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Implementation of academic supervision management based on gender differences to improve the quality of learning in senior high school, vocational high school, and special needs school

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Abstract

Academic supervision is is the part of activity to improve the professionality of teacher in elevating the education quality. One of the important thing to ensure the quality of school education is to provide the supervision of teacher through the couching activity in target shcool. Academic supervision is an important part to improve the quality of education. Therefore, this study aims to investigate the effect of different gender of supervisor in order to implement the academic supervision in senior high school, vocational high school and special needs school in several section of learning, which is planning, learning implementation and learning evaluation. The present study use a survey method to collect the information in implementing the academic supervision management by school supervisors in senior high school, vocational high school and special needs school, based on gender differences of supervisors. We used an instrument to collect the data, then we analyze the data using a descriptive analysis The result shows that female supervisors are better in academic supervision management than male supervisors in carrying out their duties. The present study shows that gender of supervisor may affect the result of academic supervision. Furthermore, we expected that the study will become a consideration in order to improve the educational quality by implementing the academic supervision management..

Keywords: implementation; academic supervision; management; gender differences; quality learning

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1. Introduction

School is an institution for students teaching students or students under the supervision of teachers (Iacopini et al., 2019). The school organises learning and teaching activities by accepting students and providing lessons to students according to levels, majors and others. Teaching and learning activities in schools must be supported by facilities and infrastructure and various rules/regulations that have been designed and established by the government (Li et al., 2020).

School supervisor is a functional position that has the scope of duties, responsibilities and authority to do the academic and managerial supervision activities in academic units, such as preparation of supervision programmes; coaching; and implementation of the eight national education standards; assessing; mentoring and professional training of teachers; evaluation results of the performance of the supervision programme; and the implementation of the main tasks of supervision (Meier & O'Toole, 2001).

The primary task of supervision is managerial care or maintenance, while the secondary task refers to academic management or control. Administrative leadership provides the guidance, assessment and assistance starting from programme plans/processes to the results (Erpidawati et al., 2019). Knowledge management is defined as a set of clearly described procedures, methods and techniques used to find valuable information in a system or organisational setting in a school (Abbas et al., 2020). The characteristics of management is known through the perceived usefulness of its use; its suitability with the control of the school setting; and the effectiveness and quality of school management with provable results (González et al., 2020).

Guidance and assitance to school principals and school staff are needed to improve the school performance (Diamond et al., 2019). Academic supervision is related to coaching and assisting teachers in order to elevate the quality of the learning process and the student learning outcomes (Schumacher et al., 2020).

Supervisors are responsible for carrying out academic supervision that emphasises the technical aspects of education and learning (Knitza et al., 2019). Supervision is a structured programme to assist teachers and school staff in order to increase the effectivenes their work (Patience et al., 2019). Supervision refers to using high-level advice and input from subject matter experts to conduct supervised learning (Wang et al., 2020). The most important part related to supervision is the improvement of supervision, discipline, classroom management, teacher training, classroom rules and the cooperative nature of the school (Ttofi & Farrington, 2011). Teachers are a component of human resources that must be fostered and developed continuously through supervision. The influence of fast-paced change encourages teachers to constantly learn to adapt in development of technology, science, and mobility of society (Abbas et al., 2020).

Academic supervision by supervisors is a process of carrying out the duties and responsibilities of the work given as a guarantor of the quality of school education by its main responsibilities, one of which is to provide supervision for teachers in the target schools (Darishah et al., 2017). If the supervisor carries out his duties by the standards set by the government, then the quality and objectives of the school he fosters can be achieved.

Several studies have shown that the academic supervision by supervisors improved academic achievement of students in school and also the productivity of teachers (Handriadi, 2018; Hidayah et al., 2018; Huda & Muspawi, 2018). Therefore, implementing the academic supervision in school has become an important issue to elevate the quality of the academic process in schools. However, in some schools, academic supervision management is still lacking. Udin (2020) determined that the implementation of academic supervision in junior high school is still not well managed.

