TEACHER RESEARCH COMPETENCE DEVELOPMENT PROGRAMS – A SYSTEMATIC REVIEW

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Abstract. In the rapidly changing society, where education is penetrated with serious reforms, the discussion about teacher research competence has become one of the significant competencies that teachers must develop. Teachers need opportunities for professional development. Activities such as training, workshop, excursion opportunities, and research can enhance teachers' professional knowledge and skills. Teachers' engagement in research, helps them find solutions to the problems they are facing in their workplaces. Participation in research addressing their workplace problems helps them develop new insight and that ultimately contributes to higher performance in their instructional practices.The present review study provides a detailed analysis of teacher research competence development programs by employing a documentary research methodology. This comprehensive literature review covers the insights from high-impact journals within the period between 2013 and 2024. The analyzed studies include a wide range of participant groups, such as university teachers, students, principals, and faculty members. The findings shed insight on the difficulties that educators face and the strategies that have proven to be successful in improving their research competency. These interventions can range from experimental programs to action research projects. The significance of collaborative structures, the role of emotional elements, and the impact of resource accessibility on the development of research skills are some of the key topics that emerge from this research. The studies were analyzed and synthesized based on their methodology, sample characteristics, interventions, and outcomes. This compilation highlights the critical role that research plays in forming the professional identities of educators and in building communities of collaborative learning. Thus, the study emphasizes the need for ongoing support and development of teacher research competence in the ever-changing field of education.

Key words: research competence, teacher training, development programs, teachers, competence development, systematic review, collaborative learning, documentary research methodology

Introduction

Developing research proficiency is crucial in today's world due to the growing demand for highly skilled professionals in society. Currently, priority is placed on the research aspect of professional activity, which is closely linked to enhancing the teacher's research competence in order to deliver high-quality education to students. Education encompasses not only the acquisition of knowledge but also an individual's capacity to respond to diverse problem situations effectively [1].

The occurrence of these situations is dependent upon the specifics of one's life and educational experiences. The competence-based approach necessitates teachers to possess flexibility, mobility, and research skills, enabling them to adapt their professionalism to the uncertain conditions in a rapidly changing environment [2].

The concept that a teacher's actions have a research quality has been examined in various scientific studies and pedagogical practices . Researchers commonly agree that education, student orientation, and individualized work are essential qualities and competencies for effective research [3]. Nefedova and Ukhova state that the development of research competence demands a methodical and purposeful use of the approach for cultivating students' research qualities [4]. This is associated with an increase in the level of intellectual, creative, and logical-heuristic cognitive functions. According to the research conducted by Korshunova and Nan, research activity refers to a fully independent exploration of educational material [5]. An analysis is conducted on the approach taken by students to solve individual problems, engage in creative and research projects, and collaborate with teachers in a joint learning environment. Spirin examines the use of the competence-based approach in developing teacher training programs. Specifically, he focuses on the acquisition of research skills that are essential for teachers in their professional roles [6]. Thus, research competence refers to the acquisition of theoretical knowledge that enables individuals to generate new insights about a research topic through independent study of scientific and educational materials. It also involves possessing the necessary and sufficient components of research activities in line with the demands of contemporary education.

There has been a noticeable rise in the number of research conducted in recent years on the competencies that teachers need to possess in the profession of teaching. It is necessary to identify, categorize, and review the literature, create a logical summary of the conducted study, analyze the generated contributions, and propose new possibilities for research and innovation. The primary objective of this systematic review study is to identify the principal themes and contributions that have been documented in scholarly literature regarding programs aimed at developing teachers' research competence.

