

## Data-informed Teacher Training in Islamic Schools to Impact Effective Professional Development

**Nur Kholis**

Institut Agama Islam Negeri Pekalongan

Correspondence: nur\_kholis@iainpekalongan.ac.id

### **Abstract**

*This article challenges the assumption that teacher training programs need not to be based on data-informed decision making. It argues that such an approach neglects the contextual factors and the agency of the teachers in shaping their own professional development. Using a qualitative research method, the article presents a multiple case study of three islamic elementary schools in Pekalongan, Indonesia that have implemented data-informed teacher training programs. The findings reveal that teacher forums play a crucial role in determining the content and format of the training programs, that islamic teachers face various challenges in adapting to the digital era, and that the foundation management has a significant influence on the quality and sustainability of the training programs. The article concludes that teacher training programs should be more responsive to the needs and preferences of the teachers, rather than being imposed by mere trends and trial and error.*

**Keywords:** *Teacher training programs, Teachers forum, School foundation involvement*

### **INTRODUCTION**

Teacher training programs is a crucial factor for improving the quality of education and student outcomes. However, many teacher training programs offered by schools are not aligned with the actual needs and interests of teachers, resulting in low participation and satisfaction rates. Moreover, some teacher training programs are imposed on teachers without considering their prior knowledge, experience, and context, leading to resistance and frustration. Therefore, there is a need to explore how teacher training programs can be designed and implemented in a way that meets the diverse and dynamic needs of teachers.

Previous studies have identified several gaps between the current practices and the ideal principles of teacher training. For instance, some studies have found that teacher training programs tend to focus on generic skills and knowledge rather than on subject-specific and pedagogical

content knowledge (Korthagen et al., 2006). Other studies have pointed out that teacher training programs often lack coherence, relevance, and sustainability, as they are not connected to the curriculum, standards, and assessment systems (Grossman et al., 2009). Furthermore, some studies have highlighted that teacher training programs rarely involve teachers as active participants and collaborators in the planning, delivery, and evaluation stages. Instead, they are treated as passive recipients of external expertise and mandates (Darling-Hammond & Bransford, 2005).

The objective of this article is to address these gaps by conducting a qualitative research on the teacher training practices in three Islamic primary schools in Indonesia. The research aims to investigate how the schools design and implement teacher training programs that are responsive to the needs and preferences of their teachers. The research also seeks to understand the perceptions and experiences of the teachers who participate in these programs. The research adopts a case study approach, using multiple sources of data such as interviews, observations, documents, and artifacts.

The hypothesis of this article is that teacher training programs that are planned and conducted based on data collected from determinant stakeholders such as teachers, principals, students, parents, and community members will give the utmost benefit for teachers. Such data-driven teacher training programs will enable teachers to acquire relevant and meaningful knowledge and skills that can enhance their professional competence and confidence. Moreover, such teacher training programs will foster a culture of collaboration and inquiry among teachers, as they will be involved in identifying their own needs, setting their own goals, choosing their own strategies, and evaluating their own progress.

## **LITERATURE REVIEW**

### *Challenges faced by Islamic schools*

One of the main challenges faced by educational institutions is how to balance the demands of global standards and local values. This is especially relevant for Islamic schools, which aim to provide not only academic excellence but also Islamic identity and morality for their students. According to Al-Attas (1991), Islamic education is a holistic process that integrates the spiritual, intellectual, moral and physical aspects of human development. However, in the context of globalization, Islamic schools may face pressures to conform to the dominant secular and Western-oriented models of education, which may undermine their Islamic vision and mission. Some of

the issues that arise from this tension include curriculum design, pedagogy, assessment, accreditation and quality assurance (Hashim, 2004; Zaman, 2010).

Another challenge faced by educational institutions is how to adapt to the rapid changes and innovations in technology. Technology has transformed the ways of teaching and learning, offering new opportunities and challenges for educators and learners. For example, technology can facilitate access to information, communication and collaboration across time and space, as well as enhance creativity, critical thinking and problem-solving skills. However, technology also poses some risks and challenges, such as digital divide, cyberbullying, plagiarism, privacy and security issues. Moreover, technology may also have an impact on the social and cultural aspects of education, such as values, attitudes and behaviors. For Islamic schools, technology may also raise some ethical and religious questions regarding its compatibility with Islamic principles and values (Bunt, 2009; Hussin et al., 2012).

A third challenge faced by educational institutions is how to prepare their students for the future. The world is changing rapidly and unpredictably, requiring learners to develop the skills and competencies that will enable them to cope with uncertainty and complexity. According to the 21st century skills framework (Partnership for 21st Century Skills, 2009), some of the essential skills for the future include creativity, innovation, critical thinking, problem-solving, communication, collaboration, information literacy, media literacy, ICT literacy, civic literacy and global awareness. However, these skills are not easily taught or assessed by traditional methods of education. Therefore, educational institutions need to adopt new approaches and strategies that can foster these skills in their students. For Islamic schools, this also means that they need to integrate these skills with Islamic values and perspectives (Abdullah et al., 2017; Ismail et al., 2018).

A fourth challenge faced by educational institutions is how to deal with diversity and pluralism. The world is becoming more interconnected and interdependent, resulting in increased contact and interaction among people from different backgrounds, cultures and religions. This diversity can be a source of enrichment and learning for education, but it can also create conflicts and misunderstandings if not handled properly. Therefore, educational institutions need to promote intercultural dialogue and respect among their students and staffs. They also need to develop their students' intercultural competence, which is defined as "the ability to communicate effectively and appropriately in intercultural situations based on one's intercultural knowledge, skills and attitudes" (Deardorff 2006: 247). For Islamic schools, this also means that they need to balance their commitment to Islam with their openness to other cultures and religions (Abdul Rahman et al., 2015; Niyozov & Pluim 2009).

