



The INSTANT Model: Developing Digital Literacy to Enhance Professional Competence of Islamic Religious Education Teachers

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Abstract

Teachers hold moral and professional responsibility in guiding student development. Professional competence includes content mastery, pedagogy, technology, and professional growth. Religious teachers must integrate digital literacy to enhance professional performance. Digital literacy helps teachers access, process, and share information effectively. Teachers with strong digital skills improve teaching relevance and student engagement. This study aims to develop a conceptual model for digital literacy enhancement. It focuses on Islamic Religious Education teachers in Indonesian secondary schools. This research used a Research and Development (R&D) approach. The Four-D method was applied: Define, Design, Develop, Disseminate. Data were collected through surveys, interviews, observations, tests, and documentation. Respondents were Islamic Education teachers in West Java. The result is the INSTANT Model for digital literacy training. The model includes: Introduction, Need-based, Scaffolding, Training, Application, Nurturing, and Test. It incorporates constructivism, connectivism, cognitive, social, and experiential learning theories. Experts and users validated the model's practicality and effectiveness. The model improved teachers' skills with an average N-Gain of 74.4% (high category). Stakeholders positively received the model in various dissemination formats. The INSTANT Model offers a practical framework for teacher digital competence development.

Keywords: Digital Literacy; INSTANT Model; Professional Competence.

Abstrak

Guru memegang tanggung jawab moral dan profesional dalam membimbing perkembangan siswa. Kompetensi profesional meliputi penguasaan konten, pedagogi, teknologi, dan pertumbuhan profesional. Guru agama harus mengintegrasikan literasi digital untuk meningkatkan kinerja profesional. Literasi digital membantu guru mengakses, memproses, dan berbagi informasi secara efektif. Guru dengan keterampilan digital yang kuat meningkatkan relevansi pengajaran dan keterlibatan siswa. Penelitian ini bertujuan untuk mengembangkan model konseptual untuk peningkatan literasi digital. Ini berfokus pada guru Pendidikan Agama Islam di sekolah menengah Indonesia. Penelitian ini menggunakan pendekatan Penelitian dan Pengembangan (R&D). Metode Empat-D diterapkan: Define, Design, Develop, Disseminate. Data dikumpulkan melalui survei, wawancara, observasi, tes, dan dokumentasi. Responden adalah guru Pendidikan Agama Islam di Jawa Barat. Hasilnya adalah Model INSTAN untuk pelatihan literasi digital. Model tersebut meliputi: Pendahuluan, Berbasis Kebutuhan, Perancah, Pelatihan, Aplikasi, Pengasuhan, dan Tes. Ini menggabungkan teori konstruktivisme, konektivisme, kognitif, sosial, dan pembelajaran eksperiential. Para ahli dan pengguna memvalidasi kepraktisan dan efektivitas model. Model ini meningkatkan keterampilan guru dengan rata-rata N-Gain sebesar 74,4% (kategori tinggi). Para pemangku kepentingan memberikan tanggapan positif terhadap model ini dalam berbagai format diseminasi. Model INSTANT menawarkan kerangka kerja praktis untuk pengembangan kompetensi digital guru.

Kata Kunci: Kompetensi Profesional; Literasi Digital; Model INSTANT.

Introduction

Teachers have a moral and professional responsibility to educate, guide, and nurture students in achieving optimal development according to their potential. A professional teacher is an educator who reflects maturity in carrying out his duties and responsibilities as a teacher.¹ Professional teachers need to have professional competence.

Professional competence is related to content mastery, learning standardization, material development, professional development, and the use of technology.² This competence is a concern because mastery and content development for teachers also determine the improvement of students' ability to master the material. Teachers are obliged to utilize information and communication technology to communicate and develop

¹ Muhibbin Syah, *Psikologi Belajar* (Jakarta: Raja Grafindo Persada, 2018).

² Kementerian Agama Republik Indonesia, "Peraturan Menteri Agama Nomor 16 Tahun 2010 Tentang Pengelolaan Pendidikan Agama Pada Sekolah" (2010), <https://peraturan.bpk.go.id/Details/130781/peraturan-menag-no-16-tahun-2010>.

themselves.³ In addition, teachers' creativity also needs to be improved in order to present more effective learning.⁴

The role of this great teacher is also determined by the environment that supports innovation as a way to improve the quality of education, including Islamic Religious Education and form a more qualified and moral generation.⁵ Teachers' professional competence, including knowledge, skills, beliefs, and motivation, are important predictors of teachers' well-being and professional success.⁶

Professional competency assessments show high scores in general, with leadership and research competencies earning the lowest scores. Teachers value the competencies of planning, communication, evaluation, methodology, digital, and guidance. Therefore, it is recommended that teacher training programs focus on developing relevant competencies, especially digital competencies.⁷

Islamic Religious Education teachers are able to master the material, structure, concepts, and learning sciences of Islamic Religious Education. The school is also able to evaluate the professional competence of teachers and make efforts to improve the professional competence of Islamic Religious Education teachers by utilizing information and communication technology.⁸

