



## Developing a Management Model of PAI Teachers' Competency Improvement Based on Online Networks

Muhammad Ahsan <sup>1✉</sup>, Masrukhi <sup>2</sup>, Haryono <sup>2</sup>, Rusdarti <sup>2</sup>

<sup>1</sup> SMP Negeri 17 Semarang, Indonesia

<sup>2</sup> Universitas Negeri Semarang, Indonesia

### Article Info

Article History :  
Received December 2018  
Accepted January 2019  
Published February 2019

Keywords:  
Management Model,  
Online Network, Teacher  
Competency

### Abstract

This study aimed to describe the factual management model of teacher competency improvement focusing on instructional planning, to describe the design of the management model of teacher competency improvement by utilizing online networks, and to know the validity of the management model. This research implemented a Research and Development (R & D) approach. As the focus of this study, the development of the model is in accordance with the theory of a product-oriented model. The products of this study are in accordance with the characteristics and analysis of the needs of Islamic Religious Education (PAI) teachers. The products are regulated through a needs analysis process that meets the needs of the PAI teachers. The products are lesson plans (RPP) to be shared with colleagues. The results of the needs analysis show the importance of online tools in the improvement of the RPP. The management model of teacher competency improvement utilizes online networks using feasibility analysis, guideline preparation, user manuals, and readability tests that show positive responses from experts and users for the development of this model. The development of this model is seen as valid both from the descriptive aspects of the program and the expert analysis. The design of the teacher competency improvement training is deemed feasible to be developed for the benefit of the PAI teachers.

© 2019 Universitas Negeri Semarang

✉ Correspondence :  
Jalan Taman Kukilo Mukti Utara III/27 RT.08/RW.06  
Pedurungan Kidul, Pedurungan, Kota Semarang, Jawa Tengah,  
Indonesia 50517  
E-mail: [ahsanpedurungan@gmail.com](mailto:ahsanpedurungan@gmail.com)

p-ISSN 2085-4943  
e-ISSN 2502-4469

## INTRODUCTION

Improving the quality of education is influenced, among others, by teacher competence (Avalos, 2012). Professional teachers have a very important function, role, and position in achieving the Ministry of Education and Culture's Vision of 2015 on Creating smart and competitive Indonesian people (Suraprana, 2016). Professional teachers are assigned to improve their professionalism through continuous training (Kemendikbud, 2014 dan Mac Beath, 2013). This is in accordance with the Republic of Indonesia Law Number 14 of 2005 concerning teachers Chapter 1 Article 1 which explains that teachers are professional educators whose main tasks are to educate, teach, guide, direct, train, assess, and evaluate students in formal education including early childhood, basic, and secondary education (Kemendikbud, 2016).

In the context of teacher competence, Islamic Religious Education (PAI) instruction faces a number of problems, including (1) PAI teachers (GPAI) concentrate more on theoretical issues that are cognitive in nature and emphasize teaching/knowledge transfer work; (2) so far the PAI instructional methodology in general has not changed at all; it is conventional, traditional, and monotonous so that students are bored; (3) PAI lessons are often carried out in schools on their own and are not integrated with other fields of study so that the taught subjects are marginal and peripheral; (4) PAI instruction is often concentrated in classrooms and practice and research activities are rarely carried out beyond classes; (5) learning media used by teachers and students are less creative, varied, and fun; (6) PAI instruction tends to be normative, linear, without illustration of the socio-cultural context in the environment of the learners and incapable of being associated with very rapid changes of the world; (7) there is no adequate communication and cooperation with parents in dealing with problems faced by the students (Kemenag, 2016; Rudi Ahmad S, 2016; Zapeda, 2015).

The low competency of teachers in preparing the RPP independently is illustrated in the preliminary observations of 50 teachers from different subjects. The observation provides the following information. (1) 50 teachers (100%)

have RPP; (2) 30 teachers (60%) stated that they had received training in RPP preparation; (3) 23 teachers (46%) stated that they formulated RPP independently; (4) 27 teachers (54%) stated that they adopted RPP from other parties. Similarly, the problems related to developing competency are as follows. (1) The improvement of the teacher competencies through training and mentoring activities requires a relatively long period of time; (2) the improvement of teacher competency through MGMP activities cannot be utilized optimally; (3) there is a strong indication that even though the teachers have lesson plan documents, those who compose them independently is still less than the ones who merely duplicate and adopt them from other teachers; (4) on the one hand, the advancement of ICTs helps teachers in facilitating competency development activities, but the ease of accessing data and information makes some teachers take shortcuts, namely simply adopting, duplicating, and changing identity without significant modification or adjustment; (5) there is no device or system that can detect the teacher's efforts in planning instruction.

