



Occupational Safety and Health Program: Foundation of Technology Management in SUCs

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Abstract:

Ergonomics and other technology to reduce risk or prevent accidents must be effectively used and managed for SUC to become competitive locally and in the region. The research evaluated the association of Occupational Safety, Health and Social Environment to the health condition of teachers of State Colleges and Universities (SUCs) in the Philippines as the basis for crafting the Occupation Safety and Health Program for SUCs. The descriptive-quantitative-correlational method was used in this study using survey questionnaires that were administered to 84 teachers across the three

identified SUCs. Findings revealed a relationship between Occupational safety, level of occupational health, and social environment to the teachers' health status. Health and safety conditions included work environment, housekeeping, and health and medical services provided by the concerned institutions to their faculty. On the other hand, productivity consisted of outputs in instructions, research, community and extension services, and creative productions. The different occupational and non-occupational illnesses were taken into consideration. Afterward, provisions on occupational safety and health for faculty productivity were proposed by the researchers to help school administrators maintain a safe and healthful atmosphere in the academe, thereby increasing the productivity of the faculty.

Keywords: *Occupational Safety, Health, Social Environment, SUCs, Technology Management.*

Introduction

Due to the implementation of a policy known as "compensation-safety establishment," occupational safety and health (OSH) became a crucial practice in the US in the 1960s as it was adopted by the Occupational Safety and Health Administration (OSHA). The implementation was enforced by the Occupational Safety and Health Act of 1970 in America (Department of Labor, 2016). In the case of the Philippines, the OSH standards were materialized in 1978 in compliance with the constitutional mandate to protect workers' social, economic, physical, and

health safety. In this regard, the standard was considered the landmark in Philippine labor and social legislation. Contrary to this, an increased number and types of occupational hazards for which workers are exposed were reported during industrialization and the continuing introduction of technological innovations in the country. Hence, to resolve such issues, a revision of the standards was initiated in August 1989. As a result, all establishments covered are then expected to provide a better tool in promoting and maintaining safe and conducive working



environments (Department of Labor and Employment, 1990).

Arguably, in all occupations, occupational safety and health hazards are ubiquitous. For instance, teachers in various educational institutions (i.e., from elementary to tertiary learning establishments) are susceptible to occupational hazards such as work stress. While teaching has not been generally considered an occupation with lots of hazards and risks, the emerging multi-roles and multi-tasks of teachers have also consequently exposed them to the same hazards that other high-risk professions are exposed to in their workplaces. All teachers commonly encounter hazards. In the case of PTT, as observed by the proponent being a teacher of the said school, some teachers encountered tripping because of uneven and slippery surfaces. Some lost balance and fell off stairs with a higher angle of inclinations. One teacher fell off in a poorly designed chair (Haslam, Roger, and David Stubbs, 2006).

However, occupational illnesses are not easily identified as injuries, and a lot of these illnesses go unreported, especially when the employer or worker is unable to link exposure with the symptoms the employee exhibit (Reese, 2009). This probably explains the low number of reported injuries and illnesses among teachers. Regrettably, not much is known about teachers' accident severity and frequency rate. The situation is aggravated by a lack of adequate legislation guiding ergonomic and OSH management in schools, inadequate funds, and changing technology. In addition, teachers do not seem yet aware of the importance of reporting "near miss" incidents (Haslam, Roger and David Stubbs 2006).

Major occupation hazards are classified as physical hazards, cognitive hazards, organizational hazards, and environmental hazards. The nomenclature is derived based on how such hazards affect workers at the workplace. These hazards can potentially induce discomforts to teachers in the context of occupational health. For instance, workload stress has been found to induce several physical and psychological concerns in teachers (Aryal,

2007). Moreover, these hazards arise from physical agents, psychosocial environments, and working hours. In the teaching profession, a considerable amount of exposure to hazards (e.g., stress, noise, and shifts) is exhibited by teachers. Likewise, negligence of the application of work ergonomics induces harm to the health and working capacity of workers. Several reports of psychological overload because of stress were observed (Smith, Namara, and Wellens, 2004).

Occupational health hazards are a serious threat to workers' health. Workers' materials may result in adverse long-term issues that manifest only after many years (Cameron et al., 2016). Teachers encounter various problems concerning schools and at home as a result of school-relevant causes. Teachers spend their lives in such hazardous work environments, which incur adverse health effects. As a result, occupational health is viewed as a critical area for consideration lately due to overwhelming issues with exposure to carcinogenic factors in the workplace (Cameron et al., 2016).

Teaching or lecturing is not the only functional task performed by teachers. They also perform additional work that requires extra hours to discharge the other duties like preparing for lessons (lesson planning), assessing students' exercises, preparing teaching/learning resources (such as instructional materials), and laboratory work with students. The tertiary institution lecturers use laptops to carry on their research work, conduct guidance and counseling of students, and perform administrative tasks (Hayford, 2014). Similarly, they also head the institution (principals), department and classes, take charge of the home science room, computer laboratory, and workshops, observe discipline among students, and train students for different sports and games (Hayford, 2014). They, too, accompany students in field visits, among others. As a result, teachers are exposed to much occupational health, safety, and environmental hazards emanating from their job functions (Muthinji, 2009).

The drivers of occupational and health hazards in the teaching profession are not well understood in the current literature. However,

studies point out to working environment as a possible factor due to its potential to expose teachers to several health hazards that lead to adverse health issues such as vocal cord injuries, musculoskeletal disorders, and mental and neurological illnesses, to name a few (WHO, 1996). Government and employers now recognize the benefits of observing occupational safety, health, and environment (OSHE) in the workplace and organizations (ILO, 2001).

