The Development of Academic Supervision Learning Material for the Education and Training of Prospective School Principal Preparation Program

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Abstract

The objective of this research and development is to arrange an academic supervision learning material for the education and training of School Principal Preparation Program that can support or improve the supervisory competency dimensions owned by the participants of the education and training of Prospective School principal Preparation Program so that they can implement the supervision well.

This research employed the R*esearch & Development (R & D)* approach with the following phases: (1) introduction phase which was done through field survey in Karanganyar regency of Central Java province, Jeneponto regency of South Sulawesi province, and Gunung Kidul regency of Yogyakarta Special Region province and which aimed at invsetigating the problems encountered in the use of academic supervision learning material for the education and training of Prospective School Principal Preparation Program; (2) development phase which included the design and development of learning material, experts' validation, and limited experimentation in Bangka regency of Bangka Belitung province as well as extended experimentation in Blitar city of East Java province and which aimed at attaining the product of a set of learning material already developed and ready for use in education and training of prospective school principal preparation program; and (3) evaluation phase, in which Effectiveness Test 1 was conducted in Malinau regency of East Kalimantan province and Effectiveness Test 2 was held in Magelang regency of Central Java province; both of which aimed at testing the reliability of the attained product, that is, measuring the effectiveness level of the academic supervision learning material.

The findings of the field survey show that a further development on the academic supervision learning material for the education and training of Prospective School Principal Preparation Program is required as indicated by the result of the quantitative data processing with the average index of 2.15, which is in the less good category. The development phase produces a set of academic supervision learning material for the education and training of Prospective School Principal Preparation Program, which consists of Design and Construction of Education and Training Program, lesson plan, and slide material which is used in the education and training of Prospective School Principal Preparation Program. The average score of product validation in the aspect of material substance is 4.75, which is in the good category and that of product validation by media experts is 4.32, which is in the good category. The limited experimentation shows that average score of the education and training participants' achievement increases up to 9.895. Meanwhile, the extended experimentation shows that that average score of the education and training participants' achievement increases up to 23.636. Effectiveness Test 1 and Effectiveness Test 2 show that there is a significant difference in the final ability of the control group and the experimental group. The average score of the students using the developed academic supervision learning material is higher than that of the students using conventional one as indicated by the average score of the conventional one that is 12.325. Thus, the results of the use of the developed learning material can support the academic supervision competency dimension owned by the prospective school principals particularly in improving the conceptual skills of academic supervision of the participants of the education and training of Prospective School Principal Preparation Program.

Keywords: Development of academic supervision learning material.

1.   Introduction

In this globalization era all walk of life faces big challenge for its existence to be recognized, which also applies to the field of education. Competition in the field of education cultivates education practitioners such as educators and education personnel, who continuously have to develop themselves so as to be able to keep up with the changing times. This educational competition happens not only between educational institutions within the country but also with those from abroad.

To anticipate such a phenomenon, educational practitioners need to start improving the operation of their school organization. A school principal as the main person in charge in conducting the school organization has the responsibility to develop him/herself. The self-development of the school principal will positively affect in the school development, which finally will increase the quality of the school. The quality improvement of the school

will be realized if the school principal is able to execute his/her duties and functions well.

The duties of the school principal encompass; (a) managerial duties, (b) supervisory duties, and (c) entrepreneurial duties. According to those duties, a school principal has roles or duties as a manager as well as a supervisor. School principal as a manager has to be able to carry out managerial duties related to school organization, so that all resources can be obtained and utilized optimally to achieve the school objectives in an effective and efficient way. School principal as a supervisor has duties to supervise the work execution by both the teachers and the staffs, to ensure that they work well and to maintain the quality of the process and the results of schooling. Other duties of the school principal, that is, entrepreneurial duties comprise: (a) inventing useful innovation for the school/*madrasah* development; (b) working hard to achieve the school's success as an effective learning organization; (c) having great motivation to succeed in executing his/her duties and functions as the leader in the school/*madrasah* (d) Never giving up and always seeking for the best solution in dealing with every obstacle faced by the school/*madrasah*; and(e) having an entrepreneurial instinct in managing the school/*madrasah* activities as the learning source for learners.

To perform the aforesaid duties and functions, the school principal should have competencies that can fully support those duties (managerial, supervisory, and entrepreneurial). Regulation of the Ministry of National Education Number 13 of 2007 mentions five competency dimensions that should be owned and mastered by the school principal to be able to carry out his/her duties, functions, and responsibilities as a principal. Those five competency dimensions are (a) personal competency, (b) social competency, (c) managerial competency, (d) supervisory competency, and (e) entrepreneurial competency.

Those five competency dimensions can be mastered by the school principal through activities that can increase his/her competencies. Those activities are in the form of education and training program commonly called the education and training of Prospective School Principal Preparation Program (*diklat*). In the *diklat* of competency enhancement for the school principal, the participant gets the following materials; (a) Character Education, (b) Instructional Leadership, (c) School-based Management, (d) Entrepreneurship, (e) Academic Supervision, and (f) School Action Research. Those materials are given by the source person or instructor who is commonly called *widyaiswara*. *Widyaiswara* delivers those materials using adult learning approach, or andragogy. Through the previously mentioned *diklat*, a school principal is expected to master all five competency dimensions (personal, social, managerial, supervisory, and entrepreneurial).

