

Continuing Safety Education and Workplace Efficacy of Student Workers

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Abstract: This study aims to evaluate students' awareness of safety education and its impact on work effectiveness. By analyzing background variables such as students' gender, age, grade, work experience, student status, and college affiliation, this study explored the relationship between safety education and work effectiveness. The results showed that students' awareness of safety education directly affects their task execution and situational performance on campus and in the workplace. In addition, the study showed that strengthening the popularization and effective cooperation of safety education on campus can help improve students' work effectiveness and campus safety management. This study recommends further improving the quality of safety education by strengthening training, promoting safety knowledge, and improving safety facilities, and strengthening the cultivation of safety awareness during students' internships and employment.

Keywords: Safety Education; Work Effectiveness; Campus Safety.

1. Introduction

Schools should be one of the safest places where children can be. However, that is simply not the case for many students around the world. (UNESCO,2024). ... climate change has increased the frequency and intensity of natural hazards, and existing educational infrastructures are often not adapted or able to withstand these rising threats. Inappropriate school facilities may have poorly constructed classrooms and playgrounds, insufficient or gender-insensitive toilets, or inadequate furniture, and their very location might make them more vulnerable to disaster when hazards strike. combined with the vulnerability of school facilities, put students and teachers alike at risk. For this reason, the researcher has taken a double -take to pursue survey that will assess the level of awareness among students on the matter that concerns them most.

Campus safety has always been the focus of public safety management in China, as an important component of campus safety, has gradually become a hot topic of social security. Consequently, school safety has become a priority for many governments and non-governmental organizations. The issue of school safety has quickly gained recognition, and it is officially recognized by United Nations conventions and frameworks (i.e. the United Nations Convention on the Rights of the Child, the Sendai Framework for Disaster Risk Reduction, the 2030 Agenda for Sustainable Development, the Paris Agreement on climate change, the New Urban Agenda) that approach the issue from different perspectives. The intricate relationship between educational interventions and workers' performance has garnered substantial attention, leading to a growing corpus of research that seeks to elucidate the mechanisms by which continuing safety education (CSE) impacts worker efficacy and safety outcomes. However, the research reveals a gap in the development and implementation of systematic interventions that incorporate the needs and feedback of participants, which could improve adherence and effectiveness on awareness of safety education in relation to work efficacy.

The researcher has been teaching and in charge of safety education in the institution for 19 years and published many works on safety management but he observed that since, school safety is the basic guarantee for universities to carry out teaching and research work normally, the teachers' and students' low-level awareness on safety, can seriously affects the safety management of school premises, laboratories, facilities, etc. During the period 2010-2021, a total of 40 university laboratory safety accidents occurred in China (Zhan, 2023). These accidents included fire, explosion, burns, poisoning and microbial infection. Among the various types of university laboratory safety accidents, explosion and fire accidents occurred most frequently, including 19 explosions, accounting for 47.5%, and 15 fires, accounting for 37.5%. Explosions and fires are the most frequent types of safety accidents in university laboratories. This is mainly due to the lack of risk assessment procedures before new experiments are carried out, the materials selected for the experiments generally contain flammable and explosive hazardous chemicals, and the experimental process often uses a variety of instruments and equipment, such as compressed gas cylinders, glassware and so on. Experimental process technician operation error or instrumentation due to high temperature, humidity cannot function properly, may cause fire or explosion. Because of the experimental places are often stored all kinds of hazardous chemicals and gas cylinders, once the explosion may cause secondary accidents, resulting in more serious casualties. Although compared to the enterprise, university laboratory safety accidents affect a smaller range, but because of the high population density of the laboratory building, the lack of safety supervision, poor safety awareness of laboratory personnel, the implementation of the emergency plan is not in place, accidents often have the possibility of causing second-degree injuries. It can also cause damage to the respiratory system of teachers and students due to the lack of personal protective measures, etc.

Yang Yanbo(2021) believe that the key factor leading to safety accidents is human factor. Only the construction of safety culture with the main purpose of improving human

safety awareness and quality is the premise to prevent various safety accidents from happening, which is the specific embodiment of implementing safety management policies and the key to ensuring the safety of experimental teaching.