The use of information and communication technology is related to the condition of digital literacy. In Indonesia in 2022, Indonesia's digital literacy index has increased, as reported in a survey conducted by the Ministry of Communication and Informatics in collaboration with the Katadata Insight Center (KIC). Indonesia's digital literacy index score rose from 3.49 points in 2021 to 3.54 points in 2022, showing that the digital literacy of Indonesian

³ Usman Sutisna, Mia Fitriah Elkarimah, and Fery Rahmawan Asma, "Pengembangan Kompetensi Profesional Guru PAI Melalui Pemanfaatan Teknologi Informasi," *ABSYARA: Jurnal Pengabdian Pada Masyarakat* 1, no. 2 (2020): 9–14, doi:10.29408/ab.v1i2.2629.

⁴ Farhan Ahmad Fauzan, Hasbiyallah Hasbiyallah, and Miftahul Fikri, "The Creativity of Islamic Religious Education Teachers for Effective Learning," *Jurnal Inovasi Pendidikan Agama Islam (JIPAI)* 2, no. 2 (2022): 120–32, doi:10.15575/jipai.v2i2.18196.

⁵ Avesina Qodli Zaka and Triono Ali Mustofa, "Inovasi Sekolah Untuk Meningkatkan Kompetensi Profesional Guru Pendidikan Agama Islam," *Jurnal PAI Raden Fatah* 5, no. 3 (2023): 686–97, doi:10.19109/pairf.v5i3.

⁶ Fani Lauermann and Johannes König, "Teachers' Professional Competence and Wellbeing: Understanding the Links Between General Pedagogical Knowledge, Self-Efficacy and Burnout," *Learning and Instruction* 45 (2016): 9–19, doi:10.1016/j.learninstruc.2016.06.006.

⁷ Raúl González-Fernández et al., "Teachers' Teaching and Professional Competences Assessment," *Evaluation and Program Planning* 103, no. April (2024): 1–15, doi:10.1016/j.evalprogplan.2023.102396.

⁸ Yusnaili Budianti, Zaini Dahlan, and Muhammad Ilyas Sipahutar, "Kompetensi Profesional Guru Pendidikan Agama Islam," *Jurnal Basicedu* 6, no. 2 (2022): 2565–71, doi:10.31004/basicedu.v6i2.2460.

people is in the medium category.⁹ The survey showed that men, working groups in the government/army/police sector, highly educated, and living in urban areas had a higher index than other groups.¹⁰

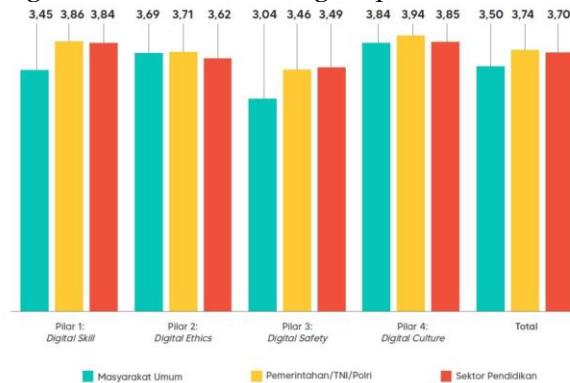


Figure 1 Comparison of Digital Literacy Index Based on Community Segmentation

Based on figure 1, this increase in score is data on the Indonesian people as a whole. Although it has increased, it is still in the medium category. This means that the digital literacy of the Indonesian people needs to be further improved so that it is in the high category. PAI teachers need to improve digital literacy as part of professional competence.

Teachers' professional digital competencies need to go beyond the use of technology for teaching and learning. Most ignore the professional's professional-oriented and transformative aspects of digital competence. These findings point to the need to overcome the focus on tools alone and improve collaboration among teacher educators.

The driving factors in improving this competence can also come from various sides. The intrinsic motivation of prospective millennial generation teachers influences their professional learning in education and professional competence. These findings reveal that interest in teaching and taught subjects as well as self-development and ideal lifestyle are two significant aspects of intrinsic motivation.

⁹ Pratiwi Agustini, "Indeks Literasi Digital Indonesia Kembali Meningkat Tahun 2022," *Kementerian Komunikasi Dan Informasi*, 2023, <https://aptika.kominfo.go.id/2023/02/indeks-literasi-digital-indonesia-kembali-meningkat-tahun-2022/>.

¹⁰ Kominfo, "Survei Status Literasi Digital Indonesia 2022," *Katadata Insight Center*, 2022, <https://survei.literasidigital.id/>.

Teachers can perform well, where professional allowances, and professional education and training are well considered. However, there is still a need for commitment from teachers who have received professional allowances to always improve their performance and develop themselves as a responsibility for professionalism.

