

## **Integrating Essential Skills into Training Programs at Ho Chi Minh City Vocational College: Implementation Process and Results**

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### **Abstract**

Essential skills (ES), also known as soft skills, are social skills that contribute significantly to success of students. In addition to hard skills, ES are also required by recruiters. To meet the requirements of enterprises, Ho Chi Minh City Vocational College (HCMCVC) has focused on enhancing ES of students through integrating these skills into its training curricula. This article is a part of a project on building and developing a quality assurance system of teaching ES at vocational colleges. This article will share the implementation process of integrating ES into the training programs. The teaching methods used in class to develop ES will also be presented in this paper. The results show that the ES development level of students increases significantly after six learning sessions have integrated ES into the curricula. Qualitative and quantitative methods such as observation method, personal interview method, survey method and statistical method like Independence - samples T-Test and Paired - samples T-Test are used to collect data related to the development of the ES. This research also offers some suggestions to improve the quality of integrating ES into the vocational training programs.

**Key words:** *essential skills, soft skills, integrating essential skills, vocational training programs*

### **1 Introduction**

“The world doesn’t care what you know. What the world cares about is what you do with what you know” (Tony Wagner quotes, 2012). In fact, Vietnamese society is preparing to enter the Fourth Industrial Revolution. It is predicted that in the next four years, ES also known as social skills will play a vital role for workers. Thus, HCMCVC has a responsibility for training students not only with highly technical skills but also with good ES to meet the needs of society and business.

In the school year 2012 – 2013, ES called “soft skills” were added to the school curriculum at HCMCVC. This subject was taught for 15 periods separately in the first semester. After five years of implementation, the managers and the teachers at HCMCVC found that the number of soft skill periods was not sufficient and it could not help students to meet the needs of employers successfully. At the beginning of 2017, together with vocational colleges in the South of Vietnam, HCMCVC participated in the project "Advanced Project Quality Assurance". The managers and the teachers at HCMCVC listened to the experiences on integrating ES into the training programs from the West College Scotland, England and discussed how to integrate ES into programmes at other Vocational Colleges such as Da Lat

Vocational College, Can Tho Vocational College, Kien Giang Vocational College, Nha Trang Vocational College. Since the school year 2017-2018, HCMCVC has changed the name "Soft Skills" into "Essential Skills" and has developed the training programs in the direction of integrating ES into the different subjects. To investigate the effectiveness of this project, in the academic year 2017-2018, this research was conducted.

## **2 Background of the study**

The investigations on the soft skills or the ES in Vocational Education and Training field have been conducted in many countries around the world such as Canada, Australia, UK, Malaysia, etc. In Viet Nam, most of the findings involving the soft skills or the ES are in Higher Education or General Education and there are not many studies related to this aspect in Vocational Education. For examples, the book *Skill up Vietnam: Preparing the Workforce for a Modern Market Economy* (2013) was written by a World Bank team and led by Christian Bodewig and Reena Badiani-Magnusson, with Kevin Macdonald, David Newhouse, and Jan Rutkowski. This book proved a lot of problems of Vietnam's Economic Transformation and the Role of Education and Skills for Current and Future Jobs. However, its contents and research trend were generalized, and spread across many levels of training in Vietnamese education, from Vocational Education to Higher Education. Thi Tuyet Tran surveyed the perception of the students and graduates about soft skill development at the Vietnamese universities in the paper *Limitation on the development of skills in higher education in Vietnam* (2013). However, the collected data of this research was only based on the students learning at Vietnamese Universities. The findings of the study *New Insights for Soft Skills Development in Vietnamese Business Schools: Defining Essential Soft Skills for Maximizing Graduates' Career Success* (Truong, Laura, & Shaw 2016) indicated the importance of soft skills in business success and revealed that the integration of soft skills into business school curriculum was of paramount importance to advance the national and global economic interests of Vietnam.

The above studies have not investigated the development of soft skills in vocational education yet, especially in the vocational college-level training field in Vietnam. Thus, this research will share the implementation process and the results of integrating ES into the training programs at HCMCVC.

### **2.1 Rebuild the training programs, rename the subject and increase the number of periods of the ES at HCMCVC**

In order to be able to obtain a list of 15 ES integrated into the curriculum, managers, teachers and staff members of the quality assurance department have undertaken the stages below.

- **Stage 1:** Listened to the experiences on integrating ES into the curriculum of the West College Scotland, England in February 2017.

- **Stage 2:** Collected the ideas of 11 leaders in companies, 10 teachers and 50 college students about which ES the students need to meet the demands of enterprises and then suggested 15 ES from March 2017 to June 2017.
- **Stage 3:** Referenced ideas of colleagues at other vocational colleges in the South of Vietnam such as Da Lat Vocational College, Can Tho Vocational College, Kien Giang Vocational College, Nha Trang Vocational College in July 2017.
- Consulted the experts from West Scotland College, England in July 2017.

