Soft Skills Enhancement for Electronics and Telecommunication Engineering Students at Rajamangala University of Technology Suvarnabhumi

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ABSTRACT

This article presents soft skills to students in Electronics and Telecommunication Engineering, Faculty of Engineering and Architecture, Rajamangala University of Technology Suvarnabhumi. By enhancing soft skills, which are important to students in the digital disruptions era, there are through the implementation of activities to recognize interaction, socialization, emotional control, positive thinking, and problem-solving through soft skills enhancement. Skills by organizing three appropriated activities included in the selected topics in Telecommunication Engineering course code 504-44-19, the number of students that enrolled in the course is 26 people. The results showed that the activities of cultivating and developing student's soft skills of electronics and telecommunication engineering students, Faculty of Engineering and Architecture, Rajamangala University of Technology Suvarnabhumi in all three aspects, the lecturer had an average satisfaction level of 4.705, the standard deviation was equal to 0.48. In the field of cultivating and developing skills in soft Skills, the average satisfaction level was 4.692, the standard deviation was equal to 0.56, and in terms of benefit and application of knowledge, the average satisfaction level was 4.750, the standard deviation was equal to 0.51. The overall outcome of the activities was the most favorable at 4.717 and the standard deviation was 0.50.

1. INTRODUCTION

In modern time, the learning world has changed a lot and it is a change that is expected to affect the learning system in the university which is a challenge that the university must prepare to counter it systematically. Teachers and professors are very important in being a role models or setting an example for students and students are having the intention to continuously develop themselves. Educational institutions are under pressure from the establishment to produce quality graduates ready to work in the highly competitive workplace or labor market both within and outside the country. In the past, the education system had focused on the teaching of hard skills (Knowledge skills) that had activities to drive for a competition to achieve victory in academic knowledge. But there was still a controversy over the development of student affairs to nurture, indoctrinate, and develop soft skills (Emotional skills). Academics have been researching the importance of emotional soft skills by integrating teaching techniques in teaching and learning. Using two developed questionnaires [1], the findings indicated that, from the perspectives of teachers and students, the emphasis on soft skills concerning the integration of emotional skills in the course of instruction was significant. Similarities in critical thinking, problem volving skills, communication skills, have recognized the importance of soft skills for career success. Researchers suggested that soft skills were better [2]. There was an interview with teachers that focusing on academic teaching and found that allowing students to do activities in their own time was considered as a waste of time and unable to develop student knowledge while the student affairs were lacking cooperation from the instructors by not allowing students to participate in activities. Viewing from a different perspective or the policy of student development in both academic and student affairs is not going in the same direction. There is a possibility that the reason for receiving the information may result in students who are not being indoctrinated and developed as it should be.

Bloom's Taxonomy [3] classified learning objectives into three domains; 1. Cognitive domain involves the behavior of the brain that is related to the intellect, knowledge, thinking, and intelligence of the ability to think about stories effectively which is an intellectual ability with cognitive behavior. There are six levels of cognitive behavior, including Remembering, Understanding, Applying, Analysis, Evaluating, and creating. 2) Affective domain, these aspects are popularity values, attitudes, beliefs, interests, and virtues. This behavior may not occur immediately, therefore the teaching and learning activities that organized by the appropriate environment will make the behavior of learners change in the desired way. 3) Psychomotor domain which learning behavior that indicates proficiency in work consists of learning behavior in five stages, including perception, guided response, organization, and personality. Educational management guidelines for Electronic and Telecommunication Engineers Faculty of Engineering and the Architecture Rajamangala University of Technology Suvarnabhumi give importance to teaching that focuses on developing life skills along with academic skills development.

Bloom's Taxonomy and the faculty are consistent with important skills for students in the AI era which AI stands for artificial intelligence refers to a branch of computer science that attempts to make computers able to logically thinking, learning, and working like the human brain. These skills can be categorized into two skills which are hard skills and soft skills. Based approach to teaching and learning to develop students into creative works which are based on the theory of learning in the Cognitive domain, Affective domain, and Psychomotor domain [4], the researcher is interested in developing emotional soft skills to prepare students before going into the workplace so that they can adapt or apply these skills by designing three activities to encourage students changing their attitudes. Preparing for the situation knowingly and emotionally, and this will allow

students to know how to practice themselves to be able to live or work in an enterprise with a positive mindset. The activities for cultivating and developing students in soft skills are divided into three activities: preparation before leaving the workplace, techniques, and charming at work which will be discussed later in this research article.