In some countries, secondary school is classified into several types. Schools that provide theoretical education are generally called senior high schools and their number dominates in the country. Other schools that prioritise the output of students who are ready to work after graduation are called vocational high schools (Loyalka et al., 2016; Nugroho & Paleologoudias, 2020). Furthermore, another type of school is a school that is devoted to students who experience limitations in learning, like other normal students, and that school is called a special needs school (Soenarto et al., 2020). The existence of differences in final secondary schools according to the needs and character of students is a challenge for supervisors supervising in the school.

Nowadays, gender difference has become a common discussion in the world of education. In certain areas of work, whether in education or research, women may outperform men and vice versa. But there are also certain areas where gender differences have no impact (Ding, 2021). Therefore, it has become an interesting question whether gender differences of supervisors affect the academic supervision in school.

Information about the importance of gender factors in academic supervision activities on academic quality in school is still lacking. Therefore, in the present study, we investigated the effect of different gender of supervisor to implement the academic supervision management in senior high school, vocational high school and specialised high school in East Borneo, Indonesia. Gender differences from supervisors may be a factor that affects the quality of supervision activities which will have an impact on the quality of education. The expected results in this study are recommendations regarding the importance of management supervision to be carried out in schools, especially senior high school seniors, vocational high school and specialised high school.

Furthermore, the results of the study can provide recommendations to policy holders in the field of education for the provision of human resources supervision. We also expect that the results of the present study will increase the knowledge and insight about education

management, especially for school supervisors to do the academic supervision for teachers in order to improve the quality of the learning process in schools, as well as a basis for making policies to consider the gender differences in educational supervision.

2. Methods

2.1 Research Model

The present research utilized mixed methods as one of the field study methods intending to point out and analyze the academic supervision management implementation performed by school supervisors through qualitative and quantitative data. The strategy used in this study is a descriptive approach by reporting the current condition, spotting it in an organized way to contrast the current state, and seeing the differences in specific events.

2.2 Participants

The subjects of the research are 61 school supervisors of the high, vocational, and special needs schools in East Kalimantan Province. The object of the research is the academic supervision performed by supervisors.

2.3 Data Collection Tools

This present research used a questionnaire as the instrument. A closed questionnaire containing statements with answer choices is constructed for the respondents to respond. It is created by adhering to the following considerations: (1) it can be administered to all respondents at the same time, (2) it can be done by respondents corresponding to their respective speed and to their free time, (3) it will avoid unbias answers so that it is easier to interpret the data, (4) data collection is more efficient in terms of time, effort, and cost. Thus, the Google Forms is appropriated to generate and distribute the questionnaire.

The questionaire is composed with some alternative options corresponding to service indicators and minimal school visits for guidance by the supervisors . The categories referred to each answers are: SB = Very Good, B = Good, C = Enough, K = Poor, and SK = Very Poor. Alternative answers for academic supervision use a statement form in the google form to pass it easier for respondents to do the statements. The Very Poor (SK) category means supervisors manage the coaching just once in one semester; Poor (K) category means supervisors manage the coaching two times in one semester; Enough (C) means that supervisors manage the coaching three times in one semester; Good (B) category mean supervisors manage the coaching four times in one semester, and Very Good (SB) category mean supervisors manage the coaching 5-6 times in one semester.

The data of this research were arranged into two: (a) Primary data, which was collected from the questionnaires, and (b) Secondary data, which received from the exsisted accessible data such as documents, reports, and other sources connected to carrying out

academic supervision management within the Department of Education and Culture of East Kalimantan Province.

2.4 Data Collection Process

The data collection techniques in this study were using (1) a questionnaire that was given to respondents; and (2) a document is any well-written material prepared for research, as reports, archives, diaries, photos of activities, meeting results, souvenirs, activity journals, and annual report documents.

2.5 Data Analysis

The researchers analyzed the data using descriptive and statistical methods. We used frequency distribution tables, pie charts, pictograms, line and bar graphs, and group explanations through median, mean, mode, and group variations through ranges and standard deviations to interpret the data. To display the results, we operated a frequency table (percentage table) and next interpreted it descriptively. Furthermore, we used statistical tests, which is a T-test study using the SPPSS 16.0 application, to figure out the effect of implementing the academic supervision management by school supervisors based on gender differences.

3. Results

The research results were obtained by analysing academic implementation in planning, implementation, evaluation and supervision. The results of planning statistical data can be seen in Table 1.