In connection with the above problems, ones that can be solved include teacher competence and the use of online facilities. This study aims to (1) analyze the factual management model of teacher competency improvement which focuses on lesson plan; (2) analyze the design of the management models for developing teacher competencies that utilize online networks; (3) analyze the validity of the management model.

In this regard, Panikar (2015) states that the curriculum can be developed effectively through the bottom-up process, teaching and learning in developing shared material, using intensive networks, developing instructional planning, and developing varied strategies by utilizing technologies (Mulyasa, 2017 and Tellerico, 2015). Social media and social networking obtain progressive attention in professional development and lifelong education for schools, teachers, and staff (Jackson, 2012). In particular, social media and social networking serve as a place to cultivate various forms of social capital, become a link that facilitates mutually beneficial coordination and cooperation, and become a place for exchanging resources, personal and professional relationships,

and psychological and welfare implications (Stefania Manca, 2014).

NLaw (2013) emphasizes that ICT training for teachers is very important to integrate ICT into instructional processes in schools. ICT in online networking devices is a technique and management to handle information and its relationship with education (Durdu, 2012). With regard to education, a competent teacher must have several skills and techniques to realize successful pedagogy in the development and improvement of ICT skills and competencies. In modern science and technology, education demands ICT knowledge and skills (Baishakhi Bhattacharjee and Kamal De, 2016).

In education, computer applications have enabled the ongoing collaborative instruction process that takes place in networks for both students and teachers (Trusov, 2017). Teachers can learn and work together even in different places. As a user, the teacher can interact directly with the sources (Khvilon, 2012).

## METHODOLOGY

This research used a Research and Development (R & D) approach. R & D is an approach used to design procedures to yield new products that are systematically tested in the field, evaluated, and refined to meet certain criteria of effectiveness and quality, or fulfill the same standard (Borg and Gall, 2013). Given the main focus of this research was the improvement of teacher competencies in the preparation of instructional plans, this research was designed as follows. (1) The preliminary research was intended to find research findings related to the development of the model; (2) the product development was based on the research findings; (3) field tests were administered in settings or real situations where the product would be

implemented; (4) revisions were intended to correct weaknesses found in the stages of the field testings (Sugiyono, 2013).