That expectation is not exactly materialized; as based on the field study, there are many school principals who are not yet able to master those five competency dimensions, so that they are unable to carry out their duties and functions well. It is supported by the findings of a national survey executed by an institution that has the authority in school principal development, namely *Lembaga Pengembangan dan Pemberdayaan Kepala Sekolah*/*LPPKS* (the Development and Empowerment Agency for School Principals). *LPPKS* had conducted competency mapping toward 9.105 school principals in 31 provinces in 2010 and there were two competency dimensions which gained relatively low mastery levels, namely supervisory and social competencies (Kompas, 22 March, 2011). In this particular time, the researchers focus on the supervisory competency. It is due to the fact that a school principal's supervisory competency is closely related to a school principal's main duty and function, namely supervisory duty.

Supervision is one important component in instructional leadership other than human resource development and curriculum development (Bush, Bell & Middlewood, 2010). The quality of the graduates will not be satisfying if the school principal does not carry out the supervision well and vice versa. Through the school principal's learning supervision, teachers will carry out the learning process well, so that the students can comprehend the materials well in each level. By the end of the school levels, they will graduate well.

The findings of the field survey present information that one reason for the low supervisory competency level is that the school teacher has not had a full comprehension on supervision. The school principal's lack of comprehension on supervision causes him/her to do it in the way that is not in accordance with the supervision implementation guidance. All this time, the school principals carry out the supervision only when a teacher proposes a promotion. The school principal supervises the teacher's administrative condition. The administrative requirements are the focus of that supervision. Sometimes the school principal does not even scrutinize its content; he/she only reads it at glance before signing or affirming the administration file made by the teacher. Since the school principal does not scrutinize the administration file well, the teachers make the file perfunctorily, or even only copy other teacher's administration file. It is found that many teachers do not make their own syllabus and lesson plans; instead they only copy them from other teachers. If this condition is allowed to go on unheeded, a bad working administrative pattern will occur. The school principal as the teacher supervisor should execute his/her duties in supervising the administrative file composed by the teacher well.

The school principal's inadequate comprehension on supervision also causes him/her not to supervise the classes to monitor the class learning situation. To supervise the learning process executed by the teacher is urgently needed since the learning process is the spirit of the educational process in a school. If there is no supervision,

each teacher will teach whatever way he/she wants; which sometimes does not follow the present scientific development. In turn, the students learning achievements will be affected and will not be as expected.

In other places, some of the school principals have done the supervision on the teacher's learning process, yet most supervision is carried out using inappropriate techniques and approaches; for example, the school principal only reads the syllabus and lesson plans at glance rather than scrutinizes them. Other example is that the school principal only fills the supervision instruments in his/her office without directly supervising the teacher first. Those kinds of mistake will not happen if the school principal comprehends the essence of supervision well.

A way to overcome the aforementioned problems is through education and training to reinforce a person competency before he/she serves as a school principal. Therefore, government through the Ministry of National Education issued the Regulation Number 28/2010 on the assignment of teachers as a school/*madrasah* principal. That regulation contains preparation system of school/*madrasah* principal. It is stated in its implementation guidelines that a teacher, before getting additional duty as a school principal or chosen to be a school principal, has to follow one process - that is the education and training process (*diklat*) for a prospective school principal. That education and training of School Principal Preparation Program is expected to help the school principal candidates to master the five competency dimensions, one of them is supervision of academic competency.

In the education and training of prospective school principal preparation program, some supporting factors are needed for its success; one of which is the training material or the learning material used in the *diklat*. There are several learning materials given in the school principal education and training of School Principal Preparation Program such as academic supervision learning material. The learning materials which will support the success of the training are the materials which abide the principles in constructing learning materials, namely: (a) the relevance principle, (b) consistency, and (c) adequacy (*Depdiknas*, 2006).

In this occasion, the researchers executed a research or a study on the learning materials for the subject of academic supervision in the education and training of School Principal Preparation Program. It is found in the study that the material content of the academic supervision learning material that has been given up to present has not yet been compliant with the principles of consistency and adequacy. Contemplating its writing structure, the characteristic of the 2010 academic supervision learning material consists of three learning activities, each systematically different. The first learning activity consists of material and assignment. The second learning material comprises material, case study, and exercise. The third learning material contains material, assignment, and case study. The different systematic arrangements in each learning activity demonstrate that the material, in terms of structure, has not yet fulfilled the principle of consistency. Moreover, the supervision instrument has not yet been discussed or attached in the learning material, which is actually an absolute necessity in the academic supervision activity.

The researcher also did a preliminary research in the form of field survey on the use of learning materials in the education and training of School Principal Preparation Program. That field survey was carried out with the objective to investigate the problems related to the learning materials used in the education and training of School Principal Preparation Program. The first survey was performed in Karanganyar regency of Central Java province, the second one was carried out in Jeneponto regency of South Sulawesi province, and the third one was in Gunung Kidul regency of Yogyakarta Special Region Province The result of the data processing of the third field survey is presented in the following table:

Respondents	Score	Average
A-S	491	40.92
Average	25.8	**2.15**

Table 1: The result of the third field survey on the education and training of School Principal Preparation Program, Gunung Kidul regency

Based on the preliminary survey data processing, the average index is 2.15 or in the less good category (Adapted from Suharsimi Arikunto, 2004).

Based on the result of the study and the preliminary survey on the learning materials that have not been developed, the researchers will develop academic supervision learning material. In this developed material, all academic supervision competency indicators will be developed completely. Thus, all competencies, sub competencies, and indicators will be present in the learning material, which in turn, will optimize the learning activity of the academic supervision for the education and training of Prospective School Principal Preparation Program.

2. Problem Statement

Based on the previous explanation, the problem statement of this research is formulated as follows:

2.1   What kind of academic supervision learning material for the education and training of Prospective School Principal Preparation Program can support supervision competency dimension owned by the trainees / the prospective school principals?