The development of digital literacy is very important to be carried out as part of improving professional competence. Another important reason that digital literacy needs to be developed so that Islamic Religious Education teachers can access, process, and disseminate information effectively, which is an important aspect of professional duties. And teachers are able to design changes so that students are much more concerned about their environment.

Teachers with strong digital literacy are able to use this technology to improve the quality of teaching, making learning more effective and relevant to the needs of the times. In addition, good digital literacy also helps teachers avoid the risk of internet dangers, such as the spread of invalid information, and can protect themselves and their students from cyber threats.

Based on the research background, no research has been found that examines teachers' needs for developing digital literacy, particularly for Islamic religious education teachers. This research aims to address the need for digital literacy development in teachers through training. This study aims to produce a conceptual model for digital literacy development that can be used to improve the professional competence of Islamic religious education teachers.

Method

This research uses a Research and Development (R&D) method. This study uses the 4-D (Four D) development model. This model has four stages: Define, Design, Develop, and Disseminate. The define stage identifies teachers' needs in developing digital literacy, which is collected using questionnaires and interviews. The design stage develops a development design based on the results of the define stage using documentation study techniques. The develop stage undergoes expert validation with six experts in each field: training, technology, and teaching. The validators provide assessment responses through a questionnaire. After validation, a limited

trial was conducted with 60 Islamic Religious Education teachers in West Java, and observations and tests were conducted to measure success. This number represents the number of participants willing to participate in the research. The final stage of this research is Disseminate, involving policymakers and practitioners who responded through a questionnaire. Qualitative data analysis techniques were performed on qualitative data, and descriptive statistical analysis was performed on quantitative data.

Result And Discussion

The need for digital literacy development for PAI teachers includes inclusive training, without age, level, or gender restrictions. Training that is effective, efficient, does not interfere with teaching tasks, and utilizes the internet with an adequate duration. The content of the training strengthens the understanding of PAI materials, opens access to the latest Islamic literature, and digital media. A collaborative approach is needed that encourages communication between teachers, discussions, and mentoring from experts. In addition, teachers also need information verification skills, digital security, research, and support to form an active professional learning community.

The factors that affect the condition of teachers are the determinants of needs. Factors that affect the condition of teachers are age, gender, access to technology, education level, teaching experience, interests and motivations, economic status, professional training and development, support for school leaders, and school culture.

The design for developing digital literacy for Islamic Religious Education (PAI) teachers to enhance professional competence, developed in this study, is called the INSTANT Model. The INSTANT Model is a training model for developing digital literacy in teachers, particularly Islamic Religious Education (PAI) teachers, through seven systematic steps: Introduction, Needs-based, Scaffolding, Training, Application, Nurturing, and Testing. Each letter of INSTANT is an acronym representing interconnected, logical, and applicable training stages. This model was born from a contextual need, namely the ongoing development of digital literacy in Islamic Religious Education (PAI) teachers. This model combines a reflective, participatory

approach, and centers on teachers as adult learners. Although currently only implemented in the training realm, the INSTANT Model is projected to have broad potential for implementation in various educational pathways and professional development programs.

The word "INSTANT" lexically has profound philosophical significance. The word "instant" in English generally means direct, fast, or immediate. However, when examined in its philosophical meaning within the context of training, several important reflections emerge. Philosophically, "instant" is defined as something that is fast yet structured. This model is designed to ensure efficient training without sacrificing depth. Furthermore, "instant" also signifies responsiveness. Responsiveness, in the context of the challenges of the digital era, signifies the importance of a model that is responsive, relevant, and contextual to rapid technological developments. Another philosophical meaning of "instant" is accessibility. "Instant" reflects the spirit of affordability; training must be accessible to all teachers, at all levels, without discrimination based on age, gender, or educational background, even those with limited access to digital technology.

The INSTANT model consists of seven steps, each designed based on normative, legal, philosophical, and theoretical foundations.

I: Introduction, the initial stage of the training process, aims to introduce the topic or material to participants, explain the learning objectives and targets, and provide context and expectations for the training to be undertaken. This step prepares participants mentally, socially, and cognitively so they are ready to actively participate in the subsequent learning process. This stage reflects the spirit of Q.S. Al-Baqarah: 151 , in which the Prophet was sent to convey the verses of Allah, purify (tazkiyah), and teach knowledge. Philosophically, this stage is closely linked to the concept of tazkiyah (religious devotion) as the initial principle of learning. This principle requires that the heart be purified by purifying intentions and being aware of what is to be done at the beginning of learning. Theoretically, from a cognitivist perspective, the initial stages of learning include gaining attention (capturing participants' attention), informing learners of objectives (conveying goals), and stimulating recall of prior learning (activating prior knowledge). The "Introduction" step aligns with this stage because it aims to

mentally prepare participants to receive and process new information. Motivation and introduction are among the cognitive methods of activating learning readiness. In addition to cognitive theory, this step also aligns with constructivism theory, where participants learn by constructing new knowledge based on their existing experiences and understanding. This stage also establishes standards for a quality learning process. A good introduction ensures that the training is focused from the start.

