

## Original Article

### Knowledge Sharing of Occupational Safety and Health at Jababeka Industrial Vocational School

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#### Abstract:

This Community Service activity is motivated by the desire to share knowledge, experiences, and ideas in order to improve understanding and application of Occupational Safety and Health (K3) in the school environment, especially for students of the Jababeka Industry Vocational High School (SMK). The main purpose of this activity is to provide practical insights into the application of K3, both for students, work equipment, and the work environment in schools. This activity involved 42 students from a total of 80 students of SMK Industri Jababeka, consisting of representatives of classes X, XI, and XII. Before the activity is carried out, students take a pre-test to measure their initial understanding. After receiving material in the form of knowledge sharing about K3, students again took a post-test to evaluate the improvement of understanding. The evaluation results showed a significant increase in students' understanding of the concept and application of K3, as reflected in the comparison of pre-test and post-test results. This confirms the effectiveness of the knowledge sharing activities that have been provided. To support efforts to prevent work accidents and occupational diseases, students of SMK Industri Jababeka are expected to continue to improve their knowledge and application of K3 in the school environment. This increased awareness not only protects themselves, but also creates a safe and healthy work culture in the future.

**Keywords:** Occupational Safety and Health, Community Service, Knowledge Sharing, Students, Vocational High Schools, Industry

#### Introduction

The background of this research lies in the need to increase awareness and implementation of occupational safety and health (K3) culture in the Vocational High School environment in the Cikarang area. K3 culture is an important aspect in maintaining the safety and welfare of students and teaching staff in carrying out educational and learning activities ([Ismara, 2009](#); [Soeprapto et al., 2021](#)).

Although the importance of OSH is widely recognized, the implementation of OSH culture in vocational schools often faces various challenges ([Damayanti, 2023](#); [Hartono & Sutopo, 2018](#); [Pertiwi & Febrianti, 2022](#)). Factors such as a lack of awareness of risk, lack of resources, and a lack of understanding of good OSH



practices can hinder efforts to create a safe and healthy learning environment ([Lestariani et al., 2020](#); [Mirza et al., 2024](#); [Mustofa et al., 2021](#)).

"Knowledge sharing" refers to the process of imparting information, experience, or knowledge to another person or group with the aim of improving understanding, skills, or awareness ([Novianus & Musniati, 2020](#); [Ramadan, 2014](#); [Solahudin, 2015](#)). It involves sharing ideas, concepts, best practices, or discoveries with others so that they can leverage them for the common good.

Knowledge sharing activities can be carried out through various means, including presentations, discussions, training, publications, and collaborations ([Sumarni, 2020](#)). This can happen in a variety of contexts, including in the workplace, educational institutions, scientific communities, or social media.

The purpose of "knowledge sharing" can be various, such as increasing productivity, solving problems, accelerating innovation, expanding horizons, or strengthening relationships between individuals or groups. By sharing knowledge, individuals or organizations can support and enrich each other, creating a more collaborative and competitive environment.

Occupational Safety and Health in the school environment is a crucial aspect in creating a safe, productive, and supportive teaching and learning environment that supports the welfare of teachers and students ([Sampurno, 2019](#); [H. Sari, 2024](#); [Senkal et al., 2021](#)). The success of an educational institution is not only measured by academic achievement, but also by how the environment in the school provides protection and promotes safety and health for teachers, parents/guardians, and students and staff in the school ([Warphana & Sukardi, 2019](#); [Wijanarka et al., 2019](#); [Yurtçu, 2019](#)).