3.   Objective
The objective of this research and development is the construction of academic supervision learning material for the education and training of Prospective School Principal Preparation Program that can support supervisory competency dimension owned by the trainees/the prospective school principals.

4.   Specification of Developed Product
The product produced in this research is a set of academic supervision learning material for the education and training of Prospective School Principal Preparation Program. The set mentioned above is the core learning material or the teaching material, supported by other set of learning material, namely RBPMD (*Rancang Bangun Program Mata Diklat* / Design and Construction of Education and Training Program), RP (*Rencana Pembelajaran* / lesson plan), and the Visual/slide material used in the education and training of Prospective School Principal Preparation.

The core learning material or the teaching material is in the form of book, which contains academic supervision teaching materials. The teaching material is presented in the forms of concept, principle, fact, and procedure. Those four are packed and organized in the sequence of subject matter, case study, assignment, and summary. *RBPMD* (Design and Construction of Education and Training Program) is a syllabus presented in particular columns. Those columns contain competency, indicator, subject matter, learning activity, learning media, scoring, time allotment, and references that are being applied. *RP* (lesson plan) is an elucidation of *RBPMD* (Design and Construction of Education and Training Program). The number of *RP* equals the number of sub competencies in the *RBPMD*. *RP* contains an elucidation of each aspect in *RBPMD* such as; learning activity, learning media, scoring, and time allotment. The academic supervision visual/slide material is in the form of power-point visualization used by the trainers in executing the learning process in the class.

Those aforementioned learning material set is used simultaneously in academic supervision course for the education and training of Prospective School Principal Preparation Program, so that the trainees get a complete picture of the academic supervision concept. Thus the learning results using that learning material set will be better than those using the old learning material that has not yet been developed.

5.   Benefit of Development
The theoretical benefit of this research is for the educational science development related to education supervisory competency owned by the school principal. The practical benefit for the school principal is as a referral or a reference in doing his/her job as a school principal, especially to execute the supervision in his/her school. As for the institution related to school principal development, the benefit is that it helps the implementation of the school principal development and empowerment, especially in the prospective school principal preparation.

6.   Theoretical Review
6.1   Learning Material
According to Winkel (2009) learning material is every learning material that is expected to be had and to be transferred to or comprehended by a trainee, so that it becomes his/her own, and thus, in the end, he/she will possess that competency. The learning material mentioned in this research is a set of material (knowledge, skill, and attitude), that is structured systemically in the form of printed as well as non-printed materials and used by the instructors to carry out the learning activity for the education and training of prospective school principal preparation. The steps to create this learning material are: (a) identifying the aspects in competency, sub-competencies, and indicators, (b) choosing the types of learning material, (c) composing and developing the learning material, (d) doing the learning material evaluation, and (e) doing the revision based on the evaluation results.

6.2   Academic Supervision
As stated by Wiles (1982), "Supervision is assistance in the devolepment of a better teaching learning situation". Whereas Glickman, Gordon, & Ross. (2007) state that academic supervision is a set of activity to help the teacher to develop his/her ability to manage the learning process in order to achieve the learning objectives. The academic supervision referred to in this research is a set of activity, which encompasses preparation, implementation, and follow-up, which helps teacher to develop his/her ability to manage the learning process in order to be able to achieve the learning objective. Concurrently, Sergiovani (1982) asserts that the objective of the supervision is professionalism development, motivation growth, and quality control.

On the other hand, Glickman, Gordon, & Ross (2007) affirm that the objectives of the academic supervision cover; (a) helping the teacher to develop his/her potency, (b) developing the curriculum, (c) developing the teachers' working group and guiding classroom action research.

Bramley (1996) states that supervision techniques consist of individual and group techniques. Some individual supervision techniques are; classroom visitation, classroom observation, private conversation, cross-classroom

visitation, and self-evaluation. On the other hand, the examples of group technique are; panel of forum discussion, curriculum laboratory, directed reading, demonstration teaching, professional libraries, supervisory bulletin, teacher meeting, professional organization, and workshop of group work.

6.3 Education and Training

According to Shahruddin dan Abiddin (2009) an education and training (*diklat*) is an activity which is designed to develop skill, knowledge, and attitude in an organization or work place. An education and training program always gives experience and education to develop skill, knowledge, and attitude in the work place. The education and training program referred to in this research is a learning process to enhance the prospective school principal's personality, knowledge, and ability. Its goals and objectives are (1) enhancing knowledge, expertise, skill, and attitude in order to be able to perform the duties professionally as a school principal, based on ethics and personality that are needed by his/her school, (2) creating school principal that is capable to play the role of an educational reformers in Indonesia, (3) establishing the attitude and the spirit of devotion as a school principal who is oriented him/herself to serve, protect, and empower the community, (4) creating common vision, mission, and mindset dynamics in performing the task as a school principal for the sake of establishing an outstanding educational advancement.

Education and training program as a system is a set of components or elements or subs-systems, each interacts to one another to change the working competency of a staff or an employee or a person so that the person in question can perform better in his/her job through the learning process in the education and training activity.

Robert Goodwin (2013) states that one thing that determines the success of education and training program is the education and training type selection. The education and training types are; (1) face to face, (2) In-house training, (3) Webbased, and (4) Blended. Swati & Khodke (2010) assert that an education and training program will be effective when it uses various methods that accommodate the different adult learning styles. Some adults learn by writing, others by listening to many spoken information.

The curriculum of the education and training of Prospective School/*Madrasah* Principal Preparation Program (*Diklat Calon Kepala Sekolah/Madrasah*) is developed based on the results of professional development need analysis (*Analisis Kebutuhan Pengembangan Keprofesian/AKPK*) that have 5 dimensions of competencies namely: personal, managerial, entrepreneurial, supervisory, and social competencies. The curriculum of the education and training program consists of syllabus, program structure, courses, and courses descriptions.