2. GUIDELINES FOR ENHANCING SOFT SKILLS

The instructor should play a role and be a good role model for students by indoctrinating to nurture students to grow with virtue and good ethics. From the study of sources, it is acknowledged that the ideology of the youth year 2019 is studying to obtain a degree might be less important with today's technology because it is allowing them to access knowledge sources more conveniently and faster than sitting in a university and also not wasting time to study things that they are not interested in because they are forced into the curriculum. This results in many universities must reform teaching and learning methods to keep up with the technology and concepts of the new generation of young people that have changed. As the author became a cooperative communication teacher, the author exchanged ideas with workplace administrators and found that the establishment needs good people or people that think positively with the organization rather than smart people but lacking soft skills. Because good people with soft skills can improve hard skills not so difficult. Soft skills are a key factor in project success. For some jobs, the skills of soft skills are more important than hard skills [5]. For the reason that has been empirically endowed with changes in the fast-technological world, therefore, studying in the electronic and telecommunications engineering, Faculty of Engineering and Architecture has, guidelines for indoctrinating and developing students in soft skills which are the skills that businesses need the most in modern times through teaching and learning in engineering topics.

3. RESEARCH OBJECTIVE

1. Propose an approach to develop the emotional skills through activities.
2. Assess the satisfaction of student participation.

4. METHODOLOGY

This research is quantitative. The population of this research was used for students at the Faculty of Engineering and Architecture, Rajamangala University of Technology Suvarnabhumi. The sample group at this research was selected the students in electronics and telecommunications engineering, Faculty of Engineering and Architecture, and consisted of 26 students by selecting a purposive sample. The instrument used in this research was a questionnaire consisting of three aspects.

Preliminary agreement in this research

1. This research, regardless of gender, age, economic background, society, mood, and learning time of the sample group, does not affect the research.

2. This research trial assumes that students who study in this program have the same qualifications in all respects because they have been selected to study under the same program.

3. For the convenience of this research and to reduce travel obstacles, researcher needs to select a purposive sample group, whose details are shown in Figure 1.
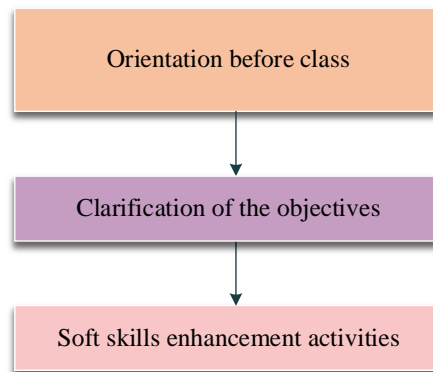
Figure 1. Steps before soft skills enhance students in soft skills.

Figure 1 shows the steps before enhancing the soft skills, there is a 3-step process as follows:

1. Student orientation before studying.

The students in the sample group were students in electronics and telecommunication engineering program, Faculty of Engineering and Architecture, Rajamangala University of Technology Suvarnabhumi that enrolled in the selected topics in Telecommunication Engineering course code 5 0 4 -4 4 -1 9 amount of 26 persons for academic year 2/2562.

2. Clarify the objectives of teaching and learning so that students have the same understanding of teaching and learning in the course Selected Topics in Telecommunication Engineering course code 504-44-19. There is a combination of soft skills in courses for three weeks, 1.5 lessons/week. After completing all activities, students should assess their satisfaction in organizing activities to indoctrinate and develop their soft skills.

3. Implement activities to enhance students in soft skills as in Figure 2.

Figure 2 shows teaching and learning management for enhancing skills in soft skills, proceed according to the process as follows.

3.1 Leading into lessons is a guideline for teaching and learning in selected topics in Telecommunication Engineering course code 504-44-19 and discussing the importance of soft skills in work which should have this skill in the digital disruption era.