Materials and methods

The research design employed in this study is rooted in the documentary research approach. This approach involves the systematic examination and analysis of existing documents, in this case, studies published in journals related to teacher research competence development programs. The goal is to gather comprehensive and up-to-date insights into the state of the field. By employing this methodology, the study aims to contribute valuable insights into the current landscape of research on teacher research competence development, with a focus on methodological approaches, sample characteristics, interventions, and outcomes reported in high-impact journals over the past decade.A systematic literature review was conducted to identify relevant studies. This process involved searching multiple databases, covering the last decade (2013-2024). The inclusion criteria focused on high-impact journals to ensure the selection of studies with significant contributions to the field of teacher research competence development programs.The inclusion criteria were defined to select studies that align with the research focus. Only studies meeting specific criteria, such as relevance to teacher research

competence development programs, high-impact factor journals, and publications within the last ten years, were considered for inclusion in the review.The selected studies were thoroughly examined, and relevant data were extracted. Information regarding methodology, sample characteristics, interventions employed, and outcomes observed were systematically collected for each study. This comprehensive data collection process aimed to provide a nuanced understanding of the various facets of teacher research competence development.

Results

The table 1 presents a diverse array of educational research studies conducted across various countries and employing different methodologies. Studies range from case studies and theoretical research to mixed-methods approaches and participatory action research. Sample sizes vary widely, from as small as five participants in a qualitative study conducted in India to as large as 256 participants in a hermeneutics-phenomenological study conducted in Kazakhstan. The participants include university teachers, first-year students, principals, secondary school teachers, and faculty members. The studies collectively contribute to the understanding of educational practices and dynamics in different cultural and institutional contexts.

Table 1 - Articles on Research Competence Development Programs

Author	Year	Country	Methodology	Sample size	Participants
Sysoieva, S. & Sokolova, I.	2020	Ukraine	Case study	148	university teachers
Koletvinova, N., Bichurina, S	2019	Russia	theoretial, empirical	80	first-year students
Natalya N. Khana, Sholpan Zh. Kolumbayevaa, Raissa K. Karsybayevab, Roza A. Nabuovab, Manshuk B. Kurmanbekovaa, and Aigul Dzh. Syzdykbayevab	2016	Kazakhstan	experimantal work	102	students
Katayev, Y., Burdina, E.	2023	Kazakhstan	hermeneutics-phenomenological	256	principals and secondary school teachers
John Silvester A. Alipio	2019	Filippin	mixed model	32	teachers
Colleen McLaughin, N. Ayubayeva	2015	Kazakhstan	action research		teachers
J.Whitton, G. Parr & J. Choate	2021	Australia	mixed research		academics
Laxmi Sharma	2023	India	Qualitative research	5	teachers
Ruel Bonganciso	2024	Philippine	Participatory action research	48	faculty members
Dragana M., Ziad F. Dabaja	2023	Canada	Mixed-methods case study	43	pre-service teachers

The research conducted by Sysoieva and Sokolova aimed to evaluate the development of research competence among participants utilizing various criteria including cognitive, procedural, active, informational, and communicative aspects. Findings indicated that 68% of respondents exhibited limited theoretical knowledge, while 58% expressed a motivation to enhance their understanding. A notable proportion of respondents reported challenges with accessing information and databases. Following the implementation of research modules, there was an observable increase in cognitive knowledge; however, the growth among respondents in Group B was not statistically significant. Despite overall satisfaction with the conditions facilitating knowledge acquisition, respondents acknowledged difficulties in balancing professional obligations with training programs. The study underscores the importance of refining research content to address identified shortcomings [7].

Koletvinova and Bichurina investigated the research orientation and application competencies of 80 first-year students in September 2017. The study found that students encountered difficulties in integrating research into their professional activities. However, the experimental group exhibited greater proficiency in educational research typologies compared to the control group. The findings advocate for the adoption of optimal paradigms in vocational training to establish a multidimensional research educational environment equipped with essential resources. Such an approach is deemed instrumental in nurturing innovative specialists capable of independent decision-making and active engagement in societal advancement [8].

