

Received: February 2023 Accepted: March 2023

DOI: <https://doi.org/10.58262/ks.v11i1.1004>

The Role of Kurdish Professors' Skills and Interest in Learning in the Development of Research Competencies in Professors at Kurdish University

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Abstract

Professors and institutions of higher education worldwide increasingly rely on their research skills for success. This aspect calls for the attention of new studies and seasoned policymakers. In light of this, the current article investigates the impact of Kurdish professors' skills and interest in learning on developing their research competencies in Kurdish universities. The study also analyzes the moderating effect of research training on the relationship between Kurdish university professors' skills, interest in learning, and the development of research competencies. Using survey questionnaires, the researchers collected primary data from the professors of Kurdish universities. Using smart PLS, the researchers also examined the association between the constructs. The results revealed that Kurdish university professors' skills and interest in learning are positively associated with developing their research competencies. The findings also revealed that research training moderates the skills, interest in learning, and development of research competencies among Kurdish university professors. The results provide policymakers with guidelines for establishing policies to improve the research competencies of professors by utilizing their skills, desire to learn, and effective research training.

Keywords: *Kurdish professors' skills, interest in learning, development of research competencies, Kurdish universities, research training*

Introduction

Research competencies should be developed so researchers, students, and scholars can make a difference in higher education (Stan et al., 2023). These competencies include document writing management, information-gathering standards, and technological and methodological tools. The Organization for Economic Cooperation and Development (OECD) emphasizes the following competencies in its skills policies: the creation of

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specific competencies, the revitalization of expertise in the labor market, and the effective use of these expertise, competencies, and skills for society and the economy. Other research competencies, including recognition of educational problems, knowledge acquisition, argumentation, synthesis, knowledge of new research methodologies, the introduction of new research tools, dissemination, and interpretation of research results, have also been highlighted. Institutes of higher education represent competencies also identified as a combination of skills, values, and attitudes or core competencies (Indah, Budhiningrum, & Afifi, 2022). Various definitions of competence have been introduced and acknowledged in previous literature; however, the fundamental characteristics are the mobilization of non-cognitive and cognitive aspects to meet complex demands in particular contexts. "key competence" refers to the skills or competencies required of every individual in a given context. This higher education prepares researchers and students for future societal roles, whether as policymakers, consumers, or professionals. Al-Thani et al. (2022) state that research skills can be utilized in various contexts or disciplines, fostering connections between them.

Past research has validated the value of facilitating interaction among researchers from diverse research domains within the same field of study or discipline. Therefore, various perspectives exist regarding research skills. Research competence development entails the acquisition of the skills, knowledge, and expertise required to conduct research effectively. It consists of various stages, including formulating research questions, the research process, gathering and analyzing information, designing research studies, and communicating research findings (Kent et al., 2022). Numerous stages contribute to the formation of a solid foundation for research competence. Research competence begins with comprehending the research methodology's fundamental concepts and principles, including research design, data collection, statistical tools, and analysis techniques. Research requires innovative reasoning skills to interpret or analyze data, identify patterns, and generate valid conclusions. It cultivates critical and objective reasoning regarding research objectives, problems, and innovative solutions. In addition to data analysis, data collection, and data interpretation, research competence encompasses a variety of instruments (Leshchenko et al., 2021). Conducting a literature review, employing research instruments, analyzing and collecting data, and interpreting or describing research findings contribute to developing research skills. Effective and efficient communication is essential for the development of research skills.

Communicating findings to various audiences, including stakeholders, policymakers, and colleagues, is also essential in research. In addition, suitable writing skills, such as research proposals, literature review, and report writing, improve research abilities. Collaboration with research experts, gaining practical experience, and working on various research initiatives all contribute to acquiring valuable research experience (Urinova & Abdullaeva, 2021). Participation in research projects related to one's area of interest, such as collaboration with research experts, gaining practical experience, and working on research projects to assist in acquiring research experience skills, is the best method to develop research competence. Research is all about novel, innovative, and constantly evolving information. To incorporate research trends, it is essential to remain current on methodologies, technologies, and research articles through various research conferences, seminars, and workshops. However, various factors, including skills, a desire to learn, and training, play a significant role in developing research competencies.