In the case of the Philippines, the lead agency that monitors and regulates ergonomics and OSH is the Department of Labor and Employment (DOLE) and is assisted by the Department of Health for Occupational Health. Although DOLE has increasingly monitored compliance with Occupational Safety and Health Standards, the profession and occupation of teachers have not been thoroughly looked at and examined. Studies on OSH issues exist in the literature. One study viewed their applicability in the nursing profession. At the same time, another viewed their applicability in female workers of export processing firms. Despite such initiatives, there have been no attempts to understand their applicability in the teaching profession through a Philippine perspective. Ergonomics of furniture and various equipment in the schools, including the use of chalk, has not been examined and correlated into whether they have effects (short and long-term) on the health of the teachers and their subsequent performance. Furniture design used by teachers, dimensions (length and width of the furniture), space requirements in the workplace, and working conditions could affect teachers' ease and comfort levels as they undertake the rigors of their jobs. OSH comprising of various health issues ranging from appropriate training in handling infectious diseases, health emergencies, personal protective equipment/clothing (PPE), hygiene, availability of restrooms and drinking water, waste and garbage disposal, and electrical systems need to be looked into as these could affect the health and wellbeing of teachers (Willis, Henry H. Nicholas G. Castle, Elizabeth M. Sloss, James T. Bartis, 2006).

This study aims to investigate and bring into light some ergonomic factors, social

environment, OSH hazards that affect teachers in the teaching profession in State Universities and Colleges of the 4th District of Leyte as a case study. The occupational safety, health, and social environment conditions of the SUCs of the 4th District of Leyte would mirror the realities prevalent in the other educational institutions in the Philippines, particularly the small and thriving SUCs in the Philippines.

This study is relevant in technology management as it develops a technological basis – in other words, technological expertise and organizational levers for efficient construction and implementation of the technologies. The inputs in the OSH program to be formulated as an output of the study come from the study's technological opportunities. For instance, the ergonomics of the furniture and equipment found in the classrooms and offices may be hazardous to the teachers' safety, health, and social environment (Zastrow, Charles, 2007).

One of the crucial factors in becoming competitive is using technology to drive effective and competitive outcomes for the organization (Norma Harrison, Danny Samson, 2002). Ergonomics and other technology to reduce risk or prevent accidents must be effectively used and managed for SUC to become competitive locally and in the region.

Materials and Methods

Social Ecology Theory

Systems theory plays a fundamental role in this framework. It offers a set of theoretical principles to understand the relations between different personal and ergonomic social and environmental influences on human behavior and complex interactions on health (Stokols, 2000). It is defined as examining individuals and groups within their different social systems. The theory consists mainly of several suppositions. On the one hand, it examines the interaction between physical and social environments and personal attributes such as behavioral models and temperature. Specific behaviors (e.g., social roles and environmental conditions) can be attributed to the disproportionate impact on a

person's wellbeing (Grzywa and Fuqua, 2000). For instance, extended commuting between home and work exposes a person to several adverse circumstances such as stress. These adverse circumstances may further lead to unhealthier practices such as smoking and alcohol consumption, which may increase the severity of a worker's condition. Murray Bookchin (Stokols, 2000) is the first person to

develop the principles used to describe this field in today's social ecology theory. These principles provide tools to study health problems in our day's physical and social environment. It confirms that the workplace's failure to provide adequate conditions for adverse health problems (e.g., social and personal compliance) creates a way of doing so (National Collaborating Centre for Mental Health, 2010).

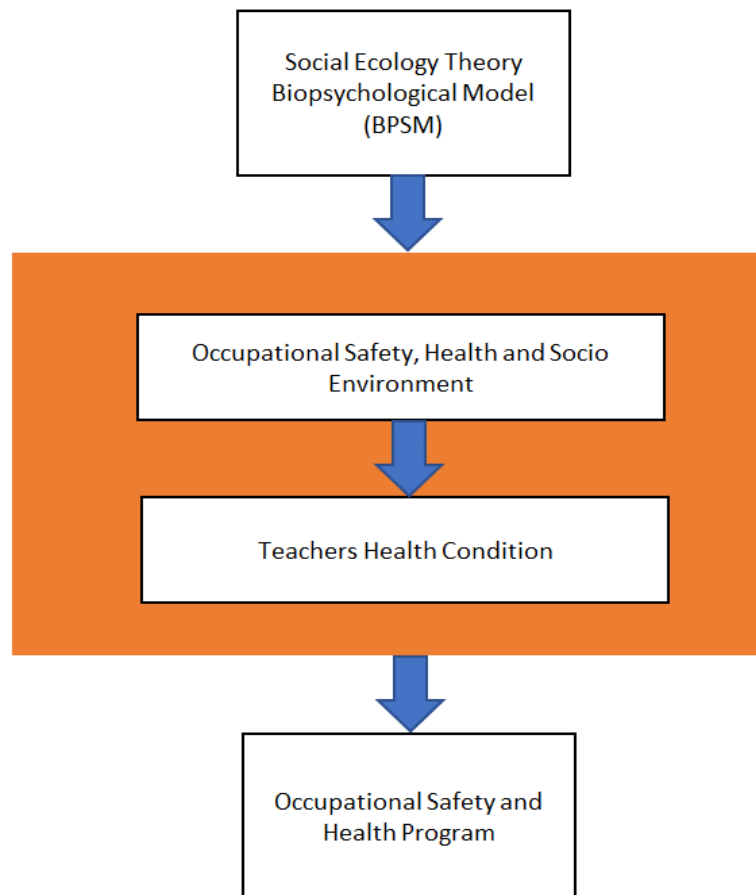


Figure 1. Schema of Theoretical Framework

Biopsychosocial Model (BPSM)

Psychologists and others concerned with a whole person's health have strongly advocated this model (Ogden, 1997). The biomedical model is called into question, according to which health diseases are produced by physical processes and reactions within the body. BPSM's existence is little owed to a specific model and scientific theory, but its symbolic value is as vital in psychosocial factors as DNA, cells, and

biology (Engel, 1980). The model looks at all the biological, physical, and social factors related to health and disease. It looks not a single cause on the basis that health and disease have numerous causes (Drotman, Peter D. 2008) and have many effects as well.

This study will look into ergonomic factors considering the concepts of the theories earlier presented, social environment, and OSH prevailing in the schools and workplaces where

the teachers are working. Four independent variables are singled out. Ergonomics constitute the level of comfort, ease of usage of facilities, nature/content of work, and the physical environment of the teachers in their school. Occupational safety constitutes measures to mitigate fire and other emergency hazards, electrical hazards, combustible material hazards and slips, trips, and falls on stairs and steps. Occupational health constitutes training on health issues and concerns, vaccination of infectious diseases, management for health emergencies, lifestyle habits and work-related stress/illness, and Social environment, which constitutes the schools' organizational culture, boss and colleague work relationship, channels of communication, and other work-related hostility. The dependent variable is the teachers' health condition. Indicators of teachers' health condition would be the absence or minimization of ailments among teachers (Drotman, Peter D. 2008).