N: Needs-based learning emphasizes the importance of understanding participants' specific needs before the learning process begins. Needs mapping reflects the meaning of Q.S. An-Najm: 3–5, which indicates that knowledge possessed by individuals is not uniform, and as Muslims, we must believe that the knowledge possessed is the will of Allah Swt., which comes through various means. Philosophically, this stage reflects the concept of fitrah (natural disposition). Understanding one's potential (fitrah) allows for the initial exploration of participants' existing abilities. In cognitive theory, learning will be more effective if the material is tailored to the participants' cognitive structure. Readiness to learn is greatly influenced by the activation of prior knowledge and needs mapping. Meanwhile, connectivism states that learning is the process of connecting information from various relevant sources. This stage facilitates teachers' participation in self-development-based training, including identifying specific needs.

S: Scaffolding provides gradual support to participants through concrete examples and guidance appropriate to their level of understanding, connecting them to what they already possess. This step refers to the hadith on seeking knowledge (Narrated by Muslim, No. 4867), in which the Prophet provided gradual teaching guided by revelation. Philosophically, this step aligns with the concept of tarbiyah (education), which emphasizes gradual development. Tarbiyah is a nurturing process that addresses physical, intellectual, and spiritual growth. The scaffolding step is based on constructivist theory, constructing students' own understanding through interactions with the environment and others.

T: Training is the core of the training process, where participants are provided with material and engaged in active learning activities, both synchronously and independently (asynchronously). Training is tailored to

the results of a previous needs analysis. This stage refers to a hadith from Bukhari that supports the value of professional activity. The delivery of this stage must be carried out by experts to produce skilled individuals. Philosophically, this stage implements the concept of *ta'lim* (teaching and learning), which conveys knowledge within the context of technological use. The training process becomes a platform for knowledge transfer. Effective learning occurs through direct experience (concrete experience), reflection, conceptualization, and active experimentation. In this context, training creates a holistic experience. From a cognitive perspective, training aims to process information, strengthen memory, and enhance knowledge transfer.

A: Application is a step that provides participants with the opportunity to apply the knowledge and skills they have learned in real-world or simulated contexts. This step is philosophically related to the concept of *tarbiyah* (education). Mentoring is carried out while trying and practicing what has been learned. In experiential learning theory, real-life application is the "active experimentation" phase, which provides hands-on, practical learning experiences. This step also aligns with constructivism, as the process of building new understanding through action.

N: Nurturing encourages participants to provide feedback, discuss, and build a supportive learning environment. Motivation and reinforcement are also provided at this stage to maintain the spirit of learning. This step refers to HR. Muslim No. 4867, which affirms that Allah helps His servants who help others. In this context, support between participants is a concrete manifestation of a good learning ecosystem. Philosophically, this step aligns with the value of *ta'dib* (religious guidance), where education is carried out through internalization. A supportive learning environment reflects the principle of *ta'dib*. In social learning theory, interaction, observation, and motivation are crucial processes in learning. Through discussion and shared reflection, participants learn from each other and complement each other's development. Connectivism supports networked learning, where participants benefit from social connections and digital resources. Nurturing creates a dynamic and open learning ecosystem.

T: Test are used to measure participants' achievements, both cognitively, attitudinally, and skill-wise. Test are conducted to determine the extent to

which training outcomes align with the initial objectives. Philosophically, this step represents a form of self-reflection to determine whether the process has achieved the desired results. Evaluation is not simply a grade, but a reflection of the proper development process. Cognitivism views evaluation as a tool to measure the success of information storage and retrieval. Test serve as indicators of mastery of the concepts and skills taught. In experiential learning, test can take the form of projects or simulations to test participants' ability to directly apply knowledge in real-world situations.

The INSTANT model can be visualized in the execution sequence chart as follows:

