Principal's Strategy in Developing Teachers' Pedagogic Competencies in the Distance Learning

Sinta Diah Ayu Wandani[1], Mohamad Ali[2], Muh. Nur Rochim Maksum[3], Muhammad Badat Alauddin[4]

[1,2,3] *Universitas Muhammadiyah Surakarta, Indonesia*
[4] *International Islamic University Islamabad, Pakistan*

Corresponding Author ✉ o100190027@student.ums.ac.id

ABSTRACT

The teachers' pedagogic competence significantly influences the students' learning process and outcomes. Due to the Distance Learning policy, the principal as a manager of the school is expected to have the right strategy to develop the ability of teachers professionally to continue to provide quality educational services. This study aims to report the response of teachers to distance learning policy and strategies of the principals of SMA Muhammadiyah *PK* in Solo Raya in developing teachers' pedagogic competencies. This study is qualitative research that employed the phenomenological method. The validity of the data was obtained using technical triangulation and source triangulation as well as data analysis by reducing data, presenting data, and drawing conclusions. This study found the followings: 1) The teachers felt hard to adjust at the beginning; 2) The teachers continued to look for and apply appropriate learning methods; 3) The teachers had a little difficulty engaging students during learning; 4) The teachers needed to adjust and needed guidance to understand and prepare lesson plans according to the emergency curriculum. Furthermore, in developing teacher pedagogic competence, the principal supervised learning and conducted several training programs accompanied by practice, motivation, and advice.

Keywords: *Principal's Strategy, Pedagogic Competence, Distance Learning*

INTRODUCTION

Pedagogic competence is the most dominant competence in student learning outcomes. According to the Government Regulation No. 74 of 2008 on Teachers in Article 3 Paragraph 4, pedagogic competence is the ability of teachers to manage learning which has indictors of ability including an understanding of educational insights or foundations, understanding student characteristics, curriculum or syllabus development, learning design, implementation of educational learning, utilization of technology learning, evaluating learning outcomes, and developing students to actualize their various potentials (Barnawi & Arifin, 2012; Ramadhani, S. P., & Anggraeni, D. 2022; Sunanto, et al., 2022).

Plöger et al. (2019) & Fitria (2022) state that pedagogical knowledge has a broad meaning including effective teaching and learning knowledge, curricular knowledge, knowledge related to the educational context, and knowledge of understanding students and their characteristics. Likewise, Ryegard in Citrowati & Nurhafizah (2019) defines pedagogic competence as the ability of teachers reflected through attitudes, knowledge, and skills, which are then realized to create and carry out learning activities in the best way for their students (Yolanda, A. T., & Kailola, L. G. 2021; Khadijah, 2022). To sum up, pedagogic competence is the ability of teachers about how to understand, design, and implement the learning that might affect the achievement and development of the students' potential.

In the academic year of 2020, due to the coronavirus disease (Covid-19), Mr. Nadiem Makarim as the Minister of Education and Culture imposed a distance learning policy, indicating that learning is carried out online in their respective homes (Basir, et al., 2021). One of the characteristics is that it is carried out via video conference, which means that learning is presented by teachers through conference calls by utilizing Zoom Meet, Google Meet, WebEx, and others (Harmadji et al., 2021; Jannah, N., Pratiwi, W., 2021; Septanta, R., et al., 2022). The policy then becomes a demand and challenge for educators to continue providing quality educational services for students in any situation and condition. Based on data from interviews with several teachers at SMA Muhammadiyah Al Kautsar Program Khusus for Kartasura and SMA Muhammadiyah Program Khusus for Kottabarat Surakarta experienced several obstacles at the beginning of the distance learning period such as determining media and learning methods, communicating with students, and in preparing lesson plan based on the emergency curriculum set by the Minister of Education and Culture.

The survey was conducted by the Indonesian Ministry of Education and Culture in the early days of distance learning, on April 13 – 20, 2020. It is recorded that 97.6% of schools had implemented learning from home with a percentage of 59.5% of teachers who used online media in their learning activities. Then, in the 2021 academic year, 53.9% of teachers in non-*3T* schools (schools that are located not in the frontier, outermost, and least developed area) have not used video conferencing applications in delivering learning materials and 79.5% of teachers in *3T* schools (schools located in the frontier, outermost, and least developed area) have not used video conferencing. Therefore, principals who have a role as managers are expected to have the right strategy to develop teacher abilities professionally by involving them in various training or educational activities to support school programs (Ambiya et al., 2021).

Strategy is a complex plan concept from the results of ideas or deep understanding that can determine certain actions to achieve a goal (Alfikri, 2021). Sanjaya (2016) defines strategy in the educational world as a plan that contains a series of certain activities designed to achieve learning objectives. Meanwhile, Stephani K. Marrus defines strategy as a process carried out by a leader in determining plans that focus on long-term goals, accompanied by the preparation of a method or effort to achieve the desired goals (Riyadi et al., 2020).

In an effort to develop Muhammadiyah education, Ali (2020) formulated five essential values from the Muhammadiyah ideals and personality in the 46th Congressional Decision Tanfiz which were actualized in manifestation education, including 1) growing *tajdid* (creative-innovative); 2) being able to anticipate change (anticipatory); 3) being pluralistic; 4) independent character; 5) choosing a moderate

227

step. Thus, the principal as a leader in facing the challenges of distance learning ideally should be able to refer to the essential values above, namely being able to anticipate and take moderate steps (middle way/solution) creatively and innovatively towards changes in learning styles.

In their study, Savitri & Sudarsyah (2021) proposes that school principals can build teacher capabilities by holding training such as training such as training in mastering Information and Communication Technology (ICT), creating online learning platforms, making creative learning media, providing adequate infrastructure facilities, maintaining regular communication, and evaluation. These might improve or optimize teacher performance during the Covid-19 pandemic (Tyaningsih, et al., 2021; Safitri, et al., 2021). Another study conducted by Kusumahati (2021) mentioned that the religion teacher at SMK Ma'arif 3 Kudus can be improving the pedagogical competences in Covid-19 pandemic in various ways including increasing reading of literature that discusses increasing teacher pedagogic competence, participating in various training and webinars related to Android-based learning, counseling skills, and webinars related to how to make Infographics and related counseling skills.