The activity of the education and training of Prospective School/*Madrasah* Principal Preparation Program is a face to face activity that is held in the minimum duration of 70 hours, 45 minutes each. The program material encompasses general material, core material, and supporting material. The general materials comprise: (1) policy and (2) program orientation. The core materials consist of: (1) managerial competency development, (2) academic supervision competency development, and (3) character education (personal, social, and entrepreneurial competencies). The supporting materials are: (1) pre-test and post-test, (2) education and training evaluation, and (3) leadership follow-up plans. Pre-test and post-test encompass knowledge on managerial competency and academic supervision. Pre-test is carried out in the beginning of the program to find out the extent of the trainees understanding on the managerial and supervisory materials. A post-test is executed in the end of the program to learn about the trainee comprehension during the education and training of Prospective School/*Madrasah* Principal Preparation Program. In the end of the program, an education and training evaluation, encompassing the execution, the program, and the speakers' evaluations is conducted.

7.   Research method

The research approach used the research and development method. Gall, Gall, & Borg (2007) states that "Educational R & D is an industry-based development model in which the findings of research are used to design new products and procedures, which then are systematically field-tested, evaluated and refined until they meet specified criteria of effectiveness, quality or similar standards.".

The Research and Development Procedure employed in the research used the system of Dick, Carey, & Carey mentioned in Gall, Gall, & Borg (2007) as follows: "A widely used model of educational research and development is the systems approach model designed by Walter Dick, Lou Carey, and James Carey which is shown in Ten Steps are included in this version of the R & D cycle". Those ten steps consisted of; (1) assessing needs to identify goal(s), (2) conducting instructional analysis, (3) analyzing learners and contexts, (4) writing performance objectives, (5) developing assessment instruments, (6) developing instructional strategy, (7) developing and selecting instructional, (8) design and conducting formative evaluation of instruction, (9)revising instruction, (10) designing and conducting summative evaluation.

Ten steps in the R & D Dick & Carey model that is adapted by Gall, Gall, & Borg (2007:590) were then adapted and adjusted to the research and development procedure that would be carried out in this research into three major steps. The three steps encompass the preliminary, development, and evaluation steps. The preliminary step included field survey and literature review; the development step covered the activities of learning material design and development, the expert evaluation/validation, limited experimentation, and extended

experimentation; and the evaluation step contained the first and the second effective tests.

The sampling method used is the purposive sampling, that is, the one that directly refers to the objectives of the implementation of the academic supervision learning material, used in the education and training of Prospective School Principal Preparation Program that is held by the city or regency in collaboration with *LPPKS* (School Principal's Development and Empowerment Agency) Indonesia.

The data of the research were gathered through questionnaire, observation, and in-depth interview techniques. The questionnaire dissemination used the close questionnaire as well as open questionnaire. The observation was carried out during the learning process in the course of the education and training program. The interview was carried out to dig deeper into the observation and questionnaire results. The data were then quantitatively were tested by using the t-test. The qualitative data were then analyzed by using the interactive analysis model (Miles& Huberman, 1984). The interactive analysis encompassed three stages namely: (1) Data Collecting, (2) Data Reduction, (3) Data Display, and (4) Verification/Conclusion.

8.   Result and Discussion
8.1 Preliminary Stage

The preliminary stage was held in July - November 2011. This stage took a form of exploration study with the purpose to get a picture of the learning process of the education and training of Prospective School Principal Preparation Program that had been held in several cities/regencies. In this stage, problem in the implementation of academic supervision learning material is found. The exploration study was held in three places namely Karanganyar regency of Central Java province, Jeneponto regency of South Sulawesi province, and Gunung Kidul regency of Yogyakarta Special Region province. The source of data in this research were (1) the prospective school principal trainees, (2) the learning activities or classroom during the education and training program, (3) literature and document analysis (in the form of academic supervision learning material used in the education and training of Prospective School Principal Preparation Program).

The results of the preliminary study in the form of field survey have been documented as follows; (1) From the first field survey, it is found that compared to the other education and training courses, academic supervision and school administration staff coaching get the biggest percentage of 36%, 27%, and 55% respectively for academic supervision and 18%, 18%, and 36% respectively for school administration staff coaching, which shows that those two courses contained big problems that need to be solved. The results of the first survey in the preliminary stage shows that there are two education and training courses that need special attention since the trainees consider the learning materials as difficult to understand, easy to be applied, or very beneficial in the field. Those two courses are academic supervision and school administration staff coaching. (2) The results of the second survey in the preliminary stage show that 47.83% respondents state that the systematics of the writing of the academic supervision learning material is not yet written systematically, 43.48% respondents state that the content of the academic supervision learning material is not yet complete nor is it detailed, and 56.52% respondents give suggestions on the importance of material addition and more detailed material explanation. Of the school administration staff coaching, it shows that 39.13% respondents state that the systematics of the writing of the school administration staff coaching learning material is not yet written systematically, 43.48% respondents state that the content of the learning material is not yet complete nor is it detailed, and 21.74% respondents state that the school administration staff coaching learning material need to be itemized so that it can be applied easily. Based on the above analysis and the results of the survey executed by the School Principal's Development and Empowerment Agency, further inquiry is focused on the academic supervision learning material. (3) Before the third survey in the preliminary stage is performed, the instrument is constructed and tried out. The result of the experimentation shows that of the 17 items in the instrument, 15 are deemed valid, when using the Critical Values for the correlation Coefficient df: 9 (N-2 = 11–2=9) with the level of significance 5% = 0.666. The instrument is declared as reliable with coefficients alpha 0.689. Two items are invalid, Numbers 4 and 17, thus, those two are not used in the third field survey data collection. In the third survey in the preliminary stage, the result of the data processing of the closed questionnaire shows the average of 2.15 which is in the less good category. Meanwhile, those of the open questionnaire conclude that further development of the learning material is needed so as to make it easier to understand and to apply in the school. (4) The result of the study shows the flaw of the academic supervision learning material; in which the material has not fulfilled several principles in learning material construction, namely consistency and adequacy due the inconsistency of the learning material with the competency, sub competency, and indicator that needed to be comprehended by the trainees. In the academic supervision learning used at present, there are 13 competency indicators that have not been developed yet. The result strengthens the need for further development