Teachers' health is essential. It is one of the necessary conditions for teachers in educational institutions in any country so that he/she would be physically and mentally fit to face the challenges in the teaching profession and the various activities associated with the work. Their comfort, safety, and environment at their places of work must be maintained and promoted. Attainment of this ideal is dependent on control and consequent elimination of several hazards, namely: ergonomics hazards (Marras, William S. and Waldemar Karwowski, 2005), occupational safety hazards, occupational health hazards (Parker, James N. MD, and Philip M. Parker, Ph.D., 2004) and social environment hazards (Adam, Barbara, 2005). In consonance with the conceptual framework presented in the preceding pages, the adopted methodology of this research is presented in this section.

The descriptive-correlational method is primarily utilized as a research design in this research. The purpose was to investigate the interplay between the hypothesized association of ergonomics, occupational safety, occupational health, and social environment and the teacher's health condition. The method draws out perceptions among teachers on ergonomics,

occupational safety and health, and their workplace's social environment. The researcher believed that this design is of great value in providing facts upon which professional judgments may be based. This method explores many aspects, specifically the demographic and ergonomic profiles of the various respondents.

The schema of the flow of research is presented in Figure 2. The inputs are the data to be gathered using survey questionnaires. From the questionnaires, the following data were obtained: teachers' demographic profile, ergonomic profile, OSH profile, social environment, and health conditions of teachers in selected SUCs. The data gathered was then processed using statistical tools (Ginevan, Michael E. and Douglas E. Splitstone, 2003).

Input

The teachers from the SUC department were focused on by the study. The following criteria were used as the basis to select the respondents: (i) regularity of weekly loading and (ii) nature of daily tasks. As such, supervised survey questionnaires were used in obtaining the primary data. Three sections – A, B, and C- are established as a functional grouping to convey the discussions in this paper effectively. Section A elaborates the demographic information of the respondents. Section B presents the ergonomic profile, teaching station evaluation, evaluation of the teaching environment, attitude, and commitment. Section C asks about the OSH profile, social environment, and the teachers' health condition of the selected SUCs.

Process

Statistical software (SPSS Statistics 17.0) was used to analyze the data. First, the data are clustered into two parts. The groupings are facilitated through a frequency table. Furthermore, the respondents' demographics are analyzed descriptively. Likewise, awareness on work ergonomics, work station evaluation, and BPSS were treated. In all cases, measures of central tendency (mean) and variation (standard deviation) were reported for use in subsequent analyses.

Output

The output was based on the selected teachers based on the result from BPSS.

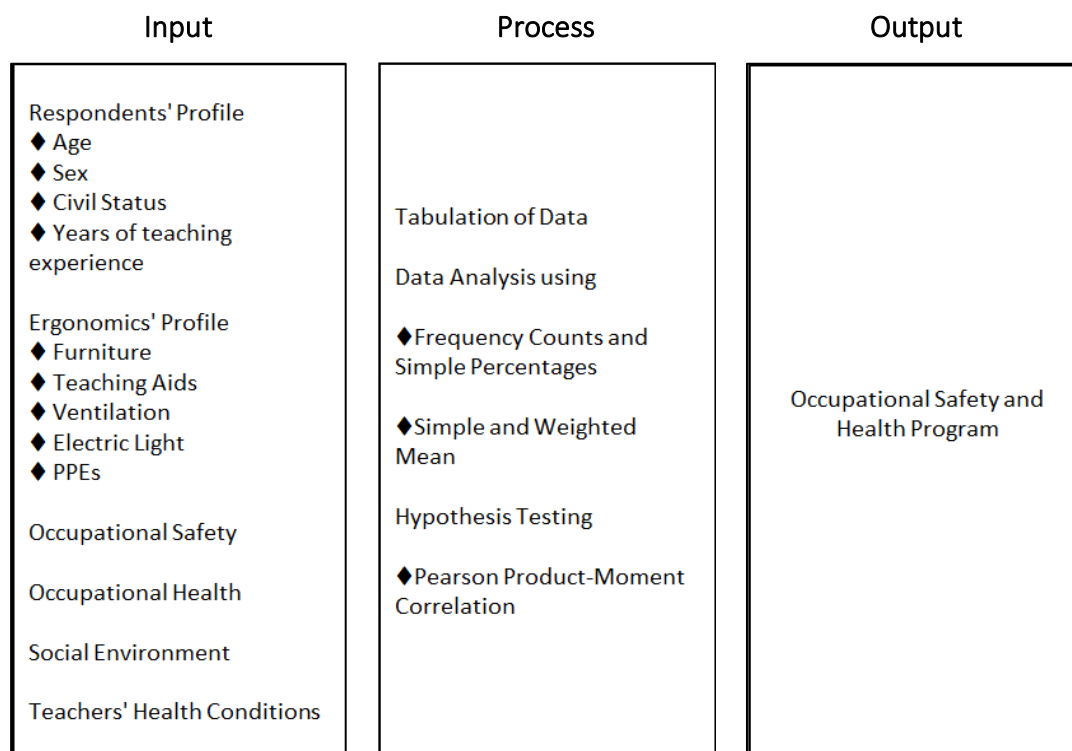


Figure 2. The Flow of the Study

This paper has investigated the interrelationships between the variables: (i) teachers' demographic profile, (ii) ergonomic profile, (iii) OSH profile, (iv) social environment, and (v) teachers' health conditions of the selected SUCs.

Due to the data analysis, it can be inferred that a significant correlation between the variables considered exists. As such, it has been found that the existing layout of the facility of the selected SUCs falls short below its recommended level (i.e., concerning tolerable risk and work flexibility). However, when viewing area utilization and facilitating audit processes, satisfaction among a majority of the respondents is observed. Likewise, the group reported a good mark for the quality level of the offered health services; although, an opposite result was exhibited by tangibility, one of the dimensions of quality, which falls below the acceptable level.