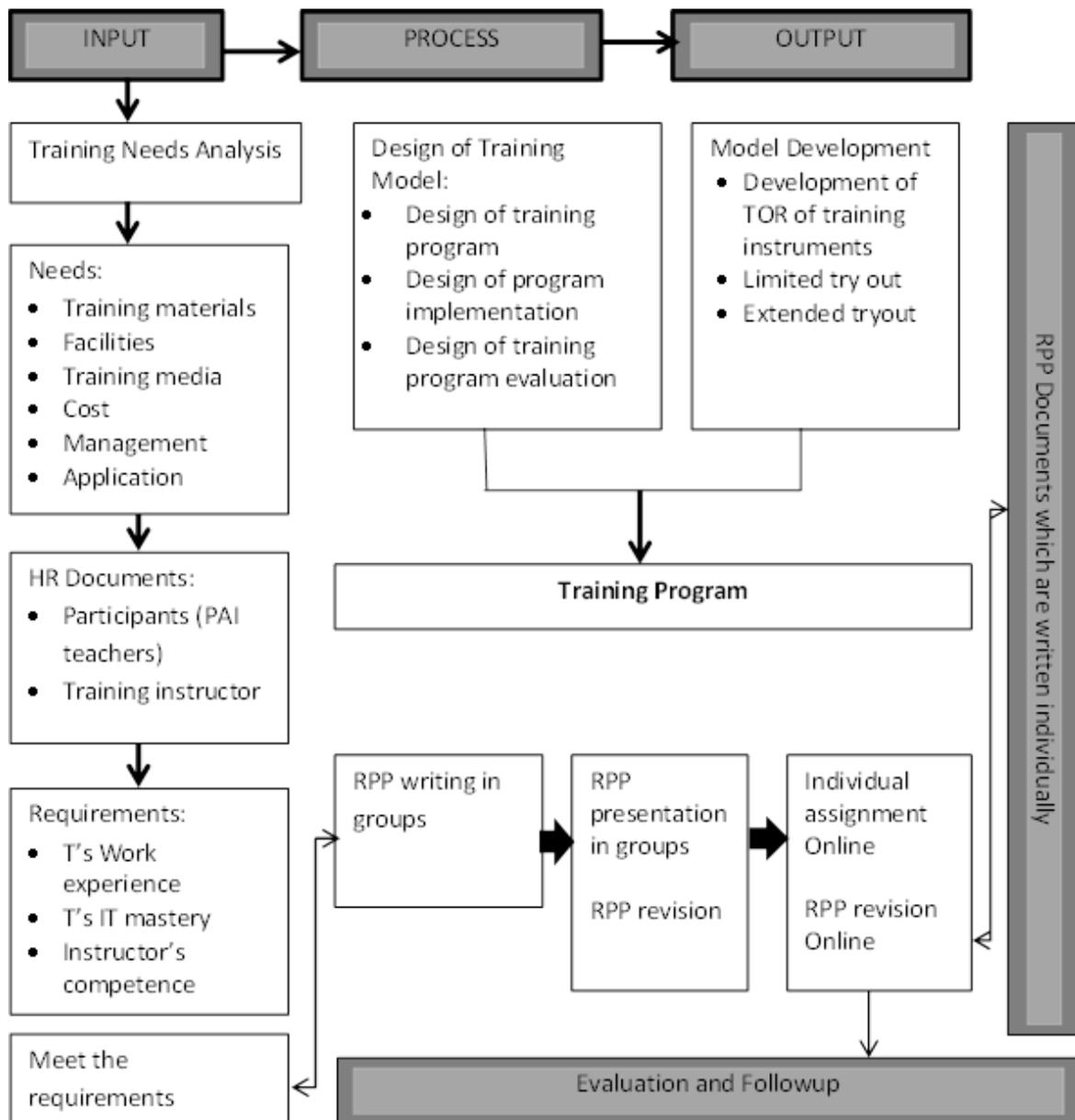
## RESULTS AND DISCUSSION

### Results

The development of PAI teacher competency training begins with an analysis of needs related to the model development. The theme of the main study was focused on the preparation of the literature review as the basis for designing research concepts. This study uses the technique of criticizing and comparing results of relevant research which are related to teacher competency development models, especially online instructional planning that uses guidelines.

The result of the needs analysis shows that 90% of 30 teachers have lesson plans (RPP) adjusted to school conditions. The RPP is modified through ICT tools obtained through sharing between colleagues. This is one of the considerations in preparing a factual model. The factual model discloses problems such as teacher competency training that have not been evenly distributed, MGMP meetings with lower frequency, and many RPPs in the form of duplication and adoption. Conceptually, it takes a training model that can be developed through online networking tools to improve teacher competency. This conceptual model is expected to provide a solution for equitable competency development training; MGMP activities are promoted in the form of gatherings and online, instructional planning is made independently, ease of access to ICTs becomes the trigger for the preparation of independent RPPs, and there are systems that detect the existence of RPP as a result of the teacher's own efforts or duplication.