Skills are essential for conducting rigorous, high-quality research in various study fields. Critical thinking, research design, data collection or analysis, literature review, data management, problem-solving, and analytic skills are required to develop research competence (Hendriarto et al., 2021). These skills can be developed through continuous practice, experience, and learning, contributing to the researcher's success and the quality of their research findings. To conduct research successfully, a professor's skills must be refined and advanced to investigate various study aspects. Participating in and gaining research knowledge can be rewarded for success in the research domain. People, particularly researchers, professors, or policymakers, are most passionate and inquisitive about their field of interest and strive to advance or investigate innovative solutions, ideas, or knowledge (Gibert, Tozer, & Westoby, 2017; Karabulut-Ilgu, Jaramillo Cherez, & Jahren, 2018). Their interest will allow them to network and collaborate with other researchers, exposing them to various perspectives and new insights regarding the study. Research training enhances the skills, knowledge, and abilities necessary to conduct effective research. It includes theoretical and practical instruction in data analysis, research methodologies, technologies, and instruments. Research training is essential for researchers, professors, and academicians to conduct an in-depth study of their field and to acquire the specific knowledge and skills required for conducting research studies. This training assists them not only in achieving scientific and academic success but also in conducting transparent and ethical research.

Kurdistan is a vital entryway to Iraq due to its substantial infrastructure development, foreign investment, and tourism. This autonomous region of Kurdistan in Iraq is known as Kurdistan. This region is peaceful and has greater political stability and security than the rest of the country. This region now focuses on academics, development, and research to satisfy the regional need for country development, which has been neglected in various study areas over the past several decades. This country's liberation has proven beneficial to the Kurdistan region of Iraq (Atrushi & Woodfield, 2018). Kurds enjoy and facilitate security, high quality of life, and substantial foreign investment. Since the invasion of the United States, many Iraqi pupils have relocated to the northern Kurdish regions, which are regarded as peaceful and stable. As a result, numerous universities have been established throughout the region, boosting the local economy. Kurdistan's regional government controls the universities in this region, allowing students from Baghdad and other insecure parts of Iraq to access their academics without leaving the country (Saeed, 2018). Numerous private and public universities in the Kurdistan region offer a variety of disciplines of study, leading to bachelor's, master's, doctoral, and specialized diploma degrees. These universities do their best to provide their researchers with the knowledge and data they need to excel in their fields of study. Numerous universities, including the University of Kurdistan Hewler (also regarded as a leading institution with 167 recent publications), Salahaddin University- Erbil (with several research centers to promote and encourage research activities), and Sulaimani Polytechnic University (with a renewable and nanotechnology research center), have played a vital role in the development of research and contributed to research initiatives. Despite this, professors and researchers face obstacles due to the country's crisis, political instability, and the economy (Babakr et al., 2019). This document aims to provide insight into the factors that can boost the country's research development. To address this deficiency, the influence of factors such as skills, interest level, and research training has been examined in this region.

Literature Review

Professors and institutions of higher education worldwide increasingly rely on their research skills for success. This aspect calls for the attention of new studies and seasoned policymakers. Consequently, this article investigates the effect of Kurdish professors' skills and interest in learning on developing research competencies among professors at Kurdish universities. There is a developing industrial and academic interest in global university rankings and scholarly research evaluations in this era. Counts of citations and publications measure regions and nations' scientific and educational output. However, publication data can establish a fundamental component for evaluating research, but they do not indicate the quality of scientific research. The publication number refers to a group's scientific output, whereas the impact factor is calculated using information or data from cited research papers from prior years (Böttcher & Thiel, 2018). The scientometric analysis aims to identify emergent or new research areas, evaluate the performance of research groups, scholars, or universities, and examine the relationship between institutions, authors, and journal articles. The Iraqi Kurdistan region emphasizes the significance and importance of research development, and the government is taking measures to promote a research-friendly environment in universities.