To materialize the arguments of this paper, a study at selected member SUCs of the 4th district of Leyte, Philippines, was conducted. The campuses included in the study were the following: Palompon Institute of Technology-Main Campus (PIT-TC), located at Palompon, Leyte; Eastern Visayas State University-Ormoc Campus (EVSU-Ormoc); located at Ormoc City and Visayas State University-Isabel Campus (VSU-Isabel) located at Isabel, Leyte.

The respondents of the study constituted a total of eighty-four (84) teachers coming from the three SUCs in the fourth congressional district of Leyte, as follows; Palompon Institute of Technology-Main Campus (41), Eastern Visayas State University-Ormoc Campus (15), Visayan State University-Isabel Campus (25). Table 1 represents a frequency distribution of the respondents.

The sampling technique used is the Yamane Formula, $n = N / (1 + Ne^2)$, approximately one-tenth (1/10) of the total population, but the researcher distributed as high as 80%-90% of the total population. This ensures that a significant

number of answered questionnaires would eventually be collected from the said schools because the retrieval rate would typically be around 60-70% only of the questionnaires distributed.

Table 1. Teacher Population and Target Number of Respondents

SUCs of the 4th District of Leyte	Total No. of Teachers	Target Number of Respondents (30%-60%)	Actual Teachers-Respondent	Percentage of Respondent
Palompon Institute of Technology-Main Campus	163	150	41	17.86
Eastern Visayas State University-Ormoc Campus	80	60	15	29.76
Visayas State University-Isabel Campus	40	30	25	3.57
Did not identify the SUC			3	48.81
Total	283	240	84	100.00

Instrument

In this study, a modified questionnaire was utilized adapted from similar research conducted by Dwira Mark Hayford (2014) and Cecilia Muthinji (2009) in Ghana and Kenya schools.

The survey questionnaire consists of six (6) main parts. The first part inquires on the demographic information like age, gender, civil status, highest professional training, category of the school, years of teaching experience, subjects they teach, number of teacher colleagues in the school, and the positions they held in their schools. Part two (2) of the questionnaire asks about the ergonomic aspects of their workplace and the comfort and convenience level they experience and feel on the facilities and equipment they use at their workplace. It also asks about their job nature, content, and the physical environment of the workplace they go to. A score of one (1) if they strongly disagree on the comfort/convenience level of the facilities they use in their schools, two (2) if they merely disagree on the comfort/convenience level, three (3) if merely agree on the comfort/convenience experience of using the facilities, and four (4) if they strongly agree and are very comfortable of the facilities and fixtures in their school. A four-point scale is used (1-4) instead of a five-point Likert scale (1-5) to get away with safe answers like unsure or undecided,

which would be the score of 3 in a typical five-point Likert scale (Brown, Sorrel 2010).

Part three (3) dwells on the extent of occupational safety of their schools utilizing the same four-point scale on the degree of agreement. It asks about safety measures being implemented in their respective schools, cleanliness, and adherence to the safety standards set by the government on the building fixtures, electrical wiring systems, and emergency doors. Part four (4) looks into the level of OSH awareness among the teachers in the school. Occupational health asks on training on health issues, vaccination of infectious diseases, first aid and emergency facilities, availability of a nurse or a doctor in their school, availability of a clean cafeteria/canteen for students and teachers to take their meals, and lifestyle practices like drinking alcohol, smoking cigarettes, diet, and exercises. It also asks how they perceive their work, whether it requires much thinking and is too complicated and whether they regularly have to work with a deadline. These latter questions relate to work-related stress the teacher experiences on a day-to-day basis in their workplace. A four-point scale is also employed in part four. One (1) if they strongly disagree with the statement, two (2) if they just disagree, three (3) if agree, and four (4) if they strongly agree with the statement (Brown, Sorrel, 2010).

Part five (5) of the questionnaire is on the level of Social Environment in the school. It uses the four-point scale on their degree of agreement and disagreements of statements on the school's social environment. Questions on management's communication channels, sensitivity to the teachers' concerns, comfortability with colleagues, meetings, interaction with management, and hostility in the workplace are being asked.

Part six (6) of the questionnaire is about teachers' health and the ailments they have experienced in the past couple of years. Ailments like frequent tiredness and sleepiness, insomnia, neck pain, low back pain, anxiety, high blood pressure, nasal disorder, voice hoarseness, skin dermatitis, allergy, chest pain, stomach/digestive problems, flu, itchy eyes, and joint pain are listed for the teachers to check whether they have to experience these health conditions. A blank space for other ailments is also provided for the teachers to name other specific health concerns for their specific health conditions. The severity of the health concerns is also being asked. Severity refers to the extent of the ailments that they are experiencing and suffering. "A little" severity, "some" severity, and "serious" severity are provided for them to check. A space for "not at all" is also provided for those not suffering from those health ailments.

Validation of Instrument

The items in Parts 3, 4, 5, and 6 are taken from the Study of Dwira Mark Hayford (2014) in Ghana schools with modifications. Part 1 and part 2 are self-made questionnaires. A pre-test will be conducted to enhance the validity of the questionnaire with teachers who are not part of the study. Teachers from the PIT Tabango campus and Saint Peter's College in Ormoc will be asked to answer the questionnaire. PIT Tabango campus will mirror the respondents of PIT main campus, Saint Peter's College in Ormoc will replicate EVSU-Ormoc and VSU-Isabel. Permission to conduct the pre-test of the research instrument was secured from the administrators of the said schools. These pre-test sessions will help check the appropriateness of the language, construct validity, and content

validity of the questionnaire. Further evaluation and critiquing of the questionnaire will be done by the IE faculty and ergonomics instructors of PIT to validate the questionnaire's content. Thus, the researcher came up with a validated questionnaire ready for administration to the teacher respondents in the municipality of Palompon, Leyte.

Administration of Questionnaires

A formal request for permission to distribute the questionnaire to the respondents will be sent to the school heads under study for approval on the administration of the questionnaire. After the approval of the request, the researcher himself and his representative will administer the questionnaires personally to keep such a level of confidentiality. This is important as it will help the researcher establish a rapport with respondents while introducing the survey. The researcher will use a pick and drop approach where the researcher submits the questionnaire to the respondents and returns the questionnaires after they are answered within the stipulated period.