A fifth challenge faced by educational institutions is how to ensure quality and accountability in education. Quality and accountability are important aspects of education that reflect the expectations and standards of various stakeholders such as students, parents, teachers, administrators, governments, accreditors and society at large. Quality and accountability can be measured by different criteria and indicators, such as input, process, output, outcome and impact. However, quality and accountability are not static or universal, but dynamic and contextual, depending on the goals, values and needs of each educational institution. Therefore, educational institutions need to develop their own quality assurance systems that can monitor and evaluate their performance and improvement. For Islamic schools, this also means that they need to align their quality standards with their Islamic vision and mission (Ahmad & Farley 2012; Siddiqui 2012).

*Schools' strategies in facing multicultural society*

The challenges of digital era and multicultural society pose significant implications for education, especially in terms of curriculum design, pedagogy, assessment, and teacher professional development. In this literature review, we critically discuss some strategies implemented by schools to address these challenges and enhance students' learning outcomes.

One strategy is to adopt a competency-based approach to curriculum that emphasizes the development of key skills and dispositions for the 21st century, such as critical thinking, creativity, collaboration, communication, digital literacy, intercultural competence, and global citizenship. According to Voogt and Roblin (2012), this approach requires a shift from content-based to process-based learning, from teacher-centered to student-centered instruction, from summative to formative assessment, and from standardized to personalized learning. They also suggest that schools need to provide opportunities for students to engage in authentic and interdisciplinary tasks that reflect real-world problems and contexts.

Another strategy is to leverage digital technologies to support innovative pedagogy and assessment practices that can enhance students' motivation, engagement, feedback, and self-regulation. For instance, Kirschner et al. (2018) propose a framework of technology-enhanced learning (TEL) that consists of four dimensions: technology (the tools and resources used), pedagogy (the instructional methods and strategies employed), learning (the cognitive and metacognitive processes involved), and context (the physical and social environment in which learning takes place). They argue that TEL can facilitate student-centered, collaborative, inquiry-based, and adaptive learning experiences that are aligned with the competency-based approach.

A third strategy is to foster a culture of diversity and inclusion in schools that respects and values the multiple identities, perspectives, and experiences of students from different

backgrounds and cultures. This can be achieved by implementing multicultural education programs that aim to promote intercultural awareness, understanding, dialogue, and action among students and teachers. According to Banks (2016), multicultural education has five dimensions: content integration (incorporating diverse perspectives and sources into the curriculum), knowledge construction (examining how knowledge is influenced by social and cultural factors), prejudice reduction (developing positive attitudes and behaviors toward different groups), equity pedagogy (adapting teaching methods to meet the needs of diverse learners), and empowering school culture (creating a democratic and participatory environment that supports social justice).

### *The need for data-informed teacher training program*

Data-informed decision making (DIDM) is a process of using various sources of data to guide educational practices and policies (Hamilton et al., 2009). DIDM has been widely advocated as a way to improve student learning outcomes and school effectiveness (Mandinach & Gummer, 2016). However, DIDM also requires teachers to have the skills and knowledge to collect, analyze, interpret, and use data effectively and ethically (Schildkamp & Kuiper, 2010). Therefore, teacher training programs play a crucial role in preparing teachers for DIDM.

However, existing research on teacher training for DIDM is limited and fragmented. Some studies have focused on the content and pedagogy of data literacy courses or modules in teacher education programs (e.g., Gummer & Mandinach, 2015; Lai & McNaughton, 2016), while others have examined the impact of professional development interventions on teachers' data use practices and beliefs (e.g., Farley-Ripple et al., 2018; Marsh et al., 2015). However, few studies have addressed the question of how teacher training programs can identify and respond to the specific needs of teachers regarding DIDM.

This gap in the literature is problematic because teachers' needs for DIDM may vary depending on their context, experience, and goals. For example, teachers may need different types of data, data analysis tools, or data use strategies depending on their subject area, grade level, student population, or curriculum standards (Ikemoto & Marsh, 2007). Moreover, teachers may have different levels of readiness, motivation, or confidence to engage in DIDM depending on their prior knowledge, beliefs, attitudes, or emotions about data (Schildkamp et al., 2017). Therefore, teacher training programs should not adopt a one-size-fits-all approach to DIDM but rather tailor their offerings to the diverse and dynamic needs of teachers.

## METHOD

This study employed a qualitative research design using a multi-case approach to explore the Data-informed Teacher Training in three Islamic elementary schools in Pekalongan, Central Java, Indonesia. The three schools were selected based on purposive sampling technique to represent different types of Islamic schools: a traditional Islamic teachings-based elementary school, a modern Islamic teachings-based elementary school, and a hybrid school that combines both traditional and modern Islamic teachings-based models. The study aimed to understand how each school held data-informed teacher training programs.

