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Conformity of Young Teachers' towards Workshop Safety Rules in Malaysian Schools is Crucial

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ABSTRACT

The purpose of this research is to identify to what extent the young teachers' of Technological Design program adhere to the safety rules of the workshop. The objectives of this study are to identify the level of knowledge based on the perceptions on workshop safety rules, to identify the level of understanding regarding the operation of machines and the use of hand tools and to evaluate the frame of mind towards safety by the young teachers'. This is a descriptive study conducted at the Faculty of Technical and Vocational, Sultan Idris Education University. A mix mode of quantitative and qualitative methods are used to obtain the data. A sample of 86 young teachers' were randomly selected from the population of 110 to distribute a questionnaire. Three mentors of the young teachers' were randomly selected to gain data for the qualitative technique. Results have shown that the level of young teachers' knowledge in safety practices were high. The mean value obtained for the first dimension which is the level of knowledge based on the trainee teachers' perception of the workshop safety rules is 4.35. The understanding of trainee teachers' on the operation of machines and the use of hand tools show a mean value of 4.14. Data obtained for the frame of mind towards safety during practical work appears to be 4.13 of mean value. Comments of mentors towards young teachers are mostly good. This study benefits the school authorities, teachers and students in order to realize the importance of safety apart from to understand the needs of faculty to improve maintenance activities in the workshop from time to time to reduce the risk of injury among students.

1. Introduction

Since Malaysia obtained it's independence in the year of 1957, the education system in the country has undergone a process of rapid development according to the passage of time. Technical and Vocational Education and Training (TVET) is one of the important elements for the development

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of a country. The Ministry of Education aims to provide abundant of opportunities for the students to develop their talents through TVET [21]. Training institutes were set up across the country such as ADTEC and GIATMARA. According to Malaysian Employers Federation (MEF) President Datuk Dr Syed Hussain Syed Husman there is an increasing need to improve the relevance of skills development and further promote Technical and Vocational Education Training (TVET) among Malaysians [4]. An industrial component-based curriculum is created in Technical and Vocational Education and Training (TVET) program which aimed to generate skillful workers which can eventually eradicate poverty gap between countries [18]. One of the subjects designed to meet the aspirations of the country is Rekabentuk Teknologi (RBT) (Technological Design) in schools. The RBT subject was introduced in secondary schools to replace the Integrated Living Skills subject in secondary schools which was introduced in 1989.

Workshop safety encompasses all aspects related to physical and mental health, the environment, property, and a hazard-free workplace [20]. Hands-on experience and practical skills necessary for their future careers of students to enhance innovative skills in workshops. Challenges related to ergonomic design and workplace practices can be present in this environment which can affect student comfort, productivity, and safety. To ensure a positive and effective learning experience for students these challenges should be understood and addressed. [6]. Awareness of workshop safety practices should be emphasized to everyone especially students [1]. Every individual working in the laboratory must be provided with reminders, guidelines, procedures, and the knowledge required to operate the laboratory and conduct experiments safely [14]. Workshop safety rules should be the main focus while students are in the workshop during a practical work. All the rules related to workshop safety should be clearly explained to students so that students can understand and comply with the rules. The rules should be displayed in an appropriate place and students should be reminded from time to time by their teachers or supervisors about the rules of the workshop. Injuries are prone to happen if the safety aspects are neglected and probability for a property to be damaged and further loss of an innocent life could also occur. Regarding this matter an act known as 'Occupational Safety and Health' (OSHA) was enacted in United States of America in 1970. Safety and health of workers in a workshop are ensured via this act (Sethuprakash et al, 2021). This act can be used to enforce a good management of RBT workshops whereby it needs to be very systematic and organized so that it is safer for students to use and reduce the risk of accidents.

The study conducted by Erfy *et al.*, [10] was to examine the extent of students' perceptions, knowledge and attitudes on workshop safety practices for students majoring in catering at Vocational College (KV) Muar. According to them, based on the report of the Ministry of Human Resources, Department of Occupational Safety and Health, one of the causes of accidents that occurs is due to human negligence while they are doing their work in workshop. Therefore, the necessary safety aspects should be given utmost attention especially when conducting practical work. According to him, frequent accidents in the workshop can be avoided if students always practice and adhere to the safety measures provided.

Accidents that occur due to unforeseen and planned events can cause physical injury to individuals, property damage, near misses and losses. Accidents can also occur as a result of failure to manage the layout in the laboratory [16]. Therefore, individuals need to know and practice safety practices in the workshop by practicing the concepts before, during and after using the workshop and equipment. Previous study conducted showed that students' perceptions of workshop safety practices, knowledge and attitudes possessed by students made a positive contribution accompanied by positive knowledge and ethics (Sethuprakash et al, 2021).

