

Conference Paper

Implementation of Occupational Health and Safety in State Vocational Schools of TKBB Expertise Competency in Yogyakarta

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Abstract

This research aims to understand (1) OHS knowledge level of eleventh-grade students from various State Vocational Schools of Stone and Concrete Construction Engineering competency of expertise in Yogyakarta, (2) their OHS attitude, and (3) their level of OHS implementation. The research used descriptive method. The data were obtained from test results and questionnaires. The research used saturated sampling technique. The population consists of 188 students of four State Vocational Schools in Yogyakarta. Results show that (1) 15% of the students have high OHS knowledge, 80% of them have a middle level of knowledge, and 5% of them were categorized as having low category; (2) 80% of students show high OHS attitude, 20% of them shows middle attitude, and 0% has low attitude; (3) 42% of students have a high level of OHS implementation, 39% of them were included in the middle category, while 19% of them were categorized as low.

Keywords: Occupational health; Occupational safety; TKBB Vocational School students.

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1. Introduction

Occupational safety is a state of being spared from hazards during work. It is one of the factors to do at work. There is no person in the world who desires an accident to happen. Occupational safety heavily depends on types, form, and environment in which the work is performed [1].

Occupational health is a state of being safe and secure from any affliction, damage, and harm in the workplace, whether occurring in the moment of using work tools, materials, and type of machinery during processing, packing, and storage, or during maintenance and securing of place and environment of work [2]. Occupational health is a specialization of health sciences and practice which aims to give workers or working communities degrees of health as high as possible, in terms of physical, mental, and social health by means of preventive or curative effort to diseases or health problems

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related to work and environment or to common illnesses [3]. Article 23 of Health Law of 1992 provides conditions related to occupational health, mentioning that occupational health is conducted so that all workers can work in a healthy condition without putting themselves or society in danger, and in order to optimize their work productivity in accordance with labor protection program [4].

The occurrence of a workplace accident is started from management dysfunction in the effort of Occupational Health and Safety (OHS) implementation. Such imbalance becomes a founding cause of the occurrence of a workplace accident. The increasing hazard potential in the production process causes the need for effective, thorough, and integrated OHS management in company management. An effective OHS management in an organization can help to improve workers' spirit, and to enable them to have faith in the management of the organization [5].

Related to the OHS implementation in Vocational School, teachers have provided adequate supervision and coaching during OHS implementation in relation to the work practice of the day and settings related to the working environment. However, OHS is not fully realized during learning activities [6]. Vocational School workshops or laboratories contain hazards covering nine groups of work or things, such as material treatment, usage of working tools, machine protection, workplace design, lighting, working weather, noise, vibration, and electrical hazard control, worker facilities, and work organization [7]. Previous research shows that OHS implementation in Wooden Workshop, Plumbing Workshop, and Stone Workshop of Civil and Planning Engineering Education, Faculty of Engineering, Yogyakarta State University, still needs to be improved [8].

Based on the explanation above, it is therefore known that to create a good implementation of OHS in schools and industry, OHS standards should be observed carefully. Since early stages, schools should instill awareness of the importance of OHS to their students. It is important because if the students have a substantial knowledge about OHS, it is hoped that they can show a caring attitude towards OHS and eventually, they can become accustomed to implementing OHS in their work, either in school or in the industrial world after graduating.

2. Material & Methodology

This research is a survey research and used the descriptive method with a quantitative approach. Descriptive method is a research method used to illustrate or analyze research result but not used to make broader conclusion [9]. Content validation was

conducted by taking consideration from two expert lecturers to assess content from the instruments used in this research systematically. Construct validation was held in SMKN 2 Klaten, by testing the instrument to 35 respondents of eleventh-grade Vocational School students of TKBB competency of expertise.

The population in this research is all eleventh-grade Vocational School students of TKBB competency of expertise in Yogyakarta Special Region (DIY) of 2017/2018 academic year, amounting to 188 students. The population was spread over four Vocational Schools, which are SMKN 1 Seyegan, SMKN 2 Pengasih, SMKN 2 Wonosari, and SMKN 2 Yogyakarta. The research used saturated sampling, meaning that all population members were used as samples. The breakdown of research population is shown in Table 1.

TABLE 1: Research Population.

No.	School Name	Total Students
1	SMKN 1 Seyegan	64
2	SMKN 2 Pengasih	63
3	SMKN 2 Wonosari	30
4	SMKN 2 Yogyakarta	31
Total Research Population		188

Variables are research objects or things of concern in a research [10]. There are three researched variables studied in this research:

1. OHS knowledge of eleventh-grade Vocational School students of Stone and Concrete Construction Engineering competency of expertise.
2. OHS attitude of eleventh-grade Vocational School students of Stone and Concrete Construction Engineering competency of expertise.
3. OHS implementation of eleventh-grade Vocational School students of Stone and Concrete Construction Engineering competency of expertise.

Research data was obtained through several instruments as follows:

1. Test

In this research, the test was used to understand the level of OHS knowledge of eleventh-grade Vocational School students of Stone and Concrete Construction Engineering competency of expertise.

