

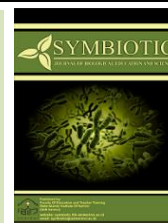


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Conceptualizing Professionalism: Perspectives of Science and Religion Teacher Candidates in Islamic Higher Education

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ABSTRACT

This study explores prospective science and religion teachers' perceptions of professionalism within Islamic education at Islamic universities. Purposive sampling was used, and in-depth interviews were conducted with 17 students, including nine science majors and eight religion majors. Thematic data analysis was employed to examine the views, values, and practices that underpin their understanding of professionalism. The findings reveal that prospective Science teachers emphasize the significance of deep and applicable scientific mastery, while prospective Religion teachers prioritize moral and spiritual professionalism in teaching Islamic values. Both groups, however, concur that professionalism encompasses integrity, good teaching ethics, and a commitment to the mission of Islamic education. Factors such as the educational environment, institutional policies, and societal expectations significantly influence their perceptions. This study provides valuable insights into how professionalism is conceptualized and practiced within Islamic education, highlighting the need for more inclusive and relevant teaching approaches. These findings offer a foundation for enhancing educational policies and practices to better develop professionalism among future educators in Islamic higher education institutions.

Keywords: *Islamic Education, Perceptions, Professionalism, Prospective Teacher, Science*

ABSTRAK

Penelitian ini mengeksplorasi persepsi calon guru Sains dan Agama di Perguruan Tinggi Islam mengenai profesionalisme dalam konteks pendidikan Islam. Dengan menggunakan teknik purposive sampling, wawancara mendalam dilakukan terhadap 17 mahasiswa, yang terdiri dari 9 mahasiswa jurusan Sains dan 8 mahasiswa jurusan Agama. Analisis data tematik digunakan untuk menelaah pandangan, nilai, dan praktik yang mendasari pemahaman mereka tentang profesionalisme. Temuan mengungkapkan bahwa calon guru Sains menekankan pentingnya penguasaan ilmiah yang mendalam dan aplikatif, sementara calon guru Agama memprioritaskan profesionalisme moral dan spiritual dalam mengajarkan nilai-nilai Islam. Kedua kelompok setuju bahwa profesionalisme mencakup integritas, etika mengajar yang baik, dan komitmen terhadap misi pendidikan Islam. Selain itu, faktor-faktor seperti lingkungan pendidikan, kebijakan institusi, dan harapan masyarakat sangat mempengaruhi persepsi mereka. Penelitian ini memberikan wawasan berharga tentang bagaimana profesionalisme dikonseptualisasikan dan dipraktikkan dalam pendidikan Islam, serta menyoroti perlunya pendekatan pengajaran yang lebih inklusif dan relevan. Temuan ini menawarkan dasar untuk meningkatkan kebijakan dan praktik pendidikan guna mendukung pengembangan profesionalisme di kalangan pendidik masa depan di institusi pendidikan tinggi Islam..

Kata Kunci : *Calon guru, Pendidikan Islam, Persepsi, Profesionalisme, Sains*



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INTRODUCTION

Teachers in the future are envisioned to be highly adaptive, technologically proficient, and equipped with diverse competencies to navigate modern education's complexities. They must integrate Future Studies into STEM education to prepare students for a post-normal world of uncertainties and complexities, ensuring they become competent 21st-century problem-solvers (Khadri, 2022). Developing a solid Teacher's Professional Identity (TPI) will be crucial, as it is linked to personal well-being and the ability to innovate in complex educational settings (Albéniz-Garrote & Gómez, 2020). Vocational teachers, in particular, will need to master new competencies, including pedagogic, content, and ICT skills, to meet the demands of the Industrial Revolution 4.0 and Society 5.0 (Wagiran et al., 2019). The Fourth Industrial Revolution will also necessitate teachers, especially in STEAM fields, to promote gender equality and empower vulnerable groups through ICT (Román-Graván et al., 2020). Audiovisual education will become increasingly important, and future teachers must be trained to use media effectively to support sustainable development and student welfare (Esteve-Faubel et al., 2020).

The intellectual development of students will be prioritized, with teachers leveraging information and communication technologies to create and utilize digital educational resources. Emerging automated technologies will require teachers to adopt speculative and future-oriented research methods to explore new assessment practices (Neitz et al., 2021). The COVID-19 pandemic has underscored the need to shift from content accumulation to acquiring skills and competencies that enable students to navigate a rapidly changing world (Pargman et al., 2022). Finally, using digital tools like Google Docs for lesson planning will become more prevalent, reflecting the broader trend toward digitalization in education (Martín, 2020). Overall, future teachers will be multifaceted professionals capable of fostering resilience, equity, and lifelong learning in their students.

