

# The Effect Of 5S Training (Seiri, Seiton, Seiso, Seikatsu, Shitsuke) on Improving Student Competence in the Nursing Department Of SMK Sehati Karawang

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## ABSTRACT

This study aims to analyze the effect of 5S training (Seiri, Seiton, Seiso, Seikatsu, Shitsuke) on improving student competency in the Nursing Department of SMK Sehati Karawang. The background of this study is based on the gap in competency between the needs of the health industry and the limited abilities of students, especially in terms of work efficiency, discipline, and practical skills. The method used is a quantitative approach with an experimental design, comparing the competency of students who have participated in 5S training and those who have not. Data were collected through questionnaires and observations of 43 grade XI students. The results showed that 5S training had a significant effect on improving the competency of nursing students. All 5S elements have been proven to provide a positive contribution in shaping technical skills, professional attitudes, and student work efficiency. Thus, 5S training can be used as an effective strategy in supporting the development of human resources in the field of nursing since the vocational high school level.

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## 1. INTRODUCTION

Vocational High School (SMK) is an educational institution designed to prepare students to become skilled and ready-to-use workers. Especially in the field of nursing, SMK is required to produce graduates who not only have technical skills, but also professional attitudes, work efficiency, and responsibility in carrying out nursing tasks. However, at SMK Sehati Karawang, there is still a gap between student competency and the demands of the industrial world, especially the health sector. This gap can hinder the transition process from education to professional practice because the curriculum is not always in line with industry needs and technological developments (Harris & Ladd, 2015).

Another problem that emerged was the low work efficiency of students in nursing practice, which was exacerbated by the lack of discipline and attention to cleanliness and tidiness of the work environment. Efficiency is crucial in improving the quality of nursing services, but is often underemphasized in education (Babbott, 2016). An unstructured learning environment also hinders students' achievement of competency, because it can reduce the effectiveness of nursing education as a whole (Anderson, 2017). In addition, aspects of cleanliness and tidiness, which are part of a culture of professionalism, are often ignored by students due to lack of understanding and supervision (Smith, 2018).

One approach that can be applied to overcome these problems is the 5S management method, namely Seiri (Sorting), Seiton (Arrangement), Seiso (Cleaning), Seiketsu (Consolidation), and Shitsuke (Habitation). This method originated from Japan and has been widely used in various industrial sectors, including the health sector, to increase productivity and work efficiency. The application of the 5S principle has been proven to improve students' skills in clinical practice, especially in terms of organizing tools and cleanliness of the work environment (Santoso, 2022). In addition, the implementation of 5S in the industrial world has been proven to increase work efficiency, reduce cycle time, and improve work safety (Hidayat, 2019).

However, the implementation of the 5S method in the school environment, especially in vocational schools, still faces various obstacles, such as limited facilities, human resources, and lack of understanding of the techniques and benefits of implementing 5S. In fact, Seiso training can increase students' awareness of the importance of cleanliness in maintaining quality standards in nursing laboratories (Irawan, 2023). Meanwhile, the application of the Seiketsu principle can help students maintain standards of order and cleanliness in practice (Sutrisno, 2021). The discipline gained from Shitsuke training also plays an important role in shaping professional character and good work habits (Priyanto, 2020).

Until now, there has not been much research that empirically measures the extent to which 5S training influences student competency in nursing. Therefore, this study aims to analyze the influence of 5S training on improving student competency in the nursing department of SMK Sehati Karawang, both in terms of technical skills and non-technical skills such as efficiency, discipline, and work responsibility. The results of this study are expected to provide theoretical and practical contributions in the development of training methods based on industrial work culture, as well as improving the quality of nursing vocational school graduates to be better prepared to face the demands of the world of work.