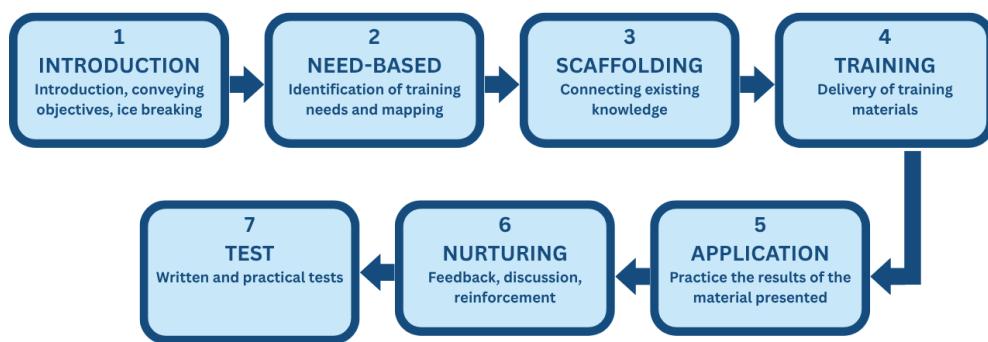


Figure 2 INSTANT Model Visualization

The visualization from figure 2 illustrates the each step. This visualization means that the first step, the Introduction, is 1 JP long. The second step is Need-based with a duration of 1.5 JP, the third step is Scaffolding with a duration of 1.5 JP. The fourth step of training is 5 JP. The fifth step of the Application is 4 JP. The sixth step of Nurturing lasts 2 JP. And finally, the seventh step of the Test lasts 4 JP. The normal implementation time is 20 JP. The implementation of this model, if done online, can be done using video conferencing applications (such as zoom, google meet, Microsoft team, jitsi, and others) between instructors and participants. Participants prepare the necessary digital devices such as laptops, mobile phones, and others. Training can also use an LMS. The duration of the implementation can be seen in the following table:

Table 1 Duration of Training

Phase	Duration	Activities
<i>Introduction</i>	1 JP	Opening, training objectives, interactive ice breaking, introduction of participants and facilitators/instructors
<i>Need-based</i>	1,5 JP	Identify participant needs through short surveys (survey filling applications) and interactive discussions
<i>Scaffolding</i>	1,5 JP	Linking the knowledge owned, with the material to be presented, and case studies
<i>Training</i>	5 JP	Material presentation
<i>Application</i>	4 JP	Participants practice the results of the material
<i>Nurturing</i>	2 JP	Feedback from facilitators/instructors to participants, and vice versa, motivation reinforcement, experience sharing, and implementation sustainability discussions
<i>Test</i>	4 JP	Written tests (LMS), oral and practice tests
Total	20 JP	

Key success factors are compiled to measure the success of each stage. The key success factors can be seen in the following table:

Table 2 Key Success Factors

Phase	Key Success Factors	percentage
<i>Introduction</i>	Participants are able to mention the purpose of the training	79
<i>Need-based</i>	Participants were able to explain the need for digital literacy	78
<i>Scaffolding</i>	Participants were able to explain their abilities about digital literacy	75
<i>Training</i>	Participants were able to analyze the training material effectively.	74
<i>Application</i>	Participants are able to apply several applications and devices	76
<i>Nurturing</i>	Participants were able to provide reflection and feedback on the training	78
<i>Test</i>	Participants are able to complete the test correctly	75
percentage		76

Monitoring and evaluation of this training model is through monitoring carried out by policy makers or leaders of institutions that conduct training. Monitoring and evaluation instruments that can be used are observation instruments for training implementation to ensure that training runs according to plan, test results to measure success, and participant feedback instruments as evaluation materials.

The development of digital literacy of PAI teachers to improve professional competence carried out through the design of the INSTANT Model is considered effective. This is through the stage of being validated by

training experts, technologists, and education practitioners, and tested on a limited basis. The validation results show that the material is appropriate which is complemented by visualization and elaboration of measurable training steps as well as the integration of digital applications such as reference managers. The limited trial showed an observation achievement of 76% (good category) and an improvement in participants' ability with an average N-Gain of 74.4% (high category).

Table 3 Test Result

Pretest percentage	Posttest percentage	N-Gain
74	93,33	0,74

Participant feedback stated that the training was relevant, applicable, and useful, although there is still a need to improve the technical aspects, interactivity, and sustainability through mentoring and involvement of the teacher community such as MGMP and KKG.

The INSTANT model, which consists of seven stages of structured training, integrates the principles of constructivism, connectivism, social learning, cognitivism, and experiential learning, thus providing a holistic approach to the development of teachers' digital competencies. This approach is in line with findings that emphasize the importance of structured and theory-based training in improving teachers' digital competence. Ongoing training that is relevant to teachers' needs can significantly improve digital competence. Although the results were positive, the study also identified the need for improved technical aspects, interactivity, and sustainability of training through mentoring and community involvement of teachers. This is important to ensure that the development of digital competencies is not only temporary, but sustainable and adaptive to technological developments and educational needs.

The dissemination of the development of digital literacy of PAI teachers to improve professional competence is carried out through packaging in the form of digital books, websites, slides, and videos, as well as its distribution to strategic stakeholders such as policy makers, and the teacher community, showing positive results and promising sustainability.

The majority of respondents considered this product to be relevant, useful, applicative, and innovative, with the highest score on the uniqueness aspect (93.33%) which affirms the advantages of the INSTANT Model as a training solution that is able to fill the gap in the digital literacy needs of PAI teachers. Widespread dissemination and replication can be carried out, with the final hope that students will feel a positive impact in the form of improving critical thinking skills, digital literacy, and information security in religious contexts in the digital era.

The INSTANT model represents the principle of technology-enhanced professional learning, which is teacher training designed with real needs, digital accessibility, and contemporary pedagogical principles in mind. Digital products such as videos and online modules are considered effective in increasing the adoption of technology in teacher learning, and easily accessible digital learning materials support the continuous strengthening of teacher competence.