A previous study (Ayele Dulo, 2022) related to the perception of primary and secondary school teachers in the Gedeo zone of Ethiopia concluded that developing the quality of in-service teacher teaching carried out by providing mentoring, seminars, curriculum meetings, staff training, reflection, school visits, and action research considered to have little effect on the quality of teacher teaching. The increasing age of teachers is associated with their less enthusiasm to be active in these activities. therefore, school principals and regional governments should rethink professional development activities that are more suitable for various existing factors and their quality. Meanwhile, the research findings of Kim Min Kyu et al., contained in a literature review conducted by Dille & Røkenes (2021) related to teachers' professional development mention that teachers' digital abilities can be influenced by development programs such as face-to-face workshops and module learning conducted online from specialists. Furthermore, Alimirzaee and Ashraf's study found that the professional development of EFL teachers in Iran is influenced by online training or seminars that emphasize an inductive approach.

Five previous literatures relevant to this topic shared similar focus on the optimization of teachers' ability. However, there are several differences. The research conducted by Safitri and Sudarsyah in 2021 during the covid-19 pandemic focused on how transformational leadership style could improve teacher performance. The research carried out by Kusumahati in 2021 focused on the efforts of Islamic Religious Education teachers at M'arif 3 Kudus Vocational School in improving teachers' pedagogic competence during the covid-19 pandemic. Furthermore, Aye Dulo in 2022 focused on developing the teaching quality of primary and secondary school teachers in Gedeo zone of Ethiopia. The most recent research on this topic was done by Dille & Røkenes in 2021 focusing on teachers' professional development in online community from 2015 to 2019. Whereas, the present research mainly focuses on the school principal's strategies to develop teachers' pedagogic competence in all subjects in order to improve the learning atmosphere or conditions during distance learning which greatly affects students' learning outcomes.

Referring to the background of the study described above, pedagogic competence in distance learning is one of the important competencies to be developed to enable teachers to carry out effective, creative, and fun learning

activities to facilitate students obtaining optimal learning outcomes. Accordingly, this study aims to investigate the responses of principals and teachers at the SMA Muhammadiyah *Program Khusus* in Solo Raya regarding the early implementation of distance learning policies, as well as to figure out the principals' strategy in developing the pedagogic competence of teachers during the distance learning period. The findings of this study contribute as a reference for school principals in developing the competence of teachers in both online and offline learning situations.

METHOD

This study employed a qualitative research paradigm with a phenomenological method, where the study aimed to understand and reveal a phenomenon or event experienced directly by the research subject (Sutisna, 2021). This study was in the form of field research, using a descriptive type, by describing in detail the reality of phenomena or events in the field (Ramdhan, 2021).

This study involved 8 informants, namely 2 principals and 6 teachers of SMA Muhammadiyah *Program Khusus (PK)* in Solo Raya as research subjects. Data were collected using the interview method which was carried out to explore data through direct dialogue with the resource persons regarding the object under study. Observations were also made to collect data by observing the subject related to the object under study. At last, documentation was carried out to obtain an overview of research data from the point of view of documents, notes, and the like made by the subject concerned.

To test the validity of the research data, the researchers utilized the triangulation technique from Sugiono: The first was technical triangulation, where researchers collected data with different techniques to obtain the validity of the data from the same source, as the researchers used in-depth interview techniques which were then tested by participatory observation and documentation. The second was source triangulation, where researchers obtained data using the same technique but did it with different sources, as researchers obtained data using interview techniques with several different sources or informants (Hamidah, 2020).

The data were then analyzed using Miles and Huberman's analytical methodology, which involved analyzing continually throughout the study until the results were deemed sufficient. Data reduction, data display, and conclusion drawing made up the data analysis.

RESULT AND DISCUSSION

Data obtained in this study were analyzed based on 2 predetermined themes including the following.

Response to Government Policy Regarding Distance Learning

The implementation of distance learning was initially determined by the minister of education and culture in the 2020 academic year, namely based on the impact of coronavirus (Covid-19). This then led to various responses from the school principals and teachers as the implementer of the education. The following are the statements of 2 principals of SMA Muhammadiyah *PK* in Solo Raya:

"What was the initial response to the implementation of a policy on distance learning?" (Researcher)

"Naturally, at first, it was very difficult for limited and unstable students' internet networks, which was different from direct learning. Then, there is a change in the curriculum to an emergency curriculum with the selection of several basic competencies

considered important and influential. Therefore, this is a challenge for us." (UM/ School Principal)

"Our observation indicated that it was connected to the teachers' pedagogical competence or capacity to control learning process. Thus, what do you think?" (Researcher)
"Well, that is true. This policy has more impact on the pedagogic ability of teachers. We are aware that pedagogic ability relates to the ability of teachers to manage to learn, from designing to compiling learning instruments to the ability of teachers to carry out teaching and learning activities and evaluate student learning outcomes. This pandemic had an impact on learning policies that had to be carried out online, and in my opinion, pedagogical competence is very important at this time, such as how to make distance learning carried out online but can be felt like face-to-face learning in the hope that students understand what the teacher said." (UM/ School Principal)

"What was the initial response to the implementation of a policy on distance learning?" (Researcher)
"Naturally, it takes some time for teachers and students to get used to each other. Then, virtual face-to-face meetings have very little intensity. Thus, in the beginning, we were still looking for and adjusting the right learning method to make the learning atmosphere like how it used to be. Additionally, it is difficult for us to adapt to and comprehend the emergency curriculum that was created by simply choosing a small number of fundamental skills from the 2013 curriculum that were deemed to be the most significant and influential." (NH/ School Principal)

"Our observation indicated that it was connected to the teachers' pedagogical competence or capacity to control learning process. Thus, what do you think?" (Researcher)
"Yes, that is right. As pedagogic competence is the ability or skill of a teacher who can manage a learning process or teaching and learning interaction with students, at least there are 7 aspects of pedagogic competence must be mastered, namely, characteristics of students, learning theories, and principles of educating learning, curriculum development, educating learning, developing student potential, ways of communicating, assessment, and evaluation of learning. Therefore, during this pandemic, the aspect of teacher pedagogic competence is very much needed because it affects student achievement or learning outcomes." (NH/ School Principal)

The interview above revealed that this policy was certainly very hard for teachers to implement at first due to 3 things: unstable internet network, the need for adapting to the emergency curriculum taken from the 2013 curriculum, and limited learning duration of virtual face-to-face interaction. Thus, teachers have to look for and adapt to appropriate learning methods for distance learning. Then, this issue is closely related to the pedagogic competence of teachers. Given the distance learning policy, according to the two informants above, the teachers' ability to manage the learning process is very important because it might affect student learning outcomes.