Future science and religion teachers face many pedagogical, ideological, and resource-based challenges. In science education, teachers must navigate the complexities of inclusive pedagogy to ensure all students feel welcome and included, especially in diverse classrooms where understanding and addressing socialized perspectives toward race and gender are crucial (Sparks & Pole, 2019). Additionally, they must be adept in current science practices, such as argumentation, to foster critical thinking and problem-solving skills essential for addressing global issues like climate change and public health crises (Damni et al., 2022; Pearce et al., 2021; Quaderer & McDermott, 2020). However, many teachers need more training in these areas, which can hinder their effectiveness (Siani et al., 2021). The prevalence of pseudoscientific beliefs among pre-service teachers further complicates this landscape, as these misconceptions can be inadvertently passed on to students (Szelenyi, 2022).

On the other hand, religious teachers face challenges related to interreligious competence and the need to foster tolerance in diverse educational settings. This is particularly difficult in regions with limited resources and varying levels of religious representation, which can lead to inequalities in religious education (Fuertes-Prieto et al., 2020; Jamin & Damni, 2024; Zufriani et al., 2022). Moreover, teaching evolution remains a contentious issue, with teachers often needing help reconciling scientific explanations with

students' religious beliefs, leading to significant pedagogical challenges (Lombardi & Busch, 2022). Both science and religion educators must also contend with the broader societal issue of science denial and disinformation, which undermines trust in scientific and religious institutions and exacerbates educational inequities (Kuhlken, 2021). Addressing these multifaceted challenges requires comprehensive teacher training programs emphasizing content knowledge, pedagogical skills, and institutional support to navigate the ideological and resource-based barriers they face (Elfianti et al., 2023; Gilles & Buck, 2020; Utami, 2022).

Societal expectations for Science and Religion teachers differ significantly due to their respective disciplines' distinct nature and objectives. Science teachers are often expected to foster critical thinking, evidence-based reasoning, and scientific literacy among students, which includes teaching controversial topics like evolution and climate change. This can place them in opposition to anti-science constituencies, particularly those with strong religious beliefs, creating ethical dilemmas and resistance in the classroom (Stahi-Hitin & Yarden, 2022). Conversely, Religion teachers are tasked with exploring and imparting various belief systems, moral values, and cultural traditions, which can sometimes conflict with scientific perspectives. This dichotomy is evident in the differing views on whether religion should be addressed in science classes. At the same time, most scientists believe it should not; teachers, especially religious ones, feel it is important to connect with students' inner worlds and cultural backgrounds (Pearce et al., 2021). The interdisciplinary collaboration between Science and Religious Education (RE) teachers has shown that such partnerships can enhance understanding and teaching methodologies, particularly in argumentation, thereby breaking subject barriers and fostering a more holistic educational approach (Gough, 2021). Additionally, societal expectations are influenced by broader cultural and regional contexts, with societies having large traditional and post-secular classes more likely to support religion over science in conflicts. In contrast, modern and postmodern societies favor scientific perspectives (Lee, 2023).

Furthermore, the interplay between religious and scientific beliefs can impact individuals' well-being and stress responses, with each system offering unique benefits and drawbacks (Chan & Erduran, 2022). Teachers' beliefs in pseudoscience and superstitions also reflect broader societal trends, indicating the need for improved scientific literacy and critical thinking skills in education (Lobato et al., 2020). These expectations highlight the complex and often contentious relationship between science and religion in educational settings, necessitating nuanced approaches to teaching and professional development (Kwan & Gnall, 2023; Stones et al., 2020; Talmont-Kaminski, 2020). This research will compare the views of prospective science and religion teachers regarding teacher professionalism in the future.

METHODS

This study adopts a qualitative methodology due to its emphasis on gaining an in-depth comprehension of the perspectives and perceptions of future Science and Religion teachers concerning professionalism within the framework of Islamic education at Higher Education Institutions. This methodological choice enables researchers to delve deeply into the viewpoints, values, and practices that underpin their ideologies

(Gai, 2017). This approach will facilitate a thorough description of the perspectives of prospective Science and Religion teachers regarding professionalism without attempting to influence or manipulate variables but rather by seeking an in-depth understanding of the phenomena at hand.