Teachers not only learn technology, but reflect on their role and religious values in the digital world. The final hope is in the form of increasing digital literacy, critical thinking, and information security for students. Teachers as agents of change must form students who are digitally competent ethically and critically in the post-truth era.

The INSTANT model has advantages, including: 1) A systematic and comprehensive structure, as it consists of seven well-structured steps, ranging from needs identification to evaluation; 2) Needs-based, which focuses on analyzing the needs of participants to make training more relevant and on target; 3) Integrating modern learning theory, this model is built on a theoretical basis that makes the approach academically and pedagogically solid; 4) Encourage active and continuous learning, through measures such as Scaffolding, Application, and Nurturing supporting participant-centered learning and encouraging independent learning; 5) Flexible for various training modes, in the Training stage, this model opens up the possibility of synchronous (direct) and asynchronous (independent) execution, making it adaptive to various technical and geographical conditions of participants; 6) Emphasizing evaluation and reflection through the Test stage as the final evaluation and Nurturing as reflection so that this model does not stop at

knowledge transfer, but also pays attention to the learning process and impact; 7) The potential to be applied to other contexts, although originally designed for training, this model opens up opportunities to be applied to formal learning in the classroom as well as non-formal education pathways.

This confirms the advantages of the INSTANT Model as a training solution that is able to answer the digital literacy needs of PAI teachers. Widespread replication of the model is possible, with the expected impact in the form of improving critical thinking skills, digital literacy, and information security of students in the religious context of the digital era. The strength of the INSTANT Model lies in its systematic, needs-based structure, integration of modern learning theories, support for active and continuous learning, flexibility in various training modes, and emphasis on evaluation and reflection. These advantages are in line with the results of research that emphasizes the importance of digital competencies in teacher professional development.

Conclusion

Based on the findings and discussions, it can be concluded that the INSTANT Model is a suitable digital literacy development model for Islamic Religious Education teachers. This model addresses teachers' needs in facing digital literacy challenges as a means of enhancing professional competence. It is presented in a systematic, needs-responsive training format, and is based on relevant theory. The INSTANT Model is an acronym for Introduction, Needs-Based, Scaffolding, Training, Implementation, Nurturing, and Testing. This model has advantages in the Need-Based training phase, Scaffolding, which connects existing skills, and Nurturing, which reinforces each other. This model is effective and can be implemented for all teachers who need digital literacy development. This model has limitations in presenting the implementation to participants who have good access to technological devices, and its development has only been implemented in the form of training. Further research to test it in areas with limited access to technology and its application to classroom learning is warranted.

References

Agustini, Pratiwi. "Indeks Literasi Digital Indonesia Kembali Meningkat Tahun 2022." *Kementerian Komunikasi Dan Informasi*. 2023. <https://aptika.kominfo.go.id/2023/02/indeks-literasi-digital-indonesia-kembali-meningkat-tahun-2022/>.

Ariskawanti, Eka, and Subiyantoro. "Manajemen Evaluasi (Muhasabah) Diri." *JURNAL LENTERA: Kajian Keagamaan, Keilmuan Dan Teknologi* 21, no. 2 (2022): 221–35. doi:10.29138/lentera.v21i2.812.

Asy-Syarīf, Majma' al-Malik Fahd li Ṭibā'at al-Muṣḥaf. *At-Tafsīr Al-Muyassar*. Madinah: Majma' al-Malik Fahd, n.d.

Basilotta-Gómez-Pablos, Verónica, María Matarranz, Luis-Alberto Casado-Aranda, and Ana Otto. "Teachers' Digital Competencies in Higher Education: A Systematic Literature Review." *International Journal of Educational Technology in Higher Education* 19, no. 1 (2022): 1–16. doi:10.1186/s41239-021-00249-y.

Budianti, Yusnaili, Zaini Dahlan, and Muhammad Ilyas Sipahutar. "Kompetensi Profesional Guru Pendidikan Agama Islam." *Jurnal Basicedu* 6, no. 2 (2022): 2565–71. doi:10.31004/basicedu.v6i2.2460.

Bukhari, Imam. *Sahih Bukhari. Studi Kitab Hadis*, 1986. <https://www.hadits.id/hadits/bukhari/57>.

Caena, Francesca, and Christine Redecker. "Aligning Teacher Competence Frameworks to 21st Century Challenges: The Case for the European Digital Competence Framework for Educators (Digcompedu)." *European Journal of Education* 54, no. 3 (2019): 356–69. doi:10.1111/ejed.12345.

Carretero, Stephanie, Riina Vuorikari, and Yves Punie. *DigComp 2.1: The Digital Competence Framework for Citizens with Eight Proficiency Levels and Examples of Use*. Publications Office of the European Union, 2017. doi:10.2760/38842.

Dede, Chris, Diane Jass Ketelhut, Pamela Whitehouse, Lisa Breit, and Erin M McCloskey. "A Research Agenda for Online Teacher Professional Development." *Journal of Teacher Education* 60, no. 1 (2009): 8–19. doi:10.1177/0022487108327554.

