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Evaluation of the YPI Al-'Arabi *online* training program in enhancing teachers' pedagogical competence

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ABSTRACT

The rapid digital development, which not all teachers have fully adapted to, presents challenges in enhancing pedagogical competence. Teachers at YPI Al-'Arabi stated that online training is less effective than offline training, particularly regarding delivery methods and scheduling. This study evaluates teachers' reactions to the training, its effectiveness in improving pedagogical competence, and the factors influencing it. This research employs a descriptive evaluative method with Kirkpatrick's model at the reaction and learning levels. The sample consists of 32 teachers selected through purposive sampling. Data were collected using semi-structured questionnaires and pre-test and post-test assessments, with N-Gain analysis to measure knowledge improvement. The findings show that participants' reactions scored an average of 3.37 (84 percent), with the highest instructor ratings. However, the delivery method and schedule require improvement. At the learning level, an N-Gain score indicates moderate effectiveness. Factors influencing training effectiveness include instructional design, material relevance, and limited virtual interaction. In conclusion, this online training can potentially enhance teachers' competence. However, it requires more innovative approaches. Recommendations include implementing blended learning, improving delivery methods, and adopting more effective interaction strategies.

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ABSTRAK

Pesantnya perkembangan digital yang belum sepenuhnya diikuti oleh semua guru menjadi tantangan dalam meningkatkan kompetensi pedagogik. Guru di YPI Al-'Arabi menyatakan bahwa pelatihan online kurang efektif dibandingkan offline, terutama terkait metode penyampaian dan jadwal. Penelitian ini bertujuan untuk menunjukkan tingkat reaksi guru terhadap pelatihan, efektivitasnya dalam meningkatkan kompetensi pedagogik, serta faktor-faktor yang mempengaruhinya. Penelitian ini menggunakan metode deskriptif evaluatif dengan model Kirkpatrick pada tingkat reaksi dan pembelajaran. Sampel terdiri dari 32 guru yang dipilih melalui purposive sampling. Data dikumpulkan melalui kuesioner semi tertutup dan tes pre-test serta post-test, dengan analisis N-Gain untuk mengukur peningkatan pengetahuan. Hasil penelitian menunjukkan tingkat reaksi peserta memperoleh skor rata-rata 3,37 (84 persen), dengan aspek pemateri tertinggi. Namun, metode dan jadwal pelatihan masih perlu disempurnakan. Pada tingkat pembelajaran, skor N-Gain sebesar menunjukkan efektivitas sedang. Faktor yang mempengaruhi efektivitas pelatihan meliputi desain pembelajaran, relevansi materi, dan keterbatasan interaksi virtual. Kesimpulannya, pelatihan online ini memiliki potensi meningkatkan kompetensi guru tetapi perlu pendekatan yang lebih inovatif. Rekomendasi mencakup penerapan blended learning, perbaikan metode interaksi, serta strategi interaksi yang lebih efektif.

Kata Kunci: *kompetensi pedagogi; model Kirkpatrick; pelatihan guru; pendidikan Islam*

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INTRODUCTION

The role of teachers is crucial in improving the quality of formal education. As educational agents, teachers are responsible for organizing learning that aligns with the national curriculum's objectives. Teachers are a vital human resource who play a crucial role in the development of the education sector; therefore, teacher competency development programs are a strategic aspect in improving the quality of education (Astagini et al., 2022). Pedagogical competence refers to teachers' ability to manage learning. According to Undang-Undang Nomor 14 Tahun 2005 concerning Teachers and Lecturers, pedagogical competence manages learning by focusing on students to achieve learning goals (Suchyadi et al., 2022). Good pedagogical competence enables teachers to plan, implement, and evaluate learning according to the characteristics of students (Lestari et al., 2023). However, the rapid digital development that all teachers have not fully adopted is one of the main challenges in improving pedagogical competence in the modern era; therefore, an in-depth evaluation of the effectiveness of online training is needed to ensure the development of pedagogical competence.

Continuous training is one way to improve teacher pedagogical competence. Local governments, the Lembaga Pengembangan Mutu Pendidikan (LPMP), and the Pusat Pengembangan Pemberdayaan Pendidik dan Tenaga Kependidikan (P4TK) are responsible for directing and managing training programs (Khairiah, 2020). In addition, the government must be selective in assigning educational institutions to prepare professional teachers, including through training that supports their competence development (Aliyyah et al., 2019). Educational institutions are also responsible for the professional abilities of teachers, and the government must be stringent in assigning educational institutions to prepare professional teachers and provide training after they work (Widiansyah, 2018).