3.2 Soft skills enhancement activities for soft skills training are defined in three weeks of 4.5 lessons. After completing the activities, distributed questionnaires, and interviewed the sample group of 26 people.
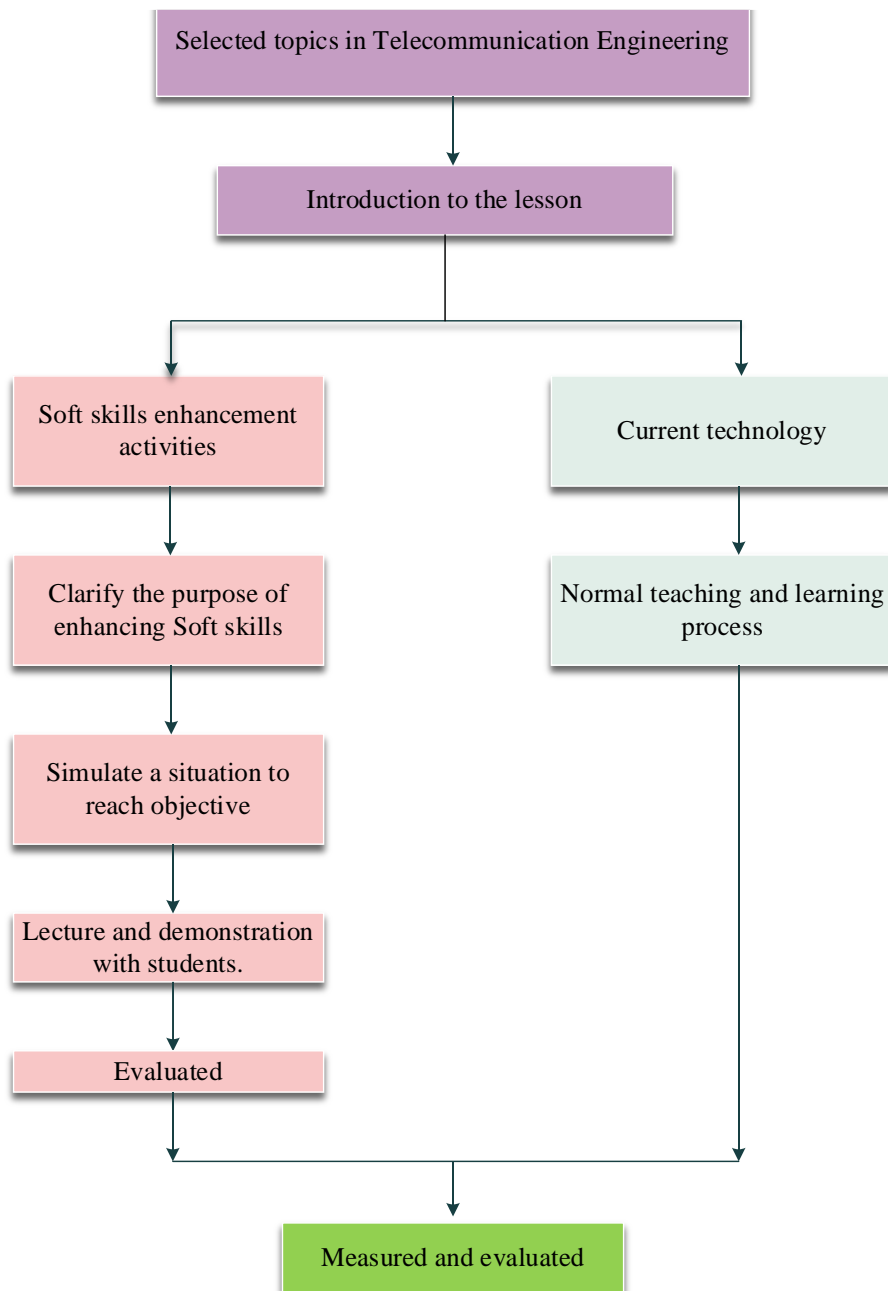
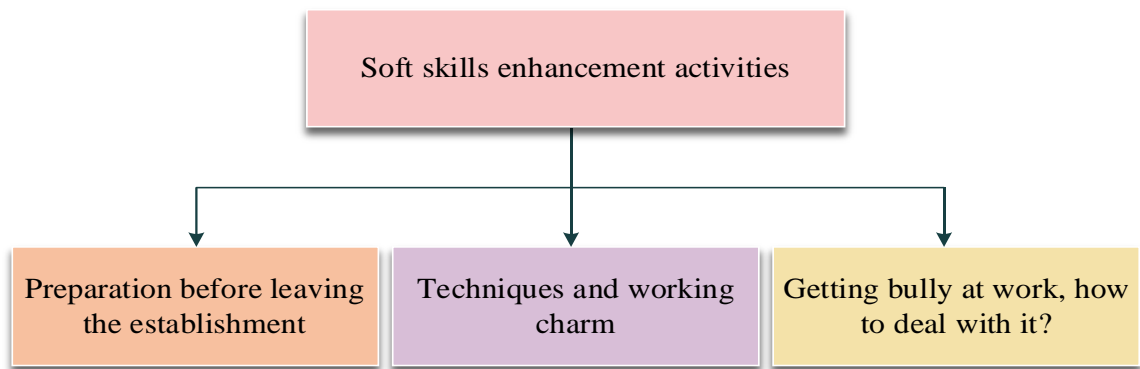**Figure 2.** Teaching management for enhancing soft skills for students.