After 3 stages of implementation, a list of fifteen ES was presented and the training programs including ES were constructed.

HCMCVC provides two job training programs: 2.5-year Technical College and 1.5-year Technical School. The entry requirements for these programs are at least high school graduates and junior high school graduates, respectively. In general, there is difference of quality concerning the input presented to the students between both levels.

Regarding teaching resources in HCMCVC, ES teachers should have graduated in a field relating to soft skills. There are three ES teachers assigned to instruct theoretical knowledge for the first semester's programs. In the second and third semesters, as integration assisting (IA) teachers, they also coordinate with specialty-trained (ST) teachers in discussing and contributing ideas of integration, for example, what activities will be organized and how to integrate them into the curricula. Besides, they help the ST teachers to assess the students' ES development level as well. In addition to resources, the ST teachers should be specialized in specific fields of training programs of HCMCVC such as English, Basic Welding Practice, Food Analysis, Vegetable and Fruit Processing Technology, Maintenance, etc. These ones are mainly in charge of integrating ES into specialty curricula in the second and third semesters.

As distributed in table 1 below, at the technical college level, the students study ES for 45 periods from the first to third semester. In the first semester, ES are taught separately for 15 periods by the ES teachers. After that, in the second and third semesters, the ES are taught by ST teachers who are supported by the IA teachers. At the technical school level, the students study the ES in a shorter period of time. The ES teachers instruct these skills separately in the first semester and the ST teachers integrate them into the curriculum in the second semester. Total duration is 30 periods of which each semester has 15 study periods. The aim of the distribution of teaching hours and training forms of the ES is to provide the students with many opportunities to consolidate and develop ES during three semesters.

Table 1: The distribution of teaching hours and training forms of ES

Level of the study	Semester	Numbers of periods	Total duration	Forms of training	Teachers in charge
Technical college	1	15 periods	45 periods	Separated	ES teachers
	2	15 periods		Integrated	ST teachers IA teachers
	3	15 periods			
Technical school	1	15 periods	30 periods	Separated	ES teachers
	2	15 periods		Integrated	ST teachers IA teachers

### 3 Research design

#### 3.1 Purpose of the study

The purpose of the study is to investigate the implementation process of integrating ES into the training programme, the teaching methods used in classes to develop the ES and the level of increasing the ES of the students after the integration.

#### 3.2 Research questions

Based on the research purpose, the following research questions are asked:

- How is the process of integrating ES into the training programme implemented?
- What teaching methods do the teachers use in classes to integrate ES?
- How does the integration of ES into the training programme improve the student's level of the ES?
- What disadvantages and advantages do the teachers face when integrating ES into the programme?
- What do the teachers and the education managers need to do to improve the students' ES in the next semesters?

#### 3.3 Research participants

- The researcher not only works as an ES teacher but is also one of the three IA teachers and an observer.
- 2 ST teachers, 3 IA teachers and 5 students participating in the integration process are interviewed.
- The researcher takes samples randomly from the students in the two faculties of Electrics and Refrigeration and Automotive Engineering with two levels of technical school and technical college. After removing unsatisfactory answer sheets of survey questionnaires, the sample distribution table is as follows:

Table 2: **Sample distribution table**

Level	Faculties	Name of class	Numbers of students (N)	Total
Technical School	Automotive Engineering	T17OTO (N=15)	15	42
	Electrics and Refrigeration	T17DC (N=10)	27	
		T17KTML (N=17)		
Technical College	Automotive Engineering	C17OTO4 (N=13)	34	49
		C17OTO7 (N=21)		
	Electrics and Refrigeration	C17KTML2 (N=15)	15	

### 3.4 Limitation of the research

- This research is only a part of a collaborative project between the General Department of Vocational Education and the British Council with support from West College Scotland and a cluster of Southern schools of which HCMCVC is a member. For that reason, the study only focuses on the integration process of ES into the curriculum in Semester 2 of the school year 2017-2018.
- The research data is collected from the survey results based on self-assessment of the learners after they completed 15 periods of ES in Semester 1 and after each integrated learning session (2-3 periods per learning session) in the Semester 2 of the academic year 2017-2018.

### 3.5 Research Methodology

#### 3.5.1 Document research method

Systematize a number of fundamental theoretical issues concerning the topic such as the ES concept and the list of ES.

#### 3.5.2 Survey method

- Survey the level of ES development of the students after participating in the six learning sessions which integrated ES into the curriculum.
- Compare the Means of the ES before and after integration in order to prove the effectiveness of integrated teaching.
- Each student self-assesses his or her points of every single ES after completing 15 theory periods in Semester 1 and each learning session of incorporating the ES into specialty lessons in Semester 2.
- The survey questionnaire consists of 5 options corresponding to the scores below.