The first statement of the teachers of SMA Muhammadiyah *PK* in Solo Raya encourages that the application of distance learning made it a little difficult for them to carry out teaching and learning activities due to several things as follows: First, distance learning slightly hindered students in comprehending the subject matter; the intensity of virtual face-to-face meeting was limited; network constraints which were unstable connection felt by some students making them unable to fully on camera; it

was difficult to focus and be active in participating in learning. This is evidenced by the researchers observing online learning through Zoom Meet. With the above constraints, teachers and principals are still trying and looking for effective online learning methods. At last, due to the emergency curriculum, teachers were required to learn and understand it to apply the curriculum in making lesson plans. Here are statements from some teachers:

"What challenges did you encounter when the policy on distance learning was first put into place?" (Researcher)

"The biggest obstacle in distance learning is students' participation in the learning process. It cannot be denied that their learning motivation is also influenced by the learning atmosphere for they used to meet their friends in class. Thus, those who were fairly active often felt bored during online learning. moreover, the internet network of some students is not stable. Thus, they were not full on camera and this made it difficult for us to know their level of understanding of the material delivered." (GS/ Sociology Teacher)

"What challenges did you encounter when the policy on distance learning was first put into place?" (Researcher)

"The difficulty we faced was the fluctuating presence and activeness of students in teaching and learning activities. it was influenced by the unstable internet network of some students and also lack of motivation to learn for they used to mingle and interact with their classmates. Thus, they often felt bored. Furthermore, some materials that should have practices such as funeral prayers, taharah, and others of Religious education can only be done through the Zoom Meet application. Accordingly, the results of student understanding were very different compared to when they did directly." (SP/ Islamic Religious Education Teacher)

"What challenges did you encounter when the policy on distance learning was first put into place?" (Researcher)

"The issue of the activity of all students actually predominated as the difficulty experienced at the outset of the implementation of distance learning. Moreover, in chemistry subject, experiments are usually carried out in laboratories to better understand students, yet in distance learning, students can only learn through the videos we recommend. Accordingly, the comprehension results are different. Administratively, the implementation of the emergency curriculum only which only takes basic competencies in the 2013 curriculum certainly requires a re-understanding for us." (KN/ Chemistry Teacher)

Likewise, based on the statement made by teachers of the second SMA Muhammadiyah *PK* in Solo Raya, at first, the implementation of distance learning caused several obstacles, including problems with the internet network of students which was not all stable, and the limited virtual face-to-face learning. This statement was proven by researchers through the Google Meet application. The existence of these problems then affects the learning motivation and activeness of students in participating in online learning and has an impact on the level of students' understanding of the learning material. Furthermore, the existence of an emergency curriculum that only selects a few basic competencies from the 2013 curriculum is an

issue for teachers administratively in preparing learning implementation plans. Some of these issues were raised by several teachers, namely as follows:

"What challenges did you encounter when the policy on distance learning was first put into place?" (Researcher)

"In the beginning, accordingly, the difficulty was finding a suitable learning method for online learning. then, the existence of an emergency curriculum made us have to understand and study it in order to prepare a lesson plan. Then, the network experienced by some students is not always good, thereby reducing the level of activity and level of student understanding of the learning material. Moreover, students' motivation to learn is reduced due to being obstructed by the space which is certainly different from the teacher and other friends." (LC/ Economics Teacher)

"What challenges did you encounter when the policy on distance learning was first put into place?" (Researcher)

"First, the network issue is surely an issue. It is very crucial for the activeness of students in participating in teaching and learning activities, the intensity of virtual face-to-face meetings, is also very limited. thus, we, teachers are still adjusting what learning methods are suitable for use. These problems then have an impact on the level of students' understanding of the learning material, although students who have a better level of intelligence were not affected by it. However, this issue surely affected students who have ordinary intelligence. Besides, the implementation of the emergency curriculum also allows us to study and understand for the preparation of learning implementation plans based on the format that has been set." (WE/ Chemistry Teacher)

"What challenges did you encounter when the policy on distance learning was first put into place?" (Researcher)

"When we first implemented online teaching and learning, we were still adjusting and using the learning method where the teacher explained and students listened using video conference, which provided limited time, only 45 minutes. This created a problem with students' motivation to participate in the process. Of course, this problem affects the level of understanding of students because it is different from the face-to-face learning atmosphere in class. Moreover, some Islamic Religious Education materials do have to practice, for example, the practice of memorizing and praying for corpses." (AH/ Islamic Religious Education Teacher)

Observations done on distance learning activities on Zoom Meet at SMA Muhammadiyah Kottabarat Surakarta showed that many students could not stay on camera throughout the sessions due to unstable network, especially when students gave spontaneous responses to questions given by the teacher or when the asked questions on the materials that they found difficult to understand.
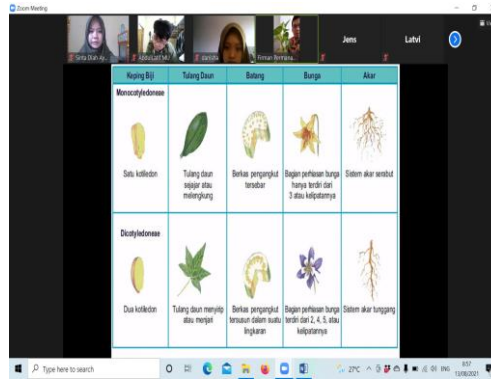
Figure 1. Biology Distance learning for 10th Graders in the First Semester