Researchers and scholars play a crucial role in enhancing their knowledge by investigating their relevant areas of interest, and these skills are essential for conducting research accurately and effectively. Research development requires numerous skills, including problem-solving, critical thinking, ethical behavior, and data analysis and management. Critical thinking is a crucial skill for scholars to possess to conduct research. With critical evaluation and reasoning, scholars could identify voids, formulate research questions, and evaluate evidence. Developing new knowledge and verifying hypotheses require analytical and imaginative thought.

Moreover, problem-solving is another essential skill for conducting research, as it enables and aids researchers in addressing unforeseen challenges by identifying problems and devising solutions (Börner et al., 2018). Data analysis is an additional skill that professors must possess to analyze or interpret data using methodological tools and techniques accurately. Böttcher and Thiel (2018) have outlined the four skills researchers need to conduct their studies. These are the skills required to review the research state (systematic review of the research state, evaluation of the literature, highlighting the need for research), methodological skills (formulating research hypothesis, designing research process, identifying the tools required to conduct research), skills needed to interpret research findings (interpreting research results, reflecting practical and ethical implications), and communication skills (writing academic papers). To develop research competence, Kurdish professors must concentrate on and cultivate the skills necessary to investigate a particular field of study. This dialogue leads to the following conclusion:

Hypothesis 1: *The role of Kurdish professors' skills in developing research competence.*

Cognitive theories define learning as the mental processing of information, including its acquisition, construction, rehearsal, coding, non-retrieval, and retrieval from memory. This statement suggests that learning ability can be defined as the mental capacity for information processing. According to constructivism, a learner's understanding and acquired knowledge comprise their learning capacity, and knowledge acquisition is a construction process based on the researcher's personal experience. Different theories regarding interest in learning

acknowledge that acquired knowledge and learning experiences are distinct and unique to the individual. As each individual has a unique perspective on the universe, Gestalt theory suggests that individuals can interpret information or develop their unique learning experiences differently or similarly. Atmowardoyo (2018) also indicates that learners' interest in learning, tasks' social context, and educational organizations' influence on academicians' or researchers' ability to conduct research is unique. Enhancing and maintaining a refinement process, learning, and self-reflection is necessary to grow research competence. Researchers interested in learning can effectively work and investigate research fields and collaborate with colleagues to learn more about these fields. Academics or professors with an interest in learning would be able to expand their skills and knowledge and investigate new research techniques and methodologies. Researchers must keep abreast of new and ongoing research in their discipline to contribute, remain influential, and be relevant to advancing knowledge. Curiosity to learn more techniques and methodologies will help the researcher develop critical thinking skills, enabling them to identify the research techniques and gaps necessary to conduct effective research (Fleming & Zegwaard, 2018). Kurdish professors and researchers must cultivate and expand their passion for education to compete in scientific research. The following hypothesis is formulated as a result of this discussion:

Hypothesis 2: *The positive role of Kurdish Professor's skills in developing research competence.*

Training in research serves a vital role in preparing researchers to compete in the scientific world. These training programs aid in refining and enhancing the skills necessary to conduct high-quality research, thereby contributing to developing an appropriate research environment. Research training programs invite diverse expertise and provide researchers with research knowledge or skills that help professors or scholars address research gaps by offering guidance, practical experience, and instruction in this particular area of research. This helps to improve the overall research experience by enabling researchers to conduct high-impact and high-quality studies (Boyce et al., 2019; Poh et al., 2021). These skills include critical thinking, problem-solving, evaluating the state of research, methodological skills, and data analysis, and they can only be acquired through various trainings and partnerships. These research training programs also facilitate the transmission of these skills and knowledge to other academic disciplines (Poh et al., 2021). In the current era, Kurdish universities and educational institutions emphasize the significance of research academics because it enables professors to investigate various areas of interest and impart the most recent information to students. Therefore, the benefits of these training programs have a significant moderating effect on the relationship between the skills of Kurdish professors and the growth of their research competence. The relevance and quality of these training programs assist Kurdish professors in acquiring the skills that give them the dedication and motivation to conduct research. Training programs and seminars can effectively enhance their research competence by introducing various skills to scholars, researchers, and professors. This dialogue leads to the formation of the following hypothesis:

Hypothesis 3: *The moderating role of training programs between Kurdish professors' skills and development research competence.*

Previous research has demonstrated that individuals with learning interests in their field of study are more likely to engage in knowledge-enhancing research-related activities. Learning interests facilitate or enable individuals to be more motivated and acquire more research paper-related knowledge and skills. Yang et al. (2021) also concluded that training programs and workshops would allow scholars and researchers to increase their level of interest by exposing

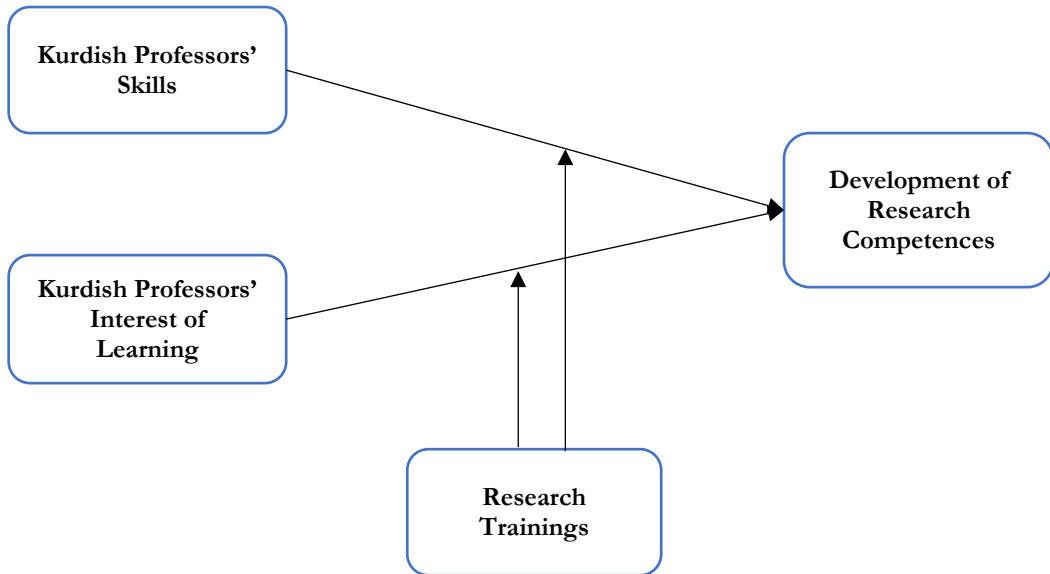
them to the benefits and rewards of research professions. A learning interest in the field does not indicate specific research skills, and training programs serve as moderators. Research training and workshops enable professors of Kurdish universities to develop the knowledge and skills necessary to conduct research in a particular field, and these programs increase their level of interest in learning by providing a platform for them to learn different research methodologies, research skills, and data analysis techniques and tools (Tait & Williamson, 2019). In addition to providing them with opportunities for practical experience through collaborations and research initiatives, these programs increase their interest in the research environment. The relationship between the level of interest of Kurdish professors and the development of research competence is significantly influenced by the moderating effect of training programs, which depends on several contextual factors. Continuous learning is crucial in the world of academic research, as it has been noted that researchers cannot cease learning if they wish to investigate their respective fields (Jeste & Pender, 2022). Kurdish university professors' primary issue is a lack of access to funding, training, and workshops. If these seminars or training programs are held in this region, they will be more interested in acquiring these research skills to foster a research atmosphere. This dialogue leads to the following conclusion:

Hypothesis 4: *The moderating role of training programs between Kurdish professors' level of interest and development of research competence.*

Research Methods

The article investigates the effect of Kurdish professors' skills and interest in learning on developing research competencies and the moderating impact of research training on the relationship between Kurdish professors' skills, interest in learning, and the development of research competencies among professors at Kurdish universities. Using survey questionnaires, the researchers collected primary data from the professors of Kurdish universities. These questionnaires are based on previous research; for example, professors' skills are measured with five questions taken from König et al. (2020), professors' interest in learning is measured with six questions extracted from Cutri, Mena, and Whiting (2020), research training is measured with four items taken from Black et al. (2013) and development of research competences were measured with five questions taken from Epstein et al. (2021).