Studies have shown that continuous learning opportunities can significantly influence workers' knowledge, attitudes, and behaviors regarding safety, thereby potentially mitigating risks and enhancing overall workplace performance, hence this study.

2. Statement of the Problem

This study intends to determine the level of safety education in educating people and in fostering an environment conducive to both safety and productivity in work places and school.

Specifically, it answered the following problems:

1. What is the profile of the respondent students in terms of
 - 1.1 sex,
 - 1.2 age,
 - 1.3 grade level,
 - 1.4 years of work experience,
 - 1.5 Student status, and
 - 1.6 college affiliation
2. What is the assessment of the student -respondents on the level of awareness on safety education domains in terms of;
 - 2.1 staying informed,
 - 2.2 asking questions,
 - 2.3 understanding signages,
 - 2.4 regular inspection?
3. Is there is a significant difference in the assessment of the respondent-student with regard to the level of awareness on safety education domains when the respondent profile is taken as a test factor?

4. What is assessment of the respondent-students on the work efficacy dimensions of the respondents in terms of;

- 4.1 task performance, and
- 4.2 contextual performance?

5. Is there a significant difference in the assessment of work efficacy dimensions when the respondents' profile is taken as a test factor?

6. Is there a significant relationship in the assessment on the level of awareness of safety education domains and work efficacy dimensions?

7. Based on the findings of the study, the study will propose a program that will enhance safety program of the school for sustained work efficacy among student workers.

3. Research Design

This study employed the quantitative method which involves the use of survey questionnaires to gather data from the respondents. In this research, the researcher explored the correlation between safety education and work efficacy. The research used quantitative research method, and through a researcher-made questionnaire and adapted questionnaire to collect research data. The research assessment done by students. Differences were calculated among respondents' assessment and eventually the correlation relationship between safety education and work place scale domains.

4. RESULTS AND DISCUSSIONS

1. Profile of the Respondents

Table 1 presents the frequency and percentage distribution of profile of the respondents, that identified their sex, age,

Table 1. The Profile of the student-respondents

Profile	Categories	frequency	percentage
Sex	Male	199	52.9
	Female	177	47.1
Total		376	100.0
Age	18-19 yrs old	239	63.6
	20-21 yrs old	85	22.6
	22 years or over	52	13.8
Total		376	100.0
Grade level	Grade 3	312	83
	Grade 4	64	17
Total		376	100.0
Student Status	Full time	291	77.4
	Part time	85	22.6
Total		376	100.0
5. Years of working Experience	Less than 2 years	317	84.3
	More than 2 years	59	15.7
Total		376	100.0
6. College Affiliation	Faculty of Mechanical Engineering	65	17.3
	Faculty of Electrical and Mechanical Engineering	105	27.9
	Faculty of Economics and Management	21	5.6
	Faculty of Architecture and engineering	134	35.6
	Others. (..(collective Students from various faculty other than mentioned above)	51	13.6
Total		376	100.0

Table 1 shows the frequency and percentage distribution of the respondent students from Polytechnic institute in Henan

Province, China. Of the 376 sampled respondents, in terms of sex, there are 52.9 percent male and 47.1 percent female,

indicating that male students are majority in the current study. In terms of age, there are three age brackets categories, there 63.6 percent who belonged to the 18-19 years age bracket. Eighty-five percent comprise the 20-21 years age bracket . Lastly, only a few or 13.8 percent make up those of the 22 years or over age bracket. In terms of Grade level, only Grade 3 with 83 percent comprised the majority block, while a handful make it to the Grade 4 level. Hence , a majority are those in Grade 3. With regard to student status , there are 291 or 77.4 percent full time students are a majority while only 85 or 22.6 percent make up those who are part time as half of their time is spent working . In terms of working experience , majority or 84.3 percent are working for less than 2 years. On the other hand, 15.7 percent make up for more than 32 years working experience. Finally, the distribution of the respondents by college affiliation , are spread across the five clusters/ Faculty, there are 65 or 17.3 percent affiliated with

Faculty of Mechanical Engineering, 105 or 27.9 are affiliated with Faculty of Electrical and Mechanical Engineering, an increased number of 134 or comprising 35 .6 percent are with Architecture and Engineering, while Others are a composition from members of other Faculty taken collectively as comprising 13.6 percent. The personal profile considered for the study may reflect facets of diverse perspectives of safety education and work efficacy domains for assessment.