Figure 2. Religion (*Tarikh*) Distance learning for 11th Graders in the First Semester
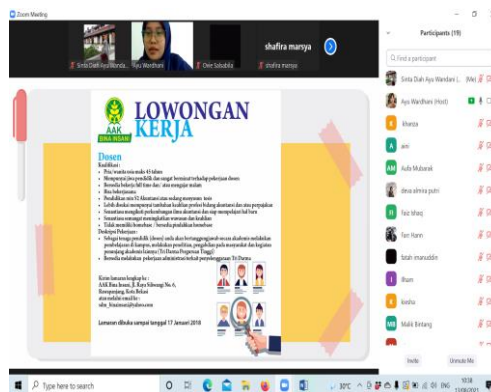

Figure 3. Indonesian Language Distance learning for 12th Graders in the First Semester

Similar observation done on the distance learning activities through Google Meet at SMA Muhammadiyah Al Kautsar PK Kartasura also showed similar results, even some students simply left the session.
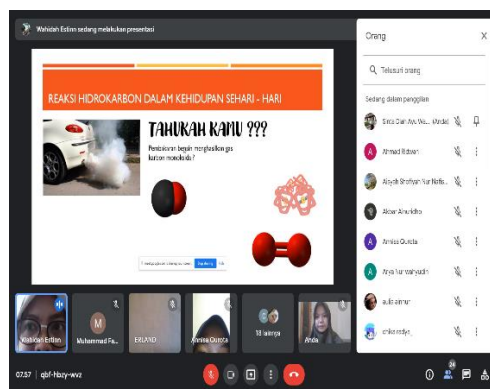
Figure 4. Chemistry Distance learning for 10th Graders in the First Semester
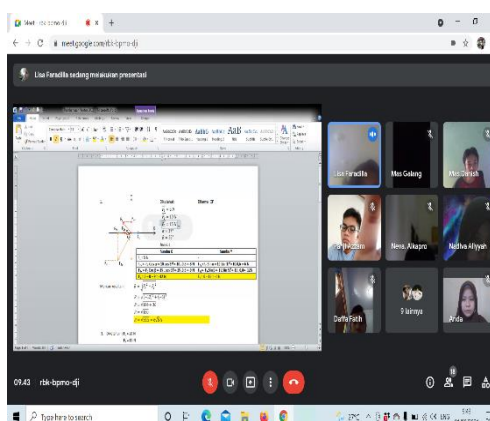

Figure 5. Physics Distance learning for 11th Graders in the First Semester

The data obtained through interviews with 8 informants described above and online observations on several teaching and learning processes at two SMA Muhammadiyah *Program Khusus* in Solo Raya regarding the initial response to the application of distance learning are as follows: First, there were network problems and limited intensity of face-to-face online meeting. There were some issues with students' motivation to learn as well as students' understanding level of the subject matter. Due to the existence of those problems, teachers and principals looked for and adapted appropriate methods to be applied to distance learning activities, in order not to make students bored. Second, there was an implementation of the emergency curriculum by only adopting some basic competencies in the 2013 curriculum. Administratively, in preparing learning implementation plans, teachers needed guidance to study the curriculum to apply it according to the specified format.

This indicates that internet access and the ability of teachers to manage the learning process greatly affected students' distance learning outcomes. This is supported by Abate et al. (2021) in their study which suggests that the problem that often occurs in the distance learning period is the difficulty of having good internet access which causes students to easily get bored and tired. Moreover, the lack of teacher expertise in using the software as a means of online learning media also affected students' learning motivation, such as being easily bored with the content presented by the teacher which barely stimulated the attention of students. Likewise, a previous study conducted by Mittelmeier et al. (2019) concluded that one of the most important things about distance learning is access to good technology, which has a positive impact on students' academic adjustment. Zainal et al. (2022) also suggest that

234

an unstable internet connection might cause students to not be able to hear and understand the learning process clearly.

From the explanation above, it can be concluded that some of the difficulties expressed by the informants are in the realm of the teachers' pedagogic competence, such as difficulties in compiling or designing lesson plans, determining appropriate distance learning methods, and managing learning that can affect the earning activities of students. In the context of education, pedagogy refers to the theory and practice of teaching and their influence on the process of teaching and learning which include "*what is taught*" and "*how is it taught*" and how the two are combined to assist educators in designing good learning activities (LaVelle et al., 2020).

Principal's Strategy in Developing Teacher's Pedagogic Competence

It is certainly not easy to be the principal who has the position as the central leader in the school for the principal is required to always respond quickly to issues that have an impact on education. Therefore, the principal must have the right strategy to overcome current problems and anticipate future possibilities.

In this regard, the researchers gave questions to informants on the strategies carried out in developing teachers' pedagogic competence during the distance learning period. According to two principals of SMA Muhammadiyah *PK* in Solo Raya, in response to the coronavirus disease which has an impact on the teaching and learning process, they have made several efforts as a strategy for developing teacher pedagogic competencies, such as holding training, supervising online teaching and learning activities, and providing some encouragement to increase their knowledge. The following statements were made by 2 school principals:

"What strategy did you use to develop the pedagogical competence of teachers during the distance learning period?" (Researcher)

"*Our strategy to develop teacher competence was by holding several programs including: first, supervision of online teaching and learning activities to improve the quality of teaching teachers, for there was always an evaluation after supervision. Second, there was a workshop related to the training of learning instruments. Thus, teachers are not confused when preparing a lesson plan according to the emergency curriculum format set by the Minister of Education and Culture. Then, the workshop dealt with designing or managing creative learning. It aims to enable teachers to manage teaching and learning activities that are fun and easy for students to understand. Hence, students are enthusiastic and active in participating in teaching and learning activities, as well as being able to improve student achievement at last. The third was encouraging teachers to actively participate in MGMP as a forum for teachers to exchange ideas with their professional colleagues. Fourth, teachers are free to broaden their knowledge, by allowing them to take part in seminars outside the institution. Moreover, teachers were strongly encouraged to take part in a series of learning programs held by the Minister of Education and Culture.*" (UM/ School Principal)

"What strategy did you use to develop the pedagogical competence of teachers during the distance learning period?" (Researcher)