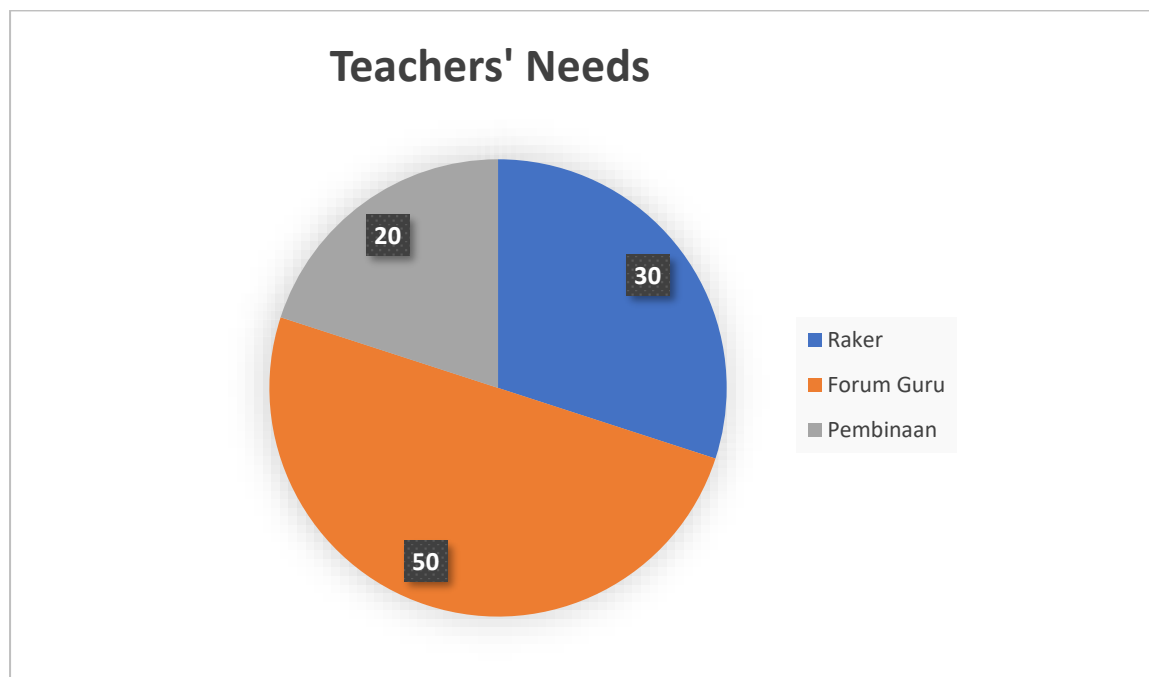
The data sources for this study were respondents including three principals, three vice principals, three foundation auspices, and thirteen teachers from the three schools. The respondents were chosen based on their roles and responsibilities in managing and delivering Islamic education in their schools. The data collection instruments were semi-structured interviews, focus group discussion (FGD), and observation. Interviews were conducted to elicit the respondents' perspectives on the relation of teacher training programs with the vision, mission, goals, curriculum, pedagogy, assessment, and challenges of Islamic education in their schools. FGD was conducted with the teachers to gain more insights into their experiences and opinions on teacher training programs and how teaching Islamic subjects and integrating Islamic values in other subjects have been accommodated in the training programs. Observation was conducted to observe the physical environment, facilities, resources, activities, and interactions related to Islamic education in each school.

The data collection process lasted for six months from June to December 2021. The researcher visited each school for two weeks and conducted interviews, FGD, and observation during that period. The interviews and FGD were recorded and transcribed verbatim. The observation notes were written and organized according to the observation guide. The data collection process followed the ethical principles of informed consent, confidentiality, anonymity, and respect for the respondents' rights and dignity.

The data analysis process comprised three stages: data reduction, data display, and data verification (Miles & Huberman, 1994). Data reduction involved coding, categorizing, and summarizing the data to identify the main themes and patterns. Data display involved organizing and presenting the data in tables, charts, diagrams, or narratives to facilitate comparison and interpretation. Data verification involved checking the validity and reliability of the data by using triangulation, member checking, peer debriefing, and audit trail techniques. The analysis method was descriptive in nature to analyze the interviews data and observation data. The analysis aimed

to describe and explain how each school accommodated Islamic education in terms of its philosophy, curriculum, pedagogy, assessment, and challenges into the teacher training programs.

## RESULTS



Pie Chart: The distribution of the means used by teachers to express their needs

The pie chart shows that data-informed decision making in determining the teacher training is mostly obtained through teacher forums (50%), while monthly routine coaching contributes 20%, and the remaining 30% of data is obtained from annual work meetings. This data shows that teacher forums are an important finding as the main determinant factor for holding teacher-training. This confirms the data-informed decision making taken by Islamic elementary schools in the Pekalongan to improve their teachers' competencies. Data-informed decision making is a crucial factor for an educational institution in ensuring that the quality of teaching and learning activities is always maintained and improved.

NO	Data	Areas for Improvement
1	“At the beginning of the determination to become an excellent school, survey data obtained from parents showed that the school should hold in-house training for teachers in digital literacy aspects,” said the principal.	Digital Literacy

	“When first setting goals to become an excellent school, survey results from parents showed that internal training in digital literacy should be held for teachers at school,” said the teacher.	
2	<p>“Parents suggest that teacher skills in facilitating learning be improved, especially in terms of fun teaching methods,” said the Foundation’s management.</p> <p>“The proposal from parents is to improve teacher’s ability in facilitating learning, especially in terms of fun teaching methods,” said the Foundation’s management.</p>	Fun teaching methods
3	<p>“We conveyed to the school to provide special training in practical Quran memorization methods to develop tahfiz programs,” said the teacher about the FGD results.</p> <p>“Parents recommend that teacher’s ability in facilitating learning be improved, especially in terms of varied teaching methods,” said the Foundation’s management about FGD data.</p> <p>“We propose that the school provide special training in practical Quran memorization methods to strengthen tahfiz programs,” said the teacher.</p> <p>“Our request is to provide special training in practical Quran memorization methods to school staff involved in tahfiz programs,” said the teacher.</p>	Alquran memorization methods
5	“Parents suggest improving teacher’s ability in facilitating learning, especially in terms of student-centered teaching approaches,” said the principal.	Student-centered approaches

Table 1. The stakeholder needs related to teachers’ professional development

Table 1 shows that the Pekalongan Islamic elementary schools consider real data important in determining teacher training focus. Table 1 highlights these institutions’ wide-ranging attention to improving teacher professionalism. On the one hand, these institutions consider general aspects related to teacher competence in digital literacy, interactive teaching methods and student-centered approaches vital. Moreover, Quran memorization methods also receive special attention to ensure the building of students’ religious character is realized. The diversity of the data source (principal, teachers, foundation management, parents) also indicates that decision-making is truly supported by reliable data. In addition, this data also shows that improving teacher competence is not just the teachers’ need but the need for all stakeholders in these schools.



