Teacher Professionalism Development in Constructive Collaborative-Based Scientific Article Writing

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Abstract: This research aimed to describe the prior condition of teachers' understanding and ability of writing scientific article, the form of teacher need, and teacher professionalism development management model in constructive collaborative-based scientific article writing. This research was conducted using research and development design with educator-certified teachers in Muhammadiyah Secondary Schools in Sukoharjo, Central Java, being the subject. Data was obtained through observation, interview, document analysis, questionnaire and FGD. The results of research were as follows: firstly teachers' understanding on scientific article was still low and their ability of planning, organizing, and publishing scientific article should be improved. Secondly, teachers had made some competency improvements either independently by attending workshop, seminar, and providing new textbooks or by attending discussion activity of subject teacher. Thirdly, teachers highly needed infrastructure and guidance in improving scientific article writing. Fourthly, the sustainable teacher profession development model in constructive collaborative-based scientific article writing material started with problem identification and then collaboration with group can motivate teachers in preparing scientific article.

1 INTRODUCTION

Development model is intended to be a framework in sustainable teacher profession development in scientific article writing field. The matters discussed include teachers' understanding on scientific work writing, activity forms, development need forms, and sustainable teacher profession development model in constructive collaborative-based scientific article writing. Constructive collaborative is a strategy of writing scientific article based on the problem found themselves and then collaborating with group to find the solution (Charlotte, 2005). The object of research consisted of educator-certified teachers in senior high schools in Muhammadiyah area of Sukoharjo, Central Java.

Teachers is a professional educators with the main duty of educating, teaching, guiding, leading, training, assessing, and evaluating the students in early age child education of formal education channel, primary and secondary education. The position of teachers as the professional serves to improve the teachers' dignity and role as the agent of learning and to improve the national education quality (Law No.14 of 2005). As the teaching staff, teacher is required to have competency or pedagogic ability thereby can transfer knowledge to the students. The role of teacher becomes very strategic in preparing high-quality human resource. Therefore, the improvement of teacher professionalism should be done continuously.

The development of teacher professionalism is conducted based on institution's need, teacher group, and teacher itself. According to Danim (in Syaefuddin Sa'ud, 2009), teacher development is intended to stimulate, to maintain, and to improve the quality of staff in solving organizational problems. Although teacher development based on institution need is important, the more important thing in teacher professionalism development is based on teacher's individual need to realize professionalism (Payong, 2011). Therefore, teacher professionalism development should be developed sustainably.

Speaking of sustainable teacher professionalism development, it can be found that many teachers, including those with Civil Servants status, are hindered with the requirement to write scientific article in their professionalism development. Meanwhile, scientific article writing ability becomes one indicator of teacher quality (Suhaenah, Kompas,

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22 April 2014), as through writing scientific work, teachers can reflect their various experiences. In Central Java Province, nearly 60% of Civil Servant teachers having achieved the 4tha space grade cannot be promoted to one higher level because they are inhibited by scientific article writing problem. Data shows that Secondary School teachers who have occupied the 4tha grade are 50.88%, while those who can be promoted to the 4thb and so forth are only 0.5% (Yunianto, 2007). Sumardjoko's (2013) study on the Model of Reinforcing the Certified Teachers through Interpreting Professionalism in the teachers of Public Senior High Schools in Sukoharjo, Central Java showed that the dominant factor causing the teachers' less successful professionalism improvement is their inadequate ability of conducting classroom action research and writing scientific article.

Furthermore, the next study conducted in Muhammadiyah secondary schools in Sukoharjo found that the development of sustainable teacher professionalism shows no clearly and systematically structured development. Therefore, considering the phenomena above, a constructivist-collaborative-based sustainable teacher professionalism model should be developed to improve the teachers' soft skills-transferable skills in writing scientific article writing.

Soft skill refers to interpersonal competency or personality. Career Opportunities News publication mentions that soft skills include positive skills to support personality. Soft skills can be motivation, respecting others, working in team, self-discipline, self-confidence, adaptation to commonly prevailing norms, and language or communication competency, either spoken or written. Teachers having positive soft skills are expected to master spoken and written communication and to have high job motivation thereby can work intensively under the pressure of product target and deadline. An individual having good soft skill is those that can be powerful in the future because he/she can manage his/her personal life, either internally into him/herself or externally in establishing relation with others.