Table 3: **The range of the Means and Interpretation of the Means**

<b>The range of the Means</b>	<b>Interpretation of the Means</b>
1.00 – 1.99	Weak/ Below average
2.00 – 2.99	Average
3.00 – 3.99	Good/ Fair
4.00 – 4.99	Very good
5.00	Excellent

### 3.5.3 *Observation method*

- As a teacher specializing in the ES, the researcher not only teaches but also observes the attitudes and behavior of the students when joining in activities in Semester 1 of the school year 2017-2018.
- As a supporter of the ST teachers in the process of integrating ES into the curriculum, the researcher observes and takes note of the teaching methods the technical teachers use to integrate the ES into the technical lessons. The researcher also observes the attitudes and level of participation in integrated activities of the students.

### 3.5.4 *Personal interview method*

- The researcher interviews the ST teachers and the IA teachers about the advantages and disadvantages when using the integrated curriculum approach.
- The researcher interviews the students about the effectiveness of the integrated learning sessions.

### 3.5.5 *Mathematical statistical method*

Data is processed by SPSS for Windows, version 20.0. Although the researcher uses many research methods, the observation and the survey questionnaire are the main methods of the study.

## **4 Conceptual framework**

In the international context, the soft skills or ES have been labeled with many different names. These skills were given various names such as “employability skills” (Bridges 1993; Hager & Holland 2006), “generic skills” (Badcock, Pattison, & Harris 2010) were called “ES” by The Conference Board of Canada (2013). Sometimes they were referred to as “competencies”, “capacities”, or “abilities” rather than skills (Tran 2013). In other words, there is little consensus among them about definitions. In most cases, they were understood as (in contrast to hard or technical skills) specific skills that helped individuals thrive in a professional context (Cukier, Hodson, & Omar 2015).

Since the school-year 2017-2018, at HCMCVC, the subject “soft skills” has been changed into “essential skills”. In this research, ES are defined as soft skills or social skills (non – technical skills) to help the learners be more successful in their lives.

There are a lot of ES, however, based on the investigation with the enterprises, the teachers and the students, the discussion with the colleagues at other Vocational Colleges in Southern clusters and experts from West College Scotland, England, the list of 15 ES is given.

Table 4: **The list of 15 ES united by 5 Vocational Colleges in the South of Vietnam**

<b>Successful Learners</b>	<b>Skills Developed</b>	<b>Description</b>
	Visual Interpretation	Being good at putting what you've seen into words. Being able to easily understand and describe relevant information from a diagram, line drawing, pattern, musical score, video etc.
	Perception	Listening to/Watching a skill or task described/shown, and being able to learn how to do it yourself, and understand the meaning behind it
	Peer Evaluation	Being able to evaluate others, skills and work objectively
	ICT (Information & Communication Technology)	Being able to use ICT hardware/software effectively
	Understanding	Being able to make sense of information, facts, and ideas
<b>Confident Individuals</b>	<b>Skills Developed</b>	<b>Description</b>
	Presentational Skills	Being able to share or display working products you have produced in an effective way
	Observation	Being able to see and understand how different things link together, and interpret what's going on around you
	Perseverance	Being willing to keep on with something withstanding discouragement or difficulties
<b>Effective Contributors</b>	<b>Skills Developed</b>	<b>Description</b>
	Communication	Being able to put across information, ideas in a way that's clear to others
	Analysis	Being able to look at a situation and study it fully to resolve its complexity into simple elements
	Working with Others	Being able to work collaboratively in a certain situation or task to concentrate on the task at hand
	Team Skills	Being able to work with others in a group - knowing when to speak up, when to listen and how best to help the group. Ability to negotiate effectively
	Practical application	Being able to carry out effectively a task or goal from instruction
	Problem-solving	Being able to come up and act on ideas to solve a situation
<b>Responsible Citizens</b>	<b>Skills Developed</b>	<b>Description</b>
	Social Awareness	Being interested in important social and political issues affecting you, going on around you or in the world.

The system of ES has 4 groups including Successful Learners, Confident Individuals, Effective Contributors and Responsible Citizens. Firstly, the group Successful Learners has 5 ES like Visual Interpretation, Perception, Peer Evaluation, ICT (Information and Communication Technologies), and Understanding. Secondly, the group Confident Individuals consists of Presentation Skills, Observation and Perseverance. Thirdly, the group Effective Contributors encompasses Communication, Analysis, Working with others, Team skills, Practical application, Problem-solving. Lastly, the group Responsible Citizens contains social awareness skills.

## **5 Results and discussion**

### **5.1 The implementation process of integration at HCMCVC**

The integration process at Ho Chi Minh Vocational College has started since the second semester of the school year 2017-2018. As the diagram below shows there are 4 steps of integration:

Step 1:

- The IA teachers (are also the teachers specialized in ES) and the ST teachers talk about what activities should be conducted in classrooms on that day and how to proceed with them.
- The above teachers discuss and decide on the time when the ES will be integrated into the lessons.

Step 2:

- The teachers prepare teaching aids and professional equipment to conduct integrated activities.