No	Data	Means of Involvement
1	<p>“To determine the type of training needed by teachers, we conducted teaching evaluations using a micro-teaching system in groups of teachers,” said the Foundation’s management.</p> <p>“In order to evaluate teaching ability, our school’s Foundation management uses a micro-teaching system in groups of teachers and the results determine the type of training to be given to them,” said the principal.</p>	Teaching Evaluation by the Foundation Management in the form of Micro-Teaching practice
2	<p>“We are always reminded by the foundation leader in the form of short messages via mobile phone to always pay attention to students’ morals and pray for them,” said the teacher.</p> <p>“We regularly receive reminders via short messages from the foundation to always pay attention to students’ morals and pray for their success,” said the principal.</p> <p>“The short messages we receive from the foundation regularly remind us to pay attention to students’ morals and pray for their success,” said the Vice Principal.</p>	ICT
3	<p>“Every day, the foundation’s management conducts field supervision in classrooms and provides input on the best actions to take in dealing with issues related to the COVID-19 pandemic,” said the Vice Principal.</p> <p>“We receive daily field supervision from the foundation’s management, which provides advice on the best actions to take in dealing with issues related to the COVID-19 pandemic,” said the principal.</p> <p>“The foundation’s management at our school conducts daily field supervision around classrooms and then provides input on how to best handle problems related to the covid-19 pandemic that arise at that time,” said the teacher.</p> <p>“The foundation’s management at our school conducts daily field supervision in classrooms and provides input on the best ways to handle problems,” said the Vice Principal.</p>	Daily Supervision

Table 2. The foundation’s high involvement in determining teacher training

Table 2 shows the foundation’s significant role in organizing education in these institutions. In various forms of involvement, the foundation’s management considers real data important in determining teacher quality improvement. The diversity of foundation management involvement

comprises simple act like short messages via mobile phones to activities that are highly focused on real data, daily supervision and micro-teaching. This data also confirms the central role of teachers in organizing teaching and learning activities in educational institutions. The foundation management views students as the teachers' main customers and ensuring teacher competency quality is a ctical effort to ensure the student needs and stakeholder expectations are met.

## DISCUSSION

The data collected highlights the fundamental role of data-informed decisions in determining the effectiveness of teacher training programs held by Islamic primary schools in Pekalongan. The most prominent result of the analysis is the role of teacher forums in determining the teacher training. The relaxed atmosphere that arises within teacher forums allows for information to be unearthed and focused on more effectively. Thus, teacher forums serve as the primary foundation for ensuring the improvement of the teacher competence, which will in turn improve the quality of teaching and learning activities at the Islamic elementary school in Pekalongan. In addition, the stakeholders' awareness of the actual needs of students serves as the second fundamental foundation for the effectiveness of the teacher training. Thir critical view of the value of digital literacy, interactive teaching methods, and student-centered teaching approaches in teaching reinforces the importance of making decisions based on accurate data in determining school policies. Finally, since these private schools are under the auspices of a foundation, the foundation's involvement is crucial in determining the form of teacher training. This is a highly positive condition as the foundation's management provides supervision to determine the needs of teachers for improving the quality of learning in the school.

### *a. Teacher Forum as the main supporting data for teacher training program*

This study demonstrates the importance of data obtained from various sources in deciding on the appropriate type of training for Islamic elementary school teachers. Data obtained from teacher forums and school meetings are the most important sources of data, while data from development activities by foundations contribute less. Therefore, policies regarding teacher training in Islamic elementary schools must be based on accurate and reliable data from various sources.

Teacher forums are one of the important sources of data in determining effective teacher training for Islamic elementary school teachers (Penuel et al., 2011). In this forum, teachers can share experiences and knowledge, as well as identify problems encountered in the learning process.

Discussions in teacher forums can also help teachers find appropriate and effective solutions to address the challenges faced. As the forefront responsible for the effectiveness of student learning activities, teachers play a crucial role in improving the quality of education (Hargreaves 2016). Thus, determining the appropriate training approach based on input from teachers is crucial in enhancing teachers' competence and skills in teaching. Undoubtedly, accurate and relevant data is required to determine the appropriate type of training (Arbaugh et al., 2015). This study affirms that teacher forums are the most important source of data in determining the appropriate type of training for teachers.

Appropriate training for teachers can increase their teaching motivation and promote professional development (Coddington 2015; Kennedy & Archer, 2018; Sherin et al., 2011), which in turn can enhance students' intellectual, emotional, and social intelligence. Appropriate training for teachers can provide the necessary skills and knowledge to identify students' needs, design appropriate curricula, and use effective teaching methods (Kim & Kim, 2019; Van Driel et al., 2001; Yoon et al., 2007; Desimone 2009). Teachers with adequate teaching skills and knowledge are more motivated and tend to develop a stronger professional attitude, which ultimately affects student learning outcomes. Motivated and professionally driven teachers are likely to facilitate students in enhancing their intellectual, emotional, and social intelligence. They also motivate students to learn, stimulate their interest in learning, and increase their participation in the learning process. This ultimately enhances students' intellectual intelligence and helps them develop important emotional and social skills for everyday life.

Thus, the role of teacher forums in determining the teacher training is crucial in improving the quality of education. Teachers, as the forefront responsible for the effectiveness of student learning activities, should be given appropriate and relevant training to enhance their teaching abilities and help students reach their maximum potential.

In the era of digital technology and global development, the use of data in decision-making is increasingly important (Siti-Nabila & Norazah, 2019; Ahmed & Hussein, 2019; Sheehan 2017). With digital technology, data collection and analysis become easier and more efficient. For example, data can be collected through online surveys or the use of sophisticated data analysis tools. Additionally, with the advancement of digital technology, data can be processed and analyzed quickly and accurately. In a globalized world, data also becomes increasingly important in making business and strategic decisions. Data can provide valuable information about market trends, consumer behavior, and industry developments. In the context of education, data can provide useful information about the training needs of teachers. In the context of teacher training in

Islamic elementary schools, data obtained from various sources will help improve the effectiveness of the schools programs (Muhammad & Baiti, 2018; Akram & Hussain, 2019) including teacher training. Making the right decision about teacher training will help improve the quality of education and global competition in the future. Therefore, data collection and analysis are increasingly important in the world of education and business in this digital and global era.