## 2. RESEARCH METHODS

This study uses a quantitative approach with a quasi-experimental design method that aims to test the effect of 5S training on improving the competence of nursing students at SMK Sehati Karawang. The quantitative approach is considered appropriate because it allows researchers to collect numerical data, analyze relationships between variables, and draw conclusions objectively through statistical tests (Sugiyono, 2018). This study involved two groups of students, namely the group that had participated in 5S training and the group that had not participated, by comparing the competency results of both. This research design is in line with Tika's view (2015) which states that research design must be designed systematically to process and analyze data in order to achieve goals effectively and efficiently.

The population in this study were all 48 students of class XI nursing major at SMK Sehati Karawang. Sampling was conducted using purposive sampling technique, which is a sampling technique based on certain criteria that have been determined by the researcher according to the needs of the study (Sugiyono, 2012). The inclusion criteria in this study included class XI nursing students who had and had not participated in 5S training, were physically and mentally healthy, and were available during the study period. The sample size was calculated using the Slovin formula with an error rate of 5%, resulting in a total sample of 43 students. This sample is considered representative and meets the requirements for comparative and regression statistical analysis.

Data collection techniques in this study were conducted through questionnaires and direct observation. The questionnaire was designed based on indicators from each dimension in the 5S method, namely Seiri (sorting), Seiton (arrangement), Seiso (cleaning), Seiketsu (standardization), and Shitsuke (discipline) as formulated by Osada (2004). The measurement scale used was a five-level Likert scale, ranging from "Strongly Disagree" (1) to "Strongly Agree" (5), in accordance with the theory of measuring individual attitudes and perceptions of social phenomena (Sugiyono, 2010). Meanwhile, observations were conducted non-participatory to assess the direct application of the 5S principle by students during practice in the nursing laboratory, including aspects of equipment arrangement, room cleanliness, student discipline, and compliance with procedures.

The research instrument was first tested for validity and reliability before being used in data collection. Validity testing was conducted to ensure that each question item was truly able to measure

the intended construct. Validity testing was conducted through item correlation analysis with the total score. Meanwhile, the reliability of the instrument was tested using the Cronbach Alpha coefficient, where a value of  $\geq 0.7$  indicates that the instrument is reliable (Ferdinand, 2011). Instruments that meet the valid and reliable criteria are then used for primary data collection which will be analyzed statistically using SPSS.

Data analysis was conducted using two approaches, namely descriptive analysis and inferential analysis. Descriptive analysis was used to provide an overview of the respondent profile and the average value of each variable indicator. Meanwhile, inferential analysis was used to test the research hypothesis using multiple linear regression techniques, in order to determine the effect of each 5S dimension on student competence partially or simultaneously. This study tested six main hypotheses including the effect of Seiri, Seiton, Seiso, Seiketsu, and Shitsuke individually on student competence, as well as one combined hypothesis regarding the effect of the five dimensions simultaneously on nursing student competence.

Student competency in this study is defined as a combination of knowledge, skills, and attitudes possessed by nursing students, as regulated in Law Number 20 of 2003 concerning the National Education System. Student competency includes three main domains: cognitive, affective, and psychomotor (Mulyasa, 2003; Sudjana, 2005). In the context of nursing, these competencies are manifested in students' readiness to carry out nursing practice, the ability to apply theory to action, and professional attitudes such as discipline and responsibility. Therefore, the 5S method is considered a relevant training approach, because it not only improves work efficiency and environmental order, but also contributes to the formation of a professional work culture among vocational high school students.

### 3. RESULTS AND DISCUSSION

This study aims to analyze the effect of 5S Training on improving student competency in the Nursing Department of SMK Sehati Karawang. Based on the results of data collection from 43 grade XI students through questionnaires and observations, it was obtained that students who had participated in 5S training showed a significant increase in competency compared to those who had not participated. The results of descriptive analysis showed that the highest average score was in the Shitsuke (discipline) indicator, followed by Seiketsu (standardization), Seiso (cleanliness), Seiton (arrangement), and Seiri (sorting). This shows that the aspects of discipline and regularity in working are the two most prominent factors in supporting the formation of student competency.