Figure 3. Activities for enhancing students in soft skills.

Figure 3 shows the activities for enhancing students in soft skills in all three activities that are described in week 2- 4, 1.5 periods/week as follows:

        3.2.1 Preparation before leaving for the workplace

        3.2.2 Techniques and charm of working

        3.2.3 How to handle bullying in the workplace

All three activities have informed the purpose of the lecture and let students participate in the lecture to understand and see the value in enhancing soft skills.

        3.3 Simulating the situations to reach the descriptive objectives and organizing a variety of activities such as questioning and dividing the students into groups to separate the situation or writing student experience etc.

        3.4 Bringing the information from number 3 to discuss with students and pointing out the strengths and weaknesses of the described content.

        3.5 After completing the activities, interview, and distribute questionnaires to evaluate the activities in three weeks.

5. RESULTS AND DISCUSSION

After completing all three activities, giving the interview, and distributing the examination divided into three areas which are lecturers, enhance soft skills, and benefits and uses of knowledge, the results are summarized of participation satisfaction assessment form in Table 1-3.

Table 1. Lecturer

Lecturer	Σ	N	$\overline{x}$	S.D.	Interpretation
1. Preparation and readiness of lecturer	122	26	4.692	0.47	Very good
2. Expression of lecturer	124	26	4.769	0.42	Very good
3. Could explain the content clearly	124	26	4.769	0.42	Very good
4. Use appropriate and concise language	123	26	4.731	0.45	Very good
5. How lecturer answer questions?	123	26	4.731	0.45	Very good
6. Could create inspiration	118	26	4.538	0.64	Very good
Total			4.705	0.48	Very good

The results of the analysis from Table 1 show that 26 assessed students were satisfied with the lecturers. Overall, it is at a very good level. The arithmetic mean was 4.70 and the standard deviation was 0.48 ($\overline{x}$ = 4.70, S.D. = 0.48) when analyzed individually. In order of averages from the highest, followed by the speaker's broadcast and being able to explain the content clearly, followed by using appropriate and easy-to-understand language and answering the questions of the lecturers.

Table 2. Enhance soft skills.

Enhance soft skills	Σ	N	$\overline{x}$	S.D.	Interpretation
1. Students are aware of soft skills	126	26	4.846	0.36	Very good
2. Having more positive thoughts	118	26	4.538	0.76	Very good
Total			4.692	0.56	Very good

The results of the analysis from Table 2 show that the students who evaluated. Overall satisfaction in enhancing soft skills was at a very good level. The arithmetic mean was 4.69 and the standard deviation was 0.56 ($\overline{x}$ = 4.69, S.D. = 0.56) when analyzed individually. In order of averages from highest to highest, followed by students' awareness of soft skills and positive thinking increased, respectively.

Table 3. Benefits and uses of knowledge.

Benefits and uses of knowledge	Σ	N	$\overline{x}$	S.D.	Interpretation
1. Able to apply the knowledge gained in applying to work	123	26	4.731	0.60	Very good
2. Able to apply knowledge as a guideline for development progress	126	26	4.846	0.36	Very good
3. Being confident and able to use the knowledge gained	120	26	4.615	0.69	Very good
4. Benefit from participating in this event	125	26	4.808	0.40	Very good
Total			4.750	0.51	Very good

The results of the analysis from Table 3 show that the students who evaluated. Overall satisfaction with the benefits and uses of knowledge was at a very good level. The arithmetic mean was 4.75 and the standard deviation was 0.51 ($\overline{x}$ = 4.75, S.D. = 0.51) when analyzed individually. In order of averages from the highest and the next, the knowledge can be applied as a guideline for progress and benefit from participating in this activity, respectively.