In addition, as respondents, the researchers chose instructors from Kurdish universities. The selection of these respondents or professors is based on simple random sampling. The questionnaires were distributed to the academics by visiting their universities and by mail. The researchers sent out approximately 567 questionnaires, but only 307 were returned and analyzed, representing a response rate of approximately 54.14 percent. In addition, the researchers examined the relationship between the constructs using smart PLS. It is an efficient tool for analyzing primary data and provides the most accurate estimation, regardless of whether the authors employed complex frameworks or large data sets (Hair Jr, Howard, & Nitzl, 2020). Finally, the researchers used two independent variables: Kurdish professors' abilities (KPS) and their interest in learning (KPIL). In addition, the researchers utilized a moderating variable known as research training (RT) and a dependent variable known as the development of research competencies (DRC). Figure 1 contains a listing of these variables.

Figure 1: Theoretical model

Research Findings

The research results demonstrate the correlation between the items, known as convergent validity. Alpha and composite reliability (CR) have values greater than 0.70, while average variance extracted (AVE) and factor loadings have values greater than 0.50. There was a strong correlation between these values. These values can be seen in Table 1.

Table 1: Convergent validity

Constructs	Items	Loadings	Alpha	CR	AVE
Development of Research Competences	DRC1	0.705	0.801	0.855	0.545
	DRC2	0.777			
	DRC3	0.602			
	DRC4	0.748			
	DRC5	0.837			
Kurdish Professors' Interest in Learning	KPIL1	0.670	0.818	0.873	0.580
	KPIL3	0.788			
	KPIL4	0.702			
	KPIL5	0.811			
	KPIL6	0.823			
Kurdish Professors' Skills	KPS1	0.907	0.766	0.848	0.589
	KPS2	0.845			
	KPS4	0.705			
	KPS5	0.569			
Research Training	RT1	0.861	0.883	0.918	0.738
	RT2	0.898			
	RT3	0.916			
	RT4	0.751			

The research results also demonstrate the correlation between variables, known as discriminant validity. Initially, Fornell Larcker and cross-loadings were employed. The results revealed that the values that revealed the linkages with the variable itself were more significant than those that showed the linkages with other variables. These values indicated a weak relationship between variables. These values can be found in Tables 2 and 3.