Training for teachers is a routine activity carried out by every educational institution. The training can enhance teacher understanding, improve the ability to implement differentiated learning, and facilitate the dissemination of knowledge per the principles of differentiated learning (Tabbu et al., 2024). Training for formal and non-formal teachers can be conducted offline, online, or in a blended format (Purnomo et al., 2024). Online training has become increasingly prevalent in recent years, particularly following the COVID-19 pandemic. This allows teachers to develop their competencies without being limited by space and time. Previous studies have demonstrated that well-structured online training can significantly enhance teachers' pedagogical competencies, particularly in integrating technology into learning (Hakim & Abidin, 2024; Nisak & Rahmah, 2024).

The Kirkpatrick evaluation model, introduced by Donald Kirkpatrick in 1959, is widely used in evaluating training programs. Previous studies have shown the effectiveness of this model in various educational contexts. Distance training at the Balai Diklat Agama Ambon was highly effective, with a high level of participant satisfaction and satisfactory learning outcomes, as evaluated using the Kirkpatrick model (Rahmadani, 2022). Training evaluation is crucial in helping educational institutions and policymakers design more effective training programs (Asghar et al., 2022). The Kirkpatrick evaluation model is well-suited for training programs, providing a more comprehensive picture of the training's impact. It emphasises the final results and an in-depth analysis of the process and changes during training. This study differs from previous studies in that it focuses on evaluating online training based on the Kirkpatrick model at the levels of reaction and learning, which has not been widely applied to teacher training programs in Islamic educational institutions.

YPI Al-'Arabi is an Islamic educational institution in West Cikarang that supports the improvement of teacher competency through ongoing training programs. This institution collaborates with several parties, including the Mentari Group for general teacher training, English, and mathematics, and the Ummi Foundation for tahsin and tahfidz training. This collaboration has been running for approximately two years.

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Although many studies have been conducted on training evaluation, few focus on evaluating online training in Islamic educational institutions. This study provides a new contribution by applying the Kirkpatrick model to consider online training at the Al-'Arabi Islamic educational institution in collaboration with Mentari Group. The results of this study are expected to serve as a reference for other Islamic educational institutions in designing and evaluating effective online training programs to enhance teacher pedagogical competency.

Based on interviews with teachers in the YPI Al-'Arabi environment, several complaints arose regarding the training held. Teachers expressed that online training was less effective than offline training. Additionally, the implementation of training outside working hours was also considered disruptive. However, most teachers felt that the training was good enough regarding the material. Therefore, the program evaluation process needs to be designed to explore several aspects, namely 1) How is the level of teacher satisfaction with the content and delivery methods in online training organised by YPI Al-'Arabi?; 2) To what extent does the online training improve teachers' pedagogical knowledge and skills?3) What factors influence the effectiveness of learning in online training?

This study aims to 1) Evaluate the level of teacher reaction to the content, delivery methods, and technical aspects of online training; 2) Analyze the effectiveness of online training in improving teachers' pedagogical knowledge and skills; and 3) Identify factors that influence the success of learning in the context of online training in Islamic educational institutions. The results of this evaluation process are expected to provide a comprehensive picture of the online training organised by YPI Al-'Arabi to improve teachers' pedagogical competence. In addition, this evaluation is expected to identify the strengths and weaknesses of the training, provide a basis for recommendations for future program improvements, and offer an evaluation model that other Islamic educational institutions can adapt.

LITERATURE REVIEW

Kirkpatrick Evaluation Model

In carrying out the evaluation process, an evaluator needs a framework in the form of a theoretically sound evaluation model, easy to use, with clear standards, and that can answer the evaluation objectives. The selection of the evaluation model is determined by the evaluator according to the research needs (Adnan, 2017). Evaluation models include the CSE-UCLA Model, CIPP Model Evaluation, Brinkerhoff Model, CIRO model, Kirkpatrick model, and so on. The evaluation model that will be used in this study is the Kirkpatrick evaluation model. The Kirkpatrick evaluation model was developed by Donald Kirkpatrick in 1959. The Kirkpatrick model emphasizes training evaluation at four levels, namely reaction (level 1), learning (level 2), behavior (level 3), and results, namely the impact on the organization (level 4). Each level presents a sequence of steps to evaluate an educational program, from participant perception to organizational effectiveness (Faizin & Kusumaningrum, 2023). The four levels can also be seen in **Figure 1** below.