8.2 Development Stage

The development stage covers the followings; Learning Material Design, Experts' validation, Limited Try-out, and Extensive Try-out executed from November 2011 until August 2013. The learning material design is carried out to get a set of learning material that is available for the education and training of Prospective School

Principal Preparation Program. Experts' validation is performed to gain the good learning material validity level. Try-out is executed to obtain inputs in the field on the weaknesses of the developed learning material. After the learning material is designed, it is validated by the experts from Yogyakarta State University and Semarang State University. The limited try-out is executed in Bangka regency of the Bangka Belitung province, and the extensive try-out is performed in Blitar regency of East Java province.

The result of the development stage is that the developed learning material contained (1) Design and Construction of Education and Training Program, (2) Lesson Plan, (3) Learning Material, (4) Visual/Slide Material, that consists of 9 learning activities. Each learning activity contains; (a) introduction, (b) material description, (c) case/exercise, (d) evaluation, and (e) reflection.

The result of the material experts' validation shows the average score of 4.84 which is in the good category, that of the media experts' validation gets the average score of 4.13 which is in the passable category, and that of the instrument experts' validation gains the average score of 4.50 which is in the good category. Practitioners' validation earns the score of 4.32 which is in the good category.

In the limited try-out result of the average of the five aspects (content feasibility, presentation, readability/language, graphics, and adequacy) of the response of the trainees on the academic supervision learning material is 4.62 which is in the good category. The calculation of the results of the pre- and post-tests on the training implementation using the developed material shows that the empirical values of t scores 6.235. The result is then consulted with the value of t $_{table}$ achieved through the search of the value of freedom degree (d.b). The degree of freedom for the formula application is (N-1), thus for the calculation, d.b is 19-1 = 18. From the value of t $_{table}$, it is found that at the significance level of 5%, the required value of t is $\geq$ 2.101. When the empirical value of t test = 6.235 is consulted to the value of t $_{table}$ at the significance level of 5%, the result is greater than that of t table (t = 6.235 > 2.101) at the significance level of 5%. The result of the analysis shows that at the significance level of 5%, the empirical value of t is greater than the values of t $_{table}$, and as such concludes that there is a significant difference between the pre- and post-tests. The difference is noticeable in the average increase of 9.895. Thus it can be concluded that the use of the developed academic supervision learning material is proven effective to enhance the trainees learning achievement.

In the extended try-out result of the average of the five aspects (content feasibility, presentation, readability/language, graphics, and adequacy), the response of the trainees on the academic supervision learning material is 4.72 which is in the good category. The calculation of the results of the pre- and post-tests on the training implementation using the developed material shows that the empirical value of t scores 8.091. The result is then consulted with the value of t table achieved through the search of the value of freedom degree (d.b). The degree of freedom for the formula application is (N-1), thus for the calculation, d.b is 22-1 = 21. From the value of t $_{table}$, it is found that at the significance level of 5%, the required value of t is $\geq$ 2.080. When the empirical value of t test = 8.091 is consulted to the value of t $_{table}$ at the significance level of 5%, the result is greater than that of t $_{table}$ (t = 8.091> 2.080) at the significance level of 5%. The result of the analysis shows that at the significance level of 5%, the value is greater than that of t $_{table}$, and as such concludes that there is a significant difference between the pre- and post-tests. The difference is noticeable in the average increase of 23.636. Thus it can be concluded that the use of the developed academic supervision learning material is proven effective to enhance the trainees learning achievement.

8.3 Evaluation Stage

The evaluation stage was performed from September to October 2013. This stage is the stage to test the product, which is in the form of academic supervision learning material, to assess the product effectiveness. The location for the first product testing is in Malinau regency of East Kalimantan province, involving 28 trainees as its respondents. The location for the second product testing is in Magelang regency of Central Java province, involving 38 trainees as its respondents.

In the first effectiveness testing, the analysis of the pre-test results of the control group and experimental group using the t-test shows the score of the empirical values of t = 0.987. The result is then consulted to the value of t $_{table}$ achieved through the search of the value of freedom degree (d.b). The degree of freedom for the formula application is (N-1), thus for the calculation, d.b is 14-1 = 13. From the value of t $_{table}$, it is found that at the significance level of 5%, the needed value of t is $\geq$ 2.160. When the empirical value of t test = 0.987 is consulted with the value of t $_{table}$ at the significance level of 5%, the result is less than the value of t $_{table}$, t = 0.987 < 2.160 (the t table score) at the significance level of 5%. Thus, the conclusion is that there is not any significant difference between the pre-test results of the control and the experimental groups. In other words, it can be said that there is not any significant difference present between the pre-test result of the trainees using the academic supervision material that has not yet been developed and the pre-test result of the trainees using the developed academic supervision material.