"*As an effort to develop teacher pedagogic competencies, we hold several programs. First was learning supervision to find out how teachers provide learning to students. Then, we provided some notes as evaluation material by providing direction for future improvements. Sometimes, teachers were invited to discuss to get the best solution. Furthermore, we also held a teacher learning program as our discussion forum. For its*

conditional implementation, it could be held through video conference or WhatsApp group. To figure out the best form of educating students, especially in this distance learning period. Then, there were workshops related with the emergency curriculum and related to the design of creative learning devices, such as making videos uploaded on school YouTube channel, as online learning media." (NH/ School Principal)

Similar to what was expressed by the principals, the teachers from the first SMA Muhammadiyah *PK* in Solo Raya also mentioned the program held as an effort to develop teacher pedagogic competencies, including:

"What strategy did the principal employ to help teachers improve their pedagogical competence throughout the time of distance learning?" (Researcher)

"Efforts made by the school principal include supervising online learning to find out how online learning was carried out. After that, there was an evaluation for some future improvements. Furthermore, the principals also held several training programs such as workshops on making learning videos, and on designing interactive learning. The school principal also gave us directions to actively participate in MGMP and also the series of learning teachers programmed by the Minister of Education and Culture. Then, she also gave us the freedom to take part in training such as seminars outside the institution to broaden our knowledge." (GS/ Sociology Teacher)

"What strategy did the principal employ to help teachers improve their pedagogical competence throughout the time of distance learning?" (Researcher)

"Efforts made by school principal were holding an online supervision program and several training programs such as workshops on making creative learning media. She also urged teachers to take part in the learning teacher series program held by the Minister of Education and Culture. Besides that, the principal also urges teachers to actively participate in the MGMP, as a forum for teachers to exchange creative ideas in designing distance learning, as well as giving teachers the freedom to attend seminars outside the institution." (SP/ Islamic Religious Education Teacher)

"What strategy did the principal employ to help teachers improve their pedagogical competence throughout the time of distance learning?" (Researcher)

"The principal ran a number of initiatives for the improvement of pedagogical skills, such as learning supervision, which was conducted once every semester throughout the active academic year, often two weeks following the start of the new semester. Then, there was a workshop to improve the ability to use technology to design interactive learning. Furthermore, the principal also encouraged teachers to actively participate in the MGMP and also provided flexibility for us to broaden our knowledge regarding the management of learning during distance learning while not interfering with our teaching time, such as being allowed to attend seminars outside the institution. At last, the principal recommended teachers to follow the learning teacher series held by the Minister of Education and Culture." (KN/ Chemistry Teacher)

Teachers from the second SMA Muhammadiyah *PK* in Solo Raya expressed the efforts made by the school principal in developing teacher pedagogic competencies as follows:

"What strategy did the principal employ to help teachers improve their pedagogical competence throughout the time of distance learning?" (Researcher)

"*The principal supervised the learning process. It was carried out once at the beginning of a new semester when the learning activities were active. After obtaining the results from the supervision, he then conducted an evaluation and discussed with the teachers to improve online learning in the future. There was a workshop on the learning tools preparation it was appropriate with the emergency curriculum and a workshop on the use of technology and information to design creative learning and a workshop on creating learning videos independently. The principal also held a teacher learning program through video conferences or WhatsApp Group, conditionally. Furthermore, the principal also gave us the flexibility to broaden our knowledge by being allowed to take part in training outside of the program being held, such as attending seminars held by nearby universities, as long as it did not interfere with the teaching schedule.*" (LC/ Economics Teacher)

"*What strategy did the principal employ to help teachers improve their pedagogical competence throughout the time of distance learning?*" (Researcher)
"*The school's principal made an attempt to oversee online learning. Then hold training / workshops on the preparation of learning tools and IT ultilization so that we can design creative learning. In this workshop IT the principal invited experts from STIE Trianandra as trainers. In this workshop, we were also trained to design learning videos independently. Furthermore, he also held a teacher learning program as a forum for discussion forum and sharing ideas on how to manage interactive learning. Besides, he gave flexibility for teachers to expand their knowledge outside the program being held, such as being able to attend seminars at nearby universities.*" (WE/ Chemistry Teacher)

"*What strategy did the principal employ to help teachers improve their pedagogical competence throughout the time of distance learning?*" (Researcher)
"*There have been several efforts made by the principal. The school principal supervised online teaching and learning activities. Thus, the principal joined in on Google Meet or Zoom Meet. Furthermore, there was a learning teacher program held by the principal for discussion and sharing of knowledge or ideas regarding how to manage online learning that can activate (students' motivation) and eliminate student boredom. Then, there was a workshop on the use of information and communication technology to design creative learning and a workshop on making learning videos. Moreover, he also motivated teachers to broaden their knowledge in designing creative learning by permitting teachers to attend seminars outside the program.*" (AH/ Islamic Religious Education Teacher)

Figure 6. Workshop on the Development of Interactive Learning Media

SMA Muhammadiyah PK Kottabarat Surakarta teachers attended a workshop where they were taught to create learning ideas through several media, such as

learning videos uploaded on the YouTube site and using comic-themed assignments. Figure 7 and Figure 8 shows the condition when students worked on a task.

Figure 7. Learning Videos for Sociology for 10th Graders

Educational videos on YouTube can make learning easier for students, especially those who experience network problems, as they allow students to access the videos regardless of time and place. The videos also help students understand the learning materials better than when they learn in a fairly short time Zoom Meet.
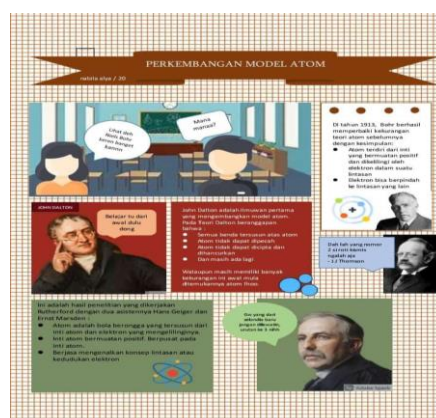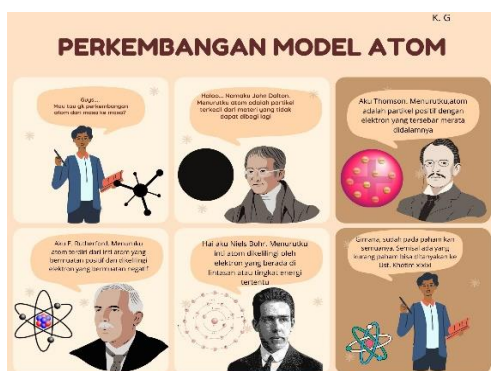

Figure 8. 10th Graders' Creativity in Creating Chemical Comic

Students were given assignment to create "Chemical Comic" to keep them enthusiastic during the distance learning. In working on this assignment, students demonstrated and developed their creativity.

