

Title

The lecturers and students' perceived effectiveness of Industry Attachment in the *Nitec* in Service Skills (Retail) course

Abstract

The aim of this research was to assess the perceived effectiveness of Industry Attachment in the *Nitec* in Service Skills (Retail) course. The National ITE Certificate (*Nitec*) in Service Skills (Retail) course is one of the many courses offered by the Institute of Technical Education to Normal (Technical) and (Academic) students in Singapore.

Survey questionnaires, consisting of 14 and 21 items related to the indicators of the perceived effectiveness of the program, were given to the students and lecturers respectively. The data collected came from a sample of 42 matched student responses of similar age groups and educational levels. The data collected from the lecturers, came from lecturers who were teaching in the course and had been supervising the students for Industry Attachment for at least 2 years.

Based on the values obtained from all items for the students, the mean, mode and median for the indicators were calculated. The survey results, findings and recommendations were enclosed in the study. The outcome of the survey was that both students and lecturers generally perceived Industry Attachment in the *Nitec* in Service Skills (Retail) course as effective based on the following areas:

- Application of Technical Knowledge
- Harnessing of Employability skills
- Level of Self-confidence
- Usefulness as a learning tool in the course (for students only)
- Enhancement of Teaching and Delivery (for lecturers only)

TITLE

ABSTRACT

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Introduction

Aim

The aim of the study was to assess lecturers and students' perceived effectiveness of Industry Attachment in the *Nitec* in Service Skills (Retail) course.

Area and Topic

The area of the study focused on the role of Industry Attachment in vocational training, in Singapore.

It was a small-scale project and involved the Institute of Technical Education students in the 1-year *Nitec* in Service Skills (Retail) program who went for their Industry Attachment stint during the October-November 2007 period. A study was conducted to investigate the perceived effectiveness of Industry Attachment in the *Nitec* in Service Skills (Retail) course.

Background and context

In Singapore, the education system consisted of the pre-school, primary, secondary, pre-university and post secondary levels. All students must undergo ten years of compulsory education before they embarked on their choices of further education and training. The post secondary system consisted of universities, polytechnics, arts institutions such as LASALLE-SIA College of the Arts and Nanyang Academy of Fine Arts, and the Institute of Technical Education.

The Institute of Technical Education, established in 1992, is a post-secondary institution focused on providing vocational technical education for the lower 25% of a school cohort. The mission of the Institute of Technical Education (ITE) was to create opportunities for school leavers and adult learners to acquire skills, knowledge and values for lifelong learning in a global economy.

The Institute of Technical Education provided practical hands-on training to equip students with skills for employment, and a learning environment that is designed to develop students. It served to occupy the fresh school leavers and focus them on learning skills for employment, and thus, be positioned to contribute to society in their adult years. (Yek & Penney, 2006)

Singapore positioned itself as the global schoolhouse. The world has become borderless, thanks to modern day technology. With rapid technological changes and focus on Singapore leading the forefront regionally as an education hub, the Institute of Technical Education's vision of becoming a world class technical education provider could only be realized through constant improvements and upgrading of skills and knowledge. Singaporeans perceived training at the Institute of Technical Education as a viable and attractive alternative, enjoying a cohort participation rate of 27% compared with a national target of 25%. (ITE, 2008)

The Institute of Technical Education offered a wide array of programs under the 4 schools, namely: the School of Engineering, School of Applied Health Science, School of Info-Comm Technology and the School of Business. Most programs included an Industry Attachment or Project Work with Industry module.

The *Nitec* in Service Skills (Retail) course was one of the programs in the School of Business with the Industry Attachment module. The Industry Attachment module was introduced as a compulsory core module in the *Nitec* in Service Skills (Retail) program in 2005. Students received hands-on training through an 8-week Industry Attachment program where they were exposed to various operational aspects of working in a retail outlet and apply what they have learnt in the classroom. The main objectives of Industry Attachment for the students were to inject realism and prepare the students for their careers before they graduate.

Being a former lecturer involved in Industry Attachment, I have observed how my students benefited from it and would often questioned the extent of its effectiveness as little research as been done in this field. I would like to undertake a study on the area of Industry Attachment to find out the extent of its effectiveness.

Purpose

The purpose of the study was to find out the extent of effectiveness perceived by both the students and lecturers in the *Nitec* in Service Skills (Retail) course so that the curriculum relevance of the Retail program could be improved, and the Industry Attachment module could possibly be introduced as a core module in other programs.

Significance

The study was of significance to the field of vocation education as little research had been carried out in this area. Much has been mentioned about Western vocational education training (VET) models but little on their Asian counterparts. The study was significant to those who wished to understand Asian vocational education systems, chart their progresses and collaborate with them. Through the study, there could be possibilities of conducting further studies on tripartite partnerships in Asia and mentorship by industry professionals. There could also be possibilities of cross-cultural student work exchange and overseas industry attachment programs as students with global perspectives are much coveted by the employers in Singapore today.

The study was of direct significance to the Institute of Technical Education. The Institute of Technical Education developed and reviewed curriculum regularly. The rigor of the programs is examined regularly so that the students receive relevant, updated and useful training to aid them when they graduate. As the curriculum for the *Nitec* in Service Skills (Retail) course would be reviewed in

2008, the study would provide insight into the possibilities of enhancing the Industry Attachment module and the rest of the modules in the course, to improve the course content and structure.

The ethos of vocational education was the employability of the graduates and that they would be well sought after in the workplace after graduation. Industry Attachment would provide students with a realistic test-bed of employers' expectations. Students also benefited from the realism of training. The skills and knowledge acquired during Industry Attachment would enable them to integrate seamlessly into the retail industry after graduation.

Research questions

General

General Research Question 1: What is students' perceived effectiveness of Industry Attachment in the *Nitec* in Service Skills (Retail) course?

General Research Question 2: What is lecturers' perceived effectiveness of Industry Attachment in the *Nitec* in Service Skills (Retail) course?

Specific

Specific Research Question 1.1: To what extent do the students perceive Industry Attachment to be effective to students in the following areas:

- Application of Technical Knowledge;
- Employability skills ;
- Self- Confidence; and
- Learning tool in the course?

Specific Research Question 2.1: To what extent do the Lecturers perceive Industry Attachment to be effective in the following areas:

- Application of Technical Knowledge;
- Employability skills ;
- Self- Confidence; and
- Teaching and Delivery?

Definition of terms used in the research

Prior to further inquiry of the research question, it was important to define what is termed as “effectiveness”. In Harvey (2004), “Effectiveness is defined as the extent to which an activity fulfils its intended purpose or function.” As the Institute of Technical Education had the moral and social obligation to account to its stakeholders, it would be more applicable if effectiveness was further defined in the educational context.