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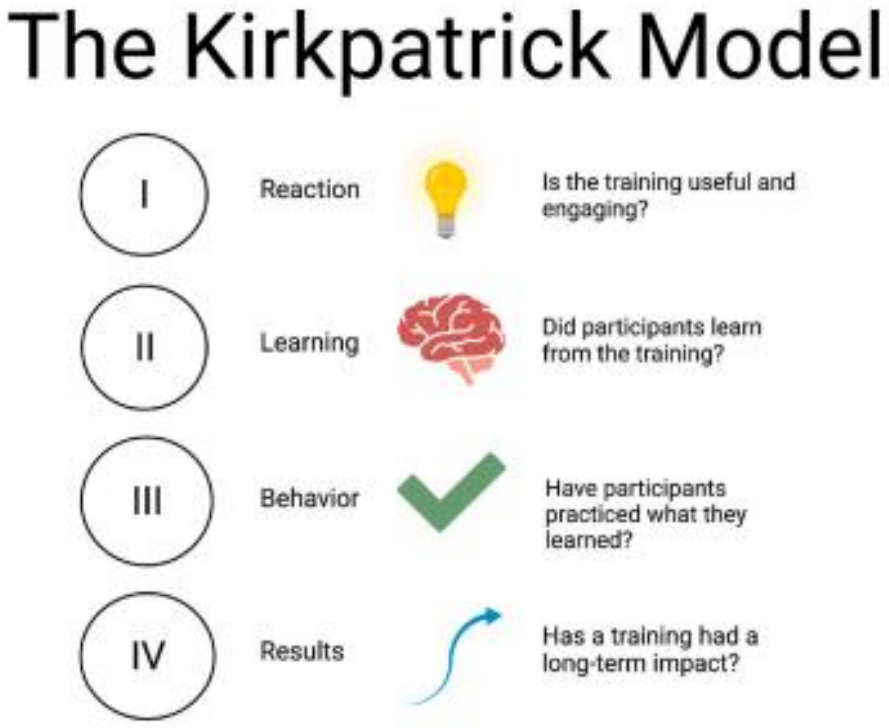

Figure 1. Kirkpatrick Model
Source: (Scott et al., 2022)

1. Reaction Level
   Evaluation at this level measures how participants respond to a program and can be referred to as a measure of customer satisfaction. In reaction research, several dimensions must be explored to find broader results. Fifteen types of reaction dimensions have been identified. Reaction aspects include training content, methods, and trainer skills. Reaction includes training objectives, environment, methods, trainers, and content (Alsalamah & Callinan, 2021a). Based on references from the study, the reaction aspects used in this study are the presenters, materials, methods, training schedules, and evaluations. The collection of reaction-level data can be done through a questionnaire or an interview.
2. Learning Level
   The learning level is Kirkpatrick's second level, which aims to measure the participants' abilities after training, whether there is an increase, decrease, or a tendency to remain stable. The aspects that are traced can be aspects of knowledge, skills, or attitudes. Learning evaluation can be done using tests, observations, or questionnaires (Alsalamah & Callinan, 2021a; Rahmawati et al., 2021). The aspects of learning can be adjusted to the training material. This study examined the learning aspect by tracing the change in the N-gain value from the pre-test to the post-test, conducted before and after training.
3. Level of Behavior Change
   Behavior is defined as the extent to which behavioral changes occur after participants participate in training. This third level measures the effect of training on job performance. This can be measured using self-reports, individual tests, interviews, and questionnaires (Alsalamah & Callinan, 2021a; Khan et al., 2023; Nagata et al., 2021). The aspects used as a reference for assessing behavioral changes include assertiveness, mental readiness, self-confidence, self-control, and responsibility (Chia et al., 2022).
4. Outcome Level

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Outcome evaluation is an evaluation process used to assess its impact on the organization. This evaluation is considered the most challenging, as many topics are difficult to measure. In the context of Education, the results of training can be in the form of an impact on the Educational Institution where the training participants work, both the effect on students, coworkers, or the school (Alsalamah & Callinan, 2021a).

Kirkpatrick Evaluation Model in Educational Context

In the educational context, the Kirkpatrick evaluation model can be utilized to assess various programs or training initiatives in academic settings, ensuring that these activities positively impact the quality of learning. The Kirkpatrick evaluation model can help ensure that programs or training are understood theoretically and implemented to improve student learning outcomes. The Kirkpatrick model is particularly relevant for evaluating teacher competency development programs, such as educational and training activities (Zhao et al., 2024). Previous studies that focus on program evaluation cover various aspects, such as the evaluation of clinical information education programs in improving clinical education among medical students using Kirkpatrick's four levels, evaluation of dental students' experiences in learning antibiotic use and resistance which highlights student satisfaction with the education program thus indicating the need for special interventions in the curriculum used, evaluation of nursing acceleration programs, evaluation of educator training in the use of learning media, and evaluation of the blended learning process in higher education (Badran et al., 2022). Meanwhile, research focusing on teacher training, such as evaluating vocational teacher training in teacher administration (Darling-Hammond, 2016), is also relevant. Virtual lab training for teachers has proven effective in improving participant learning outcomes and a significant increase in the use of virtual labs, which serves as one of the benchmarks for implementing training programs (Achuthan et al., 2023).

Based on previous research, the Kirkpatrick evaluation model has proven relevant in assessing the effectiveness of programs in the education sector, encompassing both academic programs and training. The application of this model can be utilized in various aspects of education, including the perspectives of students, teachers, educational personnel, school management, and in different research contexts, such as curriculum development, learning methods, and the integration of technology in education. Thus, this study can adapt the Kirkpatrick evaluation model to analyze the effectiveness of teacher training, ensuring that training not only impacts teachers' theoretical understanding but also enhances the quality of learning in schools.