Step 3: Organize the activities for students in class as planned

- The ST teachers present what ES will be developed when participating in these activities and how to implement them to the learners.
- The IA teachers remind the students about the way to perform some ES, for example, teamwork skill, presentation skill, etc. (Theories of these skills are coached by ES teachers in the first Semester)
- The teachers monitor and support (if necessary) to help students to complete the activities.

Step 4:

- After completing each activity, the teachers ask the learners what ES they have developed, which have been introduced in the beginning of the learning session.
- The teachers give feedback and evaluate the results of the students' activities.
- The students self- evaluate their scores on the assessment sheets.



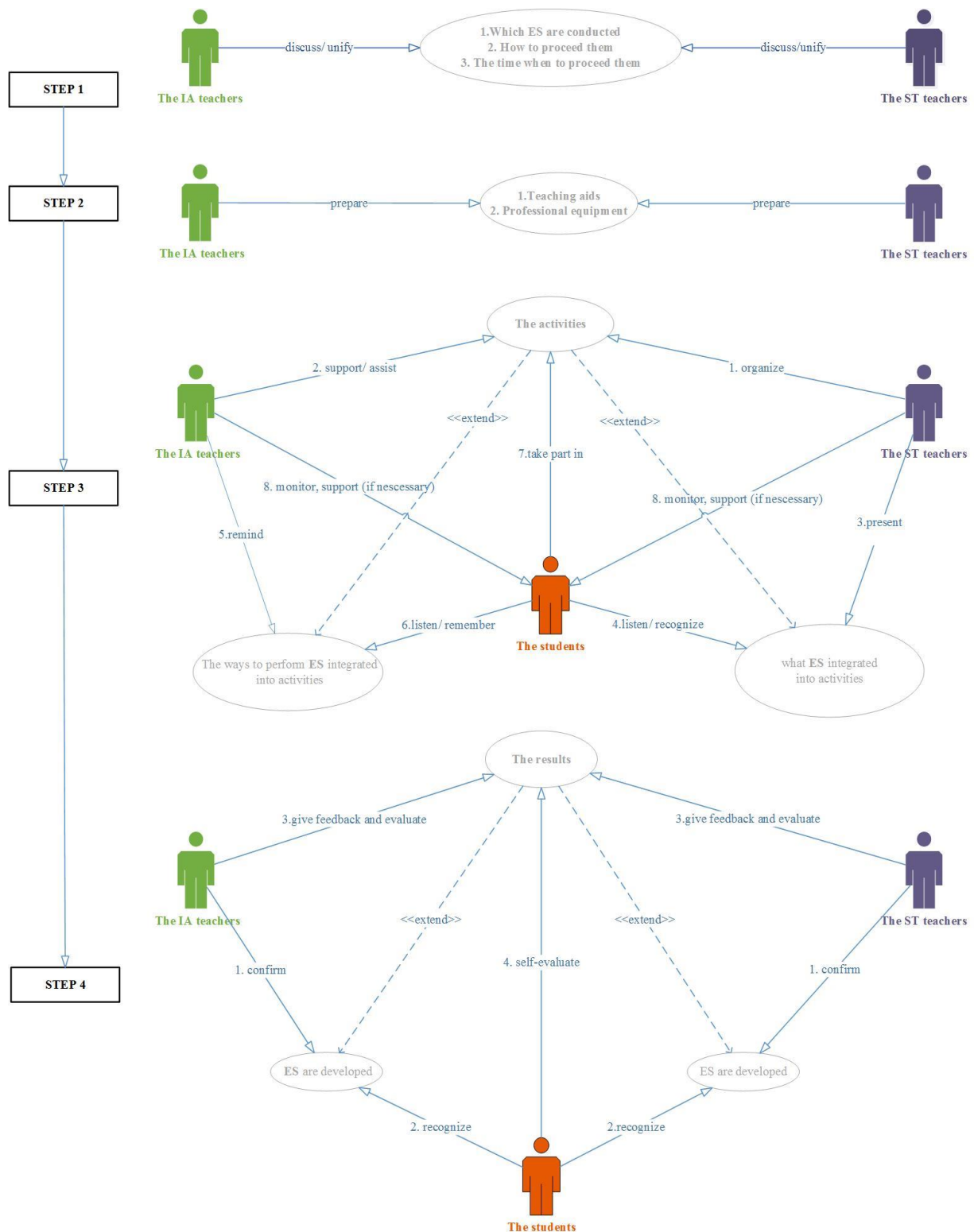


Figure 1: Diagram of implementation process of integration at HCMCVC

The above integration diagram is properly applied in case the ST teachers don't really master how to organize the activities of integrating ES. At HCMCVC, it is used because this is the

first time this college has applied essential skill integration and so it needs more time for ST teachers to gain experience and master integrating activities.