UNESCO, as found in Harvey (2004), defined effectiveness in the educational context as “an output of specific review/ analyses that measure the achievement of a specific educational goal or the degree to which a higher education institution can be expected to achieve specific requirements.” The importance of measuring educational effectiveness would “create a value-added process through quality assurance and accreditation review and contribute to building, within the institution, a culture of evidence.” Vlăsceanu *et al.* (2004)

As very little research was completed in the area of Industry Attachment as an effective educational tool, the research of my study would assist in providing some form of evidence in this area. In this case, the indicators of effectiveness for this research would be the following:

- Module pass rates ;
- Success Rates (Percentage of students graduating with full Institute of Technical Education’s certificates); and
- Self-confidence of the students.

The role of Industry Attachment is perceived to be effective and important to the course. If the students and lecturers were likely to perceive Industry Attachment as an effective learning mode in the curriculum, they would likely to be able to apply the technical knowledge from their curriculum during Industry Attachment. They would have been able to harness positive employability skills such as communication skills and problem solving skills, and being more confident after their Industry Attachment stint. Because Industry Attachment provided students with its hands-on learning aspect, it would be deemed as an effective learning tool in the course in completing the students' vocation education.

The outcomes of perceived effectiveness of Industry Attachment in the *Nitec* in Service Skills (Retail) course would be:

- Achievement of desired module pass rates;
- Achievement of desired success rates; and
- Improved level of self-confidence in the students.

Literature Review

Introduction

The literature reviewed in this study was organized in the following manner:

- Industry Attachment in the international context;
- Industry Attachment in the local context; and
- Areas of perceived effectiveness of Industry Attachment.

First, it was important to understand the types and roles of Industry Attachment in the international context. This would provide insight into the operational aspect and the reasons for its sustenance over a long period of time, in highly developed countries. Second, as Singapore aspired to be a highly developed country, it would be important to evaluate whether Singapore would be successful in emulating the success of its more developed counterparts in the area of Industry Attachment. Third, to ensure continual success of developing vocational students, literature on the indicators of perceived effectiveness would provide sound rationale and the possible benefits derived from engaging in Industry Attachment as learning and teaching tools.

Industry Attachment in the international context

Industry Attachment in vocational education was well established and practised in the developed countries such as Germany, Switzerland and Korea.

The Industry Attachment program, in the form of Apprenticeship, was greatly established in the European countries, mainly Germany and Switzerland.

Apprenticeship places in Germany and Switzerland are highly sought after by young people even in the present day. Employers in both countries provide three-year apprenticeships for more than half the cohort. (House of Lords, 2006)

Industry attachment took many forms in different education systems such as Apprenticeships, Traineeships and Work-Based Learning. Work-Based Learning was one example. The schools who advocated Work-Based Learning believed that “hands-on working experience will provide students with opportunities to learn work related skills and attitudes they could not have otherwise acquire in a classroom. In addition, Work-Based Learning may increase their prospects for future gainful employment.” (Stern, et. al, 1996)

In a study completed by Stern et. al, (1996) the 3-year vocational high school curriculum in Korea was restructured in 1992 to include one year in enterprise. This was implemented to enhance their adaptability to actual work situations. In France, the practice of unpaid internships (*alternance*) for vocational students was carried out. The vocational secondary diploma(*bac professionnel*) was introduced in 1985.

As highlighted in the literature review, Industry Attachment was deemed as necessary by both the Western and Asian counterparts. Industry Attachment was incorporated in many school programs, with the sole objective of providing the students with some work experience. As Singapore positioned itself to be a knowledge-based economy, it would be important to evaluate whether Industry

Attachment would develop knowledge capability and enhance learning. Therefore it was vital to look into the perceived effectiveness of Industry Attachment. Would it improve knowledge capability and enhance learning?

Industry Attachment in the local context

In Singapore, Industry Attachment had a role and place in vocational education. The fundamental ethos of vocational education was the employability of the students upon graduation. As there was little empirical literature on Industry Attachment in Singapore, it would be essential to view Industry Attachment in the objectives expressed by the vocational education providers. Apart from the Institute of Technical Education, the other major providers of vocational education were the polytechnics.

The polytechnics in Singapore placed heavy emphasis on equipping their students with necessary skills and knowledge, and had in place the internship program for students in the courses. In this case, the Retail courses offered by the various polytechnics were examined. The duration and the forms of industry Attachment programs, in Table 1, were as followed:

Table 1: Duration and forms of Industry Attachment in Retail courses offered by the polytechnics

Polytechnic	Course	IA	Takes place in
Ngee Ann Polytechnic	Diploma in Business Studies	Optional (can be substituted with another core module)	Year 3

Nanyang Polytechnic	Diploma in Business Management (Retail Management)	Compulsory Students undergo Teaching Enterprise Project (TEP) followed by 11 week Industry Attachment program	Year 3
Singapore Polytechnic	Diploma in Business Administration (Retail Management)	Compulsory A minimum of 9 weeks program	End of Year 2
Temasek Polytechnic	Diploma in Retail Management	Compulsory	Year 3
Republic Polytechnic	Diploma in Customer Relationship and Service Management	Industry Orientation Program (Appears be a form of project work on enterprise)	Not indicated

Source: Extracts from the various polytechnics' websites (Accessed on 16 February 2008)

As reflected in Table 1, 3 out of the 5 polytechnics had compulsory Industry Attachment program. The module synopses from the various polytechnics were as followed:

“The Student Internship Programme is intended to supplement your education by providing real-world experience within a formal organizational setting. It couples the necessary integration of substantive knowledge with behavioral skills and communication techniques that are essential for effective professional performance” – taken from Temasek Polytechnic’s website.

“The main objective is to enable students to be exposed to the real working world and to prepare them for ready absorption into the workforce after graduation. IPP

program will provide the students with the practical exposure and enable them to acquire the required skills to contribute effectively”- taken from Nanyang Polytechnic’s website.

“Attachments give students an opportunity to experience working life and put their skills into good use. “ –taken from Singapore Polytechnic’s website.

The study on the polytechnics showed that Industry Attachment for the students in Singapore played an important role in shaping their education. The literature further reiterated the fact that the Industry Attachment was instrumental in helping vocational students in Singapore integrate seamlessly into the working world.

Importance of Industry Attachment to the course

Singapore, with its geographical small size and lack of natural resources, depended heavily on human capital for development and sustenance. In Singapore, the retail industry is service-oriented and required its workers to be well-trained both in the areas of soft skills and hard skills. Industry Attachment was strongly encouraged by potential employers.

Industry Attachment was deemed to be important for Institute of Technical Education’s courses; notwithstanding the *Nitec* in Service Skills (Retail) course.

In a survey by Employers Assessment of ITE graduates (ITE, 2008), employers proposed the following changes to enhance the employability of Institute of Technical Education graduates:

- 1 Introducing Industry Attachment;
- 2 Conducting courses on interpersonal and communication skills; and
- 3 Inculcating good work attitude and professionalism.