Teacher Training

The success of an organization is highly dependent on the standard of its human resources (Gustiana et al., 2022). The main educational challenges include a lack of in-depth understanding among educators, limited resources and infrastructure, and the need for effective assessment methods. One solution to address these challenges is the need for significant investment in teacher professional development (Wulandari, 2024). The Organisation for Economic Co-operation and Development (OECD) defines teacher professional development as “a series of systematic activities to prepare teachers for their work, including initial training, induction courses, in-service training, and ongoing professional development in the school environment” (Brandisauskiene, 2020). In the era of technological development and following the spread of the COVID-19 outbreak, teacher training programs are being designed to be more flexible and varied, with options available offline, online, and in blended formats. Each of the three training modes has advantages and disadvantages, especially online training, which is increasingly being implemented due to its benefits in terms of time effectiveness and cost efficiency.

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Previous research on online training has described satisfaction with its implementation and found that it impacts increasing participants' understanding of the material (Listiaji et al., 2023). Online training has also been reported to increase teacher awareness of the importance of technology in the learning process and motivate teachers to explore creative teaching methods, thereby enhancing student motivation (Gerungan et al., 2023). Training using a synchronous and asynchronous approach also increases understanding of implementing the Kurikulum Merdeka in Elementary Schools (Khairiyah et al., 2023). A meta-analysis study related to the effectiveness of online training on teacher pedagogical competence was conducted in 2024 with the results that teacher training carried out online can improve teacher pedagogy, this is due to the advantages of time flexibility, ease of access to materials, and discussion forums that remain interactive so that teachers can still exchange experiences easily (Baskara & Sutarni, 2024). YPI Al-'Arabi is one of the educational institutions that organizes online training for teachers in collaboration with the Mentari Group, a teacher training institution. This training, which lasted five days, focused on materials designed to improve teachers' pedagogical competence. The intended materials were adjusted to the education report card assessment results from the units under the auspices of YPI Al-'Arabi, which emphasized classroom management, learning methods, and assessment. The materials presented during the training included purposeful teaching, learning assessment, classroom management, teaching with digital media, and Bisa, Mau, Siap (BMS).

Pedagogical Competence

Pedagogical competence is a fundamental aspect of the basic competencies that a teacher must possess in order to carry out their professional duties. Pedagogical competence encompasses not only the teaching and learning process but also the overall role of the teacher, namely as an educator, trainer, guide, and evaluator during the learning process. This competence includes broad and in-depth knowledge and skills regarding the characteristics and psychology of students (Akbar, 2021). Pedagogical competence can also be based on the teacher's ability to adapt the material and select the appropriate approach to facilitate meaningful learning. Therefore, pedagogical competence enhances student learning outcomes (König et al., 2021).

METHODS

This study employs a quantitative approach with a descriptive and evaluative method to assess the impact of the training program at YPI Al-'Arabi on teacher pedagogical competence. This method was chosen to suit the focus of the study on the reaction level and learning level adapted from the Kirkpatrick model, while the overall stages of the Kirkpatrick model consist of four levels, namely: Level 1 - Reaction, which assesses participant satisfaction and interest in the training; Level 2 - Learning, which evaluates the extent to which skills and knowledge are acquired; Level 3 - Behavior, which measures the ability of training participants to apply the knowledge and skills learned in the workplace; and Level 4 - Results, which measures the impact of training on the organization (Alsalamah & Callinan, 2021b).

This research approach and method were chosen because descriptive analysis of the data collection results, as obtained through semi-closed questionnaires, can provide an objective picture of participant satisfaction and changes in opinion, describing participant satisfaction with the training and at the learning level, using pre-test and post-test to measure the effectiveness of training in improving participant knowledge after attending training. The study employed a purposive sampling technique, using specific criteria: teachers who attended the entire training series and completed the pre-test and post-test. These criteria are established to ensure that the data collected is accurate and consistent, providing a clear picture of the changes due to the training. Based on these criteria, a total sample of 32 teachers was obtained and distributed across four educational units, as shown in **Table 1**.

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Table 1. Research Sample

No.	Unit	Number of Respondents
1	TK	2
2	SD	10
3	SMP	10
4	SMA	10
	Total	**32**

Source: Research 2024

Data collection was conducted using two primary instruments. First, a semi-structured questionnaire was used to measure participants' reactions to the quality of the training program. Second, a test instrument in the form of a pre-test and post-test will be used to analyze the increase in participants' knowledge. A semi-structured questionnaire collected participants' reactions to the training program. Participants responded to the quality of the training program organized by YPI Al-'Arabi. The compilation of the questionnaire was based on a review of the literature and previous research references. Experts validated the questionnaire through expert judgment and grammar validation to ensure that it was suitable for use in research.