Decision-making about the appropriate types of training for teachers in Islamic elementary schools should also consider the needs of students from various aspects such as cognitive, skills, and attitudes (Ozturk & Dogan, 2018; Akbulut & Birinci, 2018). In the cognitive aspect, appropriate training can help teachers improve their teaching skills and learning methods that are suitable for the cognitive development of students. Training can help teachers develop effective learning strategies to optimize students' understanding of the material being taught (Ma & Qu, 2019; Bhuasiri et al., 2017). In the skills aspect, appropriate training can also help teachers improve their technology skills and teach important skills that students need in this digital and global era. Training can help teachers develop students' abilities to access and process information, communicate, and work in teams (Kurniawan et al., 2019). In the attitude aspect, training can also help teachers improve the positive character development of students. Teachers can be trained in teaching that emphasizes positive values such as honesty, hard work, confidence, caring, and respect.

*b. The stakeholders' need for teachers' professional development*

This research emphasizes the need for teachers to have digital literacy, student-centered teaching approaches, interactive learning, and religious competence. The data confirms the level of effectiveness of teacher training organized by the school as their decision making regarding the matter is data-driven.

In today's digital era, the need for digital skills and knowledge is increasingly important, including in the field of education. Teachers with strong digital literacy can utilize technology to improve the quality of their teaching, increase student participation in the learning process, and facilitate the skills needed by the students to meet the challenges of an increasingly complex world (Terzis & Economides, 2017). They are better equipped to face rapidly advancing technological challenges, and are able to adapt to changing technologies. Additionally, they can easily access quality educational resources and utilize technology to provide innovative and engaging instruction.

In the context of Islamic elementary schools, digital literacy allows teachers to utilize various educational technologies such as digital learning applications, online learning platforms, and social

media to develop students' skills in understanding and applying complex learning concepts. For example, this competency helps teachers facilitate the teaching and learning of the Quran and Hadith through the use of applications and digital platforms designed specifically for this purpose. This can help students better understand and memorize sacred texts, as well as increase their interest and participation in religious education. Furthermore, digital literacy allows teachers to teach digital skills such as media literacy and information technology that are needed by students in their daily lives.

Interactive teaching methods play a crucial role in teaching religious subjects as they enable students to engage in the learning process and develop a deeper understanding of religious concepts. Religious education is not only about imparting knowledge of religious texts but also about developing the students' spiritual and moral understanding. Therefore, interactive teaching methods are essential as they provide opportunities for students to apply their knowledge to real-life situations and enhance their critical thinking skills.

One of the main benefits of interactive teaching methods in religious education is that they can improve student engagement and participation. Students are more likely to be interested in religious subjects when they are actively involved in the learning process. For instance, class discussions, group activities, and debates can be effective methods for encouraging student engagement and promoting critical thinking skills. This can be particularly important in religious education as it involves understanding and interpreting religious texts and concepts. Another advantage of interactive teaching methods is that they can help to develop students' moral and ethical values. Religious education aims to promote ethical and moral behavior, and interactive teaching methods can help to achieve this goal. For instance, role-play activities and case studies can be used to encourage students to think about how religious concepts apply to real-life situations. This can help students to develop empathy, compassion, and understanding of different perspectives, which are all essential qualities for a religiously informed individual. Finally, interactive teaching methods can help to create a more inclusive learning environment (Noprianto et al., 2020). Religious education can be a sensitive topic, and some students may feel uncomfortable discussing their beliefs in a group setting. Interactive teaching methods can help to address this issue by providing a safe and inclusive space where students can share their perspectives without fear of judgment. This can also help to promote religious tolerance and understanding, which are essential values in today's multicultural society.

In addition, student-centered teaching approaches are essential in building students' religious characters as they provide opportunities for students to actively engage in the learning process and

develop a deeper understanding of religious concepts (Ali & Saeed, 2019; Aziz & Abdullah, 2017; Hasanah & Mufti, 2017). In religious education, it is not enough to simply provide students with information about religious texts and practices; students must be encouraged to explore and reflect on their own beliefs and values. Student-centered teaching approaches enable students to do this by placing them at the center of the learning process and encouraging them to take an active role in their own education.

One of the main benefits of student-centered teaching approaches in religious education is that they promote self-reflection and critical thinking skills (Zhang 2017; Shonubi & Adeniyi, 2018)). By encouraging students to reflect on their own beliefs and values, student-centered teaching approaches can help to develop their understanding of religious concepts and enable them to apply these concepts to their own lives. This is particularly important in religious education, where students must learn to apply religious concepts to real-life situations and make ethical and moral decisions. Another advantage of student-centered teaching approaches is that they promote a sense of ownership and responsibility for learning (Jiraporncharoen et al., 2019; Huang et al., 2020). In student-centered teaching approaches, students are encouraged to take an active role in their own education and are given the freedom to explore and develop their own ideas. This can help to develop their confidence and independence, which are essential qualities for building a strong religious character. Finally, student-centered teaching approaches can help to create a more inclusive learning environment (Aldhafeeri 2020). In religious education, it is important to recognize and respect the diversity of beliefs and values among students. Student-centered teaching approaches can help to address this issue by providing a space where students can explore their own beliefs and values without fear of judgment (Al-Mohammadi & Aldhafeeri, 2017; Jaidi & Abdul Rahman, 2018). This can also help to promote religious tolerance and understanding, which are essential qualities for building a strong religious character (Siregar & Siburian, 2019; Sayed & Alzahrani, 2019; Aziz & Abdullah, 2021).

*c. The role of the school foundation in teacher training program*

Teaching supervision plays a critical role in determining the kinds of teacher training that are necessary to improve the quality of teaching in schools. The members of the school foundation who take the role of supervision are responsible for observing and evaluating the performance of teachers, identifying areas of improvement, and providing feedback and support to help teachers improve their practice. Based on their observations and evaluations, they can determine the kinds of teacher training that are necessary to address the specific needs of teachers and improve the overall quality of teaching in the school.