Data-Gathering Procedures

Since the research respondents involve many individuals from different schools, the researcher will utilize representatives and assistants in dropping and picking up the questionnaire. The researcher or his representatives will use the pick and drop approach where the researcher submits the questionnaire to the respondents and return the questionnaires after it is being answered within the stipulated period. For some of the questions that will be answered instantly, the researcher will collect them back today. Those who have cannot respond on the same day will be given ample time to respond to the questionnaire, and they were picked up when they are already done answering. The researcher will bring with him more questionnaires to the schools, about 80-90% of the research population, so that retrieval of the questionnaires is sufficiently adequate, hitting the 50-60% of the total population because not all questionnaires distributed will be retrieved.

Statistical Treatment

Once data are collected, they are carefully inspected to identify the mistakes. The data collected will then be entered, coded, and reversed coded using the Microsoft Excel spreadsheet program. The researcher will use statistical software (Excel and SPSS) as a device for computation with the following statistical tools employed:

Frequency Count and Simple Percentages

These procedures are used for determining the distribution of the respondents concerning the following variables - (i) age, (ii) gender, (iii) civil status, (iv) highest professional training attained, (v) category of school, and (vi) years of experience, among others.

Mean, Simple and Weighted Averages

These are utilized to determine the central values of the independent variables, namely, ergonomics, occupational safety, and occupational health; the intervening variable, which is the social environment; and the dependent variable, which are the ailments experienced by the teachers. The weighted mean will also be utilized to determine the central values of the different variables for the different groups of teachers. The overall weighted mean was calculated using equal weights for the five categories of school understudy.

Based on the obtained mean and weighted mean, the specific response category for every item will be determined through the following limits established:

Table 2. Specific Response Category

Lower Limit	Upper Limit	Response Category	Description
3.25	4.00	Strongly Agree (SA)	The respondent agrees to the statement 76 to 100%
2.50	3.24	Agree (A)	The respondent agrees to the statement 51 to 75%
1.75	2.49	Disagree (DA)	The respondent agrees to the statement 26 to 50%
1.00	1.74	Strongly Disagree (SDA)	The respondent agrees to the statement 0 to 25%

Pearson Product-Moment Correlation

This is a measure of correlation to find out the degree of associations between two sets of variables like ergonomic and teachers' health; extent of occupational safety and teachers' health, and level of occupational health and teachers' health. In computing the value of correlation, r , the researcher made use of the statistical tool mega stat in Microsoft Excel and SPSS with the level of significance at 0.05 and 0.01 levels.

Results and Discussions

This section presents data from clinical data and data collected via the survey tool. The data presented are the demographic profile of the faculty, roles the occupational safety and health play, perception of the faculty as regards health characteristics, significant relationship between health condition and the identified factors, and the best practices related to health and safety.

The data were tabulated, described, analyzed and the results were interpreted and implied. To analyze responses to the extent of occupational safety and health of schools and the social environment in schools, descriptive statistics such as frequency distribution chart (FdT) and weighted average were used. Inferential statistics are used to assess the associations between occupational health, safety, and the environment with Pearson r product-moment correlation. Furthermore, the study's hypotheses are evaluated at a significance level of 0.05 and 0.01.

Demographic Profile of the Respondents

The following demographic information was sought from the respondents: age and sex, civil status, educational qualification, and years of teaching experience in their respective schools.

Table 3. Summary of Age Profile of Respondents

Age Profile	Teacher	
	Frequency	Percentage
20 – 30	24	30.38
31 – 35	13	16.46
36 – 40	7	8.86
41 - 45	13	16.46
46 - 50	9	11.39
51 - 55	5	6.33
56 - 60	6	7.59
61 and above	2	2.53
Total	79	100

Age. The age profile of the teacher respondents is presented in Table 2. The respondents' ages were as follows: 20 - 30, 31 - 35, 36 – 40, 41 –

45, 51 – 55, 56 – 60, and 61 and over 61 years old.

The majority of the respondents fall in the 20 – 30 age categories, 70%. Other age bracket categories are, however, significantly represented. It is understandable because this is the prime working-age bracket. The highest percentage of teachers in this bracket were settling down and no longer looking for another job.

Sex. The sex profile of the teacher respondents is presented in Table 4. As to the sex of the respondents, it is dominated by males. In this study, the ratio of the sex profile is 54.8 percent men to 45.2 percent women, as shown in table 3. Engineering is categorized as a male learning profession.

Table 4. Summary of Sex Profile of Respondents

Sex	Male		Female		TOTAL	
	f	Percentage	F	Percentage	f	Percentage
Teachers	46	54.8	38	45.2	84	100

Civil Status (Profile of the respondents)

The civil status of the teacher respondents is presented in Table 4. Most of the respondents are married at 45 or 56.2 percent. A significant percentage of the respondents, 33 or 27%, are single. Two (2) or 2.5 percent are widowed.

The study surveyed all 80 teachers who were teaching engineering.

Table 5. Profile of the Respondents by Civil Status

Civil Status	Teachers	
	f	%
Single	33	41.2
Married	45	56.2
Widowed	2	2.5
Total	80	100

Apart from the difficulties with subjects, the results indicate that marital status has no meaningful effect on the stress generation of employees working in the teaching industry. This

paper implies that management stress had different effects on teachers with varying marital statuses. However, significant differences were not seen between married and individuals in other stress factors, such as inadequate working conditions, fear of employment stability, or problems with working conditions.

Civil Status

Table 6 reveals the distribution of the respondents by SUC. A total of eighty-four (84) teachers are coming from the three SUCs of Leyte, as follows; Palompon Institute of Technology-Main Campus (41), Eastern Visayas State University-Ormoc Campus (15), Visayan State University-Isabel Campus (25).

Teachers are the pillars of any educational system, and their characteristic is one of the factors that affect their professional ability. The study's data was to determine the profile of ideal university teachers according to their occupational health on various SUCs. The research population included 100 teachers who were selected on the census. A questionnaire was

used to collect data. The validity and reliability of the questionnaire were determined, and SPSS was used for data analysis. The research results, fluency, friendliness, ability to communicate with SUCs, and knowledge must be considered when employing faculty members.