Khairul reports that accidents involving the use of hand tools and machines occur due to not being taken care of and maintained properly from time to time [7]. Users should have knowledge of tool maintenance in the workshop so as not to invite danger and cause damage to the tool or machine. Heavy workloads, time pressures, high commitments and a variety of social interactions are related to the teaching profession and it contributes to a lot of stress among the teachers and it is considered one of the most stressful occupations [13]. A well-functioning school is not only a school that promotes learning, but also attends to safety and teaches socially appropriate behavior. Teachers are on the frontlines when it comes to issues of school safety. Teachers interact with the students every day and they are the first to know of any acts of safety negligence. Many researchers around the world obtained data of students' perceptions, behaviors, and outcomes about school safety which shows lack of awareness acutely [17]. Pedagogical practices and school-based programs which initiates proactive development of a safe school-climate such as positive social relations, mutual trust and sense of belonging will support safety and well-being of teachers and students in school [8].

It important to identify the awareness, attitude and practices of young teachers in school workshop due to many accidents and injuries occurring in schools recently. This study was conducted to find out the level of compliance of Technological Design program young teachers to workshop safety rules and further find measures to reduce the risk of accidents to create a comfortable and safe work environment. The results of this study are expected to serve as a reference for the authority of the schools, teacher and students in Malaysia.

2. Methodology

The design of this study is in the form of a survey or descriptive method. According to Mohamad Najib [9], the descriptive survey method is suitable to be used to describe the condition or relationship between two variables. Researchers have used a mix mode of qualitative and quantitative approach in this study. The instrument used for the quantitative method is a questionnaire in which each item created related to the objectives of the study. The population of this work is 110 young teachers of RBT program at Universiti Pendidikan Sultan Idris (UPSI). Study samples were taken using simple random sampling. The study sample consisted of 86 RBT young teachers. The validity and reliability of the instrument was tested. The young teachers in this study consist of people whose age are in the range of 20-25.

The instrument was made available to 3 experts in the field of Educational Research. These experts are lecturers in a well-known university in Malaysia whom were chosen to measure the validity of the content consist in the questionnaire based on their qualification and experience. The pilot study was done with the assistance of 30 respondents from the final year RBT program who are also junior teachers. Based on the pilot study data, improvement of the questionnaire items was done using the reliability coefficients of the instruments obtained. Instrument reliability calculations involved analysis of Cronbach's Alpha coefficients for each item for the entire questionnaire. In this study, the data collected were analyzed using Statistical Package for the Social Sciences (SPSS). Qualitative data is collected using an open-ended question distributed to 3 mentors for the young teachers' whom are randomly selected from the mentors for the 86 of them. A set of 5 open ended questions were prepared and it was validated by the experts.

3. Findings and Discussion

Accidents and injuries in school workshops are an indication of danger present in a custom workshop. There are potential hazards arise from their practical sessions which consist of several

different kind of hands-on work. In this study, the result obtained from the pilot study conducted on 30 respondents showed that the Cronbach's Alpha value obtained is 0.88. This value agrees with the Bond and Fox article based on the RASCH measurement model, which is within 0.71-0.99 [2]. The results of the study utilizing a questionnaire yielded an average mean score and average standard deviation values to answer the research questions. The overall mean and standard deviation are 4.20 and 0.71 respectively as illustrated in table 1.

Based on the level of knowledge according to the young teachers' perception of the workshop safety which displayed a high mean value and good standard deviation, it is an evident that educators in Malaysia are getting enough safety knowledge when they are in their respective institutions. Data obtained for the second research question on the level of awareness for the youthful teachers on the operation of machines and the use of hand tools also shows a mean value and a standard deviation to exhibit the high understanding towards a smooth handling of machines and tools. The survey reveals an encouraging set of circumstances but recent reports describe something where more effort need to be put to ensure young teachers have a high degree of knowledge and awareness to operate machines and use the tools diligently in order to educate their students in the school in a proper way. Accidents involving students in the science laboratory are alarming recently and suitable steps need to be taken in order to eradicate or if not, reduce accident incidents and one of the measures that can be taken is the development of awareness and practice of laboratory safety [3]. According to Yusri and Yusnenti [12] factors of lack of knowledge while operating equipment such as machines contribute to the occurrence of accidents. Therefore, equipment such as machines must be accompanied by manuals and proper usage procedures in accordance with the Standard Operating Procedure (SOP). Accidents and hazards may occur as a result of incorrect usage procedures which can be avoided and reduced if the workshop community follows the SOP closely.

On the other hand, when we analyze the feedback obtained for the question whether the frame of mind for young teachers towards safety is good which is pointing out that the junior teachers feels that safety must be practiced all the while in the school especially workshops. Most of the young teachers strongly agree that they have a positive attitude towards safety while they are in the workshop. Necessary actions should be taken by the school authorities to make sure all the teachers' show a positive attitude during practical work continuously. This kind of precaution taken in schools can avoid mishaps from occurring and promises a smooth handling of the practical classes. Table 1 illustrates the mean score and standard deviation for all the components of the research questions.

