

# Development of a Learning Community-Based Academic Supervision Model in Improving the Professional Competence of High School Teachers in Bireuen Regency

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## Abstract

This study aims to identify the characteristics of the Learning community-based Academic supervision model, determine the feasibility of the Learning community-based Academic supervision model, and to determine the effectiveness of the implementation of the Learning-community-based Academic supervision model to improve the professional competence of high school teachers in Bireuen Regency Research and Development (R&D) research methods through the Plomp model with 5 (five) namely the investigation, design, realization, test, evaluation and revision phases, and implementation by conducting model trials. documentation, Research data collection is carried out by, observation, interviews, and tests. The data analysis technique is the mix method analysis. Model feasibility is tested through expert validation and user testing. The research will be conducted in all high schools in Bireuen Regency from July 2023 to December 2023. The subjects of the study amounted to 100 people. Based on the results of the model trial, it was found: a) the characteristics of the Learning community-based Academic supervision model are: community-based, teacher-centered, flexible, scientific; and clear; b) the feasibility of the Learning community-based Academic supervision model is very feasible obtained through the feasibility test of material experts of 99.5% (very feasible), media experts 83.75 % (very decent), and a user trial of 81.06 (very decent); c) the effectiveness of the Learning community-based Academic supervision model is effective in increasing the professional competence of high school teachers in Bireuen Regency with an average of n-gain> 55 effective categories. So it can be concluded that the use of the Learning community-based Academic supervision model is effective in improving the professional competence of high school teachers in Bireuen Regency.

**Keywords:** Supervision, Academic; Professional competence, Learning Community.

Based on the results of the Human Development Index Reports in 2020, Indonesia's education quality ranked 114th in the world with

a score of 0.705. While in ASEAN countries the quality of education Indonesia ranks eleventh out of twenty-four ASEAN countries after

Singapore, Brunei Darussalam, Malaysia, Thailand, China, Palau, Tonga, Mongolia, Fiji, Samoa. A survey conducted by the Hong Kong-based Political and Economic Risk Consultancy (PERC) found that Indonesia's education quality ranked 12th out of 12 countries in Asia, even below Vietnam. The quality of education in Indonesia is still far from expected, as can be seen from the low absorption of the world of work for graduates from educational institutions in Indonesia. Every year the world of education gives birth to graduates who are quantitatively very many, but in terms of quality they are still far from expected (Musfah, 2011). Such problems are the responsibility of all parties, so that an educational institution can organize the educational process in the best possible way, so as to create professional teachers, create competent education, allocate adequate funds for the world of education, so as to optimize the competence of teachers, the head of the school and supervisors (Jurotun & Prihatin, 2015).

Various problems found in the activities of the teaching learning process found in the three Secondary Schools (SMA) in Bireuen County, certainly do not correspond to the argument presented by Glickman (2007) that the task of effective supervision is a series of activities to help teachers in developing their competencies to achieve learning objectives and pay careful attention to teachers' complaints against the teaching problems they face, so that an improvement, improvement and development is required, and at the same time also pay attention to teachers' ideas to overcome the problems faced further (Niemi et al., 2016).

The implementation of academic supervision carried out by the supervisor to the school under his supervision is not maximum, this can be seen from the supervisor's lack of mastery of the academic field due to the supervisor's educational qualifications do not match the teachers he supervises, so there is an impression that the presence of the supervisor does not provide a solution to the academic problems faced by teachers, then the supervisor is more

likely to give importance to administrative tasks than teacher training activities in the teaching-learning process, the supervisor more emphasizes his formal power / authority in performing supervisory tasks to teachers, so it seems more controlling, supervising and looking for teachers' mistakes, there is an impression that the supervisor less able to make planning in supervision and teacher training, so it seems that the supervision program is just running, and supervisors rarely guide academics and motivate teachers. Teachers' views and assessments of school superintendents basically reflect the implementation of superintendents' duties in the field yet touching on the needs of teachers.

School superintendents have a very significant and strategic role in quality educational processes and outcomes. In this context, providing a formulation of supervision is nothing but an attempt to provide services to teachers both individually and in groups in an attempt to improve teaching. Collaborative supervision has the characteristics of working together rather than directing, and even has the criteria of clinical supervision, including: sharing ideas or opinions, problem solving and the occurrence of positive sharing, mutual interest, and non-judgment.