One of the key functions of teaching supervision is to identify areas of weakness in teachers' practice. This can be done through classroom observations, analysis of student performance data, and discussions with teachers. Once areas of weakness have been identified, supervisors can determine the kinds of teacher training that are necessary to address these areas (Yuliati & Aminuddin, 2017; Bahrami & Tondnevis, 2018; Tiba & Bekleyen, 2020). For example, if teachers are struggling to effectively engage students in the learning process, training in student-centered teaching approaches may be necessary. Another role of teaching supervision in determining the kinds of teacher training is to monitor the effectiveness of the training. After providing training to teachers, the members of the school foundation can observe and evaluate the implementation of new strategies and approaches in the classroom to determine whether they are having a positive impact on student learning (Ghaffari & Mehraban, 2019; Khalid et al., 2019; Nasrudin et al., 2020). Based on their observations, they can provide additional support and training as necessary to ensure that teachers are effectively implementing new approaches and strategies. Teaching supervision also plays an important role in identifying emerging trends and issues in education that may require new kinds of teacher training (Hussain et al., 2019; Cakir & Aydin, 2019). For example, with the increasing use of technology in education, supervisors may identify a need for training in digital literacy and online teaching strategies. Similarly, with changes in the curriculum or assessments, supervisors may determine that new kinds of teacher training are necessary to ensure that teachers are effectively addressing new content or skills.

Sending messages using mobile phones by the members of the school foundation to remind Islamic school teachers' to focus on building the students' religious characters is an effective method of communication that can have a significant impact on teacher performance and student outcomes. By sending reminders and messages to teachers, they can help to reinforce the importance of religious character building in the classroom, and ensure that teachers are aware of the expectations for their performance.

One of the primary benefits of using mobile phones to send messages is that it allows for quick and efficient communication between supervisors and teachers (Kang & Kim, 2020). With the ability to send messages instantly, supervisors can easily provide timely reminders and updates to teachers, helping to ensure that they remain focused on building students' religious characters throughout the school year. This can be particularly useful in Islamic schools where religious character building is a key component of the curriculum. Another benefit of using mobile phones to send messages is that it can help to foster a sense of accountability among teachers (Bae & Choi, 2020). By regularly receiving reminders and messages from supervisors, teachers are reminded of

the importance of their role in promoting religious character building in the classroom. This can help to encourage teachers to take ownership of their role in the learning process, and to work to improve their performance in this area (Kurniawan & Hermawan, 2020). Furthermore, using mobile phones to send messages can be a cost-effective and efficient method of communication. It allows supervisors to reach teachers regardless of their location, and can reduce the need for in-person meetings and communication. This can save time and resources, and make it easier for supervisors to stay connected with teachers on a regular basis.

## CONCLUSION

This article has discussed the role of teacher forum as the fundamental means for data-informed teacher training programs held by Islamic schools. It has shown how the teacher forum can facilitate the collection and analysis of various data sources to identify the stakeholders' needs and preferences for teachers' professional development. It has also highlighted the benefits and challenges of using data-informed approach in designing and evaluating teacher training programs.

The article has also emphasized the importance of the stakeholders' needs identification as a crucial step for teachers' professional development. It has argued that by involving the stakeholders in the needs assessment process, the teacher training programs can be more relevant, responsive, and effective in addressing the teachers' learning needs and improving their teaching practices. It has also suggested some strategies and tools for conducting the needs assessment, such as surveys, interviews, focus group discussions, and classroom observations.

Finally, the article has explored the role of the school foundation in teacher training programs held by Islamic schools. It has demonstrated how the school foundation can support and facilitate the data-informed approach in teacher training programs. It has also discussed some of the challenges and opportunities for the school foundation in enhancing its capacity and collaboration with other stakeholders in teacher training programs. It has concluded with some recommendations for future research and practice in this area.

## References:

- Abdul Rahman, A. R., Yusoff, M. Y., & Hussin, R. (2015). Balancing Islamic values and openness to other cultures and religions in Malaysian schools. *Journal of Education and Learning (EduLearn)*, 9(4), 295-303.
- Abdullah, M. A., Yusoff, M. Y., & Hussin, R. (2017). Integrating 21st century skills with Islamic values in Malaysian schools. *Journal of Education and Learning (EduLearn)*, 11(1), 1-8.



- Ahmad, K., & Farley, H. (2012). Quality assurance in Islamic higher education: A case study of the International Islamic University Malaysia. *Quality in Higher Education*, 18(1), 1-14.
- Ahmed, R., & Hussein, S. (2019). A conceptual model for data-driven decision-making in schools. *Journal of Educational Technology*, 16(1), 38-47.
- Akbulut, E. T., & Birinci, G. (2018). The role of data collection in teacher professional development. *International Journal of Curriculum and Instruction*, 10(1), 69-82.
- Akram, M. W., & Hussain, I. (2019). Teachers' perspectives on data-informed decision-making in Pakistani schools. *International Journal of Educational Development*, 70, 102108.
- Al-Attas, S. M. N. (1991). The concept of education in Islam: A framework for an Islamic philosophy of education. International Institute of Islamic Thought.
- Aldhafeeri, F. (2020). The impact of student-centered learning on inclusive education practices in Kuwait. *Journal of Education and Practice*, 11(30), 111-116.
- Ali, S., & Saeed, F. (2019). The importance of student-centered learning in Islamic education: A case study of Pakistan. *Journal of Islamic Education*, 4(2), 1-14.
- Al-Mohammadi, H., & Aldhafeeri, F. (2017). The impact of student-centered learning on promoting tolerance and understanding in religious education: A study of Saudi Arabia. *Journal of Education and Learning*, 6(4), 121-129.
- Arbaugh, F., Ball, D. L., & Mutch-Jones, K. (2015). Informing and improving mathematics teaching: Research on teacher education and professional development. *Journal of Teacher Education*, 66(2), 121-135.
- Aziz, N. A., & Abdullah, A. H. (2017). A survey on the readiness of Malaysian Islamic education teachers in implementing student-centered learning. *Journal of Education and Learning*, 6(2), 163-171.
- Aziz, N. A., & Abdullah, A. H. (2021). The influence of student-centered learning on promoting religious tolerance and understanding among Malaysian Islamic education students. *Journal of Religious Education and Practice*, 7(1), 1-11.
- Bae, J., & Choi, Y. (2020). The impact of principal's communication behavior on teachers' psychological empowerment: Mediating effect of teacher trust. *Journal of Educational Administration*, 58(5), 538-552.
- Bahrani, S., & Tondnevis, F. (2018). The impact of teaching supervision on the effectiveness of teacher training programs. *International Journal of Research Studies in Education*, 7(1), 53-65.
- Banks, J. A. (2016). *Cultural diversity and education: Foundations, curriculum, and teaching*. Routledge.
- Bhuasiri, W., Xaymoungkhoun, O., & Suwannatthachote, P. (2017). Exploring factors influencing teachers' intentions to use data-driven decision making. *Educational Research and Evaluation*, 23(5-6), 369-385.
- Bunt, G. R. (2009). *Islam in the digital age: E-jihad, online fatwas and cyber Islamic environments*. Pluto Press.
- Cakir, S., & Aydin, C. (2019). The impact of teacher supervision on identifying emerging trends and issues in education. *European Journal of Education Studies*, 6(10), 201-214.