The sampling methodology utilized in this study was purposive sampling, a technique chosen to ensure the inclusion of a diverse array of perspectives (Banning, 2024). The researchers conducted in-depth interviews with a total of 17 students, comprising nine majoring in science and eight majoring in religion. This selection was deliberate to capture a range of viewpoints and experiences relevant to the study's focus on professionalism in Islamic education at Islamic Universities. The sample size was carefully determined to reach data saturation, ensuring a comprehensive understanding of the research topic. Data saturation is the point in qualitative research where no new information or themes emerge from additional data collection. This indicates that the sample size was sufficient for thoroughly exploring the research questions.

The in-depth interview method was chosen to allow for a nuanced exploration of the participants' views, values, and practices related to professionalism (Julmi, 2020). Each interview was conducted meticulously to obtain informed consent and ensure ethical considerations. This approach enabled the researchers to delve deeply into the underlying beliefs and behaviors of prospective Science and Religion teachers regarding professionalism in the context of Islamic education. By adopting a qualitative approach, the study aimed to provide a rich and detailed description of the participants' perspectives without attempting to control or manipulate variables, thus allowing for a comprehensive understanding of the phenomena under investigation.

After carrying out the data collection process, the first step the researcher took was to transcribe all the interviews that had been recorded (Heath, 2015). This transcription was conducted to ensure that all details of the interviews were captured appropriately and to allow for more in-depth analysis later. After the transcription was complete, the researcher continued by re-reading each interview and marking pieces of text relevant to the research's focus, namely the views and perceptions of prospective Science and Religion teachers towards professionalism in education. The next step is to carry out a thematic analysis, namely starting by noting all themes or patterns that emerge naturally from the data to identify the beliefs of the answers of the informants under study.

RESULT AND DISCUSSION

Perceptions of Professionalism in Science and Religion Education

As a prospective teacher of Science and Religion at an Islamic University, views on professionalism in the educational context are very important. They consider professionalism more than mastery of knowledge and skills in the subjects taught. For them, professionalism also involves high attitudes, ethics, and commitment to the profession as a teacher. These future educators believe that embodying these qualities enhances their effectiveness in the classroom and serves as a model for students, fostering an environment conducive to learning and personal development.

Teachers' attitudes towards professionalism are generally positive, with high scores in domains like respect, though areas like altruism may need improvement (Forgasz et al., 2021). The concept of teacher professionalism is evolving, blending traditional commitments to ethics and community service with managerial and entrepreneurial objectives, particularly in fields like management, law, and medicine (Alfaris et al., 2022). This hybrid form of professionalism is less common but highlights the importance of ethical behavior and community service alongside leadership and management skills. Professional identity formation (PIF) is crucial, as it integrates behavior-based, attitude-based, and identity-based perspectives, helping educators address and remediate unprofessional behavior comprehensively (Brint & Ilhan, 2022). Intergenerational relationships among teachers also play a significant role, with shared responsibility and a sense of belonging enhancing professional commitment and work climate (Aguilar-Rodríguez et al., 2019). Authentic leadership by school principals can elevate teachers' professional identity and career aspirations, reducing counterproductive behaviors and intentions to leave the profession (Azorín et al., 2022).

Additionally, teaching associations (TAs) contribute to continuing professional development (CPD), enhancing teachers' competencies and self-worth. However, their impact is limited by low awareness among teachers (Rimmer & Floyd, 2020). In the context of higher education, neoliberal performativity-driven policies challenge traditional notions of teacher professionalism, necessitating a balance between performance metrics and professional ethics (Sun et al., 2022). Finally, novice teachers' professional commitment can be influenced by self-efficacy, outcome expectations, professional autonomy, and social support, which either bolster or hinder their dedication to the profession (Barnhoorn et al., 2019). Collectively, these elements underscore the multifaceted nature of professionalism in teaching, emphasizing the need for a holistic approach to foster high ethical standards, strong professional identity, and unwavering commitment to the profession.

Students from prospective science teachers emphasize the importance of mastering in-depth scientific knowledge in the field of science they teach. They believe that to be professional teachers; they must have a strong understanding of theory and practice in science disciplines and be able to apply them effectively to student learning. Professionalism also includes the ability to continue developing their knowledge based on the latest developments in science and technology.