The proposed changes were highlighted to emphasize the industry demands required of vocational education graduates. Empirical literature in this area supported the need for Industry Attachment to improve the transition from school to work, ultimately employability for the students. In the Luxembourg Extraordinary European Council Meeting on Employment (1997) in West (1999), the issue was addressed at the following platforms:

“The objectives of the program shall be to: improve the skills and competences of people, especially young people, in initial vocational training at all levels, this may be achieved inter-alia through work-linked vocational training and apprenticeship with a view of promoting employability and facilitating vocational integration and re-integration.” – Council Decision, 26 April 1999.

“...reduce substantially the number of young people who drop out of the school system early. “ - European Commission, DG5, 1999.

“...make sure they equip young people with greater ability to adapt to technological and economic changes and with skills relevant to the labour market, where appropriate by implementing or developing apprenticeship training.” – Luxembourg Presidency conclusions, 1997, p.11)

Role of Industry Attachment in the Retail course as an effective learning tool

Industry Attachment could also be viewed as a form of transition education. According to Jallade (1985), the three functions of transition education were guidance, skill acquisition and professional integration. Trainees were able to acquire skills and develop problem-solving abilities in real life situations. Jallade highlighted that “school-based education stressed only cognitive skills whereas transition education addressed itself to motivation, know-how and skills related to the future work environment of young people.” Jallade also made an interesting observation, “that work experience put young people on an equal footing with other adults and ideally, allowed them to assume responsibilities within the group.”

These findings were also similar to the ones observed by Stallard (2006), that Industry Attachment provided students with communities of practice outside institutional training. According to Smith and Keating in Stallard (2006), a few benefits of work-based learning were as followed:

1. Students received real or authentic experience of work;
2. Students could see how individual skills fit into the context of a job and a work place;

3. Generic skills could be developed in meaningful ways; and
4. Students could get employment directly or indirectly through their placement.

This implied that Industry Attachment provided the students with an avenue for their employment after graduation, thus fulfilling the main purpose of vocational education.

Employability skills and Industry Attachment

According to Billet (2004), “the latest generic competencies are called employability skills.” These competencies were derived from discussion with employers about work related skills. The competencies included communication, teamwork, problem solving, planning, organization, technology, learning, self management, and initiative and enterprise skills. Ghost (2002) in Billet mentioned that schools had to make young people “job ready” However, Billet highlighted that the same set of competencies may differ across workplaces. It was recommended that a more bottom-up or localized approach to curriculum development was required to understand the diverse nature of vocational practice and to prepare students and workers by illuminating something of the diversity of potential applications.

Self-confidence and Industry Attachment

In Fitzgerald’s (1993) article, he mentioned that in vocational education, students were assisted to advance their employment prospects as individual competitors

in the local labour market. As such, each student were assisted with information supplied on jobs, pay scales, required preparation, and potential availability of various sorts of work, as well as begin assisted to evaluate interests in a realistic manner on the basis of his of her own academic strengths and limitations. In preparing an understanding of work itself, he made the assertion that “being at work offered young people a kind of school in which they could learn, without textbooks or study, the values that guide others.”

Fitzgerald (1993) believed that schools should help students to learn communication, information- collecting problem-solving, and “thinking skills” necessary where work teams are established to improve organizational effectiveness. He expressed that “it is through meaningful concrete activity, mastered skills, and constructive engagement in the company of others toward the achievement of shared goals that amore positive self-regard can be built and an escape made from the depression and passivity that underlies what is often labeled as low self esteem.”

Fitzgerald’s observations were congruent with what we believed Industry Attachment was perceived to be. As the students from the Institute of Technical Education generally came from the bottom 14% of the academic cohort, it was likely that their self-esteem would be in question. With Industry Attachment, the students were likely to possess a higher level of self-esteem if they undertook meaningful tasks at work.

Conclusion

These findings were relevant to the study because they reinforced the important role of Industry Attachment as an effective learning tool in imparting employability skills. However, West (1999) reminded that “the measurement of the effectiveness of training is not simple as effectiveness of training does not necessarily have clear outcomes.” She added that the factors such as supply side barriers could also possible affect the “effectiveness” of training, especially so in recruitment policies that could militate against successful outcomes in terms of gaining employment, especially students from disadvantaged backgrounds.

Nonetheless, the literature reviewed covered in this study proved the benefits to both the lecturers and the students. The boost in students’ self-esteem (Fitzgerald, 1993), development of problem-solving skills (Jallade, 1985) and authentic work exposure (Smith and Keating in Stallard, 2006) were just a few of the possible benefits to the students. As Fitzgerald pointed out “being at work offered young people a kind of school in which they could learn”(1993), Industry Attachment aided the lecturers in reinforcing learning on a different platform.

Methods

Introduction

In this section, an explanation and justification for the design of the research were provided. The choice and criteria for the sample was also explained. In addition, the description and justification for the methods used to analyze the data were also provided.

Design – Strategy and framework

The design of the research focused on assessing the lecturers and students' perceived effectiveness of the *Nitec* in Service Skills (Retail) program, addressing the following areas:

- Application of Technical Knowledge;
- Employability skills ;
- Self- Confidence;
- Learning tool in the course (for students only); and
- Teaching and delivery (for lecturers)

To best assess the lecturers and students' perceived effectiveness, the research was completed by mixed methods using both quantitative and qualitative approaches. When designing an appropriate research method, factors such as the structure and timing of the Industry Attachment were taken into consideration. The sufficiency in the sample size was also taken into account. Sampling of the complete January intake Retail student population in one college was completed as the general enrolment for the Retail courses was relatively small.

Students completed both pre and post Industry Attachment survey questionnaires (found in Annex I and II) to provide a well-rounded picture of their perceived effectiveness.

As the main purpose of the research was to measure the extent of the perceived effectiveness of Industry Attachment in the Retail course, a 6-point Likert scale was constructed to measure the extent of the perceived effectiveness. The survey questionnaires included qualitative comments which they could elaborate with so as to confirm and verify their responses. The differences in the results between the pre and the post would be helpful in investigating the reasons and fine-tuning the Industry Attachment stint.

To assess the lecturers' perceived effectiveness of Industry Attachment, they would only be required to complete one survey questionnaire (found in Annex III). The survey questionnaire, included qualitative comments which they could elaborate with. In addition, an individual interview was conducted to clarify questions.

To provide a more well-rounded perspective and research triangulation, an independent survey questionnaire designed by the college, was also examined.