Table 1

Average mean score and average standard deviation value for each question

Research Question	Mean Score	Standard Deviation
What are the level of knowledge based on the trainee teacher's perception of workshop safety rules?	4.35	0.69
Is the trainee teacher's level of awareness of machine operation and the use of hand tools satisfactory?	4.14	0.73
What is the frame of mind of trainee teachers' towards safety?	4.13	0.72
Mean of the mean score and standard deviation value	4.20	0.71

The findings of this study are also supported by the Domino Theory in 1959 introduced by H.W. Heinrich who stated that individuals who lack knowledge about workshop safety will result in unsafe practices or even unsafe conditions [5]. Young teachers' need to know every safety rule of the workshop and adhere to every rule that has been set by the authorities.

Apart from that, Saher [11], in his report, stated that the practice of rules in the workshop is the responsibility of everyone who is using the workshop which supports the outcome for the third research question. Furthermore, the results gathered in this study also show good attitude of teachers' that will contribute to a genuine safety education for the school students. Therefore, by following the rules in the workshop diligently, all the risky situation which can produce accidents can be avoided. Therefore, we can conclude that the main cause of accidents occur in a workshop is because of the negligence by an individual. A good and ethical attitude towards implementing good workplace in the workshop will able to build a quality environment to entirely practice the rules in the workshop.

In order to counter check with the data gotten from the quantitative method, further studies were done in the form of qualitative technique. Qualitative method can describe circumstances in a better way compared to quantitative method which uses numbers alone to express the data. The qualitative technique results mostly agrees with the data obtained from using the questionnaire. Most of the respondents' feedback go along with the input that the knowledge, awareness and attitude of the teacher towards safety are good. All 3 mentors were asked the same questions and about 90% of the answers supports the data from the quantitative method. Given below are some comments which are slightly contrary with the earlier data.

Respondent 1.

Q: Do you think safety procedures are taken seriously in a school by the young teacher?

A: "Yes I feel so but not all the time, while students enter the workshop, the young teacher fails to control them which can cause danger."

Respondent 2

Q: Does the young teacher monitor the use of hand tools by students to ensure safety rules are followed?

A: "For my opinion, the teacher does a good job of monitoring the usage of hand tools by students but despite the close monitoring, the students are still taking safety for granted by leaving tools in a wrong place"

Respondent 3

Q: Is the young teacher aware of the danger that can occur during practical session?

A: "Yes, I can see that the teacher briefs all the students about the danger which is present and what are the safety precautions should be taken by the students. The drawback is, she didn't explain about the consequences if safety is not practiced"

Workshop safety education is crucial to guarantee safety by enhancing individual knowledge and skills related to safe behavioral actions. Educators are responsible to establish a safe environment for the students. Students' frame of mind towards safety is the key to a safe and healthy lifestyle in the school. Laboratories can experience many hazards, including hazardous chemicals, extreme temperatures, explosions, and high voltages [19].

4. Conclusion

In conclusion, it is found that the level of knowledge, skills and attitudes during practical work among young teachers of Technological Design program are at a high level. This shows that young teachers have prepared themselves very well to teach in school in the future. The knowledge, skills and attitude of trainee teachers towards workshop safety rules is an important thing to face in this increasingly challenging world of education. Furthermore, the young teachers of Technological Design program can further enhance their workshop practical teaching knowledge in the school. The findings of this study can benefit the relevant parties and can contribute to upgrade the prestige of the national education profession.