Soft skills can build a well-established teacher personality. Considering the result of research on effective lecturers, it can be found some general phenomena that lecturers preferred by students are those having positive personality. Gordon's (1999) study found that eight out of 18 teaching competency statements are effective and the one having significant and positive relationship is personality type. The data indicates that 42.25% of competency variation can be predicted from personality type. Lecturer's personality type dimension having high score in the teaching effectiveness is whether or not the lecturer's presence is desirable, and whether or not they can work as hard as possible to complete the work fully and timely. The lecturer appreciating the specified procedure and authority believe that they will keep surviving as they have run their function well.

Considering the description above, the research is intended to describe the prior condition of teachers' understanding and ability of writing scientific article, the form of teacher need, and teacher professionalism development management model in constructive collaborative-based scientific article writing for Muhammadiyah teachers.

2 METHOD

This study was research and development, starting from preliminary study, development activity through field study process, model designing, model design tryout, to model validation. This research and development was taken place in Sukoharjo, Central Java Province. Data source included informant (teachers, headmaster, chairperson of primary and secondary education chamber [thereafter called *majlis dikdasmen*]) place or event (senior high school, vocational middle school, classroom, and learning circumstance), and document based on snowball sampling and purposive sampling. Data validation was carried out using source triangulation and review informant. Meanwhile, data analysis was conducted using an interactive model of analysis (Miles and Huberman, 1984).

3 RESULTS AND DISCUSSION

Considering the data per June 25, 2015, teachers and Muhammadiyah Secondary School can be described as follows. There are 11 schools including SMA, MA, and SMK with a total of 346 teachers. 116 teachers have attended educator certification (34.39%) and the rest of 227 (65.61%) have not. It indicates that the number of teacher having not attended certification program is larger than those having attended.

The 119 teachers having obtained educator certificate, by their personnel status, are divided into three categories: Civil Servant (PNS), Permanent Foundation Teacher (GTY), and Non-Permanent Teacher (GTT). There are 20 (16.81%) educator-certificated teachers with Civil Servant status, 72 (60.50%) with GTY status, and 27 (22.69%) with GTT status. This data of personnel status is interesting because many teachers with non-PNS status (83.19%) have obtained educator certificate, compared with teachers with PNS status. Then, by

education level, they are divided into two categories: master (postgraduate/S2) and graduate (S1). Ten teachers (8.40%) with postgraduate degree have obtained educator certification and 109 (91.60%) with graduate degree have obtained it. The data of education level shows that only few teachers with postgraduate degree, so that the number of teachers with graduate degree attending the higher level of education should be improved. By sex, 81 (68.07%) out of 119 Muhammadiyah Senior High School teachers in Sukoharjo who have obtained educator certification are males and 38 (31.93%) are females. The data of sex shows that male teachers still become the majority obtaining educator certification, compared with the male ones.

3.1 Mapping and Teachers' ability of writing scientific work

Scientific work is essentially the result of a scientist's thinking product that wants to develop science, technology, and art. This scientific thinking product was acquired from library study, experience, previous research, and others' knowledge. Interview with BS (June 5, 2015), related to scientific work concept, suggested that "The mastery of research concept inhibit me in Classroom Action Research (CAR). Sometimes when I prepared, I was confused whether or not it has been correct, so that finally I stopped to prepare it". SS, a history teacher, said "Actually historical learning finds many problems. For example, students' motivation, the effective delivery method, and relevant learning source. It can be the theme of classroom action research. But I do not master the concept of CAR completely. I am rather confused in writing the correct proposal and procedure. There is actually an example, but regarding different discipline, so I remain to find difficulty".

Information obtained from ES, as the Pancasila and Civic Education teachers on June 8, 2015, revealed that "Conducting a research is perhaps one of my weaknesses, because I did not write thesis when I studied at university". Meanwhile W stated: "The difficulty in conducting CAR generally lies on the development of research concept, from determining an appropriate title, problem statement, the theory used, to the method used. I would find difficulty if no one guided me".

The information from teachers of SMK Muhammadiyah 1 and 2 Sukoharjo was crosschecked with that from teachers of SMA Muhammadiyah 3, and SMK Muhammadiyah Watukelir, all of which concludes that there are still some constraints in understanding scientific work concept. Teachers' experience with scientific work writing is obtained

during Teacher Profession Practice Education (thereafter called PLPG).

Considering the questionnaire distributed, it can be found that the educator-certificated teachers' understanding on scientific work concept can be shown as follows: 15% understand, 55% understand poorly, 30% do not understand. That condition is in line with Sumardjoko's (2012) study finding that the constraints the teachers encounter in writing scientific work are as follows. Firstly, reading interest is low. *Secondly*, teacher has inadequate information about latest development activity. Thirdly, there is misperception. Teachers having inadequate information about scientific work misperceive the scientific work writing.