Methods

To obtain and analyze the data from survey questionnaires completed by the students and the lecturers, the mean, median and mode were calculated and analyzed for all the questions for both pre and post tests. The difference between the pre and post tests was also calculated and analyzed. In addition, the qualitative comments from each question were consolidated to provide understanding for the responses elicited. Thereafter, coding and categorizing the questions into the areas of perceived effectiveness were completed in the following manner:

Students' survey

Question	Area of Perceived Effectiveness
I will be/was able to apply what I have learnt in school to Industry Attachment	Application of Technical Knowledge
I will be/was able to apply what I have learnt from the following modules during my Industry Attachment:	
Industry Attachment will help/ helped me prepare for my career in the retail industry	Role of Industry Attachment in the Retail course
Industry Attachment will be/ was useful in helping me decide whether I wish/not to work in the retail industry after I graduate	
Industry Attachment will complement/ complemented what I have studied in ITE to help me become an effective salesperson	
Industry Attachment will help/ helped me improve my communication skills	Employability skills
Industry Attachment will help/ helped me improve my problem-solving skills	
Industry Attachment will help/ helped me improve customer service skills	
Industry Attachment will help/ helped me improve teamwork skills	
I will be/ am more confident in identifying customer needs and expectations after going through Industry Attachment	Self-confidence
I will be/ am more confident in handling customer requests and enquiries after going through Industry Attachment	
I will be/ am more confident in handling customers during service breakdowns after going through Industry Attachment	
Industry Attachment is important to my course	Importance to the course
Industry Attachment should not be excluded from my course	

The averages in mean, median and mode were calculated and analyzed for the questions in their grouped categories for both pre and post tests. For the lecturers' survey questionnaires, the questions were also coded in the similar manner.

According to O' Donoghue and Punch (2003), 2003), triangulation is a "method of cross-checking data from multiple sources to search for regularities in the research data" (p.78). In this case, survey questionnaires completed by both the lecturers and companies were analyzed to provide an overall holistic approach to data analyses.

Sample

Students

As College West pioneered the *Nitec* in Service Skills (Retail) program and placed strong emphasis on service excellence for its students, approval was sought to conduct the survey questionnaire and interviews with its college staff at their premises. College West placed heavy emphasis on role-plays as preferred teaching practices, in its attempt to inculcate desirable employability traits in its students.

The students in the sample consisted of 2 *Nitec* in Service Skills (Retail) classes from Institute of Technical Education (College West). Each class consisted of an average of 32 students. There were only 2 classes offered in the January 2007

intake and all of them were involved in the Industry Attachment program during the October-November 2007 period.

Lecturers

The 2 class advisors, who were also their off-site supervisors, were involved in the sample. The module co-ordinator who was in-charge of the Industry Attachment program, was involved too. As the students returned to school in staggered timings to submit their written reports and make oral presentations of their Industry Attachment stint, the class advisors were instrumental in assisting with the consolidation of post-Industry Attachment survey questionnaires. The gathering of the students to provide the raw data was at the convenience of the college.

Data Collection – instruments and procedures

Procedures

The empirical data was collected at two phases; before Industry Attachment and after Industry Attachment by survey questionnaire, using the Likert Scale. Students completed a survey questionnaire during both phases. The lecturers completed a survey questionnaire during the Industry Attachment period.

The main reason for the collection of data before students attend the Industry Attachment was to ascertain their preconceived notions of Industry Attachment. Subsequently, the survey questionnaires were given to them after their Industry Attachment, to validate their experiences. The differences recorded in the survey

questionnaires between the pre-Industry Attachment and post-Industry Attachment periods accounted as effects of the Industry Attachment program. The effects of the Industry Attachment were important in the study as they provided insight into whether there would be any changes, and if any, the likely reasons, as given by the students. The changes were significant as they provided invaluable feedback in improving the curriculum to ensure that Retail students receive a well-rounded, comprehensive and holistic education that was sought by the Retail industry.

To address reliability of the data, the same sample group of students and lecturers were assessed before and after the Industry Attachment period.

Consent was sought by all participants before the survey questionnaires start. The lecturers and the students were explained clearly prior to the commencement of data-collection. The objectives and purpose of the data collection were also explained to both the students and lecturers. They were given the option to withdraw from participating if they felt strongly that it would contravene against their personal beliefs and interests.

Instruments

Before Industry Attachment

The teaching staff conducted a pre-Industry Attachment briefing for the students from classes RP and RQ on 30 October 2007. A total of 57 out of 64 students attended the briefing. The implementation of survey questionnaires was

supervised by me, with the assistance of the lecturers. The students were also informed that there would be an evaluative post-Industry Attachment survey questionnaire to measure their perceived effectiveness of the Industry Attachment module.

After Industry Attachment

The students completed the post-Industry Attachment survey questionnaire during 10-14 December 2007. As the students returned at staggered dates to complete their oral presentation and submit their written reports to the lecturers, the lecturers assisted in collecting their survey questionnaires. A total of 42 out of 57 matched responses were collated, giving a response rate of 74%: Only 1 response was unmatched (see Table 2).

Table 2: Coverage & Response of students

Indicator	Number (%)
Total number of students covered	57
Number of students responded after Industry Attachment	43
Number of matched responses	42
Response rate	74%

As very little has been research in the field of Industry Attachment in Asian vocational education institutions, a new measuring instrument was used to obtain data. A survey questionnaire with new items would be constructed to address

the research questions. In the construction of a survey questionnaire, the following steps were followed:

- 1 “Perceived effectiveness” was defined by looking at the possible “end results” caused by students’ perceived effectiveness such as module pass rates, success rates and level of self-confidence of the students.
- 2 A measuring technique was selected. In this case, the Likert scale was used for pre-Industry Attachment and post-Industry Attachment to accurately measure the extent of the perceived effectiveness.
- 3 The items generated for the survey assisted in assessing the extent of the effectiveness of the Industry Attachment program. Please see Appendix I, II and III.
- 4 The survey questionnaire was tested in a pilot phase with a group of curriculum development specialists (who are trained to develop the business curriculum) and lecturers in providing feedback on the questionnaire.

In Harvey (2004), “Effectiveness is defined as the extent to which an activity fulfils its intended purpose or function.” To address validity of the data, items to be generated would be able to provide useful indication of the “perceived effectiveness” of Industry Attachment. In addition to the 14 items that were

generated on the students' survey questionnaire, the survey questionnaire consisted of questions prompting the students to elaborate on reasons for their choices. Additional questions were attached in Annexes I and II. The lecturers were also requested to complete the survey questionnaires. Additional questions were also posed to them, requested them to elaborate on the reasons for their choices. Some of the additional questions posed (full set of questions attached in Annex VII) were as followed:

- 1 Why do you think Industry Attachment is important?
- 2 In what ways can Industry Attachment help students learn in the course?

A one-to-one interview session with the lecturers was set up on 18 February 2008 to clarify their additional comments in the survey questionnaires. They were also interviewed to provide additional feedback on the students' survey findings.