3.1 Planning

Table 1. Normality test

One-Sample Kolmogorov-Smirnov Test

		Male Planning	Female's Planning
N		43	18
Normal Parameters[a,b]	Mean	43.7907	62.8333
	Std. Deviation	18.95302	13.59174
Most Extreme Differences	Absolute	.148	.194
	Positive	.148	.127
	Negative	-.128	-.194
Test Statistic		.148	.194
Asymp. Sig. (2-tailed)		.059[c]	.070[c]

Information:

The normality test results found that supervision data related to learning planning for male supervisors were normally distributed because the value of sig is 0.059 > 0.05. Monitoring data associated with the

implementation of learning for female supervisors are normally distributed because the value of sig is 0.070 > 0.05.

Table 2. Average Learning Planning

Group Statistics

Gender		N	Mean	Std. Deviation	Std. Error Mean
Lesson Planning	Male	43	43.7907	18.95302	2.89031
	Female	18	62.8333	13.59174	3.20360

Information:

The average lesson planning results show that the average effect of lesson planning for male is 43.79 and the intermediate lesson planning for female is 62.83. From these data, the middle lesson planning carried out by females is higher than the lesson planning carried out by males.

Table 3. Homogeneity Test and Independent Samples t-Test

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Lesson Planning	Equal variances assumed	5.575	.022	-3.859	59	.000	-19.04264	4.93439	-28.91632	-9.16895
	Equal variances not assumed			-4.413	44.109	.000	-19.04264	4.31474	-27.73781	-10.34746

Information:

For the homogeneity test, it was found that the variance of supervision data related to learning planning for male supervisors and female supervisors was different (not homogeneous) because the value of sig is 0.022 < 0.05; therefore, to test the difference in the average of the two populations, an independent t-test was used for variance not the same. Independent samples t-test obtained a data value of sig = 0.00 < 0.05, which shows that there is a difference in the average learning planning between male supervisors because the average value of learning planning for female supervisors is 62.83, which is greater than the value of male supervisors (43.79). Thus, it can be said that female supervisors are better than male supervisors in terms of supervision of learning planning.

3.2 Implementation

Table 4. Normality test

One-Sample Kolmogorov-Smirnov Test

		Male Implementation	Female's Implementation
N		43	18
Normal Parameters[a,b]	Mean	45.0000	68.6111
	Std. Deviation	21.94908	13.52183
Most Extreme Differences	Absolute	.127	.134

	Positive	.119	.103
	Negative	-.127	-.134
Test Statistic		.127	.134
Asymp. Sig. (2-tailed)		.077[c]	.200[c,d]

Information:

The normality test results found that supervision data related to learning planning for male supervisors were normally distributed because the value of sig is 0.077 > 0.05. Monitoring data associated with the implementation of learning for female supervisors is normally distributed because the value of sig is 0.200 > 0.05.

Table 5. Average Learning Implementation

Group Statistics

Gender		N	Mean	Std. Deviation	Std. Error Mean
Learning Implementation	Male	43	45.0000	21.94908	3.34720
	Female	18	68.6111	13.52183	3.18713

Information:

From the average implementation of learning, average learning achievement for males is 45 and the average commission of learning for females is 68.61. From these data, the average implementation of learning carried out by females is higher than the implementation of learning carried out by males.

Table 6. Homogeneity Test and Independent Samples t-Test

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Learning Implementation	Equal variances assumed	4.955	.030	-4.228	59	.000	-23.61111	5.58393	-34.78453	-12.43769
	Equal variances not assumed			-5.109	50.376	.000	-23.61111	4.62185	-32.89266	-14.32956

Information:

For the homogeneity test, it was found that the variance of supervision data related to the implementation of learning for male supervisors and female supervisors was different (not homogeneous) because the value of sig = 0.030 < 0.05; therefore, to test the difference in the average of the two populations, the independent t-test was used for variance not the same. Independent samples t-test obtained a data value of sig = 0.00 < 0.05, which shows that there is a difference in the average implementation of learning between male supervisors because the average value of learning implementation for female supervisors is 68.61, which is greater than the value of male supervisors (45). Thus, it can be said that female supervisors are better than male supervisors in terms of supervising the implementation of learning.