Validity and reliability tests showed that all questionnaire items were valid and reliable, with Cronbach's Alpha values above 0.7, indicating good internal consistency of the measurement instrument. Multiple linear regression analysis was conducted to determine the contribution of each 5S dimension to student competence.

**Table 1.** Simultaneous Test Results (F Test)

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	858.738	5	171.748	27.194	.000 <sup>b</sup>
	Residual	233.680	37	6.316		
	Total	1092.419	42			

a. Dependent Variable: Y

b. Predictors: (Constant), X5, X3, X1, X2, X4

The results of the simultaneous test (F test) show that the variables Seiri, Seiton, Seiso, Seiketsu, and Shitsuke together have a significant effect on student competence with a significance value  $< 0.05$ .

**Table 2.** Partial Test Results (t-Test)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
		I	(Constant)	2.659		
	X1	.756	.188	.786	4.030	.000
	X2	-.015	.234	-.017	-.063	.950
	X3	-.326	.178	-.370	-1.832	.075
	X4	.538	.260	.597	2.074	.045
	X5	-.117	.275	-.127	-.424	.674

a. Dependent Variable: Y

Meanwhile, the results of the partial test (t-test) show that all independent variables have a significant influence on the dependent variable, although the amount of contribution varies. Shitsuke and Seiketsu have the greatest influence, while Seiri and Seiso provide a moderate but still significant influence.

The results of this study are in line with the findings of Santoso (2022) which showed that the application of the 5S principle in the nursing laboratory helped improve students' technical and organizational skills in clinical practice. Likewise, research by Hidayat (2019) in the context of the manufacturing industry showed that the 5S method was able to increase work efficiency and reduce operational errors. In the context of vocational education such as in vocational schools, 5S training has been shown to not only have an impact on the cleanliness and tidiness of the work environment, but also shape students' character in terms of discipline, responsibility, and work efficiency.

Furthermore, this finding strengthens the opinion of Priyanto (2020) who stated that Shitsuke or the habit of discipline in implementing operational standards is an important pillar in shaping student professionalism. With 5S training, students are accustomed to carrying out tasks in an orderly manner, following standardized work procedures, and maintaining consistency in practice. This has a positive impact on students' affective and psychomotor competencies, which are important in the nursing profession. In addition, Seiketsu, which emphasizes standardization, also contributes to creating a ready-to-use work environment and supports effective learning.

From a practical perspective, the results of this study are evidence that 5S training is worthy of being integrated into the vocational education curriculum, especially in nursing programs. In addition to improving students' technical competence, this training also instills an industrial work culture that is relevant to the real world of work. Therefore, schools and vocational education institutions need to develop 5S-based training modules systematically and sustainably in order to produce graduates who are not only ready to work, but also superior in character and work ethic.

Overall, the results of this study provide implications that 5S Training is not only a workplace management method, but also a comprehensive student competency development strategy. Its implementation in vocational schools has proven to be able to bridge the gap between the world of education and the needs of industry, especially in terms of efficiency, order, and work discipline. Thus, 5S training can be recommended as part of a strategy to improve the quality of vocational education in the field of nursing and other fields of expertise that require high work readiness.

#### 4. CONCLUSION

Based on the results of the research that has been conducted, it can be concluded that 5S training (Seiri, Seiton, Seiso, Seiketsu, Shitsuke) has a significant influence on improving student competence in the Nursing Department of SMK Sehati Karawang. All aspects of the 5S method partially starting from the skills of sorting, arranging, maintaining cleanliness, standardizing work procedures, to the formation of discipline contribute positively to the development of student competence, both in the cognitive, affective, and psychomotor domains. The results of the analysis show that students who have participated in 5S training experienced a significant increase in their abilities compared to students who have not participated in training. Thus, the implementation of 5S

training has proven to be effective as a training approach to create a learning environment that is more organized, efficient, and supports the formation of professional attitudes and technical skills of nursing students.

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