



**Putra khairus, Eko Indrawan, Junil
Adri and Irzal**

Department of Mechanical
Engineering, Faculty of Engineering,
Universitas Negeri Padang,
INDONESIA

*Corresponding Author:
pkhairus@gmail.com

Article history:
Received 29th May 2023
Revised 07th June 2023
Accepted 20th July 2023

<https://doi.org/10.24036/meej.v1i3.37>

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Published by:
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Analysis of job risk at machine workshop

Abstract

This research aims to: (1) Risk opportunities that may occur when students do not comply with Standard Operating Procedures (SOP) and cutting parameters contained in machining work at the National Vocational School Bukit Batu machine workshop. (2) Risk control efforts that can be carried out by workshop management, teachers or school officials so that work accidents do not occur in the Berbah National Vocational School Bukit Batu machine shop. This type of research is descriptive, with a qualitative approach. The research subjects were practical teachers, workshop heads and 22 students of class XI National Vocational School Bukit Batu. The research object is risk opportunities and risk control efforts. Data collection techniques use interviews, observation and documentation. The analysis techniques used are: Data Reduction, Data Presentation and Conclusions.

Keywords : Job Risk, Workshop, Vocational

Introduction

Vocational High School (SMK) is a form of secondary education that aims to produce secondary personnel who are skilled, dexterous and ready to work. Based on Government Regulation of the Republic of Indonesia Number 20 of 2003, education included in the formal education pathway article 18, paragraph 2, which states that secondary education consists of general education and vocational education.

The fields of expertise in SMK based on the independent curriculum are divided into several fields of expertise needed in the industrial world. The field of expertise is still divided into several departments. At SMK Nasional Berbah Sleman, one of them has a field of expertise or a machining engineering department. SMK students after graduating have been equipped with several specialised competencies according to their majors. One of them, namely competence in machining techniques including lathe and milling.

In addition to fulfilling these indicators, the workshop must also fulfil the aspects of occupational health and safety (K3). The K3 aspect is very necessary and must be considered because it involves the life of someone who is practicing in the workshop. If the workshop does not use K3 properly, it will cause potential risks. Potential risks that cannot be controlled will cause work accidents. This is certainly dangerous and unwanted by students, technicians and teachers who teach. (Ridley, John. (2008). Risk management is a central part of every aspect of life. Many people do not realise that in their daily lives they have lived the concept of risk management.

Likewise, work in workshops is not free from the risk of work accidents. For this reason, SMK Negeri 1 Bukit Batu, which is one of the vocational schools that prepares technicians in the field of workshops, prepares students or graduates to be able to enter the world of work and develop an attitude of professionalism, competence, improve their careers and develop themselves into middle-level workers who are ready to work in industry or entrepreneurship. At SMK Negeri 1 Bukit Batu, one of them has a field of expertise or a machining engineering department. SMK students

after graduating have been equipped with several specialised competencies according to their majors. One of them, namely competence in machining techniques including lathe and milling. Based on observations, many students at SMK Negeri 1 Bukit Batu still work not in accordance with the Standard Operating Procedures (SOP) in the machining workshop of SMK Negeri 1 Bukit Batu.

The Standard Operating Procedures are in the form of work standards in the machining workshop, SOPs on the use of PPE, SOPs on workshop cleanliness and less attention to SOPs regarding K3 such as there are still many students who work without paying attention to Occupational Health and Safety (K3), many students also work not according to Standard Operating Procedures (SOP), there are students working without paying attention to cutting parameters, even though Personal Protective Equipment (PPE) is provided most students do not use it. Therefore, it is necessary to study the risks of machining work at SMK Negeri 1 Bukit Batu.