Deep scientific knowledge significantly enhances teaching effectiveness by enabling educators to apply theoretical concepts practically, thereby improving student learning outcomes. For instance, case-based learning has been shown to foster pre-service teachers' ability to apply scientific knowledge in real classroom settings, although traditional methods can also be effective (Baier et al., 2021). Prior knowledge and interest in the subject matter are crucial for academic achievement, suggesting that teachers with deep scientific understanding can better engage students and enhance their learning experiences (Cheung et al., 2020). Furthermore, deeper learning paradigms in STEM education have been linked to increased student interest and mastery, indicating that teachers with profound scientific knowledge can better facilitate these outcomes (Otto et al., 2020). Effective reading instruction, often lacking in under-resourced schools, can be improved through a deep understanding of reading acquisition and disabilities, highlighting the

importance of scientific knowledge in addressing educational inequities (Moats, 2022). Advanced models like AT-DKT and GFLDKT, which incorporate deep learning techniques, demonstrate the importance of understanding students' historical performance and learning behaviors to predict and enhance future performance (Herta et al., 2019; Liu et al., 2023).

Knowledge distillation techniques, such as multi-step and cross-layer collaborative learning, show that transferring complex knowledge effectively requires a deep understanding of both the content and the learning process (Mirzadeh et al., 2020). Additionally, meta-learned information and commentaries can improve the training of neural networks, suggesting that teachers who can leverage such advanced methods can significantly enhance their teaching effectiveness (Raghu et al., 2021). Overall, deep scientific knowledge equips teachers with the tools to create more engaging, effective, and equitable learning environments, ultimately leading to better student educational outcomes.

On the other hand, prospective Religion teachers at Islamic Universities highlighted the importance of moral and spiritual integrity in carrying out their educator duties. They consider professionalism in an educational context to be about providing quality academic teaching and being a moral role model for students. They are committed to integrating Islamic values into their curriculum and teaching and ensuring that they provide holistic education in accordance with Islamic teachings.

The relationship between morals and prospective religious teachers is multifaceted, reflecting educators' significant role in shaping moral values within their communities. Spiritual teachers, such as those in Religious Culture and Moral Knowledge (RCMK) in Turkey, are increasingly responsible for guiding students through the moral complexities of modern life, especially in the context of social media use by children and adolescents (Turan & Işçitürk, 2017). In Iran, the moral component of English Language Teaching (ELT) underscores the integration of ethical considerations within educational frameworks, highlighting the importance of moral education in diverse cultural settings (Soleimani & Lovat, 2019). Similarly, in post-Soviet Tatarstan, Russia, the interplay between secular and religious education demonstrates how Islamic ethics address moral upbringing, challenging the traditional separation between these domains (Suleymanova, 2015). Teaching Islamic morality is seen as urgent for moral education, providing a platform for robust debate and challenging misconceptions about Islam (Lovat, 2016). In Ireland, religion teachers at the secondary level actively teach ethics, reflecting broader societal concerns about morality and ethical behavior (Kearns, 2018). Research in English schools also shows that Religious Education (RE) teachers play a crucial role in character education, further emphasizing the moral responsibilities of religious educators (Metcalf & Moulin-Stožek, 2021). The Islamic lifestyle has been linked to improved social health among teachers, suggesting that religious values can positively influence social well-being (Ahmed et al., 2022).

The pedagogy of religion contributes to the formation of moral competence, which is essential for fostering a holistic sense of well-being, encompassing physical, mental, social, and spiritual dimensions (Marek & Walulik, 2021). Additionally, values play a critical role in the relationship between religion and entrepreneurship, with religious individuals prioritizing values related to social order and self-

transcendence, which can influence their moral decision-making (Rietveld & Hoogendoorn, 2021). Finally, the complex interplay between religion and morality necessitates a nuanced understanding of how cognitive and cultural factors shape moral inclinations, underscoring the importance of religious education in moral development (McKay & Whitehouse, 2015).

Overall, the views of prospective Science and Religion teachers at Islamic Universities towards professionalism show that these two groups have a comprehensive and in-depth perspective on their duties and responsibilities as educators. They recognize that being a professional teacher is about having good academic qualifications and practicing high moral and spiritual values in inspiring and guiding students.

Factors Influencing Science and Religion Teacher Candidates' Perceptions of Professionalism

As a prospective Science and Religion teacher at an Islamic University, perceptions of professionalism in the educational context are influenced by several key factors. First, prospective science teachers tend to view professionalism from a deep and applied scientific perspective. They consider it important to have solid knowledge in the field of science they teach and the ability to adapt this knowledge in the context of Islamic education. These factors include strong theoretical knowledge, practical skills in teaching, and the ability to integrate science with Islamic values.