Table 2: Fornell Larcker

	DRC	KPIL	KPS	RT
DRC	0.738			
KPIL	0.727	0.761		
KPS	0.638	0.517	0.768	
RT	0.457	0.428	0.473	0.859

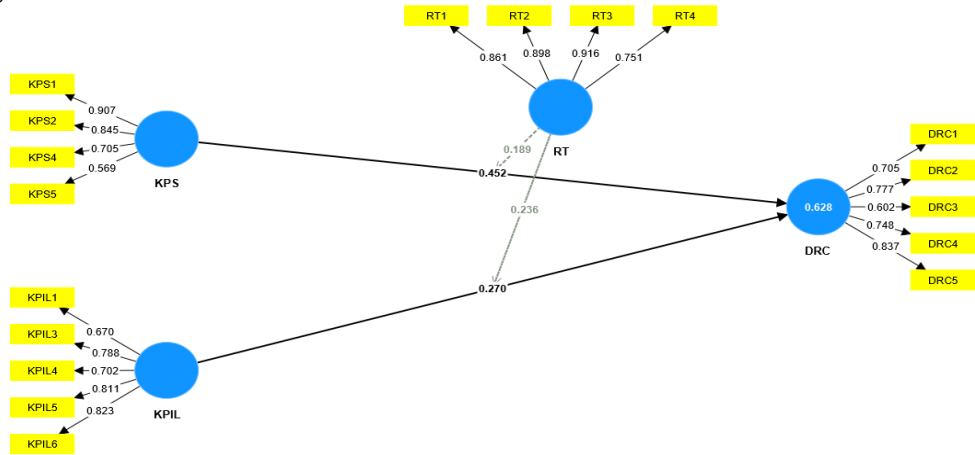
Table 3: Cross-loadings

	DRC	KPIL	KPS	RT
DRC1	0.705	0.379	0.377	0.241
DRC2	0.777	0.487	0.452	0.305
DRC3	0.602	0.358	0.327	0.198
DRC4	0.748	0.613	0.641	0.416
DRC5	0.837	0.705	0.748	0.430
KPIL1	0.475	0.670	0.409	0.355
KPIL3	0.641	0.788	0.664	0.316
KPIL4	0.489	0.702	0.390	0.359
KPIL5	0.528	0.811	0.760	0.282
KPIL6	0.605	0.823	0.824	0.331
KPS1	0.713	0.765	0.907	0.436
KPS2	0.688	0.610	0.845	0.503
KPS4	0.418	0.516	0.705	0.193
KPS5	0.317	0.402	0.569	0.213
RT1	0.344	0.295	0.349	0.861
RT2	0.505	0.487	0.484	0.898
RT3	0.406	0.375	0.470	0.916
RT4	0.235	0.238	0.249	0.751

The research results also demonstrate the correlation between variables, known as discriminant validity. Applying the Heterotrait Monotrait ratio revealed that the values are less than 0.90. These values indicated a weak relationship between variables. Table 4 contains these values.

Table 4: Heterotrait Monotrait ratio

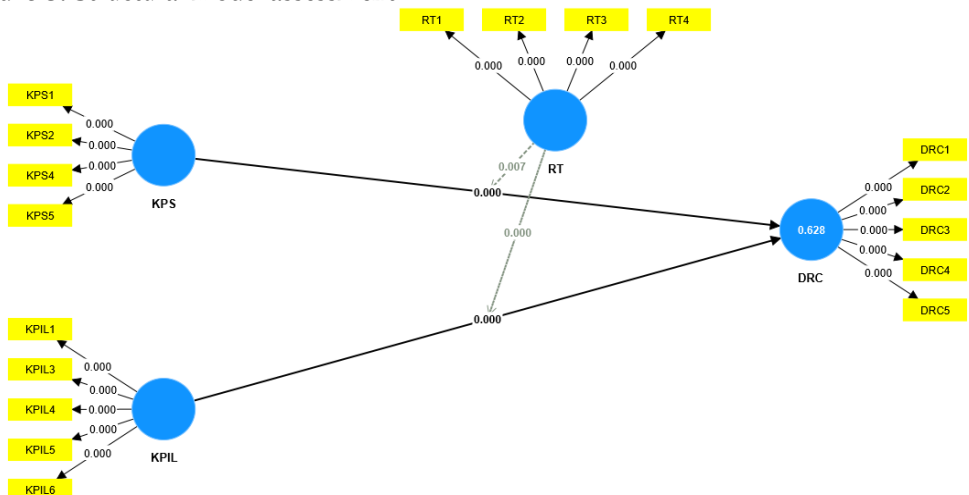
	DRC	KPIL	KPS	RT
DRC				
KPIL	0.834			
KPS	0.822	0.508		
RT	0.478	0.483	0.507	

Figure 2: Measurement model assessment

The results revealed that Kurdish professors' skills and interest in learning have a positive correlation with the development of research competencies in the professors of Kurdish universities and support hypotheses H1 and H2. In addition, the results revealed that research training considerably moderates the skills, interest in learning, and development of research competencies among Kurdish professors at Kurdish universities, accepting hypotheses H3 and H4. These connections are detailed in Table 5.