The most difficult thing that teachers face is to face the demands of society on the quality of education and teaching, that is, the demands on quite rapid changes related to curriculum, teaching learning process, teacher competencies and professionalism of the profession as well as others. With that situation, sometimes teachers are not ready to face themselves without any help from the other party. This is in line with the opinion of Smyth (1987) that the new approaches on educational supervision emphasize on the role of the supervisor as help, guidance as well as facilitator to teachers and education personnel in general, especially the quality of teaching learning process in schools. This means that the duty of the superintendent of education is to exercise supervision by observation of the teacher in the implementation of teaching in the

school, as well as to ensure that everything is running properly, safely and perfectly. Ho & Teng (2016) the core activity of supervision is the meeting between the supervisor with with the supervisee to strive for the achievement of goals in professional guidance. Acheson and Gall (1997) stated supervision can be understood as the effort given to teachers in the forum of collegial, collaborative, and professional settings, as specific assistance in improving teaching and subsequently improving student achievement.

The assessment basis on improving teachers' professional competence contains five indicators that include mastering the materials, structures, concepts, and mindsets of science that support the subject matter; master the basic competency standards of the subjects forgiven; developing creatively appropriated learning materials; developing professionalism on an ongoing basis by undertaking reflective actions; and utilizing information and communication technologies to develop themselves. The teachers' professional competence improvement indicators conform to the Regulation of the Minister of National Education Number 16 of 2007 regarding the Standards of Competence of Subject Teachers in Bireuen Regency High Schools.

Similar things were revealed by Ho & Teng (2016) that the strategy of empowering school achievement is done by managing and growing professional learning, not only enhanced by the best teachers but also creating a Professional Learning Community (PLC) . This is in line with the notion of PLC put forward by (Hoaglund et al., 2014; Panigrahi & Mohanty, 2018) that a PLC is a community by a group of educators where within it there are continuous learning activities in a collaborative atmosphere aimed at improving professional competence teachers and learners' learning outcomes. One of the factors that influence teachers' professional competence according to Grangeat & Gray (2007) is the organization of work. The organization of work can take the form of programs where a range of teachers and school partners, novice and

experienced, will meet to clarify and develop knowledge and action relevant to teaching (Granggeat & Gray, 2007).

A good and effective PLC for teachers' professional development should pay attention to various aspects. Effective PLCs include five aspects (Daryanto., 2012; Stoll et al., 2006; Vangrieken et al., 2017; Vescio et al., 2008), namely shared values and goals, collaborative activities, a sense of focus on student learning , enacted practices or sharing of individual practices, and reflective dialogue. Pun & Mansor's (2021) findings revealed that PLCs can provide an impetus to develop and enhance teachers' professional competencies that can contribute to school progress. The results of the study indicated that PLCs impacted teachers' professional competencies. This is in line with the study of Tang et al. (2020) that a significant, positive effect between professional competence with through professional learning and interaction with others. The findings of Olivier & Huffman (2016) revealed that to improve the professional competence of teachers by implementing various education and trainings of the teaching profession such as: (1) involving teachers seminars, (2) diktats or training, (3) Teachers working groups (TWGs) and Teachers Conferences Subjects (MGMP). This is in line with the statement (Muspawi et al., 2020) that principals' efforts for the improvement of teachers' professional competencies can be done by implementing a coaching process and involving teachers in various educational and training activities, seminars, workshops, as well as KKGs.

## Methodology

This research is a development research or Research and Development (R&D) using the model approach developed by Plomp (2013). The Plomp model was chosen because it is suitable for use in development research that requires solving educational problems. The Plomp model includes 5 (five) stages of

development: (1) preliminary investigation stage, (2) design stage, (3) realization/construction stage, and (4) test, evaluation, and revision stage, and (5) implementation stage (Sugiyono, 2011). The location of this research was carried out in all high schools in Bireuen Regency, because high schools in Bireuen Regency are spread across very remote areas and have diverse teacher characters so that a homogeneous supervision system needs to be implemented. The research was conducted from February 2023 to May 2023. The subjects in this study were all 100 Islamic Religious Education teachers consisting of 37 schools and working in public and private high schools in Bireuen Regency. The questionnaire provided by the researcher consists of 50 questions about professional competence. Data and media validation materials are tabulated from educational Supervision and Management experts. Using a formula, tabulation percentage. The data is then described using the Validity of the Learning Community-based Academic Supervision Model. The data obtained were then tested in limited trials and extensive trials were carried out data processing with a one-shot single control system. This effectiveness test was carried out using a quasi-experimental research approach. The implementation of this experiment was carried out with "One-Group Pretest-Posttest Design". In the effectiveness test activities, both in limited trials and extensive trials did not use a control group. This design is carried out by comparing the pre-test results with the post-test results.