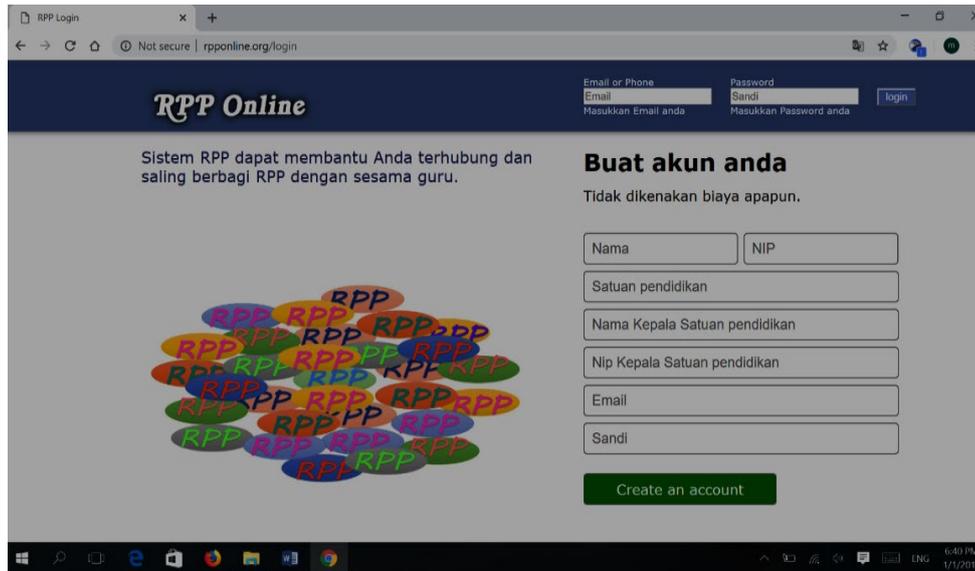
The conceptual model as a hypothetical model is developed as follows.



**Figure 1.** Hypothetic Management Model

The model was developed by compiling training guidelines, website facilities, and user manuals. The training guide contains objectives, legal basis, objectives, materials, infrastructure, and training evaluation. The instructional

planning training website is made using a flat form that is easily accessed by teachers with web browsers, such as chroom, firefox, and others with the website address: rpponline.org. Each teacher can enter this address by registering as a user.



**Figure 2.** Display of RPP Preparation Website

Preparation of a new RPP begins with filling in the RPP identity column such as: "School name", "Class/semester", "Essential Material", and "Time allocation". The teacher can easily fill in the Core Competence, Basic Competence, and Assessment. The flow of this application is in accordance with the RPP Preparation instructions issued by the Ministry of Education and Culture in 2017. After that, the teacher can click the "Post" button to post the RPP. After being posted, the teacher has a lesson plan document. The teacher can see and modify the RPP made by other teachers (peers) by choosing the "Peer" menu. The teacher can edit or modify the contents in the identity column and RPP component column.

The model is tested using due diligence. FGDs with experts and users are intended to test this feasibility. The FGD results show that the guidelines are quite clear and can be easily applied by users. This guide is good for teachers in developing online RPPs. They can share with

friends using this facility. This will encourage users to prepare RPP properly and according to procedures and they can share with their friends. This guide is quite clear and good on aspects of objectives, planning, organizing, implementing, evaluating, and following up.

This expert statement confirms that the guidebook is good enough to guide users in drafting the lesson plan and sharing it with their colleagues. This guidebook can be used as a reference for users in preparing lesson plans and sharing with colleagues.

The guidebook produced a positive response from the Expert Team. This positive response justifies the assumption that the readability of the guidebook can encourage users to understand the flow of online RPP preparation management. In addition, this guidebook has been adjusted to analyze the needs and principles of planning, organizing, implementing, and evaluating.

**Tabel 1.** Respons Tim Ahli terhadap Buku Panduan

Aspect	Explanation
Systematics of the guidebook	The systematics of the guidebook is adjusted to the prevailing one. The guidebook can be easily understood, packed with not too many theories, but rather emphasizes the ease of application.
Substance of the guidebook	The discussion in the guidebook is adjusted to the stages of instructional planning based on Minister of Education and Culture No. 22 of 2016 concerning Process Standards
Linguistic aspects graphic	Language is adapted to the language of the teacher. It is necessary to display pictures of instructional planning activities

Feasibility testing by practitioners involves the teacher. Their response is as follows.