Figure 9. Workshop on Teaching Instrument Preparation

Figure 10. Workshop on Developing Online Learning Media

In figure 9, the workshop was guided by the Deputy Head of Curriculum and the Principal. In the workshop, teachers of SMA Muhammadiyah Al Kautsar PK Kartasura were taught to design lesson plans based on the format specified for the distance learning emergency curriculum. Teachers were helped to select students' basic competencies emphasizing on the essential and prerequisite competences. Furthermore, as seen in figure 10, a lecturer from STIE Trianandra Kartasura assisted the activity. In the workshop, teachers created learning videos to be uploaded on YouTube. The following figures show the preview of the videos.

Figure 11. Learning Videos on Chemistry for 11th Graders

The learning videos made by each subject teacher were then uploaded on the school's YouTube channel which allowed the students to access them regardless of time and place. The videos also function as learning media for students to sharpen their comprehension of the learning material.

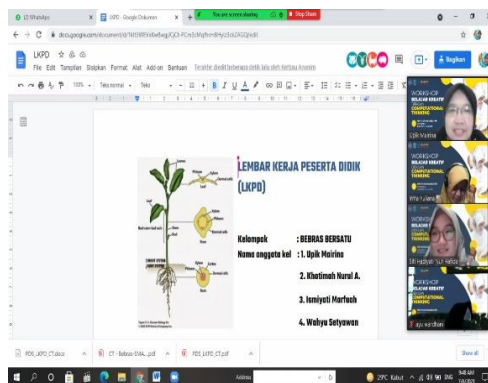**Figure 12. Workshop on Lesson Plan Development**

Figure 13. Workshop on Students' Worksheet Preparation

As presented in Figure, the workshop was guided by the head of the curriculum and the principal of SMA Muhammadiyah PK Kottabarat Surakarta. In the workshop, teachers were guided to design lesson plans for the emergency curriculum with 45 minute time allocation for each lesson . Figure 13 also showed that the workshop was assisted by Bebras Team from the University of Muhammadiyah Surakarta, where teachers were helped to make students' worksheets using computational thinking.

Figure 14. Learning Teacher Program

The learning teacher program is held by the principal of SMA Muhammadiyah Al Kautsar PK Kartasura The program was performed to make it easier for teachers to share, discuss or exchange ideas regarding creative learning implementation. The workshop is usually done once a month or every other month on a day where teachers have free time that all teachers could attend the meeting on Google Meet.

Figure 15. Supervision on the Distance Learning for Biology Subject for 10th Graders
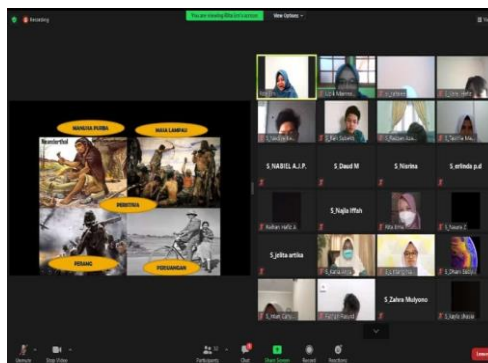
Figure 16. Supervision on the Distance Learning for History Subject for 10th Graders

The supervision of distance learning was carried out by the two principals every semester. In the supervision, teachers were provided with guidance in evaluating and creating materials for joint evaluation and solutions which could develop teachers' teaching abilities.

The explanations given by eight informants and the results of the documentation and observations describe the efforts made by school principals in developing teachers' pedagogic competence to address the problems that emerged during the distance learning and propose possible solutions as presented in the following Table.

Table 1. Principals' Strategy in Developing Teacher Pedagogic Competencies

School Name	The First SMA Muhammadiyah *PK* Solo Raya	The Second SMA Muhammadiyah *PK* Solo Raya
Strategies	1. Supervising the learning process; 2. Conducting workshops accompanied by practice; 3. Encouraging teachers to actively participate in the *MGMP* (Teacher Working Group); 4. Motivating teachers by giving freedom to broaden their knowledge, such as attending training or seminars outside the institution; 5. Directing teachers to take part in the learning teacher series program held by the Ministry of Education and Culture by freely choosing the required series and the schedule that has been set.	1. Supervising the learning process; 2. Conducting workshops accompanied by practice; 3. Motivating teachers by giving freedom to teachers to broaden their knowledge, such as by attending training or seminars outside the institution; 4. Conducting teacher learning programs as a learning forum (sharing knowledge or exchanging ideas) and discussion.

This study found that the strategies carried out by the principals include giving teachers the motivation to broaden their knowledge by, first, allowing them to attend training or seminars outside the institutions or the program held by the principal.

241

Internal workshops were also held as training in designing interactive learning and training in making learning videos independently. Third, a teacher-learning program was held as a place for discussion, sharing, or exchanging knowledge.

These findings were supported by a previous study conducted by Howard et al. (2021) on several representative teachers from 20 training institutions in Belgium. In that study, pre-service teacher competencies, one of which is digital competence, were developed by implementing several strategies. The first strategy was motivating teachers by providing an example of the use of digital in learning (Role model) because pre-service teachers are more likely to adopt teaching with the styles and practices they observe (Ellis, Alonzo, and Naguyen, 2020). The Second strategy was learning by design which was carried out to provide opportunities for teachers to learn to integrate technology through design training. The third was studying with groups of teachers to exchange ideas or discuss. The fourth was evaluation which was to explore information related to the development of digital competence of pre-service teachers and the problems faced by pre-service teachers in using digital technology.