3.3 Evaluation

Table 7. Normality test

One-Sample Kolmogorov-Smirnov Test

		Male Evaluation	Female's Evaluation
N		43	18
Normal Parameters[a,b]	Mean	25.2558	29.3889
	Std. Deviation	10.36269	4.51323
Most Extreme Differences	Absolute	.094	.145
	Positive	.094	.145
	Negative	-.093	-.078
Test Statistic		.094	.145
Asymp. Sig. (2-tailed)		.200[c,d]	.200[c,d]

Information:

The normality test results found that supervisory data related to the evaluation of learning for male supervisors were normally distributed because the value of sig = 0.200 > 0.05. Monitoring data related to learning evaluation for female supervisors are normally distributed because the value of sig = 0.200 > 0.05.

Table 8. Average Learning Evaluation

Group Statistics

Gender		N	Mean	Std. Deviation	Std. Error Mean
Learning Evaluation	Male	43	25.2558	10.36269	1.58030
	Female	18	29.3889	4.51323	1.06378

Information:

From the average learning evaluation results, the average effect for males is 25.25 and the average learning evaluation for females is 29.38. From these data, the average learning evaluation conducted by females is higher than the learning evaluation undertaken by males.

Table 9. Homogeneity Test and Independent Samples t-Test

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Learning Evaluation	Equal variances assumed	12.347	.001	-1.623	59	.110	-4.13307	2.54700	-9.22961	.96346
	Equal variances not assumed			-2.170	58.839	.034	-4.13307	1.90498	-7.94516	-.32099

Information:

For the homogeneity test, it was found that the variance of the supervisory data related to the evaluation of learning for male supervisors and female supervisors was different (not homogeneous) because the value of sig = 0.001 < 0.05; therefore, to test the difference in the average of the two populations, an independent t-test was used for variance not the same. Independent samples t-test obtained a data value of sig = 0.034 < 0.05, which shows that there is a difference in the average learning evaluation between male supervisors

because the average value of learning evaluation for female supervisors is 29.38, which is greater than the value of male supervisors (25.25). Thus, it can be said that female supervisors are better than male supervisors in terms of monitoring the evaluation of learning.

3.4 Supervision

Table 10. Normality test

One-Sample Kolmogorov-Smirnov Test

		Male Supervision	Female Supervision
N		43	18
Normal Parameters[a,b]	Mean	114.0465	160.8333
	Std. Deviation	41.93700	27.26612
Most Extreme Differences	Absolute	.096	.203
	Positive	.096	.086
	Negative	-.095	-.203
Test Statistic		.096	.203
Asymp. Sig. (2-tailed)		.200[c,d]	.057[c]

Information:

The normality test results found that supervision data related to learning supervision for male supervisors were normally distributed because the value of sig = 0.200 > 0.05. The supervision data related to learning supervision for female supervisors are normally distributed because the value of sig = 0.057 > 0.05.

Table 11. Learning Supervision Average

Group Statistics

Gender		N	Mean	Std. Deviation	Std. Error Mean
Superintendent Supervision	male	43	114.0465	41.93700	6.39533
	female	18	160.8333	27.26612	6.42669

Information:

From the average results of learning supervision, the intermediate result of learning supervision for males is 114.04 and the moderate learning supervision for females is 160.83. From these data, the average learning supervision carried out by females is higher than the learning supervision carried out by males.

Table 12. Homogeneity Test and Independent Samples t-Test

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Superintendent Supervision	Equal variances assumed	3.766	.057	-4.352	59	.000	-46.78682	10.74948	-68.29649	-25.27716
	Equal variances not assumed			-5.160	48.206	.000	-46.78682	9.06656	-65.01436	-28.55929

Information:

For the homogeneity test, it was found that the variance of supervision data related to learning supervision for male supervisors and female supervisors was not different (homogeneous) because the value of sig = 0.057 < 0.05; therefore, to test the difference in the average of the two populations, the independent t-test was used for same variances. Independent samples t-test obtained a data value of sig = 0.00 < 0.05, which shows that there is a difference in the average supervision between male supervisors and female supervisors because the average value of learning supervision for female supervisors is 160, which is greater than that for male supervisors (114). Thus, it can be said that female supervisors are better than male supervisors in terms of learning supervision.