Khan, Kolumbayeva, et al., explored research competence among elementary school teachers, comparing those who underwent a comprehensive diagnostic program with those who pursued traditional courses. The study revealed that participants exposed to the diagnostic program demonstrated higher levels of research competence, characterized by heightened cognitive and behavioral components. The findings recommend the integration of elective courses focusing on research competence formation into pedagogical curricula and teachers' professional development initiatives to address the scarcity of innovative educational materials catering to research skill development [9].

Katayev and Burdina proposed the utilization of hermeneutical-phenomenological methods within Lesson Study to bolster teachers' research competencies. Their model, encompassing motivational-value, theoretical-cognitive, and organizational-activity components, aims to diversify content delivery, employ asynchronous training methods, and incorporate cyclical learning approaches. However, adjustments integrating hermeneutic phenomenology are warranted to optimize efficacy. The model's applicability extends to teacher preparation, certification processes, and the formulation of professional development frameworks for secondary school educators, necessitating further refinement for optimal outcomes [10].

Alipio evaluated teachers' research skills pre and post the implementation of the Revitalized Research and Development Program (RRDP) as an intervention. The findings indicated a significant improvement in reading skills post-intervention, although

enhancements in perceiving the 'big picture' were less pronounced. Notably, certain skills such as time management, adaptability, and holistic understanding remained underdeveloped. The study underscores the importance of addressing overlooked indicators to foster comprehensive research skill development among educators [11].

The study by McLaughlin and Ayubayeva delves into the challenges faced by teachers in Kazakhstan regarding engagement in action research, primarily due to the prevalent normative values surrounding scientific research and practice. In Kazakhstan's educational context, the term 'research' was predominantly associated with theoretical pursuits led by university academics, complicating its translation into Russian and Kazakh. However, the translation as 'research of self-experience' proved pivotal in overcoming apprehensions. Establishing collaborative and supportive structures was identified as essential to mitigate the physical isolation experienced by teachers across subject departments and schools. This necessitated shared interests, frequent interactions, and continuity to foster friendly relationships and a sense of security among teachers. Collaborative efforts, including whole cohort workshops and regional workshops, facilitated an environment where teachers felt more comfortable sharing experiences and supporting one another. Support from senior leaders and collegial interactions within schools further reinforced this environment. The study concludes that the process of sharing experiences and learning from peers became less daunting for Kazakhstani teachers, leading to a journey of self-discovery that encompassed values, beliefs, and emotions. The project aimed to empower teachers and head teachers by promoting autonomy and control, emphasizing collaborative links between schools. Emotional aspects emerged as pivotal factors dictating the success or failure of action research endeavors, necessitating explicit discussions on performance, competition, collaboration, and research ownership. The facilitation process involved articulating and renegotiating these norms, emphasizing self-reflection, addressing power disparities, and promoting a self-aware use of power in education. Ultimately, the study underscores the significance of early lessons in fostering a clear focus on practice and encouraging self-reflection to facilitate meaningful engagement in action research within educational contexts[12].

Sharma investigated teachers' experiences with classroom research within the Research and Development (R&D) Project framework in Nepali schools. Utilizing qualitative methods, the study identified themes related to identity construction, reflective practice, and perceived burdens. Results underscored the pivotal role of research in shaping professional identities, fostering collaborative communities, and enhancing pedagogical practices. Despite perceived challenges, the R&D Project emerged as a catalyst for professional growth and innovation among educators [13].

Bonganciso evaluated the effectiveness of the Research Capability Program (ReCap) in enhancing faculty research skills. Participants exhibited strong engagement and expressed satisfaction with program components, highlighting the importance of resource speakers and thematic relevance. Challenges related to technological limitations were

noted but did not significantly detract from participant engagement. Overall, the study affirms the efficacy of ReCap in fostering research competence among educators [14].

Martinovic and Dabaja examined the challenges and benefits of in-class research among pre-service teachers. Time constraints, skill limitations, and logistical hurdles emerged as primary barriers, while perceived benefits included professional development and improved classroom strategies. Despite challenges, participants recognized the value of research in informing pedagogical practices and enhancing student learning outcomes[15].

