance of research skills are enhancing research productivity, facilitating evidence based decision making, fostering innovation and creativity, promoting lifelong learning (Sakker, V.2023)

REVIEW OF RELATED LITERATURE

Zapata. M.I. (2023) conducted a study on research skills of one Peruvian University students' in E-learning. The study found that 53% students in E-learning use Mendeley for bibliography manager and only 22.24% use information databases such as Scopus & web of science respectively. 51.63% of students have skilled in formulating the problem, objectives & hypotheses. Likewise, only 49.37% students have skilled in statistical techniques for data analysis and data processing. Wahid, R. Halim, S., & Halim, T. (2023) conducted a study on developing research skills among undergraduate students by student centered active learning approaches. The study found that teachers are favour of implementation of activity based & student centered approaches in research skills and perform better. The challenges faced by teacher are time constraints to understand nature of course, conduct the research and write a research project. Students and teachers are also believed that limited materials are also incorporated in the research course. Students also highlighted that experienced teacher need to provide as guide to conduct publishable research work. Akuegwu, B. A. & Nwi-ue, F. D. (2018) Assess the 300 Graduate Students' acquisition of Research Skills in Universities in Cross River State Nigeria. The graduate students have lower level of acquisition of research skills. Graduate students have highest level of acquisition of reading skills, followed by oral presentation/communication skills, information gathering, and sorting information while their lowest level of acquisition of research skill was observed on analytical skill, critical thinking, organizing ideas, sense of direction, information and communication technology, writing research reports, methodological knowledge, and time management. Liang, Y., Kim, J. & Kitheka, B.M. (2022) assess undergraduate students' self-perceptions of their research skills .The study found higher levels of self-perceived research skills in information literacy skills, ethical principles, and communication skills while lower levels of research skills in confidence in research design and statistical skills. Raghu, A. et.al. (2024) Assess Research Knowledge among Postgraduate Students across Disciplines students. The study found science students are generally more proficient in applying various research methods, Regarding Data Processing & Statistics and research tools whereas, commerce and humanities students recorded lower mean score which is statistically significant. Overall postgraduate students possess moderate levels of research knowledge across discipline. Undelikwo, V. A., Effiong, I. E., & Ubi, L.O., (2022) studied influence of gender and academic discipline on research skills acquisition. Significant difference was found in both gender and academic discipline. Male students and the faculty of education had higher mean scores in the six research skills indicators i.e. (Problem identification skills, Literature review skills, Research design and instrumentation skills, Sampling and data collection skills, Analysis and interpretation of results skills, Author citing and referencing skills) and overall research skills compared to female students and those in the faculty of social sciences.

Objectives of the Study:

Objective 1: To study the development of research skills among postgraduate learners of KKHSOU.

Objective 2: To examine the significant differences between male and female postgraduate learners of KKHSOU in the development of research skills.

Hypothesis of the Study:

Null Hypothesis: There is no significant difference between male and female postgraduate learners of KKHSOU in the development of research skills.

METHODOLOGY

This study adopts a descriptive survey method to assess research skill development. The sample comprises 200 postgraduate learners from the 2023 pass out batch at Krishna Kanta Handiqui State Open University (KKHSOU), all of them have conducted academic research during their postgraduate programme.

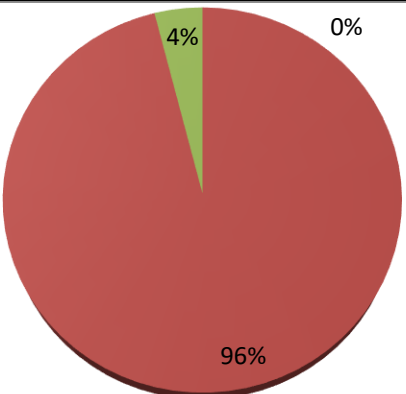
Data collection was executed electronically via Google Forms using a self-developed five-point Likert scale. Because a suitable, standardized scale to assess the research skills was unavailable in existing literature, the instrument was constructed following a comprehensive review of relevant scales and research articles. To establish validity and ensure standardization, the scale was validated by experts in the field of educational research.

Analysis and Interpretation of Data:

Analysis of objective No.1: To study the development of research skills among postgraduate learners of KKHSOU.