Respondents Assessment on the Level of Awareness of Safety Education

Outline in Tables 2-6 refers to the assessment of the respondents on the safety education level of awareness in the school, each of the tables contains the mean value of the assessment, standard deviation, description and interpretation and ranking of each mean values of the result

Table 2 presents the assessment of the level of awareness on safety education of the students in the University.

Table 2. Respondents' assessment on the level of awareness of safety education in terms of Staying Informed

Staying Informed	Mean	SD	Desc	Int	Rank
I actively participate in any safety training offered by the school	3.39	.64	Agree	Aware	3
I pay attention to safety notices and bulletins posted in the workplaces.	3.36	.57	Agree	Aware	4
I seek out additional safety information relevant to my specific work duties.	3.31	.54	Agree	Aware	5
I regularly discuss safety procedure and best practices with my team leader and colleagues	3.30	.54	Agree	Aware	6.5
I stay updated on any changes to safety protocol or introduction of new equipment	3.30	.54	Agree	Aware	6.5
If I hear rumors about potential safety hazards, I take initiative to ask information from official source.	3.39	.66	Agree	Aware	1
I suggest improvement to safety procedures, if there are ways to stay better informed.	3.49	.67	Agree	Aware	2
Composite Mean	3.36	.40	Agree	Aware	

Legend: Strongly Agree/Highly Aware= 3.51-4.00; Agree/Aware= 2.51-3.50; Disagree/Fairly Aware=1.51-2.50; Strongly Disagree/Not Aware= 1.00-1.50

In terms of *stay informed*, the self-assessment of student-respondents revealed a composite mean score of 3.36 with a 0.40 corresponding standard deviation, interpreted to mean "Agree/Aware." This implied that the respondents agreed on the consistency on their awareness of in terms of observing safe in the school as part of their safety education. The sub-variables stated could have been the true measures of effort of the school for the safety net protocol. As cited by Liu, Pei, Han, and Liao (2022) to address the increasing latent safety risks on campuses on awareness education that underscores the necessity of adaptive education strategies that can transform potential dangers into learning opportunities.

The assessment is unanimous among the respondents as evident by lowest score of its standard deviation. Of all the indicators, the highest, rank 1 is 3.39 mean score with .66 standard deviation when students take initiative to ask for information from official source about certain rumor. This is interpreted as "Agree/Aware". On the other hand, lowest mean score are tied to the indicators in discussing safety procedures and practices with leaders and colleagues and on the indicator, stay updated on safety equipment and protocol with mean value of 3.30 and standard deviation of SD .54. This analysis underscores the importance providing information in making students aware of safety environment. anywhere. Armstrong (2019) explores the high priority of emphasizing the need to improve teamwork as a core competency. She outlines that effective team communication

is fundamental to strengthening teamwork. By addressing these factors, higher education institutions can play a pivotal role in promoting a culture of safety awareness among their student populations that could relate to their respective families and communities. Finkelhor et al. (2020) offer a critical examination of youth internet safety education programs. ... By bringing to light the discrepancies between the intended messages of these programs and the realities of online dangers

Shown in Table 3 is the respondents extent of awareness of safety education in terms of Asking Question as observed in the school.

The examination of student-respondents in terms of persistence in *Asking Questions* reveals a consistent pattern of awareness to safety education . The composite mean score of 3.46 with standard deviation of .56 with interpretation "Agree/Aware", suggests that, overall, students are agreeable and therefore aware of the safety procedure observe by the school. This is congruent to the statement ,that asking others and using information from the internet were positive predictors of self-perceived learning.(Lei and Rausch ,2023)

Among the indicators, the highest mean score is observed for " Before starting a new task, I proactively ask questions to ensure I understand the safest way to perform it..." with mean of 3.51 and standard deviation of .72, that is interpreted "Strongly Agree/ Highly Aware", indicating that students are generally aware of what the University or the workplace are

in store for them in as much the relatively higher mean for this indicator. It may reflect a recognition among students of their effort for information that could be available for their

safety., (Shen and Yerramilli 2022) explored that suggest that increased executive legal accountability may contribute to better workplace safety and shareholder returns.