In conclusion, research plays a pivotal role in shaping educators' professional identities, fostering collaborative learning communities, and informing pedagogical practices. Integrating research into teacher education programs can empower educators to address diverse educational challenges and promote continuous professional development.

Discussion

The findings from the systematic review underscore the multifaceted nature of research competence development among educators across various contexts. The studies examined reveal both challenges and successes in enhancing educators' research skills, highlighting the importance of tailored interventions and supportive environments.One consistent theme across the studies is the prevalence of challenges faced by educators in accessing information, balancing professional obligations with training programs, and navigating logistical hurdles. These challenges, ranging from time constraints to technological limitations, underscore the need for comprehensive support structures to facilitate effective research skill development.Several interventions showcased promising outcomes in bolstering research competence among educators. For instance, the implementation of research modules led to observable increases in cognitive knowledge, albeit with variations in statistical significance among different groups. Similarly, the adoption of optimal paradigms in vocational training and the utilization of hermeneutical-phenomenological methods within the lesson study demonstrated potential for nurturing innovative specialists and diversifying content delivery approaches.Moreover, initiatives such as the Revitalized Research and Development Program (RRDP) and the Research Capability Program (ReCap) yielded significant improvements in educators' research skills, emphasizing the importance of targeted interventions and thematic relevance. However, while these programs addressed certain aspects of research competence, challenges persisted in areas such as time management, adaptability, and holistic understanding.The studies also highlight the transformative potential of research engagement, both in shaping educators' professional identities and fostering collaborative learning communities. The process of sharing experiences and learning from peers emerged as pivotal in overcoming apprehensions and promoting self-reflection among educators. Furthermore, the integration of research components into pre-service teacher

education programs was found to enhance participants' research literacy and reflective capacities, equipping them to navigate contemporary educational challenges effectively.

Conclusion

In conclusion, the systematic review provides valuable insights into the development of research competence among educators, emphasizing the importance of tailored interventions, supportive environments, and collaborative learning communities. Accessing information and balancing work and personal obligations are still problems, but projects like research modules, vocational training paradigms, and hermeneutical-phenomenological methods show promise in creating creative professionals and offering different ways to deliver content.Moreover, programs like the Revitalized Research and Development Program (RRDP) and the Research Capability Program (ReCap) have demonstrated significant improvements in educators' research skills, highlighting the efficacy of targeted interventions and their thematic relevance.However, addressing overlooked indicators such as time management and adaptability remains crucial for fostering comprehensive research skill development among educators.Ultimately, integrating research into teacher education programs holds immense potential for empowering educators to address diverse educational challenges and promote continuous professional development. By fostering a culture of inquiry and collaboration, educators can leverage research to inform pedagogical practices, shape professional identities, and ultimately enhance student learning outcomes.

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МҰҒАЛІМДЕРДІҢ ЗЕРТТЕУ ҚҰЗЫРЕТТІЛІГІН ДАМЫТУ БАҒДАРЛАМАЛАРЫ – ЖҮЙЕЛІ ШОЛУ