In the first effectiveness testing, the analysis of the post-test results of the control group and experimental group using the t-test shows the score of the empirical value of t = 10.416. The result is then consulted to the value of t $_{table}$ achieved through the search of the value of freedom degree (d.b). The degree of freedom for the formula

application is (N-1), thus for the calculation, d.b is 14-1 = 13. From the value of t $_{table}$, it is found that at the significance level of 5%, the needed value of t is ≥ 2.160. When the empirical value of t test = 10.416 is consulted to the value of t $_{table}$ at the significance level of 5%, the result is greater than the value of t $_{table}$, t = 10.416 > 2.160 (the t table score) at the significance level of 5%. Thus, it can be concluded that there is a significant difference between the results of the post-test of the control group and of the post-test of the experimental group. In other words, it can be said that there is a significant difference present between the pre-test result of the trainees using the academic supervision material that had not yet been developed and the pre-test result of the trainees using the developed academic supervision material.

From the analysis of the experimental group pre- and post-tests scores, the score of the empirical value of t test is 4.490. The result is then consulted to the value of t $_{table}$ achieved through the search of the value of freedom degree (d.b). The degree of freedom for the formula application is (N-1), thus for the calculation, d.b is 14-1 = 13. From the value of t $_{table}$, it is found that at the significance level of 5%, the needed value of t is ≥ 2.160. When the empirical value of t test = 4.490 is consulted to the value of t $_{table}$ at the significance level of 5%, the result is greater than the value of t $_{table}$, t = 4.490 > 2.160 (the t-table score) at the significance level of 5%. Thus, it can be concluded that there is a significant difference between the results of the pre-test and the post-test. The difference is noticeable in the average increase of 11.429. Thus it can be concluded that the use of the developed academic supervision learning material is proven effective to enhance the trainees learning achievement.

From the second effectiveness test in Magelang regency of the Central Java province, it is concluded that the implementation of the developed academic supervision learning material shows a very effective result. The analysis of the post-test results of the control group and experimental group using the t-test shows that the score of the empirical value of t test is 12.323. The result is then consulted to the value of t $_{table}$ achieved through the search of the value of freedom degree (d.b). The degree of freedom for the formula application is (N-1), thus for the calculation, d.b is 19-1 = 18. From the value of t table, it is found that at the significance level of 5%, the needed value of t is ≥ 2.101. When the empirical value of t test =12.323 is consulted to the value of t $_{table}$ at the significance level of 5%, the result is greater than the value of t $_{table}$, t = 12.323 > 2.101 (the t-table score) at the significance level of 5%. Thus, it can be concluded that there is a significant difference between the results of the post-test of the control group and of the post-test of the experimental group. In other words, it can be said that there is a significant difference between the pre-test result of the trainees using the academic supervision material that has not yet been developed and the pre-test result of the trainees using the developed academic supervision material. The average of the result of the experimental group is higher than that of control group.

In the experimental testing of the education and training implementation using the developed learning material, the score of the empirical value of t is 8.289. It is then consulted to the value of t $_{table}$ achieved through the search of the value of freedom degree (d.b). The degree of freedom for the formula application is (N-1), thus for the calculation, d.b is 19-1 = 18. From the value of t $_{table}$, it is found that at the significance level of 5%, the needed value of t test is ≥ 2.101. When the empirical value of t test of 8.289 is consulted to the value of t $_{table}$ at the significance level of 5%, the result is greater than the value of t $_{table}$, t = 8.289 > 2.101 (the t table score) at the significance level of 5%.

Based on the analysis, at the significance level of 5% the result is greater than the value of t. Thus, there is a significant difference between pre- and post-tests. The difference is noticeable in the average increase of 23.579. Thus it can be concluded that the use of the developed academic supervision learning material is proven effective to enhance the trainees learning achievement.

9. Conclusion

In the first and the second effectiveness testing, there are significant differences on the trainees' final achievement in the academic supervision conceptual mastery. Trainees who use developed academic supervision learning material get higher average scores. It proves that the utilization of the developed learning material brings about more effective results. The resulted academic supervision learning material can underpin the supervisory competency improvement owned by the prospective school principals. That learning material has the following characteristics:

1) The teaching materials in the learning material are arranged in 9 learning activities which correspond to the number of the basic sub competencies in the supervisory competency dimension. The structure of the presentation of the learning material is organized starting from the introduction, followed by the first learning activity up to the ninth learning activity. Each learning activity consists of introduction, core material, exercise/case, evaluation, and reflection. Introduction is needed as a mediator of thought for the trainees to get into the materials discussed in the learning activity. The elucidation of the core material is utilized to instill trainees' comprehension of the content of the material that has to be understood in the learning activity. Exercise/case is employed to sharpen the trainees' comprehension on the problems of the school, especially those in relation with the material gotten in the learning activity. Evaluation is used to investigate the trainees' level of achievement on the learning material in the learning activity. Reflection is utilized as introspection for

the trainees in joining a series of activities in the learning activity.

2) The content of the learning material accommodates all sub competencies as stated in Decree of the Ministry of National Education Number 13 of 2007 on the school principal's competency dimensions, especially on the supervisory competency dimension. The developed learning material has fulfilled 3 core competencies of academic supervision, 9 sub competencies, and 33 indicators of the sub competency achievement. Those three competencies are: planning the academic supervision for the sake of teacher professionalism, executing the academic supervision on the teacher using the correct approach and technique, following up the result of the academic supervision in order to enhance teacher professionalism.