## Results and Discussions

Characteristics of the Learning Community-Based Academic Supervision Model for Improving the Professional Competence of High School Teachers in Bireuen County.

The characteristics of the academic supervision model are obtained from the stages of the preliminary investigation phase and the design phase, namely: a) Method: conducted

jointly with the Learning Community and at least 3 (three) people; b) Supervisory actors: teachers as supervisors, and school supervisors; c) Collaborative: easy to understand and can support the goals of academic supervision; d) Implementation: having a supervision implementation process consists of: an initial meeting stage, a classroom observation stage, and a feedback/evaluation meeting stage. The process of observation activities consists of: pre-observation, observation, and post-observation, and e) Clarity: clarity of purpose and supervision program that can be adapted to the needs of its users.

The findings of this study are supported by several similar research findings that is how the characteristics of supervision in terms of community of learners are beneficial, among which Hord et al (2010) study showed that academic supervision has a significant effect on teachers' professional competence and MGMP participation has a significant effect on teachers' professional competence. There are many activities that teachers do to improve their professional competencies, one of which is doing academic supervision by the principal and participating in MGMP activities (Khan et al., 2021). The findings of this study are supported by several similar research findings that is how the characteristics of supervision in terms of community of learners are beneficial, among which Hairon & Dimmock (2012) study showed that academic supervision has a significant effect on teachers' professional competence and MGMP participation has a significant effect on teachers' professional competence. There are many activities that teachers do to improve their professional competencies, one of which is doing academic supervision by the principal and participating in MGMP activities (Jasja et al., 2020).

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Amarjit et al (2011) argued that in improving the professional competence of teachers is done by following professional learning activities as a source of education and training. This is in line with the opinion of Cormier & Olivier (2009) that to improve teacher professionals and improve learners' ability in absorbing the lessons given well then teachers should improve professional learning community (PLC).

In terms of practicality, the academic supervision model has much to offer. Teachers and supervisors will be able to communicate more effectively through supervision in their respective communities because they do not need to travel to seek knowledge outside the community. It is also more practical because it can be mutual for discussion.

Structure includes three important attributes: resources; facilities; and communication systems, which emerge in varying degrees along the three phases of development. These include times to meet, general group or team proximity, size of the school, availability of resources, and school schedules. If school leaders hope to create positive relationship conditions, teachers need opportunities to meet and collaborate, develop strategies, and share best practices in PLCs to improve student achievement (Groskey & Gamron, 2010; Hip & Huffman, 2003; Khalid et al., 2014 ; Tan & Caeon, 2016). Once the parts are in place, meetings are then organized in a way of structural consistency, including an agenda for each meeting with goals for the team and participant roles set. The dimension of supportive condition includes systems (Community communication) and resources (personnel, facilities, time, finances and

materiel) that enable teachers to implement and assess learning and improve learners' learning outcomes (Listyasari & Soraya, 2018).

Based on the results of the data analysis and discussion it can be concluded that the characteristics of the Learning Community-based academic supervision model are: a) Model: Democratic and Transparent application; use of data collection instruments; and the objectivity of data obtained under real-world conditions; all this is done scientifically; b) Method: conducted in a Community of learners based Learning Community; c) actors: senior teacher as supervisor, trainee teacher (at least 3 (three) people); d) flexible: easy to use and can support the objectives of academic supervision; e) Implementation, the supervision process consists of: the initial meeting stage, the classroom observation stage, and the feedback/evaluation meeting stage with observation activities consisting of: pre observation, observation, and post observation, and f) clarity: the clarity of the purpose and program of supervision that can tailored to the needs of its users.

Kelayakan Model Supervisi Akademik Berbasis Learning Community Untuk Meningkatkan Kompetensi Profesional Guru SMA di Kabupaten Bireuen.

Improving the Professional Competence of High School Teachers of Bireuen County Based on the validation results of subject matter experts, validation results of media experts, and the results of testing the model by users it was obtained data that the Learning Community-based academic supervision model is highly feasible to use. The feasibility of the material was reviewed from the aspects of appropriateness, quality of content and objectives, and instructional quality. From the three aspects measured an average material feasibility score of 83.14 % with feasible category was obtained. Media feasibility was reviewed from the aspects of Module Size, Cover Design, Content design, and Encouraging curiosity. The average score of media feasibility

is 84.74% with a very feasible category. The applicability of the model by users is reviewed from the supervision planning aspect, the supervision implementation aspect, and the evaluation and follow-up aspect. The average score of model feasibility was 83.00% with a very feasible category.