Aspiring science teachers often view professionalism from a deep and applicative scientific perspective due to their prior educational experiences, professional development opportunities, and the evolving demands of science education. Their prior knowledge, often shaped by traditional K-12 experiences, tends to emphasize limited teaching practices focused on information delivery rather than inquiry-based learning, which can initially restrict their professional vision (McCausland et al., 2022). However, innovative professional development programs, such as those integrating the Nature of Science (NOS) tenets, help shift their understanding toward a more nuanced and reflective approach to science teaching (Watkins et al., 2020). These programs often provide sustained support and collaborative environments that align with current curricular demands, fostering a deeper appreciation for scientific inquiry and the role of science in society (Subramaniam, 2023). Additionally, experiences in authentic research settings, such as working alongside scientists, further enhance their understanding of scientific practices and the interconnectedness of science and society, reinforcing the importance of scientific ways of thinking in their teaching (Kartal et al., 2018; Kowalski et al., 2020).

The adoption of practice-based models in professional development, as necessitated by the Next Generation Science Standards, also encourages teachers to engage in sensemaking and grapple with epistemic issues, thereby deepening their professional vision (Navy et al., 2021; Yuksel & Kirçiçek, 2019). Furthermore, removing practical courses like the School Experience course has sparked discussions among prospective teachers about the essential nature of hands-on, applicative experiences in their professional growth (Huffmyer et al., 2022). Collectively, these factors contribute to a professional identity that values deep, applicative scientific understanding, aligning with the broader goals of developing a high-quality

science teaching corps capable of fostering scientific reasoning and argumentation in students (Aguirre-Muñoz et al., 2021; Anderson & Moeed, 2017).

On the other hand, prospective Religion teachers emphasize professionalism in a moral and spiritual context. They consider professionalism to include not only academic competence but also high ethical integrity, good teaching ethics, and the ability to set a good example as a Muslim. These factors include respect for Islamic values in teaching, involvement in religious activities in higher education, and a commitment to creating an educational environment based on Islamic teachings.

Aspiring religious teachers often view professionalism through a spiritual and moral lens due to the intrinsic connection between their personal beliefs and professional identity. This perspective is shaped by the need to integrate their faith with their teaching practices, which is evident in the professional ideals that arise from their worldviews (Conroy, 2016). The requirement for teachers to maintain impartiality, as seen in Quebec's Ethics and Religious Culture program, underscores the challenge of balancing personal convictions with professional responsibilities, highlighting the moral dimension of their role (Everington, 2016). Additionally, the interaction between religious education (RE) and spirituality, as explored in the West Midlands of England, shows that teachers aim to move beyond theoretical knowledge to foster students' personal engagement and moral development (Estivalèzes, 2017). The complexity of aligning individual and professional values is further complicated by promoting fundamental British values (FBV), which can sometimes conflict with the pluralistic nature of RE, causing dissonance among teachers (Hill & Woolley, 2022). Historical and institutional processes also play a role in shaping the professionalization of RE teachers, emphasizing the importance of professional knowledge and self-organization in their development (Farrell, 2016).

Moreover, the relationship between individual religiosity and professional thinking, as evidenced by the development of specific scales to measure these beliefs, indicates that personal faith significantly influences teaching practices (Penthin et al., 2022). The need for teachers to reflect on their professional identity and the impact of education policies further highlights the moral and spiritual considerations inherent in their role (Bruin & Muynck, 2018). Overall, the integration of personal faith with professional duties, the emphasis on moral and spiritual development, and the challenges posed by educational policies collectively contribute to why aspiring religious teachers see professionalism from a spiritual and ethical point of view.

Overall, although prospective Science and Religion teachers have different perspectives on professionalism in Islamic education, both are characterized by Islamic values, strong academic competencies, and support from the educational environment and society. These differences in views show the complexity of understanding the factors that influence professionalism in the context of Islamic education at Islamic Universities and the importance of integrating science and religion into their educational curriculum.

CONCLUSION

Based on the findings of this study, it can be concluded that the perceptions of prospective Science and Religion teachers at Islamic Universities regarding professionalism in the educational context are influenced by various factors. Prospective Science teachers emphasize the importance of deep and applicable scientific mastery in science education. In contrast, prospective Religion teachers focus more on moral and spiritual professionalism in imparting Islamic values. Nevertheless, both groups agree that professionalism also encompasses integrity, good teaching ethics, and a commitment to the mission of Islamic education. Factors such as the educational environment, institutional policies, and societal expectations significantly shape their perceptions of professionalism. This study provides profound insights into how professionalism is articulated and practiced within Islamic education at Islamic Higher Education, offering a foundation for developing better educational policies and practices in the future.

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