In addition, the poor understanding on scientific work writing is due to internal factor of corresponding teachers. Low motivation is one of internal constraints consisting of teachers having no reading habit, and having poor language ability. Laziness in trying is one factor inhibiting the teachers in starting to write scientific work.

3.2 Teacher Professionalism Development so far

3.2.1 Teacher's perspective

Basically any forms of self-development in educator-certified teachers have been done, despite less maximal. Teachers have conducted some self-development to fulfill and to improve pedagogic, professional, social, and personality competencies. The evidence of teachers' self-development activities can be seen from the result of interview with some informants. BS, as the Pancasila and Civil Education teacher in SMK Muhammadiyah 1 Sukoharjo (interview on June 5, 2015), stated that "I have read many books, attended workshop, and outbond so far. If those are done all, it think it is enough to improve the competency". This information is confirmed by a history teacher, SS, stating that "in addition to reading book, I also often browse in internet, because historical events will be found more easily in internet. I have ever attended seminar or workshop as well. It can support my competency as History teacher".

Information on teachers' development activity obtained from the two informants is similar to that obtained from H.Sm, the certificated teacher assuming entrepreneurship in SMK Muhammadiyah 1 Sukoharjo. ES, a Pancasila and Civic Education teacher (Interview on June 8, 2015), has also developed his competency and attended MGMP activity and then, bought laptop for browsing in internet, to search for recent information about civic issues. This information is confirmed by W assuming

Physical Education and Health, and Sgn assuming Indonesian language subjects.

Considering the description of data above, it can be found that educator-certificated teachers have conducted some activities so far to develop competency after have been certified. The activities conducted include attending workshop and seminar, buying newest textbook, attending MGMP activity, and discussing with fellow subject teachers. This demand for realizing teacher professionalism is in line with Hult and Edstrom's (2016) research finding that the improvement of teacher professionalism should be supported by the presence of accountability through significant evaluation and measures.

The attempts taken to improve teacher professionalism can be seen in histogram below.

Table 1: Teachers' Activities to Improve Professionalism.

Activity	Proportion %
Seminar	25 %
Workshop	20 %
MGMP	15 %
Discussion	10 %
Reading Book	10 %
Internet	5 %
Research	10 %
Social Activity	5 %

3.2.2 Headmaster's Perspective

The headmasters as the leader are also responsible for developing teacher professionalism in school. Many attempts have been taken by headmaster to support the certificated teacher in order to have better competency. HM, as the headmaster of SMK 2 Muhammadiyah Sukoharjo, states that he supports any teacher activities to develop competency. In the interview on June 8, 2015, he stated that "When there is an invitation for seminar or workshop, we will send our teacher, and we provide the fund as well. Teachers are given service trip document stamped by the committee of seminar/workshop. Then, the document is submitted to the school. MGMP activity is also supported, and particularly the place is provided, if necessary. Regarding teaching hour, we adjust it with teachers' need, particularly those certificated ones in order to be consistent with their teaching hour need. Many more activities can be conducted to develop teachers' competency".

Information from HM was then crosschecked with Mdj as the headmaster of SMK Muhammadiyah 1 Sukoharjo, and the result is similar. He said that the school management supports completely the development of teacher competency, despite some constraints. Similarly, Skn, as the headmaster of SMK Muhammadiyah Watukelir and SMA

Muhammadiyah Pontren Imam Syuhada always support every teacher activity in developing competency.

Considering the result of research, it can be found that headmasters have attempted to support and to facilitate the teachers in performing any activities in order to improve their pedagogic, professional, interpersonal and social competencies. The support includes: (1) encouraging the teachers to attend the seminar, (2) encouraging the teachers to attend workshop, (3) facilitating the activity of discussion with fellow subject teachers in respective school, (4) supporting the MGMP activity, (5) motivating the certificated old teachers to keep productive, (6) supporting teacher to organize social activity in religion holiday event, (7) supervising teacher activities in school, (8) encouraging the teacher to conduct research, and (8) participating in determining policy when distributing teachers' teaching hour. Many attempts and activities the headmasters can conduct to improve their professionalism sustainably, including scientific work writing, can be seen in the histogram below.

Table 2: Headmasters' Attempts of Improving Teacher Professionalism.