- a. Regarding the completeness of the material, most of the twenty-eight respondents stated that the guidebook was complete. Other respondents (9 persons) stated that they were quite complete and the rest (three respondents) stated that they were incomplete. Because most of them answer in full, it can be inferred that the material developed is seen as complete and in accordance with the needs.
- b. Regarding the accuracy of the RPP preparation procedure, most of the respondents (thirty persons) stated the procedure was right according to the rules. While responses from other respondents: five people stated that they were quite right and the rest (two persons) stated that they were incomplete. Thus, the procedure for preparing the RPP is deemed appropriate, given the large number of responses that state that. This shows that filling data on procedures for preparing lesson plans is seen as fulfilling the rules for preparing lesson plans.
- c. The ease of access is one of the supports for teachers in utilizing this facility. The data in the graph above shows that this facility is easily accessed and used by them. This is evidenced by the thirty-two people who stated that the facility was easily accessible. While other respondents stated that it was quite easy (seven people) and not easy (one person) to be accessed. The large number of respondents who stated that this facility was easy to access proved that IT facilities designed for this model were easy for them to use.
- d. Clarity of charging instructions is one of the requirements for the teacher in applying this software. The feasibility test on this matter shows that most teachers stated that the instructions were clear. They include teachers who are IT literate. A small number of them, four people thought that the instructions were unclear and only one person considered the instructions unclear. This shows that filling in the data in this software especially in the preparation of lesson plans is supported by clear instructions.
- e. About aspects of clarity in building relationships with clients in software, most

teachers feel clarity and accuracy in sharing with colleagues (clients). This data includes thirty-five people who stated that sharing between them was easy and clear. A small portion of them (five people) stated it was unclear. Data shows that there were no respondents who stated that building relationships between peers (clients) was unclear.

- f. An attractive display causes users to feel happy in applying this software. Data shows that there are no teachers who are not happy with the appearance of this software. All teachers as respondents view this software as interesting to them.

The results of this feasibility test are used as the basis for developing the website model and user manual as described above. The weakness of the model is improved through expert input and users.

The trial of thirty PAI teachers who were the object of this trial produced an average score of 56.25 with the smallest score 37 and the largest score 64. This average score implies that their ability in preparing lesson plans is quite good. However, out of the thirty-three components of the lesson plan assessment there is still a low score, which is 31 out of 66 as a total score. This is found in assessment items ranging from domain mapping, assessment mapping, to assessment instruments. This data shows that at the initial stage of the trial, the teacher has been able to prepare the lesson plan quite well.

In the aspect of sharing with colleagues, preliminary data shows that the teacher has not been able to share through the online media developed. This is indicated by the highest score about sharing 24 people and the smallest data 0 (no sharing at all). This condition shows that sharing through the developed media is still lower than sharing manually.

The feasibility of the guidebook is assessed using validity and reliability tests. Validity test is used to determine the feasibility of the questions in a list (construct) question in defining a variable. This test applies to each question and the results can be seen through the results of r-count compared with r-table. If the r-table is  $<r\text{-count}$ , then the question item is considered valid. Conversely, if  $r\text{-table} > r\text{-count}$  then the question

item is invalid. From the test results it can be seen that all instruments can be declared valid because the coefficients obtained are greater than 0.60.

Reliability tests are carried out together on all questions. If the value of Cronbach's Alpha is > 0.60 then the question item is considered reliable;

on the contrary, if the value of Cronbach's Alpha is <0.60 then the question is considered unreliable. From the test results it can be seen that the Cronbach's Alpha coefficient for all variables is greater than 0.60, so the statement item is reliable. The full results are presented in Table 2.

**Table 2.** Validation Test

Variable	Indicator	Coefficient	Notes
Aspect of systematics of the guidebook Coef. Reliability = 0.845 (reliable)	The systematics of the guidebook is in accordance with the title of the book	0.884	Valid
	The scope discussed in the guidebook is adequate	0.687	Valid
	The proportion of the contents of the book discussed between one chapter and another is ideal (balanced)	0.687	Valid
	All chapters discussed in this guidebook are important to be included	0.884	Valid
	Substance of content: the guidebook describes something new in the preparation of the RPP	0.637	Valid
Aspect of the guidebook Coef. Reliability = 0.885 (reliable)	The substantial contents of the guidebook illustrates something important in the preparation of RPP and sharing	0.971	Valid
	The substantial contents of the guidebook are needed by the teacher	0.898	Valid
	Sentences that are used in the manual do not cause multiple interpretations	0.642	Valid
	The language used is coherent, communicative and not boring	0.758	Valid
Aspect of language Coef. Reliability = 0.861 (reliable)	The ideas expressed in the guidebook are able to encourage readers to believe in the importance of the teacher's guidebook	0.907	Valid
	The guidebook is easy to understand	0.847	Valid
	The sentences in the guidebook have been understood	0.842	Valid
	The sentences are in the careful guidebook	0.712	Valid
	The language is coherent and communicative	0.724	Valid
Aspek Kegrafikaan	Ideas in the guidebook encourages readers' belief	0.615	Valid
	The choice of type and font size is in accordance with the standard manual	0.714	Valid
	The illustrations and images are interesting	0.802	Valid
	The substantial materials of the guidebook are all useful for the teacher	0.689	Valid
	Substantially the material of the guidebook can be implemented by the teacher	0.923	Valid
	The guidebook has been prepared using standard, correct Indonesian grammar	0.687	Valid
	The language used in the guidebook is easy to understand and digest by the reader	0.676	Valid