Table 3. Respondents' assessment on the level of awareness of safety education in terms of Asking Questions

Asking Questions	Mean	SD	Desc	Int	Rank
I never hesitate to ask questions if I am unsure of about safety procedure	3.44	.67	Agree	Aware	5
If I see something that looks unsafe, I ask questions to understand the potential risks and how to work safely.	3.48	.70	Agree	Aware	3
I feel comfortable asking my leader or team members for conformation on anything safety -related.	3.43	.71	Agree	Aware	6
Before starting a new task, I proactively ask questions to ensure I understand the safest way to perform it.	3.51	.72	Strongly Agree	Highly Aware	1
I value clear communication and believe asking questions is key to preventing accidents	3.40	.75	Agree	Aware	7
If I receive conflicting instruction, I ask clarifying questions to ensure I follow correct procedure.	3.50	.72	Agree	Aware	2
I encourage my colleague to ask questions a safe work environment is a shared responsibility as well-	3.46	.75	Agree	Aware	4
Composite Mean	3.46	.56	Agree	Aware	

Legend: Strongly Agree/Highly Aware= 3.51-4.00; Agree/Aware= 2.51-3.50; Disagree/Fairly Aware=1.51-2.50; Strongly Disagree/Not Aware= 1.00-1.50

The indicator " I value clear communication and believe asking questions is key to preventing accidents." received the lowest mean score (M = 3.40, SD = 0.75) still interpreted 'Agree/Aware', suggesting that students have to value information to accommodate long-term adherence to safety. The overall trend of assessment in on their awareness to safety education highlights a critical area for intervention. The findings suggest that students may benefit from programs or strategies that focus on providing information for those who seek greater awareness for their safety while in school or in their workplaces.

5. Conclusion

Based on the findings of the study, it can be inferred that the intricate relationship between extent of awareness of safety education and work efficacy within the context of education, reveal core findings that contribute to dynamics of school and workplace safety.

1.The description of student profile respondents such as sex, age, grade level ,student status, work experience and college affiliation have provided new insights to relate to the perception of safety education in educational institution and workplace safety.

2.It can be inferred from the interpretation of the findings on extent of awareness which posits that respondents assessment lend empirical support that the institution can sustain learning environment that enhance safety through practice of information, responding to inquiries, putting up signages and regular inspection for effective empowerment to schools' stakeholders.

3.The evidence from the study suggest equating duties and functions in shared responsibility by investing on effective collaboration among school's stakeholders. Identifying personal circumstances associated with work experiences and college affiliation confirmed their capacity as training ground for strong adherence to propagate safety education.

4.The findings on the perception of work efficacy in elevating the scale on task performance and contextual

performance suggest that behavior exhibited in the school could focus on the core development committed to the well-being of students when they join the workplace.

5.The study conclude that the investigation needs to seek other factors that could be ascribed to strengthen the connection between safety education and work efficacy. It encourages policy makers to look deeply into decision making in nurturing a more collaborative structure and process as outlined by the Humanistic framework developed by Maslow and Rogers. The support on Edmondson 'psychological safety theory could help people feel good at work, most critically — better decisions and better performance.

6. Recommendations

The study that highlights the low-moderate correlation between level of awareness of safety education and work efficacy results to the development a program, with the following recommendations:

1.The school should delve deeper into organizing safety education for a wider dissemination of information using more classroom orientation, print campus media.

2.The school should incorporate modern technology and inclusive strategies to improve campus safety education and worker efficacy

3.The school should advocate for more improved and regular orientation on staying informed dimension of safety education by revisiting safety procedures and best practices adopted by the school.

4.It is suggested to the institution to be updated through training on any changes in safety protocol or introducing new equipment that could foster protection and safety among the school's stakeholders for wider information campaign.

5.To provide a strong correlation between extent of awareness of safety education and work efficacy, a strongly collaboration between the school and the internship program of future employment be a shared responsibility to bridge the gap between safety education and work efficacy for improved

positive outlook in navigating difficulties and changes.

6. The researcher should offer this proposed program output for adoption by the school for continuous improvement in safety education and in creating sense of work efficacy for school's success.

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