Table 6. Profile of the respondents by SUC

SUC	Teachers	
	f	%
PIT	41	50.6
EVSU	15	18.5
VSU	25	30.9
Total	81	100.0

Personal Safety Outlook of Teacher on Various SUCs

The teaching module has reinforced the safety perspectives of the teachers, perhaps partly since they had to assess dangers and mitigate risks within their fields of activity. The study showed that the SUCs had become more focused on safety, integrating a safety focus into all their activities leading towards improved safety in their places, taking a proactive view of accident prevention, and following safety procedures consistently. Their reports have demonstrated their activity that they focus on safety when they enter the room, maintain order in their workspaces, and keep their good working conditions.

Teachers also had to interact with others in their work, home, and school environments. They were aware of how safety violations led to accidents and how safe conditions and events could significantly affect safety. Research has shown that the module increases the responsibility and commitment of teachers to the safety of other teachers at certain universities.

Years of Teaching Experience. Table 7 reveals the distribution of the respondents by years of experience. The highest frequency of interviewees is 0–4 years, 32–39.5 %, with most

of the participants being new or part-time lecturers. The smallest number of teachers belong to the 15 – 19 years of teaching experience, with 7 or 8.6 percent, which meant that only a minority of the teacher-respondents are tenured.

Education to comply with safe working principles is critical today. The learning experience is significant. OSH education aims to provide students with the required knowledge, information, and skills. Today's priority goal is to improve the quality and effectiveness of university learning.

According to the current scientific and technical findings of the experienced teacher, the content of learning is key to this goal. Future engineering teachers need to educate students and give them all the knowledge and information about this topic during their academic preparation. This is a precaution against job injuries and health hazards that may jeopardize the health and cause material damages to workers.

Table 7. Profile of the respondents by Years of Teaching Experience

Years of teaching	Teachers	
	f	%
0 – 4 yrs	32	39.5
5 – 9 yrs	19	23.5
10 – 14 yrs	8	9.9
15 – 19 yrs	7	8.6
20 yrs and above	15	18.5
Total	81	100.0

After completing their SUC studies, most students teach in vocational or secondary schools, where they conduct lab exercises. Among other things, their profession involves highlighting OSH requirements. In further study or practice, the education program's content, knowledge gained, skills, and ability should be helpful. Work in mechanical laboratories is linked with the testing and improvement of theoretical knowledge, the development of skills, and the implementation of safe work practice.

Table 8. Summary of Perceptions on the Ergonomic Profile in the Classroom/Offices

Profile of the teachers' health condition	Evidence		Interpretation
	Mean	SD	
Workplace layout	3.05	0.76	Complied
Good housekeeping	2.87	2.07	Complied
Proper maintenance storage and handling	2.63	0.86	Complied
Fire and Electrical Safety	2.79	0.80	Complied
Waste Disposal System	2.78	0.75	Complied
Waste Disposal System	2.67	0.80	Complied
Average	2.81	0.59	Complied

The study and ergonomic failures are identified in typical office computer workstation design. Several workstations were studied using physical measurements and a questionnaire. The physical design and layout, postures of employees, work practices, and training have been found to have major ergonomic deficiencies. The effects were significant concerning user health and other problems. These results showed severe ergonomic shortcomings in the design, layout, and office computer workstations. Strategies have been proposed to reduce or eliminate ergonomic deficiencies in computer workstations' design.

This study noted that most of the Palompon Institute of Technology students and other schools would have a suitable chair in the classroom with a good seating set-up. It is also

observed that the size of the chair must be different from that of men for female students. Therefore, it is unlikely that most students in a classroom chair with a fixed size during the lecture will have more comfortable seating and a better-written environment.

An intrinsic survey shows that most of the pupils (both male and female) strongly recommended the newly designed chair although they were concerned about its comparatively higher costs. In the future version of the chair, there were strong recommendations to find ways to reduce its overall costs. All students greatly appreciate the essential functions of the chair in terms of usability and additional features. From an environmental point of view, the developed chair is thought to have no significant adverse environmental effects.

Table 9. Summary of Perceptions on the Extent of the Occupational Safety in the Workplace (Physical Work Environment)

Profile of the teachers' health condition	Evidence		Interpretation
	Mean	SD	
Illumination/Lighting	2.92	0.80	Complied
Ventilation	2.86	0.76	Complied
Noise Pollution Control	2.85	0.78	Complied
Management of Airborne Contaminant	2.85	0.78	Complied
Imminent Danger Situation	2.87	0.76	Complied
Average	2.88	0.57	Complied

Legend: 3.25 – 4.00 – Fully Complied; 2.50 – 3.24 – Complied; 1.75 – 2.49 – Partially Complied; 1.00 – 1.74 – Not Complied

It is noted that the majority of Palompon Institute's students do not find any suitable chair in the classroom at 90% with an acceptable arrangement. Many students are sitting in chairs that are too low or too deep. The knee height

and the desk clearance exhibit a few problems as well. It is also noticed that the chair for female students needs different dimensions compared to male students, and zest, that leaves him with

negative feelings about himself, with anxieties, tensions, a sense of loss, emptiness, and futility.

Table 10. The Occupational Health Status of Teachers in the Workplace Personnel Protection Equipment (PPE)

Personnel Protection Equipment (PPE)	Evidence		Interpretation
	Mean	SD	
Choose well-fitted and easy-to-maintain personal protective equipment when risk cannot be eliminated.	2.72	0.77	Complied
Make sure the PPEs are acceptable to the workers and are used when it is needed.	2.74	0.84	Complied
Use of personnel protective equipment as last resort	2.78	0.79	Complied
Average	2.74	0.80	Complied

Negative pupil aspects have been significantly and positively related to tension, negative emotion, and discontent. Research shows that the quality of student-teacher relationships influences job outcomes. We also found a strong and positive connection between high requirements for psychological tasks and stress. The conclusion that stress causes negative features and high psychological demands, in particular, explores the variation in stress responses that is the most significant in the previous research.

The predictors of discontent were more robust and more stable, and high demands on the psychological task were found to be stronger predictors of tension. The research reveals a strong link between the discontent in the attitudinal result and attrition. Prior research already showed the link between job dissatisfaction and leaving intentions. This study helps stress research by showing that job discontent has to do with actual attrition.