2. Questionnaire

The first questionnaire was used to understand the attitude of eleventh-grade Vocational School students of Stone and Concrete Construction Engineering competency of expertise, in relation to OHS.

3. Questionnaire

The second questionnaire was used to understand the level of OHS implementation of eleventh-grade Vocational School students of Stone and Concrete Construction Engineering competency of expertise.

The data obtained were then analyzed by following steps as follows.

1. Scoring

In the scoring process, raw data from research result were scored. For the test, 1 score was given if the students can answer the question correctly, while 0 scores was given for the wrong answer. For the two questionnaires of attitude and implementation, 3 scores was given for “sering melakukan (SM)” (“I often do this”) choice, 2 score was given for “kadang melakukan (KM)” (“I sometimes do this”) choice, and 1 score was given for “tidak melakukan (TM)” (“I do not do this”) choice.

2. Data tabulation

On this step, the data with the score were then presented in form of tables. It is intended to better communicate the research data to the readers.

3. Central Tendency

On this step, calculations were conducted to find the mean, median, and mode values, and standard deviation of the data.

4. Category fixing

In the last step, the category fixing process was conducted. The category was intended to understand data grouping to a certain degree [11]. The formula to determine category is shown in Table 2 as follows.

TABLE 2: Category fixing.

No.	Interval	Category
1	Above $(Mi + 1SD)$ until $(Mi + 3SD)$	High
2	Above $(Mi - 1SD)$ until $(Mi + 1SD)$	Middle
3	$(Mi - 3SD)$ until $(Mi - 1SD)$	Low

3. Results and Discussion

Research data was obtained through employment of tests and questionnaires about “Implementasi Keselamatan dan Kesehatan Kerja (K3) di SMKN Kompetensi Keahlian Teknik Konstruksi Batu dan Beton (TKBB) se-DIY” (Implementation of Occupational Health and Safety in Stone and Concrete Construction Engineering [TKBB] Competency of Expertise of State Vocational Schools). Respondents in this research were eleventh-grade Vocational School students of TKBB competency of expertise of 2017/2018 academic year which amounted to 188 students, spread over four schools, which are SMKN 1 Seyegan, SMKN 2 Pengasih, SMKN 2 Wonosari, and SMKN 2 Yogyakarta. The first data presented are the overall results of OHS knowledge, attitude, and implementation tests in DIY as follows.

3.1. OHS results in DIY

3.1.1. OHS knowledge

The calculation results of the level of OHS knowledge were divided into three categories: low, middle, and high. The results of the level of OHS knowledge in DIY is shown in Table 3.

TABLE 3: Level of OHS knowledge in DIY.

No.	Scoring Criteria	Category	Frequency	Percentage
1	17 - 25	High	27	15 %
2	9 - 16	Middle	151	80 %
3	0 – 8	Low	10	5 %
Total			188	100 %

It can be seen from Table 3 above that the highest frequency in the calculation results of the level of OHS knowledge was categorized middle category, amounting to 151 respondents or 80%, while the high category amounted to 27 respondents or 15%, and for the low category amounted to 10 respondents or 5%. The results are shown in Figure 1 below.

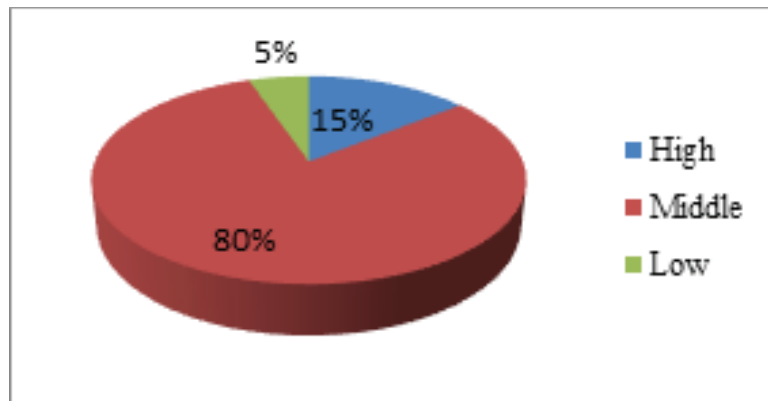


Figure 1: Percentage of Level of OHS knowledge in DIY.

3.1.2. OHS attitude

The calculation results of OHS attitude were divided into three categories: low, middle, and high. The results of OHS attitude shown by students in DIY is shown in Table 4 as follows

TABLE 4: OHS attitude is shown by students in DIY.

No.	Scoring Criteria	Category	Frequency	Percentage
1	36 - 45	High	150	80 %
2	26 - 35	Middle	38	20 %
3	15 - 25	Low	0	0 %
Total			188	100 %

It is shown in Table 4 that the highest frequency of OHS attitude was categorized high category, amounting to 150 respondents or 80%, while 38 respondents or 20% was categorized as the middle. No respondent responses were categorized in the low category. It is more visibly shown in Figure 2 as follows.