Methods

This type of research is descriptive research, because the problem of this research is about risk and how to control it, so that complete, valid, credible and in-depth research data is needed in order to obtain useful results. The data collection methods used in this research are interviews with Mr Soetrisno, M. S. ST. Pi, Head of Machining Engineering Expertise Program of SMK N1 Bukit Batu and Mr Ali Mustopa, S.T Coordinator of Machining Workshop of SMK N1 Bukit Batu. obtained information about: Risk Opportunities and Risk Control Efforts, Observation is used to research obtain information about the risks that exist in the machining workshop of SMK N1 Bukit Batu, and documentation as authentic evidence in the field.

Data analysis using qualitative analysis techniques. Data analysis activities in this research with the following stages: 1) Data reduction, 2) Data Presentation, and 3) Conclusion.

Result and discussion

From the hazard identification analysis that has been carried out in the machine shop of SMK Negeri 1 Bukit Batu. Based on the results of identifying potential hazards using the Hazard Identification and Risk Assessment method in the machine shop of SMK Negeri 1 Bukit Batu, it can be seen that there are still potential hazards that have a high Risk Rating Number and risk priorities that have medium priority and top priority levels. So that it can be analysed the condition of the activities that occur at the potential hazard. The following is an analysis of hazard identification that has the potential to occur in machining practices at Negeri 1 Bukit Batu. The results of this study are in accordance with the research of Kemal Silwanus Makapedua (2018) Risk Analysis of Work Accidents in the Jakarta Development Dynamics Smk Machining Practice Workshop Hazard Identification And Risk Assessment (Hira) Method.

Testing the validity in this study, if the correlation coefficient value of the item score with the total score $r > 0.423$, otherwise it is invalid if the correlation coefficient value of the item score with the total score $r < 0.423$. In this study, a sample of 22 students was used for validity and reliability testing. From the results of the validity test in this study, the r-count value of all items is greater than the r-table of 0.423 with $\alpha = 0.05$. This means that all items can be declared valid. This means that all items can be declared valid, and can really be used as a measuring tool for occupational risk in the machine shop of SMK Negeri 1 Bukit Batu. The results of the validity test are in accordance with research conducted by Tri Yolanda Ariska, Mubarak and Saiful Husein (2022) with the title Risk Frequency Analysis of Building Construction Projects on Resource Factors.

Conclusion

Hazard Risk Opportunities that exist in the workshop of SMK Nasional Berbah Sleman, namely, students who lack concentration, lack of focus when using a lathe, students also often put sharp objects on the machine, teachers always emphasize K3 before practice and also the application of Standard Operational Procedures (SOP) and the use of Personal Protective Equipment (PPE), so the risk opportunities in the machining workshop can be minimized, Teachers/toolmen always emphasize OHS when students before machining practice, When practicing using a lathe, students

are required to use a face shield to avoid face exposure to scallops/chips, When practicing in a machining workshop, students are required to use safety shoes to avoid the risk opportunities that exist in the workshop.

Risk Control in the workshop of SMK Nasional Berbah Sleman which has been attempted to be able to handle and prevent all the risks that exist in the lathe machining workshop. However, students sometimes pay less attention to Personal Protective Equipment (PPE) and Standard Operational Procedure (SOP) that has been set by the school and workshop management. Teachers always emphasize K3 in every practice, put up K3 posters / signs, use safety helmet, gloves, teachers always insert material about K3 and before practice students are required to use Personal Protective Equipment (PPE).

Acknowledgement

Thanks to all the elements that have contributed to the research on the relationship between the completeness of safety facilities and the level of work accidents in the mechanical engineering of SMK Negeri 1 Bukit Batu, thanks to the Department of Mechanical Engineering, Universitas Negeri Padang lecturers, teachers, and staff.

Declaration

Author contribution

Putra Khairus as a researcher and data collector for the facility relationship. Dr.Eko Indrawan S.T.,M.Pd is a provider of direction and methods in research; Dr.Junil Adri,S.Pd., M.Pd.T. Evaluating research methods, Dr. Irzal, M.Kes data analysis and evaluating Background of the Problem.

Funding statement

This research did not receive any specific grants from any funding agency in the public, commercial, or non-profit sectors.

Conflict interest

The author states that there was no conflict when conducting the research.

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