Results and Discussion

Findings

A table comparing both Pre-Industry Attachment and Post-Industry Attachment is as attached in the Appendix IV. The findings were run using the MS Excel software. An extract of the findings is shown in Table 3, as followed:

Table 3: Extract of Pre-Industry and Post-Industry Students' Survey Findings

	Indicators of Perceived Effectiveness	Pre-test (%)	Post-Test (%)	Diff (+/-)
1	Application of Technical Knowledge			
	Strongly Agree & Agree	76.8	81.5	+4.7
	Somewhat Agree & Somewhat disagree	23.2	17.3	-5.9
	Strongly Disagree & Disagree	-	1.2	+1.2
2	Role of Industry Attachment in the course			
	Strongly Agree & Agree	88.1	85.8	-2.3
	Somewhat Agree & Somewhat disagree	11.9	14.2	+2.3
	Strongly Disagree & Disagree	-	-	-
3	Employability skills			
	Strongly Agree & Agree	83.9	79.8	-4.1
	Somewhat Agree & Somewhat disagree	16.1	20.2	+4.1
	Strongly Disagree & Disagree	-	-	-
4	Self confidence			
	Strongly Agree & Agree	86.5	82.5	-4.0
	Somewhat Agree & Somewhat disagree	13.5	17.5	+4
	Strongly Disagree & Disagree	-	-	-
5	Importance to the course			
	Strongly Agree & Agree	84.5	79.8	-4.7
	Somewhat Agree & Somewhat disagree	13.1	15.5	+2.4
	Strongly Disagree & Disagree	2.4	4.7	+2.3

(Source: Extracted from table found in Appendix IV)

The mean, mode, median and standard deviation were calculated, in Table 4, as followed:

Table 4: Extract of Descriptive Statistics on Students' Survey Findings

	Before				After				Difference			
	Mean	Median	Mode	Std Dn	Mean	Median	Mode	Std Dn	Mean	Median	Mode	Std Dn
Q1	5.14	5	5	0.61	5.19	5	5	0.63	0.05	-	-	0.88
Q2.1	5.19	5	5	0.67	5.24	5	5	0.62	0.05	-	-	0.73
Q2.2	5.14	5	5	0.65	5.17	5	5	0.62	0.02	-	-	0.78
Q2.3	5	5	5	0.66	5.17	5	5	0.66	0.17	-	-	0.83
Q2.4	4.81	5	5	0.67	4.90	5	5	0.66	0.10	-	-	1.03
Q2.5	4.64	5	5	0.82	4.62	5	5	0.88	-0.02	-	-	1.07
Q2.6	5.02	5	5	0.60	4.93	5	5	0.89	-0.09	-	-	0.98
Q2.7	4.79	5	5	0.61	4.83	5	5	0.88	0.04	-	-	1.01
Q3	5.31	5	5	0.64	5.19	5	5	0.67	-0.12	-	-	0.86
Q4	5.10	5	5	0.62	5.21	5	5	0.61	0.12	-	-	0.92
Q5	5.10	5	5	0.58	5.10	5	5	0.69	-	-	-	0.86
Q6	5.10	5	5	0.58	5	5	5	0.83	-0.10	-	-	0.88
Q7	5	5	5	0.70	4.90	5	5	0.76	-0.10	-	-	0.82
Q8	5.21	5	5	0.52	5.10	5	5	0.66	-0.12	-	-	0.67
Q9	4.93	5	5	0.64	5.17	5	5	0.62	0.24	-	-	0.79
Q10	5.02	5	5	0.07	5.07	5	5	0.68	0.05	-	-	0.73
Q11	5.12	5	5	0.55	5.02	5	5	0.64	-0.10	-	-	0.73
Q12	5.02	5	5	0.56	5.14	5	5	0.65	0.12	-	-	0.74
Q13	5.36	5	6	0.69	5.12	5	5	0.63	0.24	-	-	0.79
Q14	5.07	5	6	1.11	4.76	5	5	1.34	-0.31	-	-	1.55

Source: Extract of Tables in Annex V

Application of Technical Knowledge

To analyse students' ability to apply their technical knowledge in the course to Industry Attachment, the following questions were raised before and after the Industry Attachment stint:

Question 1: I will be/am able to apply what I have learnt in the course to Industry Attachment

Question 2: I will be/am able to apply the knowledge from the following modules during the Industry Attachment-

- 2.1 Customer Relations
- 2.2 Retail Operations
- 2.3 Selling Skills
- 2.4 Effective Communication
- 2.5 Office IT
- 2.6 Business Etiquette and Grooming
- 2.7 Small Business Management

Note: 2.1 to 2.6 were core modules in the *Nitec in Service Skills (Retail)* course whereas 2.7 was an elective module.

One measure of perceived effectiveness of the *Nitec in Service Skills (Retail)* course was the students' ability to apply their technical knowledge to the Industry Attachment stint. The more relevant their technical knowledge to the stint, the

easier it would be for them to understand the rigueur of the retail industry and more equipped in understanding the skills set required in the retail industry.

Question 1: Students are able to apply what they have learnt in the course to Industry Attachment.

	<i>Before</i>	<i>After</i>	<i>Difference</i>
Mean	5.142857143	5.19047619	0.047619048
Median	5	5	0
Mode	5	5	0
Standard Deviation	0.607731832	0.633922948	0.882136568

Students' perceptions

One of the indicators which contributed to the perceived effectiveness of the Industry Attachment was the application of technical knowledge. In Question 1, the students were asked on the ability to apply their technical knowledge from school to Industry Attachment. The mean before and after industry attachment stint were 5.14 and 5.19 respectively. The median and mode before and after the industry attachment remained unchanged at 5, which indicated that students generally agreed that they were able to apply what they have learnt in the course to the Industry Attachment stint.

Question 2: Students are able to apply the knowledge from the following modules during the Industry Attachment

<i>Before</i>	<i>Q2.1</i>	<i>Q2.2</i>	<i>Q2.3</i>	<i>Q2.4</i>	<i>Q2.5</i>	<i>Q2.6</i>	<i>Q2.7</i>
Mean	5.19047619	5.142857143	5	4.80952381	4.642857143	5.023809524	4.785714286
Median	5	5	5	5	5	5	5
Mode	5	5	5	5	5	5	5
Standard Deviation	0.671296352	0.646620806	0.662589156	0.671296352	0.821106587	0.604378142	0.606296808

<i>After</i>	<i>Q2.1</i>	<i>Q2.2</i>	<i>Q2.3</i>	<i>Q2.4</i>	<i>Q2.5</i>	<i>Q2.6</i>	<i>Q2.7</i>
Mean	5.238095238	5.166666667	5.166666667	4.904761905	4.619047619	4.928571429	4.833333333
Median	5	5	5	5	5	5	5
Mode	5	5	5	5	5	5	5
Standard Deviation	0.6172134	0.62143291	0.65951448	0.655540135	0.882136568	0.89423239	0.881148548

The students generally agreed that they were able to apply the technical knowledge from all modules to the Industry Attachment stint. The mode and median for all the modules were 5 each. However, some of them disagreed for the Office IT, Business Etiquette and Grooming module, and the Small Business Management module. The standard deviation scores for these modules were between 0.88 to 0.89, after their Industry Attachment stint. One reason for the inability to apply the Office IT and Small Business Management modules could be that most of the students were required at the front end of the retail businesses serving customers on the shop floor and need not compile any data analysis or apply entrepreneurial skills.

Overall for students

Before the stint, the students were very positive about the ability to apply the technical knowledge in the stint. 76.8% of the students generally agreed that they it would apply during the attachment. After the stint, 81.5% of the students generally agreed that they were able to apply the technical knowledge during the stint.