After implementing according to this diagram, the researcher recognizes certain benefits, for example:

- Ideas are more plentiful and more feasible because there is a discussion between ST teachers and IA teachers.
- There is timely support of IA teachers in case the ST teachers are inexperienced in organizing activities integrated ES.
- The assessment results will be more objective and more accurate because there are many teachers observing and evaluating.
- The ST teachers do not spend much time assessing the students' ES because this work has been conducted by the IA teachers, thus, they have more time to focus on assessment.
- The teachers have a lot of opportunities to share experiences with each other about integrating ES into their subjects.

However, this diagram needs a lot of personnel in conducting integration. That is its big disadvantage.

In case the ST teachers have mastered organizing activities of integrating ES into specialties, this diagram needs improving towards reducing personnel. This means that the role of the IA teachers is not necessary anymore. The ST teachers are responsible for the entire integration process such as choosing appropriate activities, preparing teaching aids, organizing activities, giving marks, and making comments on the students' results.

The researcher supposes that in order to ensure the quality of integration in the case of reducing numbers of personnel, there are some solutions that can be implemented. It is necessary that ST teachers share new knowledge and teaching methods of integrating periodically including the teachers and the experts who specialize in ES. Via those meetings, ST teachers also recognize the vital role of integration. Besides, the evaluation of students' ES development also needs improving. Along with the assessment of ST teachers, it is important to build a system of self-assessment of ES for students on the website of the school. The students can access the website and then self-evaluate their points and make specific notes on what they have done in the ES learning sessions to prove that they deserve to get the scores offered.

## **5.2 The teaching methods to integrate ES into the training programs at HCMCVC**

With 15 periods of theories, the goal in the first semester is that the learners will be able to recognize the names and the contents of the fifteen ES and criteria for assessing the development level of each skill. Through the activities the students in the class and the IA teachers summarize the methods and principles to develop these skills effectively.

The objective of both the second semester and the third semester is that the students will be able to apply theories they learned in the first semester into practical situations to develop the ES. Every class has three subjects integrated with ES in which each one is implemented in two learning sessions. As a result, there is a total of six integrated learning sessions per class and each one lasts from 2 to 3 periods.

In these two semesters, the IA teachers assist the ST teachers in organizing activities and consolidating theories related to the ES such as teamwork, presentation, communication and so on. These teachers also observe, take notes, and give an assessment at the end of the learning sessions to help the learners recognize their strong points and weak points to develop ES better. The ST teachers, for example, Electricity teachers, Refrigeration teachers, Economics teachers, English teachers, and so on, organize activities for students in order to develop both the professional skills and the ES. The activities take place at the beginning, in the middle and/or at the end of the learning sessions. In this process, the ST teachers will explain the problems involving specialties and the ES teachers will clarify how it is related to the ES if the students ask questions.

To sum up, in the second semester of the school year 2017-2018, by using the observational method, two main types of activities were organized and revealed to develop the ES for the students:

- The first ones are the activities relating to the specialties. These are usually activities for group work aiming at solving problems or questions posed by teachers, knowledge review games, and role - play.
- The second ones are the activities only involving ES and not relating to specialty subjects, for example, “create tower” to develop teamwork skill, peer - evaluate skill, communication skill, analysis skill; “bingo” to increase communication skill, perseverance; “seven-up” to improve observation skill etc.

### 5.3 The results of the student's self-assessment on the development level of the ES at HCMCVC in the school year 2017-2018

5.3.1 Compare the difference between the Mean scores of the ES before integrating and after integrating in the curriculum at HCMCVC

5.3.1.1 The general results of the Means of the ES of the students before and after six integrated sessions

Table 5: The general results of Mean scores of ES of students before and after six integrated sessions

Time	Min	Max	Mean	Mean (post-pre)	Standard Deviation	T	P	Results
pre-integrated	1.00	5.00	2.90	0.81	0.77	11.74	.000	Different significantly
post-integrated	1.00	5.00	3.71		0.61			

The result table 5 displays that after completing 15 theory periods of ES in the first semester, the average rating of the ES of the students reaches 2.90 points. This means that the students self- assess their ES development level as average. In fact, in the first semester, the IA teachers supply the theories about 15 ES such as concepts, assessment criteria of the ES and how to practice them. Moreover, the IA teachers organize many activities to help the students develop these skills. According to the researcher's observation, most of the students have a positive attitude in participating in activities and quite well resolve the tasks the teachers gave them. The assigned work includes discussing in groups, creating mind maps and presenting in front of the class with topics relating to teamwork skill, presentation skill, communication skill, etc. Additionally, the IA teachers organize games through which the students develop ES such as listening skill, solving- problem skill, analysis skill, visual interpretation skill, social awareness skill, and so on. Many students are very creative and active in providing solutions to solve problems. The students base on the basic theory of ES and create very impressive mind maps. On the other hand, the researcher recognizes that some students are passive, shy, and unconfident in giving presentation and sharing their ideas in front of the class.