This study also found that the principals supervised learning for future teaching improvements. This is supported by a study carried out by Mok & Staub (2021) that supervision is one of the effective programs carried out to improve pre-service teachers (PSTs) instructional skills such as planning skills and instructing skills during teaching practice. Furthermore, this study also found that the principal encouraged the teachers to actively participate in the Teacher Work Group (*MGMP*) as a forum for teachers to exchange ideas with their professional colleagues. This is supported by a study by Sadeghi & Richards (2021) on developing the professional abilities of English teachers in Iran which includes ministry of education (public) teachers, language center (private) teachers, and all teachers working in the public and private sector. The study suggested that teachers are allowed to be able to join the discussion group of their professional colleagues.

From the explanation above, the researchers conclude that this study and previous studies on teacher competency development strategies can be carried out with training that is not only theoretical in nature but must be accompanied by demonstrations such as workshops accompanied by practice; participation in teacher forums to learn from each other, discuss and exchange ideas; and evaluation or supervision to determine the development of teacher competence.

From the conclusions above, the researchers suggest several suggestions. First, the program that has been arranged should be realized properly as the purpose of the program is held. Second, the workshop should be held as teacher training in compiling creative learning media by utilizing information and communication technology such as making videos independently, accordingly, this requires the assistance of video editors who have expertise in these fields. Thus, the learning videos made are not only containing material and pictures with a makeshift background, but a learning video can make it easier for students to understand learning materials with a feeling of enthusiasm and fun. Accordingly, students can achieve the basic competencies that have been set and their learning achievement remains stable and even increases during distance learning. Third, the learning media created should contain elements of something that is currently trending among high school students, with good notes, being polite, and education, such as making learning media with the concept of comics, webtoons, or puzzles using characters based on students requests.

These suggestions from the researchers are expected to be able to provide solutions in dealing with some of the problems of the current online learning, such as

242

unstable internet connections that cause learning through video conferencing not to be fully implemented in every lesson. Moreover, they are also expected to be able to solve the problems of students learning motivation such as feeling bored when participating in virtual face-to-face learning.

CONCLUSION

Based on the explanation provided in the aforementioned research findings, the following conclusions are drawn about the principals' and teachers' initial responses to the online distance learning at the SMA Muhammadiyah *Program Khusus (PK)* in Solo Raya: 1) Initially, they still found it hard and needed to adjust. 2) Teachers always looked for and applied appropriate learning methods for distance learning due to two things namely the unstable internet connection on some students and limited intensity of face-to-face meetings through video conference. 3) Teachers had little difficulty in activating or motivating students during online learning. 4) The existence of an emergency curriculum set by the Minister of Education and Culture makes teachers need to adjust and need guidance to understand and be able to develop a lesson plan according to the format. Meanwhile, the conclusion of the principals' strategy in developing teacher competence during distance learning is that the principals supervised online learning and held several programs including internal workshops and teacher learning programs, giving teachers the freedom to broaden their knowledge such as being allowed to attend seminars outside the institution as long as they were not interfering their teaching obligations, encouraging teachers to actively participate in the *MGMP* and teacher learning series forums held by the Minister of Education and Culture.

The distance learning phenomenon described above accordingly has its benefits and drawbacks. However, it might give birth to many creative ideas, especially from education stakeholders in designing learning by utilizing information and communication technology. Therefore, it can also be used as a good step for all educators in facing the industrial revolution 4.0. Moreover, it is also expected to produce students who have the desire to create adequate networks in every corner of the country, even though they were in disadvantaged and remote areas.

AUTHOR CONTRIBUTION STATEMENT

Sinta Diah Ayu Wandani (SDAW) is the first author, Mohamad Ali (MA) is a second authors and Muh. Nur Rochim Maksum (MNRM) as the third author contributed to providing direction to the lead authors in completing the study.

REFERENCES

Abate, A. F., Cascone, L., Nappi, M., Narducci, F., & Passero, I. (2021). Attention monitoring for synchronous distance learning. *Future Generation Computer Systems*, *125*, 774–784. https://doi.org/10.1016/j.future.2021.07.026

Alfikri, M. (2021). The Importance of Communication Strategies in Implementing the Dissemination of Development Innovations: A Case Study of the Communications

and Information Office of North Sumatra. *Technium Social Sciences Journal*, *24*, 228–234. https://doi.org/10.47577/tssj.v24i1.4721

Ali, M. (2020). *Menggerakkan Pendidikan Muhammadiyah*. Muhammadiyah University Press.

Ambiya, M. S., Syukri, A., & Anwar, K. (2021). *Manajemen Kepala Madrasah (Upaya Peningkatan Budaya Guru)*. K-Media.

Ayele Dulo, A. (2022). In-service teachers' professional development and instructional quality in secondary schools in Gedeo Zone, Ethiopia. *Social Sciences & Humanities Open*, *5*(1), 100252. https://doi.org/10.1016/j.ssaho.2022.100252

Barnawi, & Arifin, M. (2012). *Etika dan Profesi Kependidikan*. Ar-Ruzz Media.

Basir, A., Kamaliah, K., Harahap, A., Fauzi, A., & Karyanto, B. (2021). How Universities Entrust Digital Literacy to Improve Student Learning Outcomes During the COVID-19 Disruption. *Jurnal Iqra': Kajian Ilmu Pendidikan*, *6*(1), 235-246. https://doi.org/10.25217/ji.v6i1.1146

Citrowati, E., & Nurhafizah, N. (2019). *Profesionalisme Guru dalam Mengembangkan Anak Sejak Usia Dini sebagai Generasi Penerus Bangsa*. *3*, 5.

Dille, K. B., & Røkenes, F. M. (2021). Teachers' professional development in formal online communities: A scoping review. *Teaching and Teacher Education*, *105*, 103431. https://doi.org/10.1016/j.tate.2021.103431

Fitria, N. (2022). The Effect of Lecturers Pedagogic Competency on Accountability of Management Islamic Religious Higher Education. *Bulletin of Science Education*, *2*(1), 18-26. http://dx.doi.org/10.51278/bse.v2i1.295

Hamidah. (2020). *Kritik atas Adopsi IFRS: Persepektif Ekologi Akuntansi*. Peneleh.