Deursen, Alexander JAM van, and Jan AGM van Dijk. "The Digital Divide Shifts to Differences in Usage." *New Media & Society* 16, no. 3 (2014): 507–26. doi:10.1177/1461444813487959.

Eshet, Yoram. "Digital Literacy: A Conceptual Framework for Survival Skills in the Digital Era." *Journal of Educational Multimedia and Hypermedia* 13, no. 1 (2004): 93–106. <https://www.learntechlib.org/primary/p/4793/>.

Fauzan, Farhan Ahmad, Hasbiyah Hasbiyah, and Miftahul Fikri. "The Creativity of Islamic Religious Education Teachers for Effective Learning." *Jurnal Inovasi Pendidikan Agama Islam (JIPAI)* 2, no. 2 (2022): 120–32. doi:10.15575/jipai.v2i2.18196.

Fikri, Miftahul, and Dadan Nurulhaq. "Design for Change: Mindful Improvement Ideas." *Atthulab: Islamic Religion Teaching and Learning Journal* 8, no. 1 (2023). doi:<http://dx.doi.org/10.15575/ath.v8i1.24740>.

González-Fernández, Raúl, Adiela Ruiz-Cabezas, María C. Medina Domínguez, Adela Beatriz Subía-Álava, and Jorge Luis Delgado Salazar. "Teachers' Teaching and Professional Competences Assessment." *Evaluation and Program Planning* 103, no. April (2024): 1–15. doi:10.1016/j.evalprogplan.2023.102396.

Hague, Cassie, and Sarah Payton. *Digital Literacy Across the Curriculum*. Vol. 4. Futurelab Bristol, 2010. https://www.nfer.ac.uk/media/jnhety2n/digital_literacy_across_the_curriculum.pdf.

Hargittai, Eszter. "Digital Na(t)ives? Variation in Internet Skills and Uses among Members of the 'Net Generation.'" *Sociological Inquiry* 80, no. 1 (2010): 92–113. doi:10.1111/j.1475-682X.2009.00317.x.

Hill, Janette R., Liyan Song, and Richard E. West. "Social Learning Theory and Web-Based Learning Environments: A Review of Research and Discussion of Implications." *American Journal of Distance Education* 23, no. 2 (2009): 88–103. doi:10.1080/08923640902857713.

Imam Al Hafizh Ibnu Hajar Al Asqalani, Al. *Fathul Baari Syarah Shahih Al Bukhari*. Pustaka Azzam. 1st ed., 2002.

Indonesia. Undang-undang (UU) Nomor 20 Tahun 2003 tentang Sistem Pendidikan Nasional (2003). <https://peraturan.bpk.go.id/details/43920/uu-no-20-tahun-2003>.

Indonesia, Kementerian Agama Republik. Peraturan Menteri Agama Nomor 38 Tahun 2018 tentang Pengembangan Keprofesian Berkelaanjutan Guru (2018). <https://peraturan.bpk.go.id/Details/130708/peraturan-menag-no-38-tahun-2018>.

Instefjord, Elen J, and Elaine Munthe. "Educating Digitally Competent Teachers: A Study of Integration of Professional Digital Competence in

Teacher Education." *Teaching and Teacher Education* 67 (2017): 37–45. doi:10.1016/j.tate.2017.05.016.

Jandrić, Petar, Jeremy Knox, Tina Besley, Thomas Ryberg, Juha Suoranta, and Sarah Hayes. "Postdigital Science and Education." *Educational Philosophy and Theory*. Taylor & Francis, 2018. doi:10.1080/00131857.2018.1454000.

Kementerian Agama Republik Indonesia. Peraturan Menteri Agama Nomor 16 Tahun 2010 tentang Pengelolaan Pendidikan Agama Pada Sekolah (2010). <https://peraturan.bpk.go.id/Details/130781/peraturan-menag-no-16-tahun-2010>.

Kominfo. "Survei Status Literasi Digital Indonesia 2022." *Katadata Insight Center*, 2022. <https://survei.literasidigital.id/>.

Kurniawan, Annis. "Pengaruh Tunjangan Profesi Dan Pendidikan Dan Latihan Profesi (PLPG) Terhadap Kinerja Guru SMA Di Kota Jakarta." Universitas Pendidikan Indonesia, 2018.

Lauermann, Fani, and Johannes König. "Teachers' Professional Competence and Wellbeing: Understanding the Links Between General Pedagogical Knowledge, Self-Efficacy and Burnout." *Learning and Instruction* 45 (2016): 9–19. doi:10.1016/j.learninstruc.2016.06.006.

Ma'zumi, Ma'zumi, Syihabudin Syihabudin, and Najmudin Najmudin. "Pendidikan Dalam Perspektif Al-Qur'an Dan Al-Sunnah: Kajian Atas Istilah Tarbiyah, Taklim, Tadris, Ta'dib Dan Tazkiyah." *TARBAWY: Indonesian Journal of Islamic Education* 6, no. 2 (2019): 193–209. doi:10.17509/t.v6i2.21273.