After the six learning sessions including the fifteen ES, the statistics illustrate that the Mean score is 3.71 and this reveals that the development of ES achieves a good level. Compared to the ES mean before integration (Mean = 2.90), the mean after integration of all the students is 0.81 points higher (Mean = 3.71). This demonstrates that the consequence of integrating ES into specialty subjects in the second semester of the school year 2017-2018 is remarkable. In addition to this, with the Paired- Sample T-Test, the result of research test reveals that  $p = 0.00 < 0.05$ , indicating there is a significant difference between pre-integration mean and post-integration of the students.

5.3.1.2 b. The results of the Mean score of each ES before and after integrating

Table 6: The results of the mean scores of each ES before and after integrating

Name of skills	Mean scores				Standard deviation		Rankings of Mean scores	
	Pre		Post		Pre	Post	Pre	Post
<b>Working with others</b>	3.29	good	4.00	very good	0.93	0.63	1	2
<b>Teamwork</b>	3.26	good	4.06	very good	0.91	0.64	2	1
<b>Perception</b>	3.01	good	3.79	good	0.83	0.71	3	4
<b>Perseverance</b>	2.92	average	3.90	good	0.97	0.68	4	3
<b>Practical application</b>	2.92	average	3.76	good	0.85	0.62	4	5
<b>Observation</b>	2.92	average	3.75	good	0.96	0.71	4	6
<b>Social awareness</b>	2.92	average	3.49	good	0.89	0.71	4	13
<b>Communication</b>	2.84	average	3.73	good	0.99	0.66	5	7
<b>Peer evaluation</b>	2.80	average	3.61	good	0.95	0.73	6	11
<b>ICT</b>	2.78	average	3.43	good	1.09	0.84	7	15
<b>Problem –solving</b>	2.75	average	3.69	good	1.01	0.69	8	8
<b>Understanding</b>	2.71	average	3.68	good	0.96	0.63	9	9
<b>Analysis</b>	2.70	average	3.66	good	0.93	0.66	10	10
<b>Presentation</b>	2.65	average	3.48	good	1.05	0.69	11	14
<b>Visual Interpretation</b>	2.61	average	3.50	good	1.01	0.74	12	12

In terms of the level of each skill development, the research results evince that before integration, "Working with others", "Teamwork", "Perception" skills are at good level, and the remaining skills reach average level. After six integrated learning sessions, all of the mean scores of the ES increase and divide into two categories "good" and "very good". For examples, "Working with others", "Teamwork", "Perception" achieve "very good" and the others get "good" level. In addition to that, there are three groups of Mean scores in the rankings such as swapping, having no change, and decreasing.

The table also shows that among all of the skills, the mean scores of "Working with others" skill and "Teamwork" skill always occupy the top spots respectively in the rankings, either in 1st or 2nd position in both phases, pre-integration, and post-integration. The mean scores of "Perception" skill and "Perseverance" skill rank 3rd and 4th in the rankings in both of these phases. It indicates that there is a swapping trend in rankings of the Mean scores of skills.

According to observation of the researcher, when instructing specialty subjects such as English, Basic Welding Practice, Food Analysis, Vegetable and Fruit Processing Technology, Maintenance and Repair of Gas Distribution Structure, Refrigeration measurement, Electrical

installation techniques, etc., the ST teachers organize quite a lot of activities for group work for the students to solve the problems relating to specialties. Even with the knowledge revision games, the ST teachers also organize further group activities. The activities which are not related to specialties and only used to develop the ES are also team-building games, for example, "Build towers", "Bingo", "Line-up" etc. Via those, the learners not only improve "working with others" skill and "team work" skill but also practice "perseverance" skill as solving exercises or persuading their friends to agree with their ideas. Furthermore, the students also develop their perceptions in the lessons. These are the reasons why the average scores of four skills "Working with others", "Teamwork", "Perception", "Perseverance" increase after integrating and they always stay at the top rankings before and after integration.

Remarkably with the "Problem-solving" skill, the "Understanding" skill, the "Analysis" skill and the "Visual Interpretation" skill, although their mean scores increase after integration and their classification reach a good level their ranking position remained unchanged, 8, 9, 10, and 12 respectively.

Compared to the pre-integrated stage, the ranking position of Mean scores of "Communication" skill, "Presentation" skill, "Peer evaluation" skill, and "ICT" (Information Communication Technologies) skill drop substantially after integration. However, the classification level of all of these skills rises steadily from "average" to "good".