3) Moreover, the teaching material in the learning material is already compliant with curriculum 2013, in its legal basis as well as in the implementation of academic supervision instruments. It is mentioned in curriculum 2013 that one of the standards of the learning process executed by the teacher is that it should use scientific approach. That learning standard has been accommodated in the academic supervision instrument and embodied in the learning material produced in this research. The academic supervision instrument is indispensable for the school principal in executing the academic supervision activity. The learning material portrayed previously can be optimally comprehended by the prospective school principal if the education and training learning process employs strategies as stated in *RBPMD*/Syllabus (*Rancang Bangun Program Mata Diklat* / Design and Construction of Education and Training Program) and *RP* (Rencana Pembelajaran / Lesson Plan) which are presented in this learning material. The method implemented in the syllabus and lesson plan is the socio-drama method, in which there is a role playing in the class. Trainees act out as students, a teacher, and a school principal as a supervisor. Through this socio-drama method, the result will be more optimal as the prospective school principal can practice the academic supervision activity comprehensively. Further learning material details that can underpin the competency supervision dimension of the prospective school principal can be examined in this research and development product.

REFERENCES

Bramley, W. (1996). *The Supervisory Couple in Broad-Spectrum Psychotherapy.* UK London: Publisher Free Association Books.

Burhanudin, Yusak. (2005). *Administrasi Pendidikan*. Bandung: Pustaka Setia.

Bush, T. Bell, L. & Middlewood, D. (2010), *The principles of Educational Leadership & Management.* 2nd Edition. London: Sage Publication.

Davies, C. (2011), *Kolb Learning Cycle Tutorial-Static Version*, Retrieved May, 12, 2012 from www.Idu.leeds.ac.uk.

Depdiknas. (1994). *Supervisi: Kompetensi Supervisi Kepala Sekolah.* Jakarta: Direktorat Tenaga Kependidikan Direktor Jenderal Peningkatan Mutu dan Tenaga Kependidikan Depdiknas.

_____. (2000). *Peraturan Pemerintah No. 101 Tahun 2000 Tentang Pokok-Pokok Pelaksanaan Pembinaan Diklat Pegawai Negeri Sipil.* Jakarta: Depdiknas.

_____. (2006). *Pedoman Memilih dan Menyusun Bahan Ajar*. Jakarta: Depdiknas.

_____. (2006). *Petunjuk Pelaksanaan Pengembangan Media Pembelajaran*. Jakarta: Direktorat Pembinaan SMP. Depdiknas.

_____. (2007). *Peraturan Menteri Pendidikan Nasional Nomor 13 Tahun 2007 tentang Standar Kepala Sekolah/Madrasahh*. Jakarta: Depdiknas.

_____. (2008). *Penilaian Kinerja Kepala Sekolah.* Jakarta: Direktorat Tenaga Kependidikan Direktor Jenderal Peningkatan Mutu dan Tenaga Kependidikan Depdiknas.

_____. (2010). *Pedoman Pelaksanaan Permendiknas No. 28 tahun 2010 Tentang Penugasan Guru sebagai Kepala Sekolah/Madrasahh*. Jakarta: Depdiknas.

_____. (2010). *Peraturan Menteri Pendidikan Nasional Nomor 28 Tahun 2010 Tentang Penugasan Guru sebagai Kepala Sekolah/Madrasahh*. Jakarta: Depdiknas.

Dick, W. & Carey, L. (2009). *The Systematic Design of Instruction, (7rd ed.)*. Glenview. IL: Scott, Foresman and Company.

Gall, M. D., Gall, J. P., & Borg, W. R (2007). *Educational research: An introduction*. New York: Longman.

Glickman, Carl D. Gordon, Stephen P. & Ross, Jovita M. (2007). *Supervision and Instructional Leadership A Development Approach*, Seventh Edition. Boston: Perason.

Farley, G. C. (2010). Instructional Supervision: A Descriptives Study Focusing on the Obsevation and Evaluation of Teachers in Cyberschool. *A Dissertation. Indiana: University of Pennsylvania.*

Gronlund, N. E. dan Linn, J. E. (1990). *Measurement and Assessment in Teaching*. New York: Prentice Hall.

Hadi, Sutrisno. (1981). *Statistik Jilid 2.* Cetakan ke V. Yogyakarta: Fakultas Psikologi UGM.

McKimm, J**. (**2007). Educational Supervision, Personal Support and Mentoring. *London: Deanery*.

Kartini Kartono. (1997). *Tinjauan Politik Mengenai Sistem Pendidikan Nasional: Beberapa Kritik Dan Sugesti.* Jakarta: Pradnya Paramtra.

Kompas. (2011). *http://www.kompas.com/kompas-cetak/1/Daerah/nime28.htm*. Jakarta. downloaded on 22 March, 2011.

Knowles, M. S. (1970). *The modern practicsof adult education, andragogy versuspedagogi.* New York: Association Press.

_____. (1979). *The Adult Learners: A Neglected Species.* Texas: Gulf Publishing Company Houston.

_____. (1984). *The adult leaner: A Neglected Species*. Third Edition. Houston: Gulf Publishing Co. Book Division.

Lantip dan Sudiyono. (2011). *Supervisi Pendidikan.* Yogyakarta: Gava Media.

LAN. (2003). *Konsep Dasar Andragogi Bagi pengelola Diklat*. Jakarta: LAN.

____. (2009). *Diklat Sebagai Suatu Sistem.* Jakarta: LAN.

LPPKS. (2011). *Petunjuk Pelaksanaan Diklat Calon Kepala Sekolah*, Surakarta: LPPKS.

Lunardi, A. G. (1987). *Pendidikan Orang Dewasa*. Jakarta: Gramedia.

Milles, M. B. & Huberman, A. M. (1984). *Qualitative Data Analysis: A Sourcebook of a New Method.* Beverly Hill: Sage Publications.

Moleong, Lexy J. (1999). *Metodologi, Penelitian Kualitatif*. Bandung: Remaja Rosdakarya Offset.