Therefore, this community service program aims to promote K3 culture in Vocational Secondary Schools. Steps related to Occupational Safety and Health in schools are usually related to ([N. Sari et al., 2022](#)):

1. Implementation of Occupational Safety and Health Policy  
Establish and implement policies that support Occupational Safety and Health in schools
2. Training  
Provide regular safety training to equip teachers, students, staff, and parents/guardians with the necessary knowledge and skills in identifying risks and implementing preventive measures
3. Inspection and supervision  
Conduct regular inspections of facilities, equipment, and work areas to ensure compliance with occupational safety and health standards
4. Handling Accidents and Emergency Events  
Provide emergency handling procedures and quick action planning in accident or incident situations.
5. Facilities and Equipment  
Ensure the availability of safety facilities and equipment such as firefighting equipment, warning signs, and personal protective equipment.
6. Awareness campaigns  
Conducting socialization to increase the awareness of teachers, students, school staff and parents/guardians of students on the importance of occupational safety and health in schools
7. Collaboration

Collaborate with various relevant parties, including government agencies, occupational safety and health experts, professional organizations to ensure that occupational safety and health practices are always updated in accordance with the latest standards.

The important role of "knowledge sharing" regarding Occupational Safety and Health (K3) in schools has a significant impact in creating a safe and healthy learning environment (Royal Society for the Prevention of Accidents, 2012). Here are some of the key roles of the activity:

1. **Increase awareness:** K3 knowledge sharing in schools can increase the awareness of students and teaching staff about the potential risks associated with activities in the school environment. With a better understanding of hazards and how to prevent them, individuals tend to be more vigilant and proactive in keeping themselves and others safe.
2. **Encouraging Safe Behavior:** By sharing information about good OSH practices, students and teaching staff can adopt safer behaviors in carrying out daily activities in school. This can reduce the risk of accidents and injuries, as well as promote a positive safety culture.
3. **Strengthening Skills:** K3 knowledge sharing can provide opportunities for students and teaching staff to gain practical skills in identifying risks, implementing preventive measures, and responding appropriately to emergency situations. By improving their K3 skills, they become better prepared to face various situations that may occur in the school environment.
4. **Encouraging Innovation:** Through collaboration and exchange of ideas, K3 knowledge sharing in schools can encourage innovation in the development of new methods and technologies to improve occupational safety and health. This can include the use of digital technologies, the development of more interactive training programs, or the implementation of newly discovered best practices.
5. **Building a Sustainable K3 Culture:** By continuously holding K3 knowledge sharing activities, schools can build and strengthen a sustainable safety culture. This creates an environment where occupational safety and health are considered top priorities and become an integral part of the organization's culture.

## Methods

Community Service at SMK Industri Jababeka is carried out on:

Day, date: Friday, November 15, 2024

Time: 10.00 – 11. 30 WIB.

It was attended by 42 students out of a total of 80 students at SMK Industri Jababeka. The method used was cross sectional and the data collected was primary data. This community service is carried out by an interactive method carried out pretest and posttest ([Liu et al., 2023](#)).

## Results

### Event Rundown

Activity Details	Hour	Executive
Unveiling	10.00 – 10.10	Mutahar
Ice breaking	10.10 – 10.20	Ivan, Mina

Pre test	10.20 – 10.30	Ivan, Mina
Provision of materials	10.30 – 10.45	Ivan
Discussion and Q&A	10.45 – 11.00	Ivan
Snack giving	11.00 – 11.10	Pain
Post test	11.10 – 11.20	Ivan, Mina
Closing	11.20 – 11.30	ivan

No	Name	Class	Jurusan	Pretest	Posttest
1	BC.	X	Network Engineering	Computer	20 80
2	A.A.	X	Network Engineering	Computer	60 90
3	R.A.	X	Network Engineering	Computer	60 70
4	R.A.	X	Network Engineering	Computer	40 30
5	A.R.D.	X	Light Engineering	Vehicle	30 80
6	And.	X	Light Engineering	Vehicle	60 90
7	A.I.R	X	Light Engineering	Vehicle	80 100
8	M.F.	X	Light Engineering	Vehicle	60 100
9	A.R.	XII	Network Engineering	Computer	50 90
10	M.T.A.	XII	Network Engineering	Computer	50 90
11	D.L.S.	XII	Network Engineering	Computer	90 100
12	A.W.D.	XII	Network Engineering	Computer	90 90
13	In.	XII	Network Engineering	Computer	100 100
14	J.	XII	Network Engineering	Computer	100 100
15	F.A.	X	Network Engineering	Computer	90 80
16	B.A.C.	X	Light Engineering	Vehicle	90 90
17	F.B.	X	Light Engineering	Vehicle	90 60
18	D.N	X	Light Engineering	Vehicle	40 70
19	K.A.M.	X	Network Engineering	Computer	60 90
20	D.R.W.	X	Network Engineering	Computer	80 80