Harmadji, D. E., Harahap, T. K., Khasanah, U., Rahman, N., Trisnawati, S., Noerhasmalina, Purwaningsih, A., Putri, A. N., Amin, L. H., Wiguna, S., & Halawa, M. (2021). *Pembelajaran Jarak Jauh Kondisi Khusus*. Tahta Media Group.

Howard, S. K., Tondeur, J., Ma, J., & Yang, J. (2021). What to teach? Strategies for developing digital competency in preservice teacher training. *Computers & Education*, *165*, 104149. https://doi.org/10.1016/j.compedu.2021.104149

Jannah, N. R., & Pratiwi, W. (2021). Pendampingan Kegiatan Belajar Siswa dengan Memanfaatkan Barang Bekas untuk Meningkatkan Minat dan Kreativitas Belajar Siswa pada Era Covid-19. *Bulletin of Community Engagement*, *1*(2), 61-70. http://dx.doi.org/10.51278/bce.v1i2.232

Khadijah, I. (2021). The Competency of Science Teachers in Implementation of Online Learning In Covid-19 Pandemic Period at SMPN 2 Kramatwatu Serang. *Bulletin of Science Education*, *1*(1), 60-67. http://dx.doi.org/10.51278/bse.v1i1.110

Kusumahati, S. F. (2021). *Peningkatan Kompetensi Pedagogik Guru PAI Masa Pandemi Covid-19 di SMK Ma'arif 3 Kudus*. *3*(2), 10.

LaVelle, J. M., Lovato, C., & Stephenson, C. L. (2020). Pedagogical considerations for the teaching of evaluation. *Evaluation and Program Planning*, *79*, 101786. https://doi.org/10.1016/j.evalprogplan.2020.101786

Mittelmeier, J., Rienties, B., Rogaten, J., Gunter, A., & Raghuram, P. (2019). Internationalisation at a Distance and at Home: Academic and social adjustment in a South African distance learning context. *International Journal of Intercultural Relations*, *72*, 1–12. https://doi.org/10.1016/j.ijintrel.2019.06.001

Mok, S. Y., & Staub, F. C. (2021). Does coaching, mentoring, and supervision matter for pre-service teachers' planning skills and clarity of instruction? A meta-analysis of (quasi-)experimental studies. *Teaching and Teacher Education*, *107*, 103484. https://doi.org/10.1016/j.tate.2021.103484

Plöger, W., Scholl, D., Schüle, C., & Seifert, A. (2019). Development of trainee teachers' analytical competence in their induction phase – A longitudinal study comparing science and non-science teachers. *Teaching and Teacher Education*, *85*, 215–225. https://doi.org/10.1016/j.tate.2019.06.018

Ramdhan, M. (2021). *Metode Penelitian*. Cipta Media Nusantara.

Ramadhani, S. P., & Anggraeni, D. (2022). The Role of Teacher Pedagogic Competence in Strengthening Discipline of Indonesian Language Learning at Elementary School. *Bulletin of Science Education*, 2(1), 1-8. http://dx.doi.org/10.51278/bse.v2i1.262

Riyadi, A., Alhimny, A. K., Syarifuddin, A., Khumairoh, A. A., Choir, S., Khoiriyah, A., Nurita, L., Anaqoh, Zulfa, S., Ahsanul Fikri, M., Putri, M. S., Nassikhah, D., Audina, I., Khabibah, I. N., Aryani, R. R., & Anggriani, E. (2020). *Dinamika Pendekatan dalam Penangananan Covid-19*. Nasya Expanding Management.

Sadeghi, K., & Richards, J. C. (2021). Professional development among English language teachers: Challenges and recommendations for practice. *Heliyon*, *7*(9), e08053. https://doi.org/10.1016/j.heliyon.2021.e08053

Sanjaya, W. (2016). *Strategi Pembelajaran Berorientasi Standar Proses Pendidikan*. Kencana.

Savitri, E., & Sudarsyah, A. (2021). *Transformational Leadership for Improving Teacher's Performance During the Covid-19 Pandemic:* 4th International Conference on Research of Educational Administration and Management (ICREAM 2020), Bandung, Indonesia. https://doi.org/10.2991/assehr.k.210212.069

Safitri, M. L. O., Mustadi, A., & Retnawati, H. (2021). The The Role of Teachers in Implementation Social Care Education Character at Primary Schools. *Jurnal Iqra': Kajian Ilmu Pendidikan*, *6*(2), 39-50. https://doi.org/10.25217/ji.v6i2.1315

Septanta, R., Latif, A. S., Ramdani, C. S., Arslan, R., Nurhasan, Y., & Sabir, Z. (2022). Increasing Entrepreneurship during Covid-19 Pandemic Time Economic Crisis. *Bulletin of Community Engagement*, 2(1), 45-51. http://dx.doi.org/10.51278/bce.v2i1.254

Sunanto, S., Mispani, M., & Setiawan, D. (2022). The Influence of Emotional Intelligence and Spiritual Intelligence on Teacher Professionalism at the Working Group of Madrasah Seputih Banyak. *Bulletin of Pedagogical Research*, *2*(2), 170-180. http://dx.doi.org/10.51278/bpr.v2i2.348

Sutisna, A. (2021). *Metode Penelitian Kualitatif Bidang Pendidikan*. UNJ press.

Tyaningsih, A. R., Suryadi, S., & Rahmawati, D. (2021). Self-Efficacy, Teacher Leadership and Teacher Professionalism in Secondary School. *Jurnal Iqra': Kajian Ilmu Pendidikan*, *6*(2), 1-12.https://doi.org/10.25217/ji.v6i2.1331

Yolanda, A. T., & Kailola, L. G. (2021). The effect of teacher competence and emotional intelligence on students development character at senior high school kristen barana'. *Bulletin of Science Education*, *1*(2), 164-181. http://dx.doi.org/10.51278/bse.v1i2.223

Zainal, A. G., Prakoso, G. H., Frasetya, V., Faizal, A. R., Fardiyan, R., & Sanjaya, F. J. (2022). *Zoom Utilization as an Online Learning Media during the COVID-19 Pandemic*. 6.