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Аңдатпа. Қарқынды өзгеріп жатқан қоғамда, білім беру саласы күрделі реформалармен еніп, мұғалімнің зерттеу құзіреттілігі туралы пікірталас мұғалімдерді дамытуы тиіс маңызды құзыреттердің біріне айналды. Мұғалімдерге кәсіби даму үшін мүмкіндіктер қажет. Тренинг, семинар, экскурсиялық мүмкіндіктер және зерттеу сияқты іс-шаралар мұғалімдердің кәсіби білімі мен дағдыларын арттыра алады. Мұғалімдердің зерттеуге қатысуы олардың жұмыс орындарында кездесетін мәселелердің шешімін табуға көмектеседі. Олардың жұмыс орнындағы мәселелерін шешуге арналған зерттеулерге қатысу оларға жаңа түсініктерді дамытуға көмектеседі және бұл, сайып келгенде, олардың оқу тәжірибесінде жоғары өнімділікке ықпал етеді. Осы шолу зерттеу құжаттық зерттеу әдістемесін қолдану арқылы мұғалімдердің зерттеу құзыреттілігін дамыту бағдарламаларына егжей-тегжейлі талдау жасайды. Бұл жан-жақты әдебиет шолуы 2013 және 2024 жылдар аралығындағы беделді журналдардағы түсініктерді қамтиды. Талданған зерттеулерге университет оқытушылары, студенттері, директорлары және оқытушылар құрамы сияқты қатысушы топтардың кең ауқымы кіреді. Нәтижелер педагогтардың кездесетін қиындықтары мен олардың зерттеу құзыреттілігін арттыруда табысты болған стратегиялар туралы түсінік береді. Бұл тренингтерде эксперименттік бағдарламалар, практикалық зерттеу жобалары сияқты түрлі оқыту формалары бар. Бірлескен құрылымдарының маңыздылығы, эмоционалдық элементтердің рөлі және ресурс қолжетімділігінің зерттеу дағдыларын дамытуға әсері осы зерттеуден туындайтын негізгі тақырыптардың бірі болып табылады. Зерттеулер олардың әдістемесі, үлгі сипаттамалары, бағдарламалары және нәтижелері негізінде талданды және синтезделді. Бұл зерттеулер мұғалімдердің кәсіби тұлғасын қалыптастыруда және бірлескен оқу қоғамдастығын құруда зерттеудің маңызды рөлін көрсетеді.. Осылайша, зерттеу үнемі өзгеріп отыратын білім беру саласында мұғалімнің зерттеу құзыреттілігін үнемі қолдау және дамыту қажеттілігіне баса назар аударады.

ПРОГРАММЫ РАЗВИТИЯ ИССЛЕДОВАТЕЛЬСКОЙ КОМПЕТЕНТНОСТИ УЧИТЕЛЕЙ – СИСТЕМАТИЧЕСКИЙ ОБЗОР

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Аннотация. В быстро меняющемся обществе, где образование пронизано серьезными реформами, дискуссия об исследовательской компетентности учителя стала одной из важных компетенций, которую учителя должны развивать. Учителя нуждаются в возможностях для профессионального развития. Такие мероприятия, как обучение, семинары, экскурсии и исследования, могут улучшить профессиональные знания и навыки учителей. Участие учителей в исследованиях помогает им находить решения проблем, с которыми они сталкиваются на своих рабочих местах. Участие в исследованиях, направленных на решение проблем на рабочем месте, помогает им обрести новое понимание, что в конечном итоге способствует повышению эффективности их учебной практики. В этом обзорном исследовании представлен подробный анализ программ развития исследовательской компетентности учителей с использованием методологии документального исследования. Этот всеобъемлющий обзор литературы включает в себя информацию из влиятельных журналов за период с 2013 по 2024 год. Проанализированные исследования включали широкий круг участников, таких как преподаватели университетов, студенты, директора и преподавательский состав. Результаты дают представление о проблемах, с которыми сталкиваются преподаватели, и о стратегиях, которые позволили улучшить их исследовательскую компетентность. Эти программы включают в себя различные формы обучения, такие как экспериментальные программы и практические исследовательские проекты. Важность структур сотрудничества, роль эмоциональных элементов и влияние доступности ресурсов на развитие исследовательских навыков являются одними из основных тем, вытекающих из этого исследования. Исследования анализировались и синтезировались на основе их методологии, характеристик выборки, программ и результатов. Эти исследования подчеркивают важную роль научных исследований в формировании профессиональной идентичности учителей и создании сообщества совместного обучения.Таким образом, исследование подчеркивает необходимость постоянного поддержания и развития исследовательской компетентности учителей в постоянно меняющейся сфере образования.

Ключевые слова: исследовательская компетентность, подготовка учителей, программы развития, учителя, развитие компетентности, систематический обзор, совместное обучение, методология документального исследования