Activity	Proportion %
Seminar	25 %
Workshop	20 %
Discussion	15 %
MGMP	10 %
Motivation	8 %
Activity	7 %
Supervision	5 %
Research	5 %
Policy	5 %

3.2.3 Primary and Secondary Education Chamber's Perspective

The reality in the field represents that the Primary and Secondary Education Chamber of Muhammadiyah Sukoharjo tends to supervise, to support, and certified teachers' activity in developing their competencies. The system developed is bottom-up. It is characterized with any idea individual schools so that the Primary and Secondary Education Chamber supports only after the school takes action.

Limited role and function of teacher empowerment by Primary and Secondary Education Chamber of Muhammadiyah Sukoharjo and perhaps in other areas seem to be affected by many factors. The leadership of Primary and Secondary Education Chamber is largely held by non-teacher figure and retired teacher. As the private institution growing and developing from the bottom and having social

religious vision, *dakwah amar makruf nahi munkar*, some difficulties are found in realizing the professional school management. Most of Muhammadiyah schools manage the school by applying efficiency and effectiveness principles tightly. Therefore it is unsurprising that the Primary and Secondary Education Chamber often finds difficulties in funding the breakthrough and various activities intended.

3.3 The need for Sustainable Teacher Professionalism Development

Considering the result of document analysis and in-depth interview, it can be explained that teachers have attempted to develop their professionalism in some way, using development model: *"Individual Guided Staff Development"*. Teachers can assess their learning need and learn actively and direct themselves. They should be motivated when selecting the learning objective based on personnel assessment on their need. Independent professionalism development the Muhammadiyah teachers have done in Sukoharjo is consistent with the guidance of Sustainable Professionalism Development activity issued by government.

Meanwhile the constraints occurring in this development are: time, funding, age, school infrastructure, motivation, leader's policy, and access to internet network. Therefore, what is needed and attempted continuously are *firstly* the measures of simplifying anything related to learning administrative activity and evaluation by the policy makers in school; *secondly*, fund provision by Primary and Secondary Education Chamber or other sponsor in tapping to teacher activity. in this case, the Primary and Secondary Education Chamber is expected to be not only bottom-up but also up-down; *thirdly* changing policy from the leader of Primary and Secondary Education Chamber to make the position promotion more selective thereby pertaining to pedagogic, professional, interpersonal and social domains; *fourthly* providing access to internet; fifthly support from college in organizing workshop/seminar and other activities; and sixthly, scholarship support for advanced study.

3.4 Constructive Collaborative-Based Teacher Professionalism Development Management Model

Considering the result of preliminary study above, the development model developed was based on the teachers' need for writing scientific article to improve their professionalism. The model was developed constructively, meaning that it based on the problems found by the teachers themselves, while research team gives reinforcement and facilitation. It is in line with Moswela's (2006) research finding that teacher development program to achieve the intended objective should improve teaching and learning process and find out the need based on actual problems in the class. Then, regarding facilitation problem, it is in line with Raaen (2017) stating that the placement of mentor will show the teacher how research-based experience is relevant to teacher professional job. It is collaborative, meaning that teachers will collaborate with their group (a single same school/same study area), to produce scientific article. The attempts of finding solution constructively and to be collaborative in writing scientific article are the foundation to develop writing ability more easily and meaningfully based on the problems found by the teachers themselves. This model grows self-confidence and motivation among the teachers to write other scientific articles.