To measure the impact of training on the learning process, a pre-test and post-test were used to determine the effect of the training program on participants' knowledge before and after participating in the training. The test instrument used in this study was prepared by the YPI Al-'Arabi research and development (Litbang) team, which has expertise in creating training evaluation tools, making it suitable for this study. Both instruments were distributed online to research respondents.

Data analysis was carried out in two stages. Based on Kirkpatrick's criteria, the data were analyzed at the reaction level using an average score with the following criteria: 1-2, low; 2-3, medium; 3-4, high; and 4-5, very high. The results of the reaction analysis describe the level of participant satisfaction with the training, as reflected in the quality of the material, the relevance of the training content, the training method employed, and the training schedule. Thus, the higher the participant satisfaction, the more effective the training can be in meeting the training participants' needs and expectations.

The learning level was analyzed using the N-Gain calculation with the interpretation in **Table 3**. The process of adapting the Kirkpatrick model to the context of this study involved adjustments to the reaction and learning aspects, concerning the learning evaluation criteria (Nurjanah, 2021). The N-Gain results are used to assess the effectiveness of the training in improving participants' knowledge regarding the pedagogical material presented during the training. The higher the N-Gain value produced, the more effective the training can increase participants' knowledge and understanding. However, if the results are low, further analysis is needed to identify the causal factors and recommend strategies to improve future training. **Table 2** illustrates the interpretation of the N-Gain value that will be referred to in the research conducted.

Table 2. Interpretation of N-Gain Values

No.	N-Gain Value	Interpretation
1	0,70 ≤ g ≤ 100	High
2	0,30 ≤ g < 0,70	Medium
3	0,00 < g < 0,30	Low

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No.	N-Gain Value	Interpretation
4	g = 0,00	No increase
5	-1,00 ≤ g < 0,00	Decrease

Source: (Nurjanah, 2021)

The research procedures include: (1) preparation of instruments, (2) implementation of pre-tests, (3) implementation of training programs, (4) implementation of post-tests, (5) collection of reaction and test data, (6) data analysis, and (7) interpretation of evaluation results.

RESULTS AND DISCUSSION

Reaction Level

This study evaluated participants' reactions to the trainer based on three main dimensions: the trainer's ability, the method used, and the delivery of the training material. **Table 3** displays descriptive statistics of participants' reactions to the trainer, measured through mean scores and percentages.

Table 3. Descriptive Statistics of Participants' Reaction Levels to the Presenter

No	Statement	Average	Percentage
1	The training presenter has good mastery of the material.	3,50	88%
2	The presenter can communicate effectively with the training participants.	3,53	88%
3	The presenter prepares the material appropriately and according to the objectives of the training program.	3,53	88%
4	The presenter employs the appropriate training method, tailored to the characteristics of the training participants.	3,28	82%
5	The presenter allows participants to discuss and ask questions.	3,56	89%
6	The presenter can use training media well.	3,41	85%
	Average	**3,47**	**87%**

Source: Research 2024

Based on the data in Table 3, the dimension "training presenters have good mastery of the material" obtained the highest average score (M = 3.56, 88%), indicating that participants appreciated the presenter's mastery of the material. However, the dimension "training presenters use appropriate training methods and are adapted to the characteristics of the participants" obtained a lower average score (M = 3.28, 82%). This suggests that the training method can still be refined to meet the participants' needs better. Overall, according to the interpretation of the Likert scale, the average score results (M = 3.47, 87%) place this training program in the "good" category. To provide a more detailed picture of the level of participant reaction to the relevance of the training material, the following descriptive statistics are presented in **Table 4**.

Table 4. Descriptive Statistics of Training Participants' Reaction Levels to the Relevance of the Material

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No	Statement	Average	Percentage
1	The training materials are relevant to the work of a 21st-century teacher.	3,47	87%
2	The training materials provide information to improve knowledge and skills related to teacher pedagogical competence.	3,44	86%
3	The training materials include updated theories and practical information that align with current educational challenges.	3,34	84%
	Average	**3,42**	**85%**

Source: Research 2024

Based on the data in **Table 4**, the dimension “training materials are relevant to the work of a teacher in the 21st century” obtained the highest average score (M=3.47, 87%), indicating that participants considered the training materials to be relevant to the current needs of teacher professionalism. Meanwhile, the dimension of “training materials include the latest updated theories and practical information that is by current educational challenges” had a lower average score (M= 3.34, 84%), indicating that although participants considered the materials to be relevant, there was still room for further renewal in the training content so that the theories and practical information presented could be more applicable to be more in line with current education. Overall, the average score for the level of participant reaction to the relevance of the training materials was 3.42 (85%), indicating that the training materials fell into the “good” category and were effective in providing information tailored to the needs of the training participants. In addition to the relevance of the materials, aspects of the training schedule and system were also important factors in evaluating the program's effectiveness. **Table 5** below presents descriptive statistics about the participants' reactions to these aspects.