### Discussion

The model of developing online instructional planning as the focus of this study is

in accordance with Gustafson's (2012: 13) opinion, especially regarding the theory of products oriented models. The online RPP

development model is based on products oriented models. It is considered a model that aims to produce a specific product that causes training to be more effective and efficient. In this study, the products produced are in accordance with the characteristics and needs analysis of PAI teachers. Products are produced through a process of analyzing needs so that what is really needed by PAI teachers (respondents). Products developed are the results of lesson plans and sharing with peers.

Most teacher RPP documents come from soft files. This is corroborated by the fact that most of the PAI teachers studied used IT facilities in preparing lesson plans. The teacher's response obtained from needs analysis, especially on the IT aspects, is related to their familiarity with IT users. The online RPP preparation model is strengthened by teacher familiarity with the IT world. This is in line with the design developed by this researcher by using IT facilities.

The findings of this study can be interpreted that the potential for the development of online RPP preparation models can be realized well. This potential can be linked to intensity in training, mentoring, familiarity with the world of IT, and sharing using IT facilities even though the results can still be modified.

Similarly, assumptions about the importance of IT in this model are corroborated by the research of Gillsecen & Kubat (2011). The role of ICT motivation in learning has been widely recognized. How well teachers learn to use ICT will greatly influence their effectiveness as future educators.

The preparation of this online RPP is in line with North Central Regional Education Laboratory (NCREL), according to Mitchell (2008), which identifies a framework for 21st century skills, which are divided into four categories: inventive thinking, effective communication, proficiency in the digital era, and productivity high. Teachers who are professional in these four categories must have mastery in digital mastery.

The tool was developed based on the internet with an application program made independently and also using the Google Flat Form facility in an effort to assess needs analysis.

This assumption reinforces a concept that computer applications in the field of education allow collaborative RPP drafting through online networks. Teachers can learn and cooperate with each other even in different places. As a user, the teacher can also interact directly with the source. The development of computer network technology / internet) allows users to interact to obtain the desired knowledge and information as material in designing RPP. In this model, computer technology has a positive function. Computer networks are the main facility in the preparation of online RPPs.

This model can be programmed according to needs. In the context of this research, RPP planning development is one effective way of developing teacher competencies, especially in accordance with the mandate of Permenpan and RB Number 16 of 2009 concerning Teacher's Functional Position and Credit Numbers, which are strengthened technically by the application of Permendiknas Number 21 of 2010 about Technical Guidelines for Teacher's Functional Position, and also in accordance with teacher competency indicators in Permendiknas Number 16 of 2007 concerning Qualification Standards and Teacher Competencies.

An adequate explanation in the Guidebook can be interpreted that this online RPP project has a reliable foundation. This reason reinforces the opinion that this developed model has valid and reliable theoretical assumptions. This product is a RPP in accordance with the guidelines for its preparation. The quality of this lesson plan is reliable with a practical reference and theoretical reference to instructional planning as a theoretical confirmation of research.

One of the main indicators of the success of instructional planning is the achievement of learning effectiveness, namely the achievement of instruction objectives by students optimally. This is done if the teacher is able to prepare the preparation for the implementation of instruction in accordance with the established procedures.

For maturity in the preparation of lesson plans, although in the form of online, PAI teachers in the research locus must follow the principles of RPP preparation. The principle developed was according to the Guidelines as one of the products developed in this study.