6. CONCLUSION

According to the results of the study of cultivating and developing students in soft skills of electronics and telecommunication engineering students, Faculty of Engineering and Architecture, Rajamangala University of Technology Suvarnabhumi, with activities to cultivate and develop students in the field of soft skills, these three activities are preparation activities before going to the workplace activities, techniques and charms at work, and how to deal with bullying in the workplace? The results can be summarized and discussed in each aspect as follows.

1. As a lecturer, the results showed that the students in electronics and telecommunication engineering those who have participated in the activities of cultivating and developing students in the field of soft skills. in all three activities are: Preparation activities before going to the workplace activities, techniques and charms at work, and how to deal with bullying in the workplace. The evaluation results are at a very good level. The mean was 4.705 and the standard deviation was 0.48 ($\bar{x}$ = 4.70, S.D.=0.48) because the instructors were prepared in terms of content, personality, the language used appropriately, and easy to understand. This resulted in the transfer of activities that presented activities for cultivating and developing students in the field of soft skills, which clearly focused on students preparing themselves before entering the workplace. The development of emotional skills or soft skills is an absolute necessity that must be included in every course. Soft skills have been emphasized [6]. Instructors in all courses guide or intervene in the development of soft skills. By balancing and promoting the teaching and learning, it approaches and enables students to develop emotional skills and soft skills to recognize themselves. Self-worth has a positive mindset solve immediate problems with consciousness happy working with others.

2. Soft skills instill and develop those who have participated in the activities of cultivating and developing students in the field of soft skills in all three activities are: The evaluation results are at a very good level. The mean was 4.692 and the standard deviation was 0.56 ($\bar{X}$ = 4.692, S.D. = 0.56). This is due to the activities of cultivating and developing students in the field of soft skills that the researcher has presented, focusing on students to prepare themselves before entering the workplace. The researcher presented an activity that raised student's awareness of emotional skills in a positive way affecting their lives. Working in an establishment coping with stressful situations and all students must hurry to adjust their attitude to be a positive person. There was knowledge about the development of students in three areas: 1. Cognitive Domain 2. Affective Domain, and Psychomotor Domain. The development of these three areas must be developed together with the lack of anything better, it will not result in the development of students.

3. Regarding the benefits and application of knowledge, the research results showed that the students in electronics and telecommunications engineering who participated in the activities of cultivating and developing students in the field of soft skills in all three activities were assessed at a very good level. The mean was 4.750 and the standard deviation was 0.51 ($\bar{X}$ = 4.750, S.D. = 0.51). This is due to the students applying the knowledge gained in the activities or adjusting the application to everyday life at home, school, or institution to progress in their careers with confidence.

In summary, the overall picture of the activities of cultivating and developing students in the field of soft skills, all three activities were assessed at a very good level. The mean is 4.717 and the standard deviation is 0.50 ($\bar{X}$ = 4.717, SD = 0.50) due to the benefits that are gaining attention in today's society and from the case in the social world. Information that is important for the development of emotional skills, soft skills of all students and youth in the 21st century must have to fulfill their work or daily life happily, divided into four areas. as follows [7].

1. Communication: Skills in communication and interaction with others, including public speaking skills.

2. Collaboration: The skill to work with others, which is related to leadership is the skill of being a leader knowing where to lead, and teamwork, the skill of working as a team with others.

3. Critical thinking: Critical thinking skills and problem-solving skills.

4. Creativity: Creative skills which will be used in work and problem solving.

Soft skills are the important factor for success that modern youth must have because soft skills are essential skills in today's labor market. Organizations or organizations have focused on soft skills in addition to hard skills. People around the world agree that people with high IQ alone [8]. It cannot be successful in working or running a business sustainably without continuous development of soft skills. Therefore, the new generation of smart people must have skills in both areas: good at work and good at both people. which is considered the ultimate desired personnel of every organization. Some scholars even call this skill that it is the potential in people management competency.

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