Table 5. Descriptive Statistics of Training Participants' Reaction Levels to Training Schedules and Systems

No	Statement	Average	Percentage
1	The training schedule is implemented without disrupting the teaching schedule.	3,28	82%
2	The online training system makes it very easy for teachers.	3,06	77%
3	The training system stimulates teachers to share and collaborate to provide experiences related to implementing pedagogy in the classroom.	3,34	84%
	Average	**3,23**	**81%**

Source: Research 2024

Based on the data in **Table 5**, the dimension "The training system stimulates teachers to share and collaborate to provide experiences related to the implementation of pedagogy in the classroom" has a lower average score (M = 3.34, 84%), this indicates that even though the training is carried out online, participants are still facilitated to share experiences related to the implementation of pedagogy in the classroom during the training process. The dimension "the online training system makes it very easy for teachers" received a low score (M = 3.06, 77%), indicating that although online training has advantages such as flexibility, there are still obstacles felt by participants such as less than optimal absorption of information, lack of focus of participants during training, or other conditions that affect during the training process. Overall, the average score for participant reaction to the training system and schedule was 3.23 (81%), which falls in the good category. However, there is an opportunity to enhance the effectiveness of this training further so that it can continue to meet the needs of teachers throughout the training process.

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To get a more comprehensive understanding, **Table 6** below presents descriptive statistics of the overall dimensions of participant reaction to training.

Table 6. Overall Descriptive Statistics of Reaction Level Dimension

No	Aspect	Average	Percentage
1	Speaker	3,47	87%
2	Material alignment	3,42	85%
3	Training methods and schedule	3,23	81%
	Average	**3,37**	**84%**

Source: Research 2024

Based on the data in **Table 6**, the aspect of the speaker receives the highest score (M = 3.47, 87%), indicating that participants are satisfied with the speaker's competence and delivery during the training. Mastery of the material and effective delivery can be key factors in achieving this high level of satisfaction. The aspect of material alignment receives a score of 3.42 (85%), indicating that participants consider the material relevant to teachers' professional needs. Meanwhile, the aspect of the method and training schedule gets an average score of 3.23 (81%). However, it is included in the good category; in this aspect, there is still an opportunity to increase the effectiveness of the training by adjusting the participants' schedules or implementing a variety of blended and offline training modes.

Learning Evaluation Results

The learning outcomes of YPI Al-'Arabi Online participants were obtained from YPI Al-'Arabi research and development documents, as the field that organized the training. The results of the pre-test and post-test conducted during the training process are presented in **Table 7**.

Table 7. Descriptive Statistics of Pre-Test and Post-Test Results

Teacher Code	*Pre-test*	*Post-test*	Pos-Pre	Ideal score (100)	N-Gain Score	N-Gain %
P01	75	85	10	25	0,40	40%
P02	65	75	10	35	0,29	29%
P03	45	95	50	55	0,91	91%
P04	95	95	0	5	0,00	0%
P05	75	85	10	25	0,40	40%
P06	90	90	0	10	0,00	0%
P07	60	75	15	40	0,38	38%
P08	65	95	30	35	0,86	86%
P09	95	95	0	5	0,00	0%
P10	100	100	0	0	0,00	0%
P11	70	80	10	30	0,33	33%
P12	70	95	25	30	0,83	83%
P13	60	75	15	40	0,38	38%

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Teacher Code	*Pre-test*	*Post-test*	Pos-Pre	Ideal score (100)	N-Gain Score	N-Gain %
P14	90	95	5	10	0,50	50%
P15	65	80	15	35	0,43	43%
P16	60	70	10	40	0,25	25%
P17	45	100	55	55	1,00	100%
P18	90	100	10	10	1,00	100%
P19	85	95	10	15	0,67	67%
P20	70	70	0	30	0,00	0%
P21	75	100	25	25	1,00	100%
P22	60	75	15	40	0,38	38%
P23	85	95	10	15	0,67	67%
P24	15	70	55	85	0,65	65%
P25	95	100	5	5	1,00	100%
P26	90	90	0	10	0,00	0%
P27	95	95	0	5	0,00	0%
P28	65	85	20	35	0,57	57%
P29	95	100	5	5	1,00	100%
P30	80	90	10	20	0,50	50%
P31	90	100	10	10	1,00	100%
P32	95	95	0	5	0,00	0%
Rata-rata	**75,31**	**88,91**	**13,59**	**24,69**	**0,48**	**48%**

Source: Research 2024

Level 2 in Kirkpatrick's evaluation aims to measure learning outcomes during training, as shown in **Table 7** above. There are three aspects of achievement: cognitive, skills, and attitudes. In YPI Al-Arabi online training, the increase in teacher pedagogical competence can be analyzed based on the pre-test and post-test results, with an average final result of 48%. The calculation using the N-Gain value aims to measure the magnitude of the change or increase in value after training has occurred. The results showed a shift in knowledge, as indicated by an N-Gain score of 0.48, indicating that the training fell into the effective category at a moderate level.