## CONCLUSION

This study is related to the factual model of management of teacher competency development with one focus of instructional planning. Needs analysis shows the importance of online tools in the development of RPP. The design of the management model of teacher competency development that utilizes online networks using feasibility analysis, guideline preparation, user manuals, and readability testing results in positive responses from experts and users for the development of this model. This model is considered valid both from the descriptive aspects of the program and expert analysis. The design of teacher competency development training is deemed feasible to be developed for the benefit of PAI teachers.

## REFERENCES

- Avalos, B. (2013). Teacher Professional Development In Teaching And Teacher Education Over Ten Years. *International Journal of Teaching and Teacher Education*, 27, 10-20. Retrieved from <http://www.elsevier.com/locate/tate>
- Bhattacharjee, B., & Deb, K. (2016). Role of ICT in 21st Century's Teacher Education, *International Journal of Education and Information Studies*, 6(1), 2. Retrieved from <http://www.ripublication.com>
- Borg, W.R., & Gall, M.D. (2013). *Educational Research: An Introduction, Fifth Edition*. New York: Longman.
- Ditpai. (2016). *Rancangan Proyek Perubahan PAI*. Jakarta: Kementerian Agama RI
- Durdu, P. O., Yalabik, N., & Cagiltay, K. (2009). A Distributed Online Curriculum and Courseware Development Model, *Educational Technology & Society*, 12 (1), 230–248.
- Gulsecen, S., & Kubat, A. (2011). Teaching ICT to Teacher Candidates Using PBL: A Qualitative and Quantitative Evaluation. *Educational Technology & Society Journals*, 9(2), 96-106.
- Gustafson, K.L., & Branch, R.M. (2012). *Survey of Instruction Development Models*. New York: Syracuse University, Eric Clearinghouse on Information & Technology.
- Jackson, R.R. (2012). *Never & Harder Students Other Principles of Great Teaching*. Alexandria, Virginia: Association for Supervision and Curriculum Development.
- Kemendikbud. (2014). *Pengembangan Keprofesional Berkelanjutan*. Jakarta: Ditjen Guru dan Tenaga Kependidikan
- Kemendikbud. (2016). *Panduan Penyusunan RPP*. Jakarta: Direktorat Pembinaan SMA
- Kementerian Agama. (2016). *Rencana Strategis Kementerian Agama 2015-2020*. Jakarta: Sekretariat Jenderal Kementerian Agama
- Khvilon, E. (Ed.). (2013). *Information And Communication Technologies In Teacher Education*, UNESCO: Division of Higher Education
- Law, N. (2013). *Teacher Skills and Knowledge for Technology Integration*. Hong Kong: Elsevier.
- MacBeath, J. (2013). *Future Of Teaching Profession*. University Of Cambridge, Australia: Leadership For Learning The Cambridge Network,
- Manca, S. (2014), Teachers' Professional Development in Online Social Networking Sites. *Ed Media* June: 23-26,
- Mitchell, T. D. (2008). Traditional Vs. Critical Service-Learning: Engaging The Literature To Differentiate Two Models. *Michigan Journal of Community Service Learning*, 14(2), 10-15.
- Mulyasa. (2017). *Kurikulum 2013*. Bandung: Rosdakarya
- Panikar, P. (2015), Best Practices in Curriculum Development & Delivery, *Educational & Professional Development Department at Caledonian College of Engineering, Oman. Dept. of Educational & Professional Development*.
- Sugiyono. (2013). *Metode Penelitian Pendidikan (Kuantitatif, Kualitatif, dan R&D)*. Bandung: Alfabeta
- Surapranata. (2016). *Peningkatan Kompetensi Guru dan Tenaga Kependidikan*. Jakarta: Kemendikbud
- Suryadi, R.A. (2016), *Visi dan Paradigma Pendidikan Agama Islam (PAI): Kualitas, Integratif, Dan Kompetitif*, *Jurnal Edukasi*, 4(2), 253-276.
- Tallerico, M. 2015. *Supporting and Sustaining Teachers' Professional Development: A Principal's Guide*. California: Corwin Press, A Sage Publications Company
- Trusov, M., Bodapati, A., & Bucklin, R.E. (2017). Determining Influential Users in Internet Social Networks. *Journal of Marketing Research*, 47(4), 643-658.
- Zapeda, S.J. (2015). *Professional development: What Works*. New York: Eye On Education