The feasibility test in the application of learning models according to Prihono (2014) is conducted in order to obtain information related to the extent to which the model (product) that has been developed is feasible and can be utilized to support the improvement of the learning process by its users. The feasibility of the model referred to is the feasibility of the material, and the medium. More specifically Sirojuddin (2013) mentions the feasibility of the model is derived from validation scores from experts and practitioners as a whole. In his study on the Effectiveness of Academic Supervision Model on Vocational Secondary School Teachers found the feasibility value of the model as 62% which can be interpreted that the concept design of the academic supervision model falls in the good category, so it is concluded that this model can be used for limited testing in the field but there are still few revisions as advised by the validator.

This supports the research of Merukh (2016), that in the development of learning community-based academic supervision model found the average material feasibility test of 75 % (feasible), the average media feasibility test of 87 % (very feasible). Media feasibility test results were selected and developed based on supervisory material that supervisors should master and designed to provide more varied supervision. In PBM supervision, Learning Communities play an important role in imparting new knowledge to professional improvement. Because learning communities can provide good results (Lovel & Wiles, 1983; McClelland, 1973).

The quality of content and purpose determine the success of surveillance media (Botha, 2012). This is in line with Sahertian (2010) research that the learning community-based model should

meet 3 aspects: 1) Appropriateness, importance, completeness, balance, interest, fairness, and appropriateness to the student's situation determine the quality of the learning media content and purpose. 2) Instructional quality includes: learning opportunity, learning assistance, motivational quality, instructional flexibility, relationship with other learning programs, social interaction, impact on students, impact on teachers and their learning, and 3) Readability, ease of use, program display quality, and quality of documentation, handling is a factor of technical quality. Hartanto Fadli (2019) explains that things to consider before building a learning community as a learning medium, include: (1) Ease of use and navigation which contains an analysis of how a medium is easy to use as well as the appropriateness of navigation; (2) Aesthetic or the beauty to see a medium attractively laid out and the graphical display of the interface; (3) Media integration is the application of related elements of material content; (4) Technical quality (readability and availability of feedback).

A community-based learning and supervision model is said to be viable if the overall main factors and supporting factors have been viable and have met the elements of mediation (clarity and readability) and in accordance with the needs of its users although it still needs improvement / revision (Heng et al., 2019). The value of the feasibility test results is measured based on the feasibility category according to Arikunto (2010) namely: a) very viable if the average value of the feasibility test reaches 281%, viable if the average value of the feasibility test reaches 61% - 80%, quite feasible when the average score of the feasibility test reaches 41 % - 60%, not feasible when the average score of the feasibility test only reaches a score below 40 %.

Based on the results of the analysis and discussion of the results of the study, the developed model has been feasible to use based on the results of feasibility testing from material experts and media experts as well as feasibility

testing of the model by users in both limited group testing and wide group testing. The feasibility of the material was reviewed from the aspect of appropriateness, the aspect of quality of content and objectives, and the aspect of instructional quality. Media feasibility was reviewed from the aspects of Module Size, Cover Design, Content Design, and Encouraging curiosity, supervision implementation aspects, and evaluation and follow-up aspects.

The Effectiveness of the Learning Community-Based Academic Supervision Model for Improving the Professional Competence of High School Teachers in Bireuen County.

Improving the Professional Competence of High School Teachers in Bireuen County The learning community-based academic supervision model effectively improved the professional competence of high school PAI teachers in Bireuen County. The effectiveness of the model can be seen from the presence of significant differences between the mean scores of the pretest and posttest after using the learning community-based academic supervision model, both on the limited trial and the extensive trial. Next the mean scores of the pretest and posttest were sought for the gain score (the difference between the pretest and posttest mean). When the average difference of teachers' test completion results reaches a minimum score  $> 55$ , a model can be categorized as effective (Pallawagu et al., 2017)

This study concurs with Gray & Summers (2016) pointing out that effective PLCs share common characteristics of collaboration and supportive structures; however, structure alone is not enough for PLCs to thrive. Open and trusting relationships must be built between teachers, colleagues, and leadership. In the opinion of some experts the terms PLC, professional community, and teacher learning community can be equated, but PLC has been more commonly used by practitioners. Professional learning communities is their emphasis on group or collective learning, which can promote active

deconstruction of knowledge through reflection and analysis and construction through collaborative learning with peers. PLC as "a group of people who share and critically interrogate their practice in a sustainable, reflective, collaborative, inclusive, learning-oriented, growth-promoting way" (Stoll et al., 2006; Mathur et al., 2006).