Several training participants had an N-Gain of 0%, such as P10, P20, and P26. One factor contributing to the absence of an increase in score is the high pre-test score they obtained. For example, in P10, the pre-test score was 100, indicating that P10 had likely mastered the material before the training began, and therefore, there was no increase after the training. Likewise, P20 and P26 received a pre-test score of 100. Other data show an increase from N-Gain 0%, specifically in participants who received an N-Gain score of 100%, such as P18, P21, P29, and P31, who reached N-Gain 100%. This indicates that the training had a positive impact on these participants. This suggests that, before the training, participants lacked initial knowledge of the material being delivered. As a result, they underwent a process of increasing knowledge after participating in the training. For example, P18 and P31 increased scores from 90 to 100, although their initial understanding was already high; after the training, they could optimize their knowledge further. While P21 and P29 initially had a lower sense, they significantly increased after participating in the training.

The average N-Gain of 0.48 indicates a pretty good increase in participant understanding. In Kirkpatrick's evaluation, the level of learning is a crucial factor in enhancing application in the field, thereby encouraging

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better results. The training carried out by YPI Al-'Arabi has achieved its goal of improving teachers' pedagogical competence in the knowledge aspect. To further explore the improvement of pedagogical competence, it is necessary to evaluate the elements of behavioral change and results so that the effectiveness of the training can be described comprehensively.

Discussion

Reaction Evaluation

Aspect of the Presenter

A trainer is key in transferring skills according to training objectives, encompassing knowledge, skills, and attitudes, throughout the training process. Therefore, the trainer must have good qualifications, including mastery of the material and the ability to communicate with participants. The presenter demonstrates mastery of the material, practical communication skills, and prepares high-quality materials, achieving an average score of 3.47 (87%). Several studies have reported the importance of the quality and ability of the trainer in sustaining the training. Satisfaction with the trainer is important for achieving practical training (Alsalamah & Callinan, 2021a). An engaging trainer or facilitator can significantly influence participant satisfaction with the training program, encouraging participants to request further sessions that reflect their growing interest and involvement in the training process (Bhatia et al., 2021).

Training must be able to accommodate teachers so that they gain not only theoretical but also practical experience, which can be implemented in the classroom. In this study, training has encouraged participants to actively share and discuss experiences of overcoming problems and other best practices in schools. Collaborative practices during training are particularly effective for teachers, allowing them to engage in in-depth discussions about relevant teaching and learning approaches (De Jong et al., 2022). Collaborative methods can yield positive outcomes by enhancing trainees' awareness, developing their reflection skills, and fostering mastery of the pedagogical process (Ramos et al., 2022).

The first step in Kirkpatrick's evaluation is to produce participant satisfaction or happiness and consider how this satisfaction relates to the amount of learning obtained from the program (Bhatia et al., 2021). Satisfaction with the trainer is an important aspect in generating interest and motivation among participants in the training program, which will increase knowledge, skills, and attitudes related to teacher pedagogical competence.

Material Aspect

The evaluation results of the training material aspect showed that overall, participants rated the material as "satisfactory," with an average overall score of 3.42 and a satisfaction percentage of 85%. Good and correct preparation of material is one indicator that needs to be considered in learning (Rienovita et al., 2025). Training materials relevant to the work of teachers in the 21st century indicate that participants assess the material as being in line with the challenges and needs of modern education, which requires the ability to integrate technology and innovative learning methods. In this study, the training material includes the latest updated theories and practical information that align with current educational challenges, achieving a score of 84%. Although it is included in the satisfactory category, this lack of assessment can be caused by participants feeling that the practical information session does not accommodate all units, the majority of which are discussed are educational problems for elementary and middle school units, so that kindergarten and high school units feel that the training material needs to be expanded with case studies that can accommodate each unit, because participants consider each level of unit to have various class problems. Strengthening pedagogical skills is a key element in improving the quality of learning. Teachers who receive adequate pedagogical training can develop innovative teaching

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skills, increase student motivation, and create a conducive learning environment (Hadiapurwa et al., 2021; Khan et al., 2023). Therefore, providing quality pedagogical training materials that align with the demands of 21st-century education is a strategic investment to improve the quality of education.

Training Method and Schedule Aspects

The evaluation results related to the training method and schedule aspects showed that the average participant satisfaction fell into the "satisfactory" category, with an overall average score of 3.23 (81%). This shows that, in general, the training provided has been reasonably practical in supporting teacher competency development. Based on this study, online training has several advantages, including accessibility from anywhere, ease of use, and the ability to facilitate teachers sharing and collaborating. The advantages of online training, as reported previously, include time flexibility, ease of access to materials, and interactive discussion forums that allow teachers to exchange experiences (Baskara & Sutarni, 2024).