Table No.1: Development of research skills among postgraduate learners

Variables	Levels	No. of learners	%
Research Skills	High	NIL	0%
	Average	192	96%
	Low	08	4%

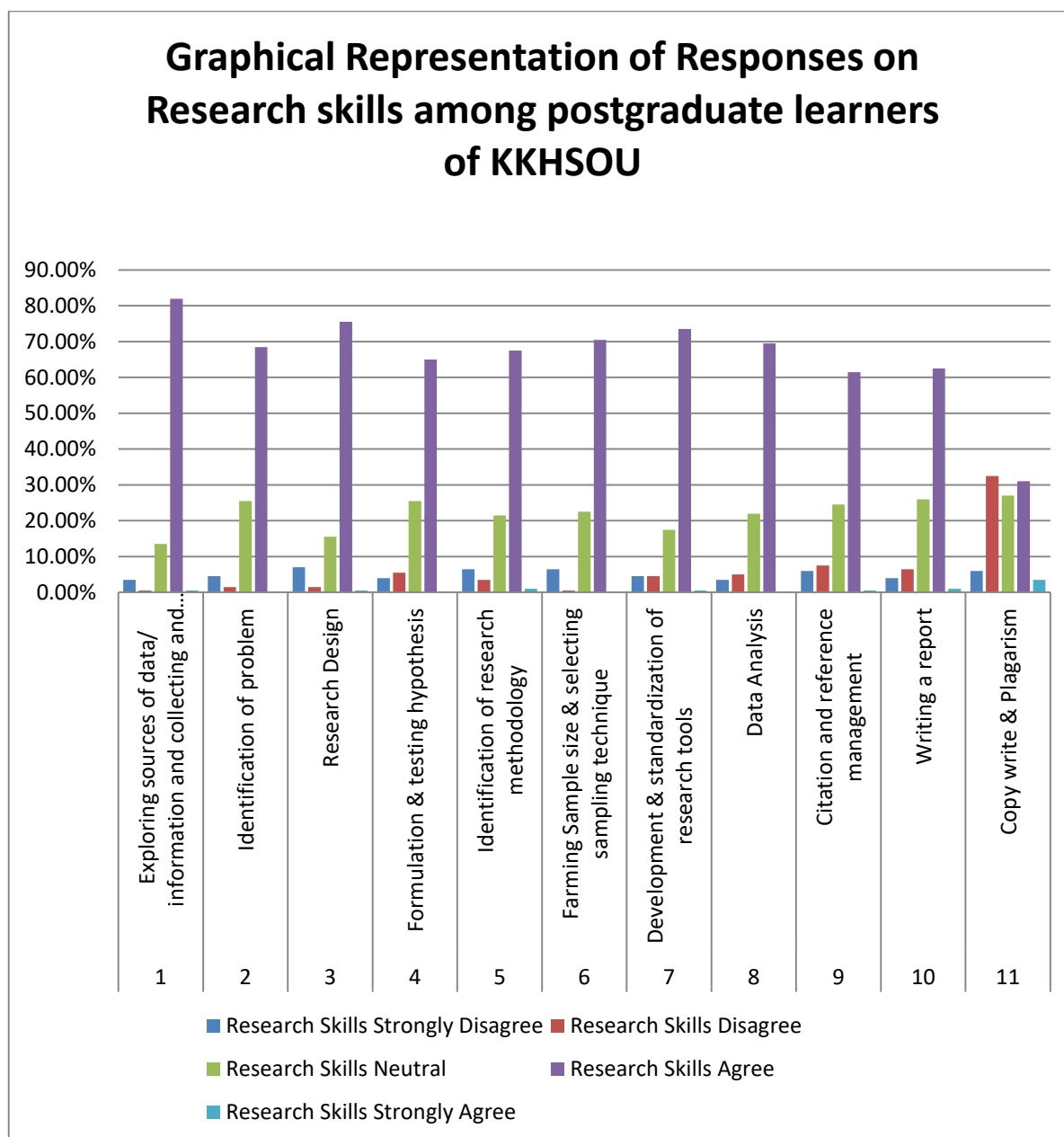


Pie Chart

Interpretation: From the Table No. 1, It has found that 192 (96%) postgraduate learners have average level of research skills and only 8 (4%) postgraduate learners have Low level of research skills and non of the postgraduate learners have high level of research skills.

Table:2 Assessment of Research skills among postgraduate learners of KKHSOU

Sl. No.	Variables	Percentage(%)					MEAN	S.D	RANK
		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree			
1	Exploring sources of data/ information and collecting and review authentic data	3.5%	0.5%	13.5%	82%	0.5%	3.755	0.645802	1
2	Identification of problem	4.5%	1.5%	25.5%	68.5%	0%	3.58	0.739143	3
3	Research Design	7%	1.5%	15.5%	75.5%	0.5%	3.61	0.8375	2
4	Formulation & testing hypothesis	4%	5.5%	25.5%	65%	0%	3.515	0.776395	7
5	Identification of research methodology	6.5%	3.5%	21.5%	67.5%	1%	3.53	0.856016	6
6	Farming Sample size & selecting sampling technique	6.5%	0.5%	22.5%	70.5%	0%	3.57	0.805197	5
7	Development & standardization of research tools	4.5%	4.5%	17.5%	73.5%	0.5%	3.61	0.781636	2
8	Data Analysis	3.5%	5%	22%	69.5%	0%	3.575	0.746432	4
9	Citation and reference management	6%	7.5%	24.5%	61.5%	0.5%	3.43	0.876895	9
10	Writing a report	4%	6.5%	26%	62.5%	1%	3.5	0.802008	8
11	Copy write & Plagiarism	6%	32.5%	27%	31%	3.5%	2.935	1.007896	10