The presentation for analysing academic implementation in planning, implementation, evaluation and supervision is shown in Figure 1.

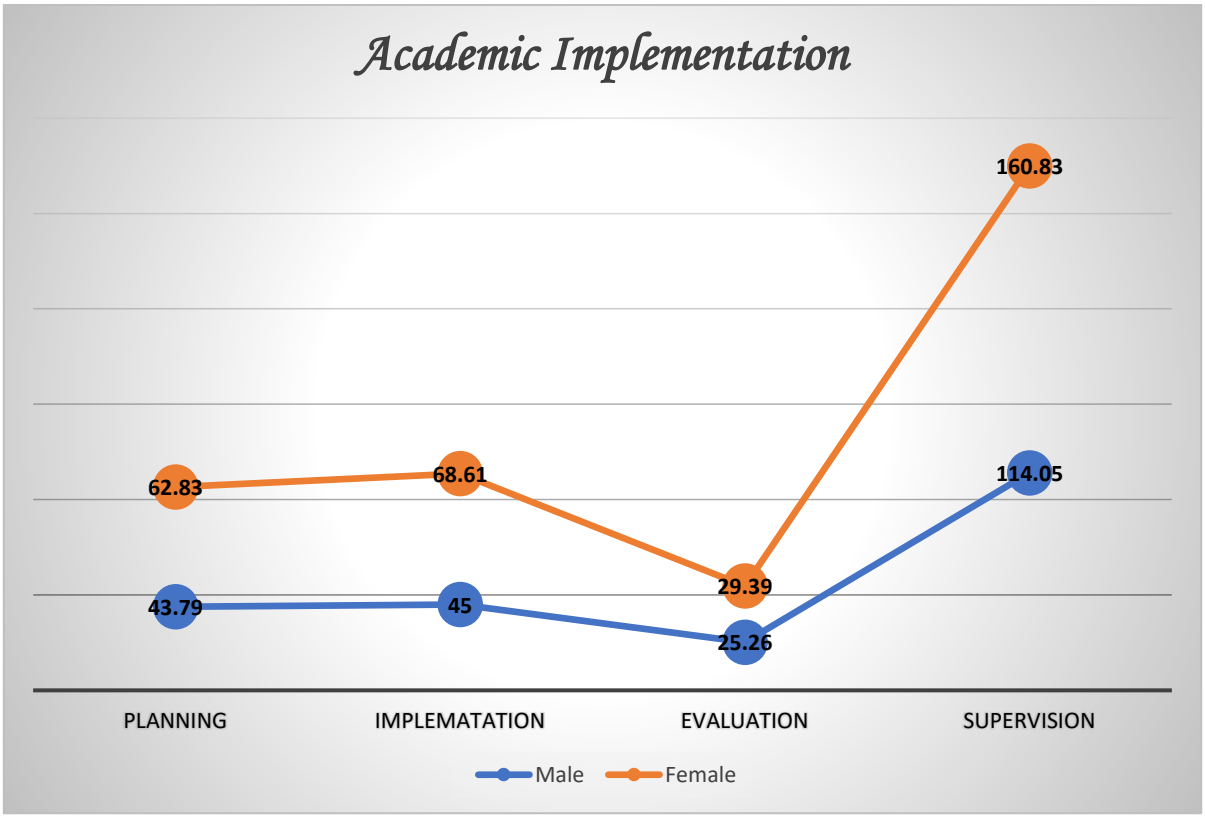

Figure 1. Presentation of Analyzing Academic Implementation

In Figure 1, the orange line represents females and the blue line represents males. Overall, in terms of planning, implementation, evaluation and supervision, it was found that female supervisors had a higher average than male supervisors in implementing education supervision management.

4. Discussion

Supervision is a structured programme to assist teachers and school staff in carrying out their work effectively (Schumacher et al., 2020). Akpan (2020) states that supervision is a process for implementing what work has to be carried out, evaluating it and correcting it

with the intention that the implementation of the work is by the original plan. Supervision is an effort to provide services to become more professional in carrying out their duties to serve students.