To reiterate the point that they were able to apply their technical knowledge to the stint, the students also further elaborate with the following comments:

“I have gained a lot of hands-on skill and have a better knowledge about things which I have learnt in ITE” – NHC, class RP

By doing this attachment, I can further myself in developing my skills and techniques, or basically the right approach to the customer. By doing cashiering, it enabled me to handle money carefully.” - MR, class RQ.

Lecturers' perceptions

As there were only 3 lecturers completing the survey, the average was calculated for survey findings. For Question 1, the lecturers agreed that the students were able to apply their technical knowledge during their IA stint. They scored an average of 3.2. For Question 2.1 to 2.7, all of them strongly agreed that the Customer Relations, Retail Operations, Selling Skills, Effective Communication and Business Etiquette and Grooming were applicable for their IA stint. However,

they somewhat disagreed that Small Business Management module was applicable.

Implications for practising professionals

In the course, students engaged in role plays as part of the pedagogic training in Selling Skills and Customer Relations modules to prepare them for work in the retail industry. When the curriculum for the *Nitec* in Service Skills (Retail) course was developed, retail professionals from the industry provided inputs of the skills and knowledge required for the course, according to the industry's requirements. The increased percentage in the application of technical knowledge meant that the staff had extensively covered the curriculum for the students to complete their Industry Attachment stint.

Implications for policy makers

The increased percentage in the application of technical knowledge validated the curriculum, that students were sufficiently trained in the school before they embarked in the retail industry.

Implication for workplace training

The companies could focus on company-specific or job-specific training for the students, given the fact that the students had acquired the fundamental knowledge required for the industry.

Recommendations

As the students highlighted that they were unable to apply technical knowledge from some of the modules, the curriculum could include new and more relevant elective modules to boost the application of technical knowledge during the Industry Attachment stint.

Role of Industry Attachment in the course

The following questions were raised to address the role of Industry Attachment to the course before and after the Industry Attachment stint:

Question 3: Industry Attachment will help/ helped me prepare for my career in the retail industry.

Question 4: Industry Attachment will be/ is useful in helping me decide whether I wish/ not work in the retail industry after I graduate.

Question 5: Industry Attachment will complement/ complements what I have studied in ITE to help me become an effective Salesperson.

Students' perceptions

Question 3: Industry Attachment will help/ helped me prepare for my career in the retail industry.

	<i>Before</i>	<i>After</i>	<i>Difference</i>
Mean	5.30952381	5.19047619	-0.119047619
Median	5	5	0
Mode	5	5	0
Standard Deviation	0.643469833	0.671296352	0.861150137

The students generally agreed that Industry Attachment helped them prepare for their career in the retail industry. The median and mode scores were the same before and after their Industry Attachment. However, the mean had decreased by 0.119. This could possibly be due to the scope of work assigned to the students.

Question 4: Industry Attachment will be/is useful in helping me decide whether I wish/not to work in the retail industry after I graduate

	<i>Before</i>	<i>After</i>	<i>Difference</i>
Mean	5.095238095	5.214285714	0.119047619
Median	5	5	0
Mode	5	5	0
Standard Deviation	0.6172134	0.606296808	0.916046142

The median and mode remained unchanged after the Industry Attachment stint, with the mean improved by 0.119. This meant that the students slightly agreed better that Industry Attachment was useful in helping them decide whether they wished to work in the retail industry after they graduate.

Question 5: Industry Attachment will complement/ has complemented what I have studied in ITE to help me become an effective Retail Salesperson

	<i>Before</i>	<i>After</i>	<i>Difference</i>
Mean	5.095238095	5.095238095	0
Median	5	5	0
Mode	5	5	0
Standard Deviation	0.576343555	0.691746599	0.855398923

There were no changes in the mean, median and mode. The students perceived that Industry Attachment complemented what they have studied to become effective Retail salespeople. This was a significant finding as it meant that Industry Attachment enhanced learning in the course. It could also mean that Industry Attachment played an important role as a learning tool in the course.

Students' overall perceptions

88.1% of the students initially agreed that Industry Attachment would be useful in helping them decide whether they wished to work in the retail industry after they graduate. However, after the stint, 85.8% agreed that Industry Attachment would be useful in the course. Generally, the students believed that Industry Attachment was useful in the course. The difference of -2.3% could have been attributed to Question 3, which a drop in the mean score was observed. Students were slightly less certain that Industry Attachment helped them prepare for their career in the retail industry. This could be due to the following factors:

- Adjustment of expectations to a more realistic level.
- Some the students were already working part-time and earned a fraction of what they used to as a part-time casual worker. To them, Industry Attachment could be perceived as less useful and effective.
- Assigned tasks did not provide a complete insight of what was expected in the retail industry.

However, the students generally agreed that Industry Attachment was useful with comments as followed:

“I learnt a lot”- M, class RP

“Good working place. Everyone was friendly” – SR, class RP.

“For this attachment, I have learnt lots of things and I think that attachment is very important. Attachment is very good to all people because you can learn something out of the book. “– TJX, class RP.

“I have gained many learning experiences through this posting.” – S, class RQ.

Lecturers' perceptions

All the lecturers strongly agreed that Industry Attachment complemented the modules in helping the students become effective retail salespeople and learn more about the retail industry. They also strongly agreed that Industry Attachment helped the students prepare for their career in the retail industry. The average score for Questions 3, 4 and 6 was 6. For Question 5, they generally agreed that Industry Attachment helped the students to decide whether they wish to work in the retail industry after they graduate.

Implications for practicing professionals and policy makers

Lecturers needed to match students' expectations to a more realistic level.

Implications for policy makers and workplace training

Policy makers could possibly look into how companies could provide students with prior work experience with more challenging tasks. There could be

differentiated tasks-lists for those with and without prior work experience. However, this could translate into higher expectations for those with prior work experience. Students should be rewarded according to the level of difficulty they managed to overcome. Companies could also be requested to look into whether their level of training was adequate or too simplistic for the students.

Employability skills

The following questions were raised to address the gain of employability skills during the Industry Attachment stint:

Question 6: Industry Attachment will help/ helped me improve my communication skills.

Question 7: Industry Attachment will help/ helped me improve my problem-solving skills.

Question 8: Industry Attachment will help/ helped me improve my customer service skills.

Question 9: Industry Attachment will help/ helped me improve teamwork skills.

In this study, we identified communication skills, problem-solving skills, customer service skills and teamwork skills to form the basket of employability skills.

Students' perceptions

<i>Before</i>	Q6	Q7	Q8	Q9
Mean	5.095238095	5	5.214285714	4.928571429
Median	5	5	5	5
Mode	5	5	5	5
Standard Deviation	0.576343555	0.698430296	0.519648769	0.639849721

<i>After</i>	Q6	Q7	Q8	Q9
Mean	5	4.904761905	5.095238095	5.166666667
Median	5	5	5	5
Mode	5	5	5	5
Standard Deviation	0.826393871	0.758995607	0.655540135	0.62143291

83.9% of the students surveyed believe that Industry Attachment would improve their employability skills. After the Industry Attachment, 79.8% of them believed that Industry Attachment did improve their employability skills. After further analysis, it was believed that the greatest culprit was on the “customer service skills” with a reduction of 23.8% with a mean of 0.238.