National Center for Vocational Education Research Ltd/National Center for Competency Based Training. (www.ncver.edu.au**).**

National Science Foundation. (2005). *Instructional Materials Development (IMD); Learning Progressions; Instructional Materials for Students. Proposalsfor projects in any fieldof science, technology, engineering, or mathematics (STEM) education typically supported by NSF*.

Ohiwerei and Okoli (2009). Supervision of Business Education Teachers: Issues and Problems. *Asian Journal of Business Management. Department of Vocational and Technical Education Ambrose Alli University 2(1): 24-29.*

Purwanto, M Ngalim. (2005*). Administrasi dan Supervisi Pendidikan*. Bandung: Remaja Rosdakarya.

Rashid Abdul Kareen. (2001). Supervisory Practices as Perceived by Teachers and Supervisors in Riyadh School Saudi Arabia*. Desertation Presented to The faculty of the College of Education Ohio University, USA,* Dean of the College of Education (www.docutrack.com).

Reigeluth, C. M. (1999). *Instructional Design Theories And Models: A New Paradigm Of Instructional Theory*. Volume II. Mahwayh: Lawrence Erlbaum Associates.

Robert Goodwin. (2013). Mobile Learning for ICT Training: Enhancing ICT Skill of Teachers in Indonesia. *International Journal of e-Education, e-Business, e-Management and e-Learning, Vol. 3, No. 4, August 2013. 2*http://www.ijeeee.org/Papers/243-N00006.pdf

Sahertian, Piet A. (2000). *Konsep Dasar dan Teknik Supervisi Pendidikan dalam Rangka Pengembangan SDM*. Jakarta: Rineka Cipta.

Sanaky, Hujair A. H. (2009). *Media Pembelajaran.* Yogyakarta: Safira Insania Press.

Samsuhadi. (2006). *Pengembangan Model Pembelajaran Program Produktif Sekolah Menengah Kejuruan;Studi Model Preskriptif Dengan Penerapan Learning Guide pada Program Keahlian Teknik Mekanik Otomotif*. Bandung: Disertasi Program Pasca Sarjana Universitas Pendidikan Indonesia.

Sergiovani, T. J. (1982*). Supervision of Teaching*. Alexandria: Association for Supervision and Curriculum Development.

Shahruddin & Abiddin. (2009). Reviewing The Implementation Of The Smart Schools And The Training Of *Bestari* Teachers In Malaysia. *Uluslararası Sosyal Ara_tırmalar Dergisi. The Journal of International Social Research Volume 2/6 Winter 2009, 2.* http://www.sosyalarastirmalar.com/cilt2/sayi6pdf/shaharuddin_norhasni.pdf

Siswadari & Tutik Susilowati. (2012). "*Tingkat Kepuasan Guru Terhadap Kinerja Kepala Sekolah di Propinsi Jawa Tengah*". Lembaga Pengembangan dan Pemberdayaan Kepala Sekolah-Indonesia.

Sugiyono. (2009). Metode *Penelitian Pendidikan: Pendekatan Kuantitatif, Kualitatif, dan R & D*. Bandung: Alfabeta.

Suharsimi Arikunto. (1999). *Evaluasi Program*. Yogyakarta: Institut Keguruan dan Ilmu Pengetahuan.

_____ . (2004). *Penilaian Program Pendidikan*. Jakarta: Rineka Cipta.

_____ . (2004). *Dasar-Dasar Supervisi*. Jakarta: Rineka Cipta.

Sukmadinata, Nana Syaodik. (2009). *Metode Penelitian Pendidikan*. Bandung: Remaja Rosdakarya.

Suprawoto. N. A. (2010). *Mengembangkan Bahan Ajar dan Menyusun Modul*. (WWW.scribd.com/doc/16554502).

Swati S. & Khodke. (2010). Organizational Training and Development Practices and Identification of TNA. Jagdambha College of Engineering and Technology. (http://www.ijest.info/docs/IJEST13-05-05S-10.pdf)

Syaifudin Azwar. (2007). *Tes Prestasi: Fungsi dan Pengembangan Pengukuran Prestasi Belajar*. Yogyakarta : Pustaka Pelajar.

_____. (2008). Reliabilitas dan Validitas. Yogyakarta: Pustaka Pelajar

Syukri. (2006).   Hubungan Antara Peran Supervisi Pengawas Pendidikan Agama Islam Dengan Kualitas Pembelajaran Guru Mata Pelajaran Agama Islam Di Kota Mataram,   *Jurnal Penelitian Keislaman STAIN Mataram, Vol. II, No. 2,* Juni 2006: 273-288.

Tomlinson, P. B. (1998). *Materials Development in Language Teaching*. Cambridge: Cambridge University Press.

Widjono HS. (2010). Penelitian dan Pengembangan Model Bahan Ajar Menulis Bahasa Indonesia untuk Tujuan Akademik. *Disertasi Pascasarjana Universitas Negeri Jakarta.*

Wiles, K. (1982). *Supervision for Better Schools*. New York: Prentice Hall.

Wilis, B. (1993). *Instructional Development for Distance Education*, University of Idaho. Retrived Oct, 03, 2012 from www.uidaho.edu/eo

Winkel, W. S.(2009). *Psikologi Pengajaran.* Yogyakarta: Media Abadi.

Yati Ruhayati, dkk. (2009).   Kontribusi Layanan Supervisi, Kepemimpinan Kepala Sekolah, Dan Fasilitas Pembelajaran Terhadap Kinerja Guru Pendidikan Jasmani SMPN Se Kota Cimahi. *Jurnal Penelitian Vol.10 No.2* October 2009, p. 1.

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