Supervision is any assistance from school leaders to develop the leadership of teachers and school staff in achieving educational goals. Supervisors play an important role in school supervision through planning, conducting meetings, making evaluations to ensure programmed tasks and activities run well and supervising learning (Rodríguez-López & Souto, 2019). Supervision in the form of guidance, encouragement and opportunities for expertise, skills, and growth of teachers, such as guidance in business and implementation of reforms in education and teaching, selection of learning tools and better teaching methods, methods of assessment systematic approach to the phases of the entire teaching process and so on.

The function of supervision or supervision in education is not just to control to see whether all activities have been carried out by the plans or programmes that have been outlined, but more than that. Supervision in education contains a broad understanding. Supervision of schools, especially teachers, is carried out very carefully so that the ability of active teachers to increase and maintain quality is very good (Saxby et al., 2015). Supervision activities include determining the conditions or requirements for personnel and materials needed to create an effective teaching and learning situation and fulfilling those requirements. The conditions referred to in the supervision of education are learning planning, implementation of learning, evaluation of knowledge and management supervisor. So what needs to be done by supervisors is to continue to motivate teachers through well-organised supervisory action points as the basis for educational supervision (Lugya, 2018).

In this study, researchers conducted a research on the productivity of academic supervision by supervisors for senior high school, vocational high school and special needs school in East Borneo based on gender (male supervisors and female supervisors) in the learning process, which involves aspects of lesson planning, learning implementation and learning evaluation.

After conducting statistical tests, it was found that the results of supervision in the aspect of learning planning included six indicators, namely the preparation of syllabus, preparation of lesson plans, use of assessment techniques, selection of learning techniques, mastery of learning materials and the use of information technology in learning. It was also found that the supervision of learning planning carried out by female supervisors was better than planning oversight by male supervisors. This is because female supervisors have good accuracy in planning aspects so that the scope of planning in academic supervision can be carried out properly. Females were able to carry out an

excellent system of planning, monitoring and evaluation including appropriate disaggregated data at each stage of supervision (Thierry, 2019).

From the aspect of supervision in the implementation of learning in the form of providing direction and guidance to teachers in carrying out preliminary activities, core activities and closing activities, it was found that the supervision of the implementation of learning carried out by female supervisors was better than male supervisors. This is because female supervisors have better activity in providing direction and guidance to teachers in implementing the learning process. In addition to this, female supervisors can also carry out their role well in directing teachers in implementing lesson plans (RPP) in the implementation of the learning process in the classroom. Supervisors need to provide direction and guidance for preliminary activities to generate student motivation and actively focus students' attention on actively participating in the teaching and learning process and connecting with previous learning (Stern et al., 2018).

In the aspect of monitoring the evaluation of learning which includes selecting questions based on discriminating power, following up on invalid questions, determining correlations between questions, identifying the level of variation in assessment results and using appropriate assessment techniques in the learning process, it was found that female supervisors in carrying out guidance for teachers were better than male supervisors. This is because female supervisors have the ability and thoroughness to analyse learning evaluation questions, which teachers will use in implementing classroom learning. The provision of good learning evaluation guidance to teachers is intended to assist teachers in knowing the questions that are not good and looking for reasons why the questions are not good. Teachers can also determine the difficulty level of the questions given to their students and can distinguish and group students based on ability (González et al., 2020).

Of the three aspects of academic supervision, including learning planning supervision, parts of learning implementation and characteristics of learning evaluation, female supervisors have carried out academic supervision better than male supervisors. This is because female supervisors have good management skills and can manage all activities in their academic supervision.

5. Conclusion

Academic supervision in this study is an activity carried out by school supervisors to see three aspects of learning, namely the characteristics of learning planning, part of the implementation of learning and elements of learning evaluation. From this aspect, female supervisors are better at managing academic supervision than male supervisors in carrying out their duties. Female supervisors have good accuracy in learning planning elements; have better activities in providing direction and guidance to teachers in carrying out the learning process; and can analyse better learning evaluation questions. As there is a lack of

participant number and the duration of study is limited, further research is still needed to elucidate more information about the implementation of academic supervision management, especially in other school.

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