Regarding the disadvantages of online training, as indicated by the questionnaire analysis, most teachers stated that online training still did not optimize the understanding of the material, as teachers found it challenging to focus on the training. Therefore, the teachers recommended that, in the future, offline training be held to facilitate direct interaction between the presenter and participants, or among participants. Direct interaction is considered more effective in supporting the understanding and applying concepts obtained during training. In online training, it is worth noting that not all individuals can communicate effectively in a virtual environment due to the lack of direct interaction (Alkabaa, 2022).

Training effectiveness is undoubtedly one of the most important factors in improving teacher skills, especially those related to enhancing pedagogical competence. The effectiveness of training can also play a role in increasing teacher motivation to apply training results, continue innovating, and further develop themselves (Pangestuti, 2022). Therefore, a sound training system and schedule are important dimensions in the effectiveness of training in improving teacher pedagogical competence. Overall, the participants' reaction to YPI Al-'Arabi pedagogical training was in the good category with an average score of 3.37 (84%). These results demonstrate that the training carried out has met expectations and was well received by training participants in terms of the quality of the material, its relevance, and the training system and schedule. However, to increase the effectiveness of training programs in the future, improvements are needed in the training system and schedule to make them more optimal and in line with the needs of teachers.

Learning Evaluation

The results of this study indicate that the training organized by YPI Al-'Arabi positively contributed to improving teachers' pedagogical competence, as evidenced by the N-Gain calculations of 0.48, which falls within the "moderate" category. Differences in N-Gain for each teacher can be influenced by various factors, including the teacher's initial knowledge level, the method of delivering material during training, the teacher's educational background, and the teacher's experience in teaching. Teachers with low pre-tests (e.g., P03 with a pre-test score of 45) tend to show significant improvement, while teachers with high pre-tests (e.g., P10 with a pre-test and post-test score of 100) have low or zero N-Gain because they have already achieved the maximum score. It can be noted that teacher P10 already possesses initial knowledge related to the material that will be explained during the training process. Teachers' knowledge of pedagogy can influence their ability to master pedagogical competence. This is when teachers have knowledge and are encouraged to apply it in the classroom (Susanto, 2021).

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The training program is designed to create positive changes in individuals, encompassing knowledge, skills, and attitudes. A significant increase in pre-test and post-test scores positively impacts the training program (Wongso et al., 2024). Other factors, such as the training methods, can influence increased knowledge, skills, and attitudes after training. Material will be conveyed well if the speaker uses an appropriate method that suits the characteristics of the participants. If the training method is less varied or less interactive, this can affect the learning effectiveness for specific participants.

Increased knowledge can enhance teacher pedagogical competence. Therefore, when organizing training, careful planning is necessary to ensure that the training is carried out correctly in accordance with the objectives and needs of the training participants. Based on the Kirkpatrick training evaluation model, the success of training is measured through four levels of evaluation: reaction evaluation, learning evaluation, behavior change evaluation, and outcome evaluation. The increase in N-Gain in this study indicates that the training has positively impacted the learning level.

CONCLUSION

The evaluation study of YPI Al-'Arabi online training provides comprehensive insights into developing teachers' pedagogical competence through a digital approach. The level of teacher reaction to the training showed positive appreciation, indicating the general acceptability of the program. The aspect of the material stands out with the highest score, reflecting the quality of instructors who can transfer knowledge effectively. However, the method and schedule components of the training require improvement to enhance the learning experience. The effectiveness of the training in improving teachers' pedagogical knowledge is demonstrated by the increase in the N-Gain score, which categorizes the program as having a moderate level of effectiveness. These findings reveal that online training has significant potential in transforming teacher competence, with the caveat that a more adaptive and innovative approach is needed. Variations in knowledge improvement between participants indicate the complexity of factors influencing learning success, including educational background, prior knowledge, and teaching experience. Key factors that influence learning effectiveness include the quality of instructional design, the relevance of the material to contemporary educational needs, and the online platform's ability to create meaningful interaction spaces. The main obstacles identified were limited direct interaction, difficulty maintaining participant focus, and challenges in transferring practical knowledge through virtual media. This suggests the need for more comprehensive and contextually relevant development strategy training.

The implications of this study extend beyond mere program evaluation, providing theoretical and practical contributions to understanding the dynamics of teacher professional development in Islamic education environments. The evaluation approach using the Kirkpatrick model measures program achievements and provides a foundation for ongoing transformation in design training. For further research, it is recommended that a hybrid model be developed between online and offline training to accommodate the diversity of teacher learning styles. Future research should focus on creating a more comprehensive evaluation framework that measures knowledge gains and analyzes the long-term impact on pedagogical practices at the classroom level. Furthermore, an in-depth exploration of innovative and contextual digital facilitation strategies is crucial for developing more effective teacher training models in the future.

AUTHOR'S NOTE

The author declares that there is no conflict of interest regarding the publication of this article and confirms that the data and content of the article are free from plagiarism.

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