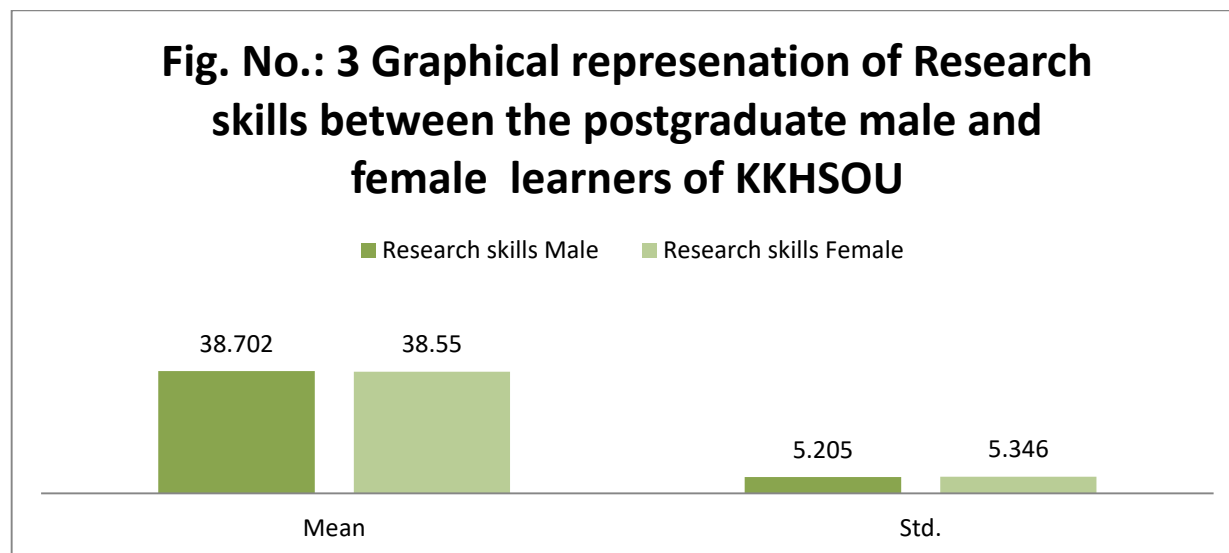


Interpretation

Table 2 presents the perspectives of postgraduate learners on the development of research skills. The highest mean score (3.755) was recorded for, “Exploring sources of data/ information and collecting and review authentic data”. The lowest mean score (2.935) was recorded for, “Copy write & Plagiarism “. The general mean score for research skills was 3.51. The most frequent response on the five-point Likert scale was recorded on agree point of the scale.

Analysis of objective No 2.: To study the significant differences between postgraduate male and female learners of KKHSOU in the development of research skills.

Table:3 Development of Research skills between the postgraduate male and female learners of KKHSOU					
Variable	Gender	Mean	Std.	Df	t-test
Research skills	Male	38.702	5.205	198	0.2024
	Female	38.55	5.346		



Interpretation: Based on Table 3, the mean and S.D. of research skills for male postgraduate learners are 38.702 and 5.205 , respectively, while for female postgraduate learners, they are 38.55 and 5.346 The calculated t-value is 0.2024 with 198 degrees of freedom (df). Since the calculated t-value (0.2024) is less than the critical value (1.97) at the 0.05 significance level, there is insufficient statistical evidence to reject the null hypothesis. In other words, there is no significant difference between male and female postgraduate learners of KKHSOU in the development of research skills.

CONCLUSION

Based on the analysis and interpretation, it can be concluded that postgraduate level learners in Open and Distance Learning (ODL) environments require awareness and orientation regarding research skills. Prior to their actual project or dissertation, students should receive practical training on reviewing related literature, managing citations and references, and using specialized research software. They must also learn to navigate valid, authentic, and reliable online databases such as ScienceDirect, JSTOR, ERIC, PubMed, and Google Scholar. Because online platforms are highly scattered, identifying credible data remains a difficult task for postgraduate level learners.

Furthermore, providing adequate supervision in an indirect teaching-learning setup poses a significant challenge for assigned supervisors. Therefore, the curriculum should be explicitly designed to acquaint learners with practical academic research skills, online database credibility, and plagiarism guidelines before they begin their actual project work. It is equally important to foster positive research attitudes among learners so they understand the value of authentic academic work. Finally, as learners increasingly rely on Artificial Intelligence (AI) software, they must be taught to use AI strictly as a supportive assistant rather than a one-stop solution for their entire research activity.

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