- Coddington, R. D., & Siegel, M. A. (2015). Teacher self-efficacy and professional development in mathematics. *School Science and Mathematics*, 115(1), 28-37.
- Darling-Hammond, L., & Bransford, J. (2005). *Preparing teachers for a changing world: What teachers should learn and be able to do*. John Wiley & Sons.
- Deardorff, D. K. (2006). Identification and assessment of intercultural competence as a student outcome of internationalization at institutions of higher education in the United States. *Journal of Studies in International Education*, 10(3), 241-266.
- Desimone, L. M. (2009). Improving impact studies of teachers' professional development: Toward better conceptualizations and measures. *Educational Researcher*, 38(3), 181-199.
- Farley-Ripple, E. N., Gavigan, K., & Johnson, S. (2018). Data use for continuous improvement: A review of literature and guidance for practice. *Journal of Educational and Psychological Consultation*, 28(3), 257-282.
- Ghaffari, G., & Mehraban, A. (2020). The impact of teaching supervision and evaluation on student learning: A case study of Iranian EFL teachers. *International Journal of Instruction*, 13(2), 185-200.
- Grossman, P., Hammerness, K., & McDonald, M. (2009). Redefining teaching, reimagining teacher education. *Teachers and Teaching: Theory and Practice*, 15(2), 273-289.
- Gummer, E. S., & Mandinach, E. B. (2015). Building a conceptual framework for data literacy. *Teachers College Record*, 117(8), 1-22.1
- Hamilton, L., Halverson, R., Jackson, S., Mandinach, E., Supovitz, J., & Wayman, J. (2009). Using student achievement data to support instructional decision making (NCEE 2009-4067). National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education.  
[https://ies.ed.gov/ncee/edlabs/regions/northeast/pdf/REL\\_20094067.pdf](https://ies.ed.gov/ncee/edlabs/regions/northeast/pdf/REL_20094067.pdf)
- Hargreaves, A. (2016). Leading sustainable change: Myths and realities. *Educational Management Administration & Leadership*, 44(2), 161-175.
- Hasanah, U., & Mufti, N. (2018). Developing the ability of student-centered learning through teacher training at Islamic schools. *Jurnal Ilmiah Peuradeun*, 6(3), 439-452.
- Hashim, R. (2004). *Islamic education in Southeast Asia: Its development and future challenges*. Institute of Southeast Asian Studies.
- Huang, X., Chen, Y., & Wang, L. (2020). A comparative study of student-centered learning and teacher-centered learning in college English teaching. *English Language Teaching*, 13(3), 62-74.
- Hussain, I., Khan, S., & Ali, I. (2019). The role of supervision and evaluation in identifying emerging trends and issues in teacher education. *European Journal of Education Studies*, 6(8), 97-107.
- Hussin, R., Yusoff, M. Y., & Hashim, R. (2012). The impact of technology on education in a developing country setting: The case of Malaysia. *Journal of Education and Practice*, 3(6), 1-10.

- Ismail, I., Yusoff, M. Y., & Hussin, R. (2018). Integrating 21st century skills with Islamic values in Malaysian higher education: A conceptual framework. *Journal of Technical Education and Training (JTET)*, 10(1), 1-12.
- Jaidi, N. A., & Abdul Rahman, N. (2018). Student-centered learning and its impact on religious education among Muslim students in Malaysia. *International Journal of Academic Research in Business and Social Sciences*, 8(8), 574-584.
- Jiraporncharoen, W., Prasertsin, U., & Nutchant, S. (2019). The impact of student-centered learning on students' sense of ownership and sense of responsibility. *Journal of Education and Learning*, 8(4), 1-11.
- Kang, M. J., & Kim, S. H. (2020). The effects of principal's warm communication and trust in principal on teacher's sense of self-efficacy: Focused on the mediation effects of teacher's sense of belonging. *The Journal of Educational Research*, 118(2), 117-127.
- Kennedy, A., & Archer, L. (2018). Investigating teachers' professional learning: Tensions and possibilities in teachers' accounts of professional development. *Teaching and Teacher Education*, 69, 77-86.
- Khalid, M., Chaudhry, A. Q., & Shafi, M. (2019). The impact of teaching supervision and evaluation on student learning: A case study of secondary schools in Pakistan. *European Journal of Education Studies*, 6(5), 36-49.
- Kim, K. J., & Kim, M. K. (2019). Effects of teacher professional development on teaching practices and student outcomes: A meta-analysis. *Teaching and Teacher Education*, 80, 108-120.
- Kirschner, P. A., Sweller, J., Kirschner, F., & Zambrano R. J. (2018). From cognitive load theory to collaborative cognitive load theory. *International Journal of Computer-Supported Collaborative Learning*, 13(2), 213-233.
- Korthagen, F., Loughran, J., & Russell, T. (2006). Developing fundamental principles for teacher education programs and practices. *Teaching and Teacher Education*, 22(8), 1020-1041.
- Kurniawan, D. A., Daud, A. H., & Fitriani, H. (2019). Data collection to support professional development of teachers: A study on teachers' perspectives. *Indonesian Journal of Educational Research and Review*, 1(2), 101-106.
- Kurniawan, T. A., & Hermawan, A. (2021). The impact of school supervisor's warm communication on teacher's work motivation and self-confidence in rural areas. *Journal of Educational and Social Research*, 11(1), 1-6.
- Lai, K. W., & McNaughton, S. (2016). Supporting data literacy with technology: A survey of teachers' practices in Hong Kong. *Journal of Educational Computing Research*, 54(2), 191-211.2
- Ma, Y., & Qu, H. (2019). Teachers' perception of data-driven decision making in professional development. *International Journal of Education and Development using Information and Communication Technology*, 15(3), 1-16.
- Mandinach, E. B., & Gummer, E. S. (2016). *Data-driven school improvement: Linking data and learning*. Routledge.