Again, this could be due to several factors:

- Expectations were brought down to a more realistic level.
- Scope of the Industry Attachment. Some of the students were trained in only cashiering, with limited scope for customer service.

Students’ comments were as followed:

” To me, Industry Attachment is where I can learn more things and can put what I have learnt in school on this attachment. But when I was posted to X Company, I was only taught to do cashiering. I expected to be taught more than cashiering. For example, I would like to learn more on ordering of goods, receiving of goods but my store-in-charge would rather teach her full-timers than us – the students on attachment. But as a store-in-charge, she has her responsibility to teach me on those areas that I want to know.” – N, class RP.

“If there is a subject teaching us how to avoid or handle conflict among workers, it would be better.” – LQX, class RP.

“Their staffs should be co-operative and have a teamwork spirit. Store-in-charge should be responsible and not only depend on employee, staff or workers.” – NH, class RQ.

Lecturers' perceptions

The lecturers were also surveyed on the gain of employability skills. The average score for communication skills, problem-solving skills and teamwork skills was 5.3. However, the score for customer service was 5.7, which was slightly higher than the other modules. The perceived difference between the lecturers and the students could be in the manner customer service was defined. Customer service, according to the students, may exclude cashiering duties, whereas the lecturers could perceive it otherwise. A lecturer also commented that “Industry Attachment enabled them to be more versatile and ‘think out of the box’. They have to also learn how to be flexible and adapt to trying situations and issues.” Lecturers would have to correct the notion of customer service. They would also have to consider further as to how best the students could develop their customer service skills during their stint.

Self-confidence

The following questions were asked to determine the self-confidence gained during the Industry Attachment stint:

Question 10: I will be/am more confident in identifying customer needs and expectations better after going through Industry Attachment

Question 11: I will be/ am more confident in handling customer requests and enquiries after going through Industry Attachment

Question 12: I will be/ am more confident in handling customers during service breakdowns after going through Industry Attachment

Students' perceptions

<i>Before</i>	Q10	Q11	Q12
Mean	5.023809524	5.119047619	5.023809524
Median	5	5	5
Mode	5	5	5
Standard Deviation	0.604378142	0.550050151	0.562576618

<i>After</i>	Q10	Q11	Q12
Mean	5.071428571	5.023809524	5.142857143
Median	5	5	5
Mode	5	5	5
Standard Deviation	0.676895969	0.643469833	0.646620806

Before the stint, 86.5% of the students surveyed believed that Industry Attachment could help them improve their level of self-confidence. After the stint, 82.5% of the students surveyed ranked their self-confidence level as strongly agreed and agreed. The drop in the self-confidence level was due to decrease in

the mean scores for questions 10 and 11. On the contrary, the students felt more confident in handling service breakdowns. These findings were important to the course because it was congruent with what Gospel (1998) had observed that the perceived effectiveness of Industry attachment was also affected by quality of training. This was in the case of insufficient companies offering good quality apprentice places, which possibly provided an explanation on the decrease of 3% on students' self-confidence level after the course.

Lecturers' perceptions

The lecturers gave an average score of 5.7 for students' confidence in handling customer needs and expectations, and customer requests and enquiries. On the other hand, they gave a more conservative score of 5.3 on the confidence in handling service breakdowns. The score appeared to be realistic as the stint was 8 weeks was deemed to be too short for students to be confident enough to handle service breakdowns.

Implications for practicing professionals and policy makers

Further analysis need to be completed to account for drops in mean scores of Questions 10 and 11.

Importance to the course

The questions that were raised to address the importance of the course were:

Question 13: Industry Attachment is important to the course

Q13	Before	After	Difference
Mean	5.357142857	5.119047619	-0.238095238
Median	5	5	0
Mode	6	5	0
Standard Deviation	0.69216622	0.632547345	0.79047759

Students' perceptions

79% of the students surveyed felt that Industry Attachment was important to the course. To reiterate that Industry Attachment was important to the course for most students, some of the comments quipped by the students were as followed:

“Yes, so that the students will know how to serve customer better when they start to work.” – Student A, class RQ.

“It is important because it makes us to be ready and confident going to work.” -Student B, class RQ.

“It gave us an idea of how working life will be.” – Student C, class RQ.

“To help students know what they have learnt and have hands-on experience.” – Student D, class RQ.

However, it was also observed that there was a drop of -0.23 in the mean score.

The mode had also dropped from 6 to 5. Greater analysis would need to be done to address the difference in the mean score.

Question 14: Industry Attachment should be excluded from the course

Q14	Before	After	Difference
Mean	5.071428571	4.761904762	-0.30952381
Median	5	5	0
Mode	6	5	0
Standard Deviation	1.112958201	1.339994973	1.553722442

Although the median remained at 5 was “agree”, the mode in post–Industry Attachment has changed from 6 to 5. There was a significant difference in the mean before and after the Industry Attachment. The scores for before and after the industry attachment were 5.07 and 4.73 respectively. Further analysis needed to be done to address the difference in the students’ comments.

Teaching and Delivery(sampled on lecturers only)

Lecturers’ perceptions

The following questions were raised to the lecturers:

Question 16: Industry Attachment provides students with hands-on training which completes the whole education experience

Question 17: Industry Attachment complements the teaching and delivery in the course

Question 18: Industry Attachment enables the students to be more focused and motivated in vocational training.

As the sample of the lecturers was very small, the average of the 3 scores was used as a basis to evaluate the data. In contrast to the students’ decreased

mean scores of the importance of Industry Attachment to the course, the lecturers felt that Industry Attachment was important to the course and should not be excluded from the course. They also strongly agreed that Industry Attachment provided students with hands-on training which completed the whole educational experience. They also strongly agreed that Industry Attachment complemented the teaching and delivery in the course.

To reiterate the point that Industry Attachment was important in the course, the comments from the lecturers (other comments are found in Appendix 1) were: “Life is too comfortable for them. They need to be “hungry” in order to survive, and learn to ask questions in order to learn.” – Lecturer 1.

“Students were able to gain real-life experience in their field of study during the Industry Attachment. This will help prepare them for a retail course upon graduation.” – Lecturer 2.

To support their belief that Industry Attachment helped the students in the course, comments from the lecturers were:

“They learned to communicate effectively, be patient, kind, disciplined, efficient and to organize their working hours, family time and leisure.” – Lecturer 1.

“Industry Attachment allowed students to apply the skills and knowledge that they have learnt on campus in real-life, practical situations.” – Lecturer 2.

Although 4.7% of the students disagreed that Industry Attachment was important to the course, the lecturers' response validated the need for the presence of Industry Attachment in the Retail course. This was especially so, if the students had no prior work experience before joining the Retail course.