Table 5: A path analysis

Relationships	Beta	Standard Deviation	T Statistics	P values
KPIL -> DRC	0.270	0.070	3.849	0.000
KPS -> DRC	0.452	0.069	6.589	0.000
RT -> DRC	0.111	0.039	2.859	0.004
RT x KPIL -> DRC	0.236	0.059	3.980	0.000
RT x KPS -> DRC	0.189	0.070	2.704	0.007

Figure 3: Structural model assessment

Discussions

Professors and institutions of higher education worldwide increasingly rely on their research skills for success. This aspect calls for the attention of new studies and seasoned policymakers. In light of this, the current article investigates the impact of Kurdish professors' skills and interest in learning on developing their research competencies in Kurdish universities. The results indicated that the professor's skill positively affects the growth of research competence. In their study, Sever, Öncül, and Ersoy (2019) also found that skills play a crucial role in developing research competence. They have researched universities in Turkey. In addition, Böttcher-Oschmann, Groß Ophoff, and Thiel (2021) noted in their study that the skills of professors are crucial in determining the research competence environment. They have researched the universities of Berlin using a combination of competency testing and self-evaluation. According to them, skills are necessary to enhance scientific research conduct, particularly in universities, to improve research quality. Their study identified critical thinking, data analysis, interpretation, and research review as essential skills for establishing or constructing a research environment among university professors.

The results demonstrated that the learning interest of professors is also a significant factor in determining research competence in educational institutions. Valverde-Berrocoso et al. (2020) also mentioned the function of learning in the growth of research competence in a previous study. Their research paper used a systematic literature review methodology to analyze the data. According to them, those interested in learning would be able to investigate their research field in greater depth. If professors or academics lack an interest in learning, it would be impossible for them to adopt new research techniques or methodologies. Al Husaeni and Nandiyanto (2022) supported this theory as well. According to them, professors with an insatiable appetite for further information and skills require continuous learning phases to advance in their field.

The findings revealed that training programs moderate the relationship between professors' skills and the growth of research competence. A prior study by Awasthi (2019) supported this hypothesis as well. According to them, training seminars play an essential role in enhancing the research skills of professors and researchers. Training and workshops provide professors with various opportunities to investigate the knowledge and skills necessary to conduct research of a higher caliber. Professors require training and workshops to enhance or acquire new academic skills that expose them to new techniques or methodologies and assist them in collaborating and communicating with their peers for the success of their research.

The results indicated that training programs moderate the relationship between professors' interest-based learning and the growth of their research skills. Haven et al. (2022) supported this hypothesis in a previous study. In their research, they noted that training programs and seminars play a significant role in determining the learning interest of researchers in developing a culture of research. Training programs provide professors with in-depth insights and resources that increase their interest in learning more about the research environment and stimulate their desire. Training professors in research competence enables them to compete with research knowledge in specific areas of interest.

Implications

This paper makes a substantial contribution to the body of knowledge. In the current era, educational institutions across the globe are emphasizing the development of research skills so that students can excel in various academic disciplines. Kurdish universities face numerous obstacles in implementing the culture of the research environment due to political instability, war-related devastation, and financial constraints. This paper demonstrates that the skills and level of interest of professors and their research training play a crucial and significant role in developing the research environment. Due to a shortage of research tools and software, educational institutes lack the interest and skills to research at their universities. However, several steps can be implemented to improve the research culture in the institutes. For professors to conduct their research efficiently and effectively, the government can provide them with various trainings and seminars designed to develop and enhance their skills and learning interests. The results give policymakers guidelines for establishing policies to improve the research competencies of professors by utilizing their skills, desire to learn, and effective research training. This paper provides policymakers, governments, and educational institutions with insights on providing researchers and academicians with facilities that enhance their learning and skill development. Through these seminars, researchers can acquire essential skills such as critical thinking, data interpretation, problem-solving, and identifying research gaps.

Limitations

The limitations of this paper can be addressed in the future. The role of two factors, a professor's skills and level of interest, in developing research competence is examined in this paper. The function of E-library, incentives, and facilities in the development of research competence can be investigated by scholars for future reference. Second, the role of training programs as moderators between professors' skills, learning interests, and the development of research competence is investigated in this paper. Future research can concentrate on government rewards and funding resources that can be used to examine their moderating role between professors' skills, learning interests, and the development of research competence. Thirdly, this study was conducted on Kurdish universities in Iraq, an underdeveloped nation, meaning that it may not apply to developed or developing nations. Future research can concentrate on educational institutions in developing nations.

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