The table of results also illustrates that before integration, Mean scores of "Visual interpretation" skill and "Presentation" skill are 2.61 and 2.65, and in the twelfth and eleventh positions, correspondingly in the rankings. Both of them are rated at an average level. By means of the observation method, the researcher discovers that the teaching time is quite limited (only 15 periods) and the number of students in the class is rather large with over 50 students. Consequently, the average time for each student to present in front of class is quite small. There are even classes in which only one representative from each group reports the products, for instance, the mind map that the group has designed. That could be one possible explanation why the Mean score of "Visual Interpretation" skill and "Presentation" skill are lower than the other skills. After integrating, the "Visual Interpretation" skill remains unchanged on its twelfth position in the rankings with Mean scores of 3.50 while Mean score of "Presentation" skill increases to 3.48, reaching a good level. According to the interview results, some students say that before integrating ES, they didn't have the opportunities to give speeches. However, when integrating ES into the training programs, partners in their groups encourage them to make presentations. This also demonstrates that chances of presenting in the class are divided equally among students. According to the researcher's observation, although the majority of teachers organize group working, only a few the teachers ask the students to report, and the rest of the teachers do not request this. Possibly due to this, the mean score of "Presentation" skill increases after integration but the position of its mean score is behind the means of other skills in the rankings.

As an observation, in the first semester, the ES teachers share a lot of social knowledge and create social awareness games to enhance this skill for the students. One basic example is the

activity “wise man”. It is described that *"firstly, the teacher gives number 5, and then the students in turn list a certain event in society related to number 5. The game will be finished until the students no longer find any event. The person who does not find the event will be the loser."* In the second semester, as an IA teacher, the researcher observes and realizes that in fact, the ST teachers integrate this skill into lessons but not much and this is mainly implemented in the subject English. Using the interview method, the ideas from some of the ST teachers are as follows: *"It is difficult to integrate social awareness skills into technical subjects"*, *"I have not found many activities to integrate social awareness skill into specialty subjects"*, or *"I suggest that it's wasteful time if I organize activities to develop this skill because it doesn't involve in my subjects"*. For that reason, mean score of the “Social awareness” skill gains but it is only ranked 13th on the rankings after integrated.

To sum it all up, mean scores of all the essential skills increase and achieve “good” and “very good” level after integrating, however, their positions change in the rankings.

### 5.3.1.3 Comparison of the results of the Mean scores before and after integrating of the students at each level of study Technical school and Technical College

Table 7: Comparison of the results of Mean scores of pre- and post- integrated stages of the students at each level of study Technical school and Technical College

Level of study	Mean scores		Difference between Means of pre- and post- integration	T	p	Results
	Pre	Post				
Technical school (N=42)	2.76	3.45	0.69	6.70	0.00	Different significantly
Technical College (N=49)	3.02	3.93	0.91	10.00	0.00	Different significantly
<i>Sig = 0.05</i>						

The statistics of the students at the Technical school level illustrate that the Mean score of the ES before integrating is 2.76 and the Mean score after integrating is 3.45. Furthermore, the post – integrated Mean increases by 0.69 points. The researcher uses Paired - samples T-Test to compare the Mean of the ES at both of the two pre- and post-integrated stages and finds that there is a significant difference between the Mean scores of these two stages ( $p = 0.00 < 0.05$ ).

With regards to the students at the Technical College level, the pre-integration Mean is 3.02 and the post-integration Mean is 3.93. The post-integrated Mean of the Technical college increases by 0.91. When using Paired T-Test to compare, the statistics prove that there is a considerable difference between the pre-integration Mean and the post-integration Mean because of  $p = 0.00 < 0.05$  (significance level).

In summary, after integration, there is a substantial increase in the average scores of the ES of the students at both the Technical school and College school levels. This demonstrates the effectiveness of the process of integrating ES into training programs.

#### 5.3.1.4 Comparison results of Mean scores between the Technical School and the Technical College

Table 8: **The Mean score comparison between the Technical College and the Technical school**

Training level	Mean	
	Pre	Post
Technical school (N=42)	2.76	3.45
Technical college (N=49)	3.02	3.93
The difference in Means between Technical college and Technical school	0.26	0.48
T	1.57	3.99
P	0.12	0.00
Results	Not different significantly	Different significantly
<i>Sig = 0.05</i>		

Table 8 indicates that before integrating, the Mean score of the students at the Technical school level is lower than the Mean score of the students at the Technical College level. However, according to Independent - Samples T-Test, there is no significant difference between these two average scores. ( $p = 0.12 > sig = 0.05$ ).

Conversely, after integration, the Mean of the students at the Technical School level is 3.45 and the Mean of the students at the Technical College level is 3.93. When using Independent - Samples T-Test to compare two Mean scores, the results show that  $p=0.00 < sig=0.05$ . Accordingly, there is a significant difference between the Mean of the Technical School students and the Mean of the Technical College students after integrating.

The results also show that the Mean score of the students at the THWMT2017 technical College is higher than that at the Technical school at about 0.26 points before integration, compared to 0.48 points after integration. A plausible explanation for this difference is that according to integrated training programs, the Technical College students have total 30-period time for ES integration in two semesters (the 2<sup>nd</sup> and 3<sup>rd</sup> semester), meanwhile, the Technical College students have only a half of that time (15 periods) for ES integration in one semester (the 2<sup>nd</sup> semester). This evidence implies that the difference of integration duration makes the Mean score of the Technical College students better than the Technical school students.