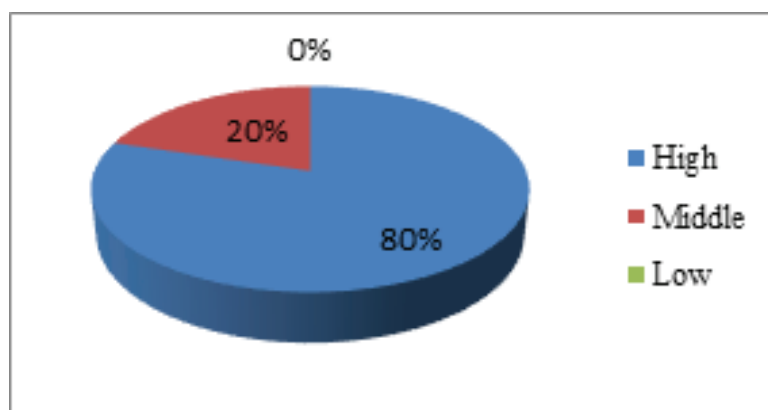


Figure 2: Percentage of OHS attitude shown by students in DIY.

3.1.3. OHS implementation

The calculation results of the level of OHS implementation were divided into three categories: low, middle, and high. The results of the level of OHS knowledge in DIY is shown in Table 5.

TABLE 5: OHS implementation in DIY.

No.	Scoring Criteria	Category	Frequency	Percentage
1	12 - 15	High	80	42 %
2	9 - 11	Middle	73	39 %
3	4 – 8	Low	35	19 %
Total			188	100 %

It can be seen from Table 5 above that the highest frequency in the calculation results of the level of OHS knowledge was categorized high category, amounting to 80 respondents or 42%, while the middle category amounted to 73 respondents or 39%, and for the low category amounted to 35 respondents or 19%. The results are shown in Figure 3 below.

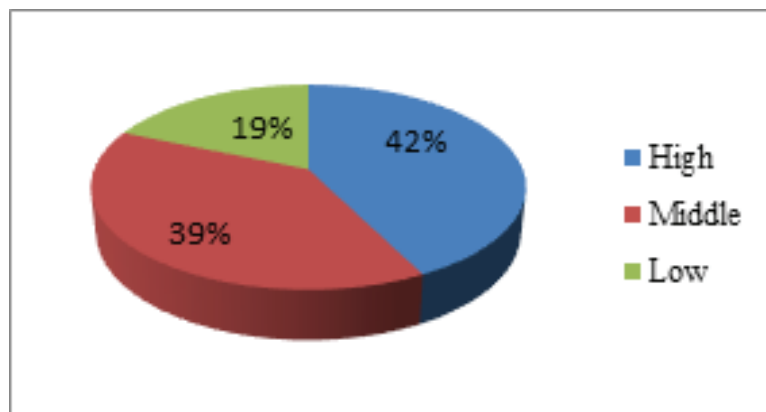


Figure 3: Percentage of OHS implementation in DIY.

The results can be summarized in Figure 4 below.

4. Conclusion

The research shows that (1) of all eleventh-grade Vocational School students of TKBB competency of expertise in Yogyakarta researched, 15% of them were categorized as having high knowledge on the matters of OHS, while 80% of them were categorized as having middle knowledge, and the remaining 5% were included in low category, (2) of all eleventh-grade Vocational School students of TKBB competency of expertise in

The results can be summarized in Figure 4 below.

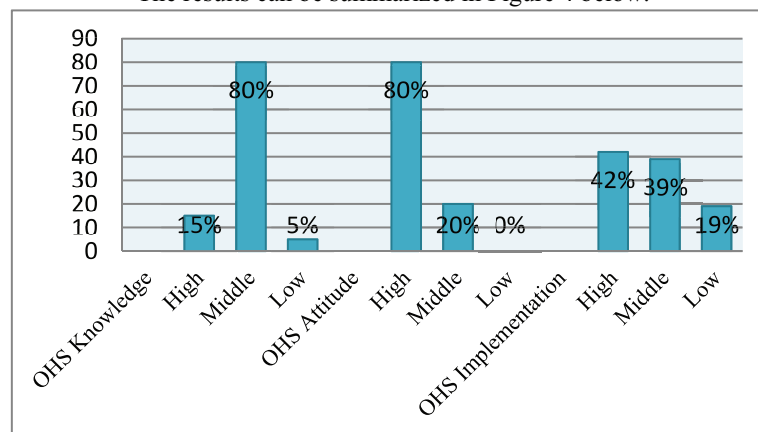


Figure 4: Summary of OHS research in DIY research.

Yogyakarta researched, 80% of them were categorized high category of OHS attitude, and the remaining 20% were included in the middle category, (3) of all eleventh-grade Vocational School students of TKBB competency of expertise in Yogyakarta researched, 42% of them were categorized high category of OHS implementation, while 39% were included in middle category, and the remaining 19% fell low category.

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