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References

- [1] Abdullahi, Bello Birchi. "Exploring polytechnic students' awareness of safety equipment and precautions for sustainable working environment in school workshops." *International Journal of Science, Technology and Society* 5, no. 6 (2018): 210-217. <https://doi.org/10.11648/j.ijsts.20170506.16>
- [2] Bond, T. G., & Fox, C. M. (2015). *Applying the Rasch model: Fundamental measurement in the human sciences* (3th ed.). L. Erlbaum. <https://doi.org/10.4324/9781315814698>
- [3] Kavalela, Ester Ndaxuwelao Ndaimbwehafo, Shreeshivadasan Chelliapan, and Hesam Kamyab. "Evaluation of awareness and safety among students and technicians in UTM Research Chemical Laboratories." *Journal of Advanced Research in Occupational Safety and Health* 5, no. 1 (2019): 1-8.
- [4] Harun, H.N. (2022, November 14). TVET crucial to future workforce. *New Straits Times*. <https://www.nst.com.my/news/nation/2022/11/850737/tvet-crucial-future-workforce>
- [5] Heinrich, H. W. (1959). *Industrial accident prevention: A scientific approach* (4th ed.). McGraw-Hill.
- [6] Igbokwe, N. C., Ibekwe, C. J., Echeta, C. P., Kalu, C. A., & Mba, W. C. (2024). Analysis of workshop safety and productivity improvement in an engineering workshop. *Engineering Science & Technology Journal*, 5(6), 1930–1934. <http://doi.org/10.51594/estj/v5i6.1193>
- [7] Yusof, Mohd Khairul Azhar. "Amalan keselamatan bengkel dalam kalangan pelajar Kolej Vokasional Temerloh." PhD diss., Universiti Tun Hussein Malaysia, 2014.
- [8] Kurki, A. L., Uusitalo, H., & Teperi, A. M. (2019). Learning, culture and social interaction. *Learning, Culture and Social Interaction*, 23, Article 100348. <https://doi.org/10.1016/j.lcsi.2019.100348>
- [9] Mohamad Najib, A. G. (1999). *Penyelidikan pendidikan*. Penerbit Universiti Teknologi Malaysia.
- [10] Ismail, Mohd Erfy, Suhaizal Hashim, Mohd Fairuz Marian, Mohd Bekri Rahim, Faizal Amin, Nur Yunus, and Saiful Hadi Masran. "Amalan keselamatan pelajar dalam bengkel catering." *Online Journal for TVET Practitioners* 3, no. 1 (2018).
- [11] Saher, Mohd Najib. "Amalan Pengurusan Keselamatan Bengkel Kemahiran Hidup (KHB) Sekolah Menengah Harian Daerah Batu Pahat." PhD diss., Universiti Tun Hussein Onn Malaysia, 2015.
- [12] Ibrahim, Mohd Yusri, and Yusnenti Faziran Mohd. "Kajian amalan keselamatan dan risiko bahaya terhadap pelajar di bengkel mesin." *International Journal of TVET Studies (formerly known as Journal of Social Sciences and Technical Education JoSSTEd)* 2, no. 3 (2021): 25-33.
- [13] Redín, Concha Iriarte, and Amaya Erro-Garcés. "Stress in teaching professionals across Europe." *International Journal of Educational Research* 103 (2020): 101623. <https://doi.org/10.1016/j.ijer.2020.101623>
- [14] Negara, Roslena Che Juhan. "Tahap kesediaan pelajar kejuruteraan Politeknik terhadap keselamatan di dalam bengkel." PhD diss., Universiti Tun Hussein Onn Malaysia, 2012.
- [15] Vengidason, Sethuprakash, Irdyanti Mat Nashir, Rui Tang Jing, Mohammed Amiruddin Ismail, Kesavan Nallalathan, and Tamil Selvan Subramaniam. "Importance of safety in a workshop at schools for a safe and effective teaching and learning sessions." *Journal of Technical Education and Training* 13, no. 3 (2021): 155-161. <https://doi.org/10.30880/jtet.2021.13.03.015>

- [16] Ishak, Siti Hajjar. "Tinjauan terhadap amalan keselamatan dalam kalangan pelajar dan pensyarah di Makmal Kejuruteraan Universiti Tun Hussein Onn Malaysia." PhD diss., Universiti Tun Hussein Onn Malaysia, 2013.
- [17] Ssekamanya, S. A., Mastura Badzis, Khamsiah Ismail, and Dayang Shuzaidah Bt Abduludin. "Predictors of school safety awareness among Malaysian primary school teachers." *European Journal of Social Sciences Education and Research* 6, no. 1 (2016): 88-93. <http://doi.org/10.26417/ejsr.v6i1.p88-93>
- [18] UNESCO. (2015). *Education 2030 Incheon declaration: Towards inclusive and equitable quality education and lifelong learning for all*. <http://www.uis.unesco.org/Education/Documents/incheon-framework-for-action-en.pdf>
- [19] Wirth, Oliver, Anne M. Foreman, Jonathan E. Friedel, and Michael E. Andrew. "Two discrete choice experiments on laboratory safety decisions and practices." *Journal of safety research* 75 (2020): 99-110. <https://doi.org/10.1016/j.jsr.2020.08.005>
- [20] Boon, Yusof, and Azri Ikhwan Ahmad. "Amalan Keselamatan Bengkel Dalam Kalangan Guru-Guru Pelatih 4 SPH (Sarjana Muda Teknologi Serta Pendidikan Kemahiran Hidup) Semasa Mengikuti Latihan Mengajar Di Sekolah." *Journal of Technical, Vocational & Engineering Education, Volume 6* (2012): 102-114.
- [21] Yusoff, Siti Aishah Mohd, Nurul Nazirah Mohd Imam Ma'arof, and Mohd Firdaus Mustaffa Kamal. "Difference in the Level of Workshop Safety Practices among Students Across Gender." <http://doi.org/10.6007/IJARBSS/v11-i10/11336>