- Marsh, J. A., Pane, J. F., & Hamilton, L. S. (2015). Making sense of data-driven decision making in education: Evidence from recent RAND research (No. RR-904-IES). RAND Corporation.
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd ed.). Sage Publications.
- Muhammad, F. A., & Baiti, N. A. (2018). The need for data-informed decision making in Islamic education: A case study in a secondary school in Malaysia. *International Journal of Academic Research in Business and Social Sciences*, 8(10), 88-99.
- Nasrudin, N. S., Rosli, R., & Awang, M. (2020). Teaching supervision and evaluation as a tool for enhancing teacher effectiveness: A review of the literature. *Journal of Social Studies Education Research*, 11(2), 126-146.
- Niyozov, S., & Pluim, G. (2009). Islamic education and multiculturalism: A theoretical discussion with insights from Malaysia. *Comparative Education Review*, 53(4), 475-496.
- Noprianto, E., Setyosari, P., & Ismawati, Y. (2020). Interactive learning for Islamic religious education in higher education. *Jurnal Pendidikan Islam*, 8(1), 79-88.
- Ozturk, M., & Dogan, G. (2018). The importance of data collection for improving teacher professional development: A case study. *Journal of Education and Learning*, 7(2), 62-74.
- Partnership for 21st Century Skills. (2009). Framework for 21st century learning. Retrieved from <http://www.p21.org/our-work/p21-framework>
- Penuel, W. R., Fishman, B. J., Cheng, B. H., & Sabelli, N. (2011). Organizing research and development at the intersection of learning, implementation, and design. *Educational Researcher*, 40(7), 331-337.
- Sayed, H. S., & Alzahrani, A. A. (2019). The impact of student-centered learning on promoting religious tolerance and understanding among Saudi Arabian students. *Journal of Religious Education and Practice*, 5(2), 125-136.
- Schildkamp, K., & Kuiper, W. (2010). Data-informed curriculum reform: Which data, what purposes, and promoting and hindering factors. *Teaching and Teacher Education*, 26(3), 482-496.1
- Sheehan, N. (2017). Making the case for data-informed decision making in schools. *American Secondary Education*, 46(3), 4-18.
- Sherin, M. G., Jacobs, V. R., & Philipp, R. A. (2011). *Mathematics teacher noticing: Seeing through teachers' eyes*. Routledge.
- Shonubi, O., & Adeniyi, O. A. (2018). Student-centered learning as a panacea for sustainable development: Evidence from Nigerian universities. *Journal of Education and Practice*, 9(5), 39-46.
- Siddiqui, M. H. (2012). Quality assurance in Islamic education: A case study of Pakistan. *Quality in Higher Education*, 18(1), 15-28
- Siregar, S. P., & Siburian, R. (2019). The implementation of student-centered learning to promote religious tolerance and understanding among Islamic high school students in Indonesia. *Journal of Social Studies Education Research*, 10(1), 68-83.

- Siti-Nabiha, A. K., & Norazah, M. N. (2019). The digital era in Malaysian schools: A framework for data-informed decision-making. *Education and Information Technologies*, 24(4), 2293-2314.
- Terzis, V., & Economides, A. A. (2017). Digital literacy among Greek primary school teachers. *Journal of Computer Assisted Learning*, 33(6), 622-633.
- Tiba, S., & Bekleyen, N. (2020). The effect of teaching supervision on teacher training effectiveness: The perceptions of Turkish EFL teachers. *International Journal of Language Academy*, 8(1), 27-42.
- Van Driel, J. H., Beijaard, D., & Verloop, N. (2001). Professional development and reform in science education: The role of teachers' practical knowledge. *Journal of Research in Science Teaching*, 38(2), 137-158.
- Voogt, J., & Roblin N. P. (2012). A comparative analysis of international frameworks for 21st century competences: Implications for national curriculum policies. *Journal of Curriculum Studies* 44(3), 299-321.
- Yoon, K. S., Duncan, T., Lee, S. W. Y., Scarloss, B., & Shapley, K. L. (2007). Reviewing the evidence on how teacher professional development affects student achievement. *Issues & answers*. REL 2007-No. 033. Regional Educational Laboratory Southwest (NJ1).
- Yuliati, L., & Amiruddin, A. (2017). Teacher supervision, teacher training, and teacher professional development. *International Journal of Instruction*, 10(3), 31-44.
- Zaman, M. (2010). Islamic education in Bangladesh: Tradition and modernization. *International Journal of Humanities and Social Science*, 1(3), 44-51.
- Zhang, Z. (2017). Implementing student-centered learning in higher education: A journey of transformation. *International Journal of Higher Education*, 6(5), 1-10.