This also indicates that the efficiency of ES integration will be higher if integration time is higher.

### *5.3.2 The advantages and the disadvantages when integrating ES into the training programs at HCMCVC*

The researcher recognizes the advantages and disadvantages when implementing and integrating ES into technical specialty curriculum via the observation and the interview methods.

#### *5.3.2.1 The advantages*

- The teachers supporting teaching ES are quite enthusiastic to complete the work despite many difficulties.
- The students are dynamic and actively participate in activities when learning in integrated sessions.
- Most of the teachers are trained how to integrate ES into the curriculum.
- Some specialty - trained teachers in Electrics and Refrigeration Department are very creative in making integrated activities.

#### *5.3.2.2 The disadvantages*

- In the Automotive Engineering Department, there are many visiting teachers who are not trained in how to integrate ES into professional skills and consequently are encountering many difficulties in integrated ES into their teaching, their attitude is not positive, that impacts on the integration results negatively.
- Some of the specialty - trained teachers take leave without informing the IA teachers that makes the IA teachers difficult to arrange a schedule to support.
- The number of students in one class is too large and the rooms are not spacious enough for teachers to carry out these activities.
- The timetable between the professional teachers and the IA teachers are non-matching and thus it is difficult to find the time to exchange knowledge and support each other.
- Due to a lot of work, the teachers do not have enough time to design activity warehouse.
- Lack of funds to buy teaching tools.

## **6 Summary and recommendations**

In brief, in accordance with survey results, comparing the mean score of all ES before and after integration shows a significant increase. The results of Paired Samples T-Test also demonstrate the difference between the average score after integration and before integration of the students of HCMCVC (both Technical school and Technical College level).

Moreover, through Independent - Samples T-Test, the findings are discovered that the Mean scores of the ES after integration increase and that makes a significant difference between Mean scores of the students at Technical school and Technical College level. The evidence

from research statistics results shows that ES integration into training programs achieves high efficiency.

Moreover, the detections of the study suggest that teaching methods used to integrate ES have two types: related to specialties, mainly working in groups, and not- related to expertise, such as bingo games, "wise man", "create tower" and so on.

In addition, there are many disadvantages and advantages that were revealed when applying ES integration into the curriculum. However, the mainly positive aspect is the collaborative attitude of students when taking part in the integration process and teaching experiences of the teachers.

The primary difficulties are the large number of students in a class, and the lack of integrating activities related to specialties, and the inconsistent schedule between the ST teachers and the IA teachers.

Based on research results, some following suggestions are offered:

### **6.1 Recommendations for Office of Academic Affairs and managers**

- Explain the importance of integrating ES into specialties to the teachers.
- Use the above proposed diagram in accordance with personnel and facility conditions of the school.
- Construct quality assurance processes when integrating ES into training programs.
- Assign clear tasks to the teachers and manage the integration process effectively.
- Arrange the number of students in each class to under 25 because this helps the students have many opportunities to participate in many activities in the classrooms, and especially increase chances to give a presentation.
- Encourage the teachers to create teaching activities concerning ES and provide full funds for teaching aids.
- Organize periodical meetings in which the teachers are able to share their integrated teaching experiences with their colleagues.
- Create rapport with foreign education institutions and invite foreign experts to share experiences of how to integrate ES into the curriculum.
- Create opportunities for teachers to participate in domestic and international training courses so that they can gain more experiences of using teaching methods to integrate ES into their specialties.

### **6.2 Recommendations for teachers**

Integrating ES into specialties is an inevitable trend of modern vocational education. Hence, in the role of vocational teachers training skilled workers, they should:

- Be active to cooperate together to collect, create, and build data warehouse related to integrated activities for each specialty subject. These activities can be organized inside or outside the classroom.

- Attend training courses in which experiences of integrating ES into the training programs are shared from domestic and foreign colleagues.
- Constantly self-evaluate to realize strengths and weaknesses and then promote their strong points and overcome their weak points to become professional teachers.

### **6.3 Recommendations for further researches**

- Firstly, the research data should be collected not only from the students' self-assessment but also from the viewpoints of teachers and the enterprises. This will confirm effectiveness of integrating ES more surely.
- Secondly, the researcher should review how many learning sessions to integrate the ES are reasonable.

### **6.4 Recommendations for developing training programs, learning materials, and evaluation methods**

In order to ensure the practicality of integrated training programs, the ES list should be extended based on surveys from employers, senior teachers and students' needs and points of views of vocational education specialists before applying it to the specialty training programs from which the integrated objectives, learning materials, and curriculum are built. In addition, the assessment methods need to be improved. In order to be more accurate, it is necessary to develop evaluation criteria of each ES and ensure that the learners master these criteria. The forms of assessment should be practical and easy. Building a website in which the students can self-assess their ES development is also an effective method.

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