Table 11. First Aider and Medicine

First Aider and Medicine	Evidence		Interpretation
	Mean	SD	
Make a special arrangement with a hospital or clinic for emergency	2.90	0.76	Complied
Emergency medicine and equipment of adequate quantity as determined by the first-aider or health personnel of the enterprise.	2.91	0.71	Complied
Must have completed a course/training under PNRC or any organization accredited by the PNRC.	2.79	0.68	Complied
Average	2.87	0.71	Complied

Public and private areas, private services, and local government services also form part of pre-hospital emergency care. They offer urgent assistance by providing primary, intermediate, and advanced life support practitioners. Basic life support practitioners have limited skills to support life, and the intermediate practitioner improves this skill.

Like in the hospital sector, public services are generally not sufficiently well-off and under-equipped for the broad areas covered. They are

also affected by the ongoing global brain drain to countries worldwide. Emergency centers, with either operational cover or often without supervision, had historically been staffed and run by medical officers and doctors. No national patient management guidelines were accepted.

As part of a stronger emphasis on urgent care (EC), the investment and training of personnel in hospital centers have increased, although there is still a long way to go in many parts of the country. The development of emergency

medicine as a specialty has been part of the drive behind this process. Several senior emergency medicinal workers have been included in the

specialty register under the grandfather clause in emergency medicine to help establish a respectable species based on a firm basis.

Table 12. Sanitary Facilities

Sanitary Facilities	Evidence		Interpretation
	Mean	SD	
There is an adequate supply of safe drinking water.	2.65	0.92	Complied
There is a separate comfort room and washrooms for males and females.	3.16	0.81	Complied
There is a canteen or dining area	3.37	0.69	Fully Complied
Ensure that facilities are located in areas where contamination and loss of man-hours can be prevented.	2.94	0.78	Complied
Average	3.03	0.80	Complied

Table 12 showed that fair handling and storage of drinking water at school hand washing without soap before and after food preparation do not pose significant risk factors for diarrhea among students. The risk of diarrhea among students has no significant consequences for poor hygiene factors such as blocked school drainage and nurseries for flies and insects in the vicinity of the school. Hygiene was fair in all among students' boarding houses with diarrhea. The study concluded that improvements are essential to prevent diarrhea, water handling, and sanitation practices. Most of the students changed napkins in the comfort rooms at least once in school toilets. Most of the students reported once changing toilets, followed by

twice and none. All the students reported changing sanitary servings in school toilets or elsewhere at least once a day. However, there were tendencies to change the sanitary toilets of students who are members of schools with available sanitary cans in the toilet room or cubicles. In the bivariate analysis, the age of the students was significantly linked to changing school sanitary servings.

On the other hand, multivariate analysis showed that participants whose fathers had a tertiary education were significantly more prone to changing the bathrooms than those who did not receive secondary education from their fathers.

Table 13. Administrative Requirements

Administrative Requirements	Evidence		Interpretation
	Mean	SD	
Maintenance of an occupational health program to protect workers against health hazards in the working environment to prevent occupationally as well as, non-occupational disease.	2.75	0.78	Complied
There is formulated workplace policy and program on the prevention and control of tuberculosis (TB).	2.37	0.84	Partially Complied
Notification and keeping of records of accidents and/or occupational illness.	2.67	0.80	Complied
Implementation of "drug-free" workplace policies and programs	2.87	0.90	Complied
There is a policy and program on the prevention and control of HIV or AIDS	2.50	0.95	Complied
There is policy and program on the prevention of Hepatitis B	2.46	0.92	Partially Complied
There is a policy on the orientation of new hires to the safety practices of the school	2.76	0.84	Complied
There is a policy on safety meeting	2.63	0.85	Complied
Average	2.62	0.69	Complied

A thorough understanding of the interplay of the determinants of changing physics is essential to develop intervention development. The association between teacher connectivity and pre-detection behaviors in the area of health risk amongst adolescents suggests the possibility for

school-building interventions that improve the school environment, especially the skillfulness of teachers and the training they provide, to improve and maximize their student interactions.

Table 14. Social Environment in the School

Social Environment in the School	Evidence		Interpretation
	Mean	SD	
Management Decisions are communicated to all teachers.	2.89	0.63	Complied
I find the management sensitive to the teacher's concerns	2.79	0.75	Complied
I am comfortable when interacting with colleagues in the school, including those in management.	2.95	0.73	Complied
Management keeps meeting and interacting with colleagues frequently to discuss work.	2.90	0.68	Complied
I sometimes feel threatened at work in contact with clients and students	2.22	0.84	Partially Complied
Average	2.75	0.49	Complied

Table 15. The profile of the teachers' health condition

Profile of the teachers' health condition	Evidence		Interpretation
	Mean	SD	
HC1	2.17	0.70	A Little
HC2	1.72	0.81	Not at all
HC3	1.83	0.67	A Little
HC4	1.91	0.68	A Little
HC5	1.62	0.72	Not at all
HC6	1.63	0.83	Not at all
HC7	1.79	0.74	A Little
HC8	1.76	0.75	A Little
HC9	1.30	0.58	Not at all
HC10	1.51	0.69	Not at all
HC11	1.46	0.71	Not at all
HC12	1.70	0.68	Not at all
HC13	1.56	0.61	Not at all
HC14	1.52	0.61	Not at all
HC15	1.75	0.68	A Little
HC16	1.50	0.67	Not at all
Average	1.68	0.42	Not at all

Legend: 3.25 – 4.00 – Serious; 2.50 – 3.24 – Some; 1.75 – 2.49 – A Little; 1.00 – 1.74 – Not at all

The school environment is associated with various positive outcomes for the students, but essential differences in the school environment may exist among students. School student

profiles are based on multiple school climate indicators: the structures of school discipline, academic expectations, the readiness of students to seek help, respect for students, emotional and cognitive involvement, predominant teasing and bullying, general victimization, bullying, and bullying. Four types of student-positive profiles identified as positive, medium-low, medium-high, and negative were identified. Analysis of these types was conducted. These profile types contrasted with external standards and demonstrated a significant difference in race, level, level of parenthood, aspirations for education, and frequency of risk behavior.