Mierlo, Christa M. van, Halszka Jarodzka, Femke Kirschner, and Paul A. Kirschner. *Cognitive Load Theory in E-Learning. Encyclopedia of Cyber Behavior*. Vol. 1, 2012. doi:10.4018/978-1-4666-0315-8.ch097.

Muhammad Yuslih. "Fitrah Manusia Dalam Persepektif Islam Dan Impilkasinya Bagi Dunia Pendidikan Islam." *Journal Transformation of Mandalika*, e-ISSN: 2745-5882, p-ISSN: 2962-2956 4, no. 11 (2023): 648–56. doi:10.36312/jtm.v4i11.2052.

Nagel, Ilka, Gréta Björk Guðmundsdóttir, and Hilde Wågsås Afdal. "Teacher Educators' Professional Agency in Facilitating Professional Digital Competence." *Teaching and Teacher Education* 132 (2023). doi:10.1016/j.tate.2023.104238.

Ng, Wan. "Can We Teach Digital Natives Digital Literacy?" *Computers & Education* 59, no. 3 (2012): 1065–78. doi:10.1016/j.compedu.2012.04.016.

Pribadi, Benny A, Anis Surtiani, and Ichwan. "Implementing Constructivism Learning Theory in Online Tutorial." *Jurnal Pendidikan Terbuka Dan Jarak Jauh* 19, no. 1 (2018): 13–18. doi:10.33830/ptjj.v19i1.307.2018.

Redecker, Christine, and Yves Punie. *European Framework for the Digital Competence of Educators – DigCompEdu*. Edited by Y Punie. Luxembourg: Publications Office of the European Union, 2017. doi:10.1080/15391523.2016.1146563.

Revuelta-Domínguez, Francisco-Ignacio, Jorge Guerra-Antequera, Alicia González-Pérez, María-Inmaculada Pedrera-Rodríguez, and Alberto González-Fernández. "Digital Teaching Competence: A Systematic Review." *Sustainability* 14, no. 11 (2022): 6428. doi:10.3390/su14116428.

Selwyn, Neil. *Education and Technology: Key Issues and Debates*. London: Bloomsbury Publishing, 2021. <https://www.bloomsbury.com/us/education-and-technology-9781350145566/>.

Sutisna, Usman, Mia Fitriah Elkarimah, and Fery Rahmawan Asma. "Pengembangan Kompetensi Profesional Guru PAI Melalui Pemanfaatan Teknologi Informasi." *ABSYARA: Jurnal Pengabdian Pada Masyarakat* 1, no. 2 (2020): 9–14. doi:10.29408/ab.v1i2.2629.

Syah, Muhibbin. *Psikologi Belajar*. Jakarta: Raja Grafindo Persada, 2018.

Tang, Sylvia Y F, Angel K Y Wong, Dora D Y Li, and May M H Cheng. "Millennial Generation Preservice Teachers' Intrinsic Motivation to Become a Teacher, Professional Learning and Professional Competence." *Teaching and Teacher Education* 96 (2020): 103180. doi:10.1016/j.tate.2020.103180.

Thiagarajan, Sivasailam, Dorothy S. Semmel, and Melvyn I. Semmel. "Instructional Development for Training Teacher of Exceptional Children: A Sourcebook." Bloomington, IN: Indiana University, 1974.

Tondeur, J, J Braak, and G Sang. "Preparing Pre-Service Teachers to Integrate Technology in Education: A Synthesis of Qualitative Evidence." *Computers & Education* 59, no. 1 (2012): 134–144. doi:10.1016/j.compedu.2011.10.009.

Uzun, Ceyhun, and Kamil Uygun. "The Effect of Simulation-Based Experiential Learning Applications on Problem Solving Skills in Social Studies Education." *International Journal of Contemporary Educational Research* 9, no. 1 (2022): 28–38. doi:10.33200/ijcer.913068.

Verhagen, Pløn W. "Connectivism : A New Learning Theory ?," 2006, 1–5.
<https://jorivas.wordpress.com/wp-content/uploads/2009/11/connectivismnewtheory.pdf>.

Zaka, Avesina Qodli, and Triono Ali Mustofa. "Inovasi Sekolah Untuk Meningkatkan Kompetensi Profesional Guru Pendidikan Agama Islam." *Jurnal PAI Raden Fatah* 5, no. 3 (2023): 686–97.
doi:10.19109/pairf.v5i3.

Zhang, Xiaomei, Nurhasmiza Abu Hasan Sazalli, Nuraqilah Nadjwa Miskam, and N Nadjwa. "Improving Teachers' Digital Competence in Higher Education: A Systematic Literature Review." *International Journal Of Academic Research In Progressive Education And Development* 13, no. 1 (2024): 3. doi:10.6007/IJARPED/v13-i1/20560.