The measures of developing model are as follows. Firstly, analyzing the teachers' need for writing scientific article. Secondly, preparing draft constructivist-collaborative-based teacher professionalism development model. Thirdly, focus group discussion to solidify the model. Fourthly, accomplishing the model set. Meanwhile, the important components supporting the preparation of sustainable teacher professionalism development model in writing scientific article are as follows. Firstly, the participation of all stakeholder. Secondly, *Majlis Dikdasmen Muhammadiyah* constituting the key component determining the model implementation. Thirdly school providing infrastructure for teacher. Fourthly, teacher constituting the key component of model implementation. Fifthly, LPTK (Team of Teacher Training and Education Faculty) Surakarta Muhammadiyah University as facilitator and developer. Kempen and Steyn's (2016) study found that the constructivist-collaborative model becomes a choice to improve model corresponding to teacher need. This research serves as the example in which valuable internal and external network is created for the interests of all parties involved in this research the constructive collaborative-based sustainable teacher professionalism development model to improve soft skills-transferable skills – in scientific article writing for the educator-certified teachers in Muhammadiyah Secondary School of Sukoharjo is shown in the figure below.
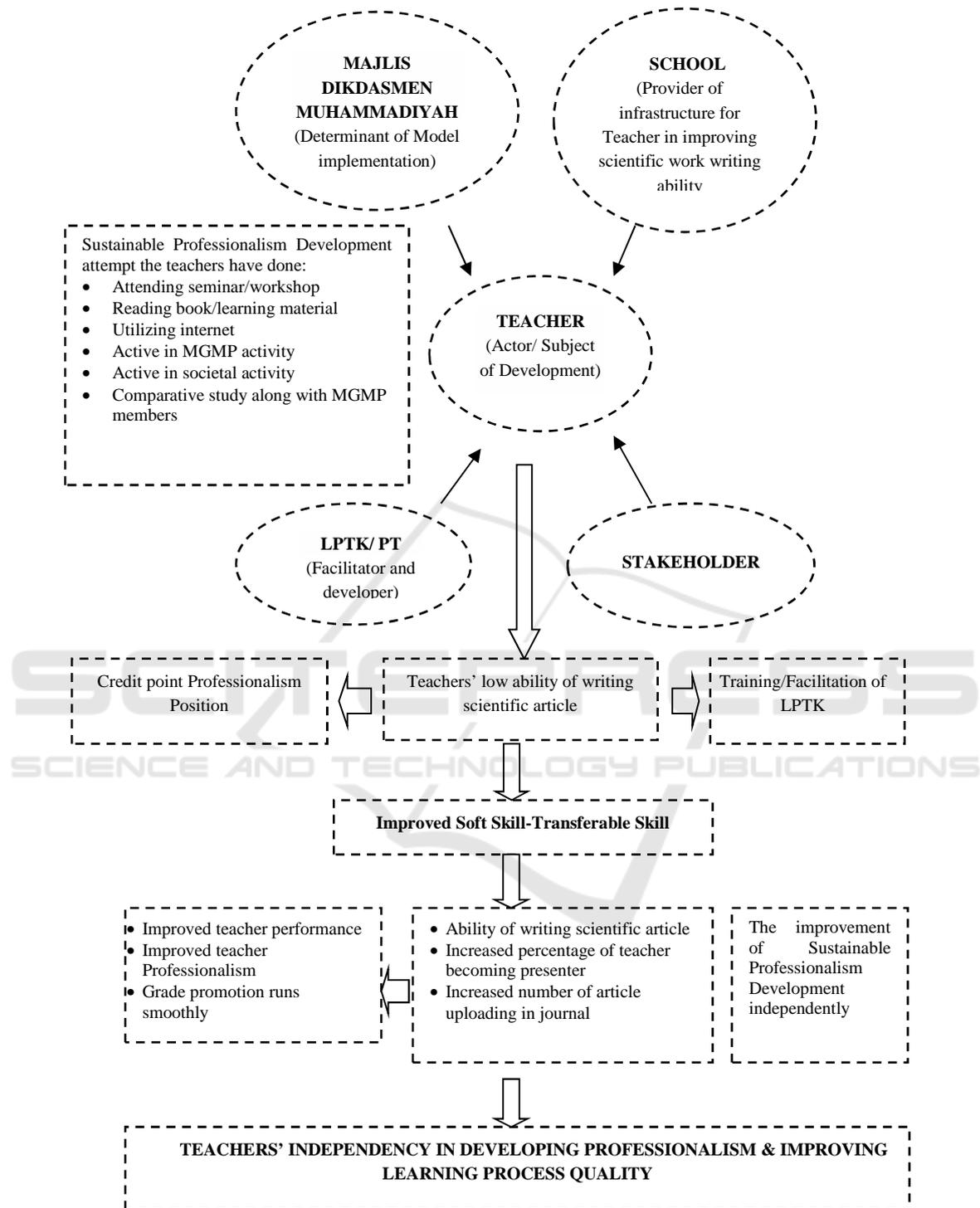
Figure 1: Sustainable Teacher Professionalism Development Model.

4 CONCLUSIONS

Firstly, teachers' understanding on scientific article writing has not been good entirely. Teachers' experience with writing scientific article was mostly done during teacher professionalism training (PLPG). *Secondly*, teachers have done a variety of activities to develop their competency independently by attending workshop, seminar, buying the new lesson text, attending *Subject Teacher Discussion* (MGMP) activity, and discussing with fellow subject teachers. *Thirdly*, to develop scientific article writing, the educator-certified teachers still find constraints such as time, fund, age, school infrastructure, motivation, leader's policy, and access to internet network. *Fourthly*, the constructivist-collaborative-based sustainable teacher professionalism development model to improve teachers' soft skills-transferable skills in writing scientific article is integrated in nature. In this development model, n writing scientific constructively, teachers start with identifying problem and then collaborating with their group so that the constraint in developing scientific article can be solved well.

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