In addition, we recognize that the SUC-specific versions of this tool could be used as a basis for action and expand to include fields specific to the industry. This can enhance the understanding of SUC health and safety issues. WISH evaluation is a promised tool that can inform prioritizing and guiding research on causal ways to influence their delivery and results. Tool cabinets are situated close by the employee for tools used repeatedly, stored chemicals and other dangerous substances are placed in separate areas with proper labels and warning signals, the work process is opened, cabinets for less frequently used tools are placed

around the workstation, precautionary recall/warning of dangerous machinery/equipment area installations are placed or process work proceeds. The escape routes are well marked and are always obstacle-free, the shelves are designed to use wall space fully, waste receptacles are provided on wheels to be transported and disposed of quickly, and carts are used on wheels to carry metal scraps.

The advantages of integrated safety, health, and health systems approach to workers were

documented in increasing evidence. Practical, validated best practice measures supporting current evidence and not imposing unnecessary burdens on respondents to support systematic studies and organizational changes. We have shown in cognitive tests that the elements contained in this tool evaluate defined structures effectively. Our objective was to create a broadly applicable and industry-wide measure that could help us understand SUC's differences and similarities.

Table 16. Existing Best Practices Observed by the School-Related Health and Safety

Existing Best Practices Observed by SUCs	F	%	Rank
Cabinets for tools are placed close to the worker for tools used repeatedly.	46	63.89	1
Stored chemicals and other hazardous substances in separate areas with proper labels and warning signs.	40	55.56	2
The work process is placed in an open space	37	51.39	3
Cabinets for tools used less frequently are placed around the workstation.	36	50	4
Installations of precautionary reminders warning of dangerous machine/equipment work area or work process.	36	50	5
Keep wiring and electrical connections well maintained to minimized lost work time due to equipment failure.	35	48.61	6
Escape routes are properly marked and are always free from obstacles.	32	44.44	7
Shelves are designed to use wall space fully.	32	44.44	8
Provision of waste receptacles on wheels for easier transport and disposal.	30	41.67	9
Use of easy-to-move can on wheels to transport metal scraps.	30	41.67	10
Consider visual task background and regular maintenance.	29	40.28	11
Make known to all workers concerned the machine maintenance program in operation and train them to perform their duties.	27	37.5	12
Compressors are placed outside the work area to isolate a productivity noise.	25	34.72	13
Applied good housekeeping motto: if in doubt, take it out, to improve the layout for an efficient workplace.	25	34.72	14
Provision of a good rest area that helps to reduce fatigue and prepares a worker for continued productive work.	24	33.33	15
Fixed guards are made of strong material and protect flying fragments.	21	29.17	16
Isolate or work processes that generate excessive noise.	20	27.78	17
Guards fit the danger area as closely as possible, but leave the operation easy to use.	19	26.39	18
Make full use of natural light through the installation of skylights.	18	25	19
Moving lacquer spraying operation outside the workroom to improve working conditions.	18	25	20
Use of local exhaust system connected into a collection duct to prevent the worker from being exposed to harmful dust and vapor.	16	22.22	21
There is a separate toilet facility for females and the LGBT community.	14	19.44	22
Elimination of distracting details with a help of a screen.	14	19.44	23
Use of an interlock guard with a shut-off device.	12	16.67	24

Therefore, its overall applicability is a strength, as if substantial research were desirable to allow industry-wide comparisons. We also recognize that the teacher versions of this tool might benefit from using this broader tool as a base for

action and from expanding into areas uniquely affected by a SUC. This could make the industry more aware of specific health and safety issues.

Few interventions in occupational health have dealt with the health and work-ability of older

workers and significant scope for developing OH provision that responds to older employees' needs. These data allow a unique study of how sex consciously influences the evaluation of physical attractiveness among Philippine teachers. The results suggest that sex has an overwhelmingly monotonous influence on attractiveness ratings attributed to fair women. The association for men is considerably weaker. The interaction between gender and skin is consistent with the hypothesis that sex with a fair skin tone is particularly feminine. Findings suggest the generality of Filipino teachers' beauty standards. In recent years, sociologists and other scientists are becoming increasingly familiar with complex relationships between biological, psychological, environmental, and social factors in the lives and development of individuals. People also seem to be biologically "programmed" to respond to others socially—learn the language and interact with other people in their environment. Simultaneously, more and more research has documented how social experiences influence biological characteristics and capacity. Excessive risk/ stress exposure can change the neural course of the brain and how we respond to social situations. The way people develop an understanding of their roles in a company necessarily involves interplaying biological and social factors.

Logically, at least to some degree, biological factors play a role in sex socialization. Males and women are exposed to different hormones pre-natal, adolescent, and adult ages. Although the evidence is far from complete, research on animals and humans shows that changes in brain structure resulting from the various hormonal doses can reflect differences in male and female behavior, including average aggressive and caring values. Most of the chair was made from environmentally friendly materials and resources. To protect our environment, only eco-friendly materials are used. An updated version of the chair to minimize its cost structure will be designed and developed in future research. In addition to the room chair, the design and development of a classroom chair can be done specifically for students with disabilities. The proposed chair can be upgraded

to provide the users with more comfort and additional functional needs with additional features, such as rotary movement with rollers on their legs for easy moving. When the best concept had been adopted, each chair part was designed with solid works software as the next step. This procedure simplifies the engineering and production of the chair in line with the predefined requirements. The required dimensions and explanations are presented for every part of the chair.

Conclusion

The future success in promoting safe work behaviors and reducing the negative consequences of unsafe behaviors will largely depend on our ability to improve our conceptualizations and communications of the effectiveness of safety and health training interventions. Occupational illnesses were prevalent, but the non-occupational illnesses were not pervasive among the faculty respondents. State Higher Education Institutions have a favorable work environment despite some deficiencies in facilities and supplies. By and large, these government-owned schools have favorable occupational safety and health conditions for teachers. Faculty of state HEIs were very competent in instruction, magnanimous in community and extension services but still thriving in research and intellectual production. A direct but reasonably small correlation exists between the concerned schools' safety and health conditions and the teachers' productivity in instruction, research, and community and extension services. The safety and health conditions of schools, on the contrary, have little association with the productivity of teachers in intellectual production but have a direct, though moderately small, relationship with the overall productivity of teachers. The researchers proposed occupational safety and health provisions for faculty productivity to help school administrators maintain a safe and healthful work environment.

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