Skilled learning groups (PLCs) for secondary school Mandarin teachers in Hong Kong would improve teachers' beliefs and practices. Findings indicated that PLCs contributed to the growth of integrated schools, shared culture, and hands-on learning. This helps teachers to overcome initial challenges and encourages changes in their motivation. This suggests that successful implementation of PLCs is critical to teacher development. Teacher communities have an important role in teachers' professional development. Developing PLCs will accommodate teachers with strategies to create capacity, increase competence and capability in the teaching learning process, and have an overall positive impact on school culture.

The successful application of the learning community-based academic supervision model in this study is in line with The concept of professional learning communities (PLC) has gained attention since the 1990s. PLC is a concept that has begun to receive attention in various literatures on learning in teachers over the past few decades (Vescio et al., 2008 in Jasja et al., 2020). Over the past two decades, there has been an international call to transform schools into PLCs, where teachers take collective responsibility for learning and teaching through collaborative activities (Olivia, 1992; Stoll and Louis, 2007; Vangrieken et al., 2017)

Based on limited and extensive testing, the learning community-based academic supervision model is effective in improving the professional competence of high school PAI teachers in Bireuen County. Data analysis using the N-Gain score test determined effectiveness (g). Pretest and posttest results varied. Improving the professional competencies of Bireuen County

High School PAI teachers are: a) mastering the materials, structures, concepts, and mindsets of science that support the subject mastered, b) Mastering the basics of the subject and standard competencies of the competencies of the mastered field/development, c) developing materials creatively enabled learning, and d) leveraging learning communities for the development of profession competencies and self-potential.

Thus, after going through the feasibility test and the effectiveness test, it shows that the learning community-based academic supervision model consists of three components, namely input, process and output. The input components of the model are: a) Range 0–50, b) The supervision model is less effective, c) Improving teachers' professional competencies, d) Administration of supervision has not been documented, e) Minimal program and financial support from government and immediate superiors towards academic supervision, and f) Difficulty for teachers to obtain permission and opportunities to conduct joint supervision.

The components of the model process are: a) The stage of the initial investigation phase, namely the stage of teacher needs analysis and goal analysis, and media analysis of MGMP governance; b) The design stage, which is the stage of setting objectives, setting the medium and initial designing of the research product, and designing the model input instruments; c) Realization and or test, evaluation, and revision stages, i.e., model applicability testing stages (experts, media, and users); and d) Implementation, which is the stage of testing the effectiveness of the model.

The output components of the model are: a) UKG scores are high in the range of 70 - 100, b) The supervision model effectively improves teachers' professional competencies, c) Supervision administration is well documented, d) increasing program and financial support from government and immediate superiors towards academic supervision, e )

Supervision is recognized as community-based learning.

The final model i.e. the learning community-based academic supervision model consists of input, process and output components that refer to the objectives of academic supervision. Where the three components constitute a unity and become cyclically related to each other. Once the model is designed, the model is tested for feasibility by experts and by users. If the model is feasible, it can be tested on a limited and large group, but if it is not feasible, the model must be redesigned until it is feasible. Once the model is feasible to use, then the model is pilot tested to find out the effectiveness level of the model. Once the model has been effective, then the model can be used for a broad group and disseminated to the public both through local dissemination (seminars, workshops, etc.), as well as through publication in reputable journals.

## Conclusion

The characteristics of the learning community-based academic supervision model are: 1) scientific: conducted scientifically that is, continuous implementation; easily understood by using a systems approach and specific methods, using data collection instruments; and have real data objectivity; 2) method: conducted in a community-based learning community 3) actors: teachers and principals and supervisors, 4) organized. easy to implement in the place where the teacher is employed that can support the purpose of academic supervision; 5) implementation, has an implementation process namely: initial meeting stage, classroom observation stage, and feedback meeting/evaluation stage with observation activities consisting of: pre-observation, observation, and post-observation, and 6) clarity: clarity of purpose and supervision program that can tailored to the needs of its users. The feasibility of the learning community-based Academic supervision model is highly usable. Feasibility test results were obtained from



material experts and media experts, as well as model feasibility testing performed by users, both in small-group trials and large-group trials. The effectiveness of the learning community-

based academic supervision model is effectively used to improve the professional competence of PAI teachers in Bireuen County based on limited trials and extensive trials.

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