			Engineering			
21	K.P.	X	Network Engineering	Computer	90	40
22	S.S.S.	X	Network Engineering	Computer	90	70
23	F.H.	X	Light Engineering	Vehicle	70	70
24	M.R.	X	Light Engineering	Vehicle	80	80
25	T.A.Y.	X	Light Engineering	Vehicle	70	50
26	I.R.	X	Light Engineering	Vehicle	40	60
27	N.P.A.	XII	Network Engineering	Computer	100	90
28	A.N.	XII	Network Engineering	Computer	60	90
29	P.S.	XII	Network Engineering	Computer	100	100
30	S.D.	XII	Network Engineering	Computer	90	100
31	D.N.	X	Light Engineering	Vehicle	100	100
32	N.N.	XI	Light Engineering	Vehicle	40	50
33	T.	XI	Light Engineering	Vehicle	80	90
34	O.S.B.W.	XI	Light Engineering	Vehicle	90	90
35	M.F.D.H.	X	Network Engineering	Computer	10	70
36	D.P.	X	Light Engineering	Vehicle	50	70
37	M.F.	X	Light Engineering	Vehicle	50	90
38	E.O.P.	X	Light Engineering	Vehicle	10	90
39	M.F.	X	Light Engineering	Vehicle	80	90
40	M.A.R.S.	X	Light Engineering	Vehicle	30	80
41	S.N.	X	Network Engineering	Computer	90	80
42	L.K.D.	X	Network Engineering	Computer	60	90

*Knowledge sharing of Occupational Safety and Health at Jababeka Industrial*

Vocational High School was attended by 42 students.

1. There were 29 students in class X, 11 from the Department of Network Computer Engineering, 18 people from Light Vehicle Engineering.
2. There were 3 students in class XI, all of whom are from the Department of Light Vehicle Engineering.
3. There were 10 students in grade XII, all of whom are from the Department of Network Computer Engineering.

Thus, when viewed from the Department of Light Vehicle Engineering there are a total of 21 people, from the Department of Network Computer Engineering there are a total of 21 people.

1. Change of Pretest Score to Posttest

Biggest Increase:

Students with the initials E.O.P. (X, Light Vehicle Engineering) experienced the largest increase, from 10 to 90 (up 80 points).

Impairment:

There are some students whose posttest scores have decreased, for example:

R.A. (X, Network Computer Engineering): from 40 to 30 (down 10 points).

K.P. (X, Network Computer Engineering): from 90 to 40 (down 50 points).

2. Performance by Major:

Network Computer Engineering:

Many students with lower initial grades (e.g. A.C., 20 grades) are able to improve rapidly on the posttest. However, there are also some students who show a decline (e.g. R.A. and K.P.).

Light Vehicle Engineering:

In general, students in this major show a steady increase in grades, with some students achieving perfect posttest scores (e.g. A.I.R., D.N.).

3. Performance by Class:

Class X:

Greater variation in values. There are students with low pretest scores (e.g., A.C., score 20) and high (e.g., D.N., score 100). The change in grades in this class is quite significant.

Class XI:

Grades tend to be stable with most students showing moderate increases.

Class XII:

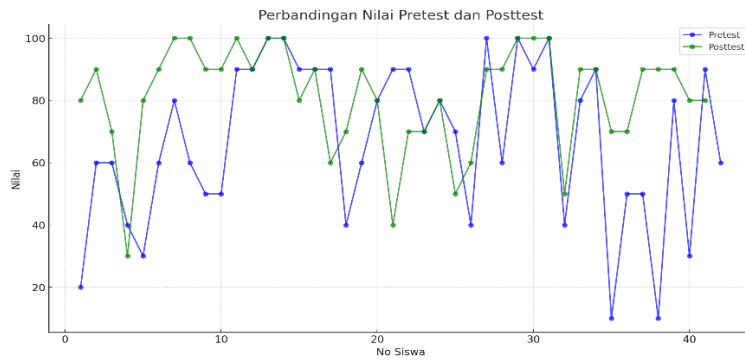
Most students have higher scores on both the pretest and posttest (e.g., W., J., score 100).

4. Perfect Value Distribution (100):

Pretest: There are some students who achieve perfect grades at the beginning, such as W. and J. from grade XII Network Computer Engineering.

Posttest: More students achieved perfect grades after the posttest,

indicating a significant improvement



Here is a comparison chart of pretest and posttest scores for all students. From this graph, it can be seen how the change in grades occurs in each student, with most showing improvement.

### Community Service Materials



### Goals of Health and Safety

Prevention of injuries and accidents through :



**ELIMINATION**



**AVOIDANCE**



**CONTROL OF HAZARDS**

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### METHOD Protocol Review

**Risk Assessment**

**Standard Operating Procedures**

**Training**

**Accident/incident Reporting and Investigation**



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### Risk Assessment Identify Hazards



Chemical-Flammables



Corrosives



Toxins



Physical - Noise



Electrical



Animal-Zoonosis



Radiation



Allergy



Infectious



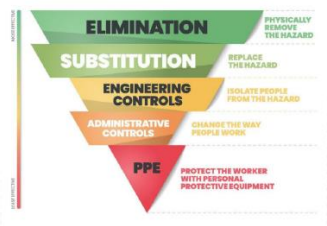
Biological-rDNA



Pathogenic

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### Standard Operating Procedures Designate Hazard Controls



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### Training Topics :



Hazards/Diseases



Signs & Symptoms of Exposure



Chemical Hygiene



Biosafety



SOPs



Waste

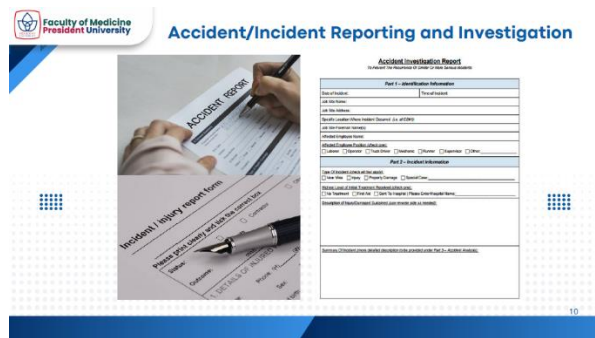


Occupational Hygiene



Emergency Procedures

Faculty of Medicine  
President University



**Conclusion**

After the implementation of Community Service at SMK Industri Jababeka, several conclusions were drawn regarding Occupational Safety and Health (OSH) at

the vocational school. First, it is evident that OSH is crucial for students, as they face daily risks and hazards in their environment. However, there is still room for improvement in the students' knowledge of OSH. To address this, it is important that OSH practices be implemented sustainably within the school.

To enhance this initiative, several suggestions can be made. Increasing awareness of OSH among students and teaching staff is essential, as sharing knowledge about potential risks can foster vigilance and proactivity in maintaining safety. Encouraging safe behavior by disseminating information about best practices will help students and staff adopt safer habits, thereby reducing the likelihood of accidents and promoting a positive safety culture. Additionally, strengthening practical skills in identifying risks and responding to emergencies can better prepare students and staff for various situations they may encounter.

Furthermore, fostering innovation through collaboration and the exchange of ideas can lead to the development of new methods and technologies that enhance OSH. This may involve utilizing digital tools, creating interactive training programs, or implementing newly discovered best practices. Ultimately, by continuously organizing OSH knowledge-sharing activities, schools can cultivate a sustainable safety culture, making occupational safety and health a top priority and an integral part of the school's ethos.

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