The lecturers also generally agreed on the following:

- Industry Attachment enabled the students to be more focused and motivated in vocational training;
- Industry Attachment positively affected the module pass rate of Retail students graduating from the course;
- Industry Attachment positively affected the success rate of the Retail Program; and
- Retail students were more confident after completing Industry Attachment program.

The lecturers perceived that Industry Attachment was generally able to meet the desired outcomes. Further analysis need to be completed to account for the difference in perceptions between the students and lecturers on the importance of Industry Attachment as a learning tool to the *Nitec* in Service Skills (Retail) course although the lecturers agreed that Industry Attachment enhanced teaching and delivery of the course.

To establish and account for a drop in the areas of students' perceived effectiveness of the *Nitec* in Service Skills (Retail) course, a one-to-one interview

with the college staff was set up on 18 February 2008 to discuss the possible causes for the disparity in the level of perceived effectiveness.

Before Industry Attachment

Before enrolling in the course, potential *Nitec* in Service Skills (Retail) students had to attend a selection interview. One of the common questions raised during the interview was whether they had prior working experience in any field. 81% of the interviewees responded that they had prior working experience. This meant that they would have some form of expectations before they attend the Industry Attachment program based on their previous work experience.

College staff A highlighted that students had adequate practice in the school before embarking in the Industry Attachment program. The Retail Operations module, one of the core modules, involved the students working in the student Co-operative Shop during the practical hours. The Selling Skills and Customer Relations modules included training and assessment involving role-plays. Besides, the students from classes RP and RQ participated in outdoor event sales which were jointly organized by companies such as Watsons' (a chain of toiletries shops) in August 2007 which provided them with some form of working experience with the industry.

During the Industry Attachment

The college staff provided feedback on the possible causes of the drop in the 3 indicators highlighted:

1. Timing of the Industry Attachment program

College Staff B informed that the attachment program happened during the October-December period, which was traditionally the festive period with 3 public holidays namely: Deepavali, Hari Raya Puasa and Christmas. It was also the period with higher frequency of consumer spending due to the festive seasons as well as the annual salary bonus payout period for many organizations.

As such, the students had to deal with fairly high retail traffic volume and the need for completing their tasks efficiently within the amount of time stipulated. Students could have perceived Industry Attachment as ineffective because they often had to perform singular tasks such as cashiering, packing or wrapping presents with higher customer traffic.

With the festive holiday periods, the students were likely to work overtime. Some of them did not have additional overtime pay. With the lack of extrinsic motivational rewards, the students felt short-changed.

Because this was also a peak period, their supervisors and seniors were unable to provide maximum quality of time in coaching and training the

students undergoing the Industry Attachment stint. This could possibly account for a drop in students' perceived effectiveness of Industry Attachment in the course.

2. Tougher conditions in working environment

In the Retail industry, students often had to work long hours and be on their feet most of the time. Some the menial tasks involved tagging the merchandise and retrieving the merchandise from the store. In school, students spent an average of 6 hours a week in the controlled Retail environment as compared to the Retail industry where the students spent at least 40 hours a week (excluding overtime) in an uncontrolled environment. Controlled environment is defined as an environment whereby the customers are of predictable and stable behavior and the students had control in how they could have handled the retail environment. An uncontrolled environment meant that the students had no control in the customers' profile, the spending patterns and the behavioral patterns of their customers. This could possibly account for a drop in the students' perception of confidence in handling customers' needs and expectations, and requests and enquiries. This was also consistent with the survey findings that students perceived themselves handling service breakdowns better after the Industry Attachment stint.

3. Low pay

During the Industry Attachment, the students were paid a nominal sum by the companies. The students who had previous work experience would tend to

compare their previous work environment, pay and fringe benefits to what was offered in the current Industry Attachment stint. Some of the companies did not pay the students overtime pay. As such, this could have some bearing on the perception that Industry Attachment was not important to the course or the role of Industry Attachment was less important. The lack of extrinsic benefits could hamper the effectiveness of the program as the students from the Institute of Technical Education generally came from lower-income and often impoverished backgrounds. Apprenticeships and traineeships offered low wage rates for people. It may be a problem for students who lived far from their workplaces and were required to support their families financially. As such, such students would view the perceived effectiveness of Industry attachment differently as reiterated by West (1999) on the supply side barriers, thus hampering the effectiveness of Industry Attachment.

4. Supervisors

The role of the direct supervisors was of significant impact on the effectiveness perceived by the students. Several factors involved were:

- Expectations from the supervisors;
- The supervisors' willingness to train the students;
- Rapport with the supervisors; and
- Job scope given by the supervisors

First, the expectations from the supervisor were shaped based on their perception of the students and the type of duties they expected the

students to perform. Very often, the expectations were benchmarked against the previous batches of students from the Institute of Technical Education, internees from the polytechnics (which were usually of the higher intellectual calibre) and their existing staff. Unrealistic expectations of their supervisors could result in decreased level of perceived effectiveness because the supervisors did not provide a suitably nurturing environment for training.

Second, the willingness to train the students played an important factor. If the supervisors perceived the students as an extra pair of hands, they were less willing to train them. However, if they felt the moral obligation of being participative communities of practice, they were likely to be more willing to train the students. To reiterate the point that business and community partnerships provide students with the sense that there are caring adults throughout the community who want to see them succeed. (Sammon and Becton, 2001)

Sammon and Becton advocated on tapping the resources of the community to maximize students' learning, especially those at-risk. With positive mentorship from the companies during the Industry Attachment, students are likely to develop self confidence and other employability skills which cannot be learnt while they are in school. Sammon and Becton's research findings were in tandem with what we believed perceived effectiveness to be. Students benefited from the dual arrangement as the

skills that cannot be acquired from school could be learnt in the course of work. This would have impact on the confidence of the students as well as how effective they perceived Industry Attachment stint to be.

Third, the rapport established between the supervisors was very important. The supervisors' assessment accounted for 70% of the students' Industry Attachment module score. If the students did not create enough rapport with their supervisors, or their supervisors were not objective in their assessment, this would affect the score for the students. The students equated the perceived effectiveness of the program based on the score they received from their Industry Attachment stint too.

Fourth, the job scope given by the supervisors also affected the perceived effectiveness of the Industry Attachment program. The Human Resource Departments were often briefed about the tasks that the students had to complete during the Industry Attachment stint. In some cases, the task-lists for the students to complete their Industry Attachment stint were not translated onto the shop-floor. The supervisors could possibly bully the students and make them perform menial, back-breaking tasks, resulting in them being exploited at work. In some cases, supervisors gave minimal tasks for students to follow as they perceived the students to be extra set of hands. In both scenarios, there were mismatched set of expectations. This could break the confidence level of the students as well as lower the perceived effectiveness of the Industry Attachment program.

Consequently, this could also account for the drop in the mean score for self-confidence.

5. Students who had prior working experience or currently working part-time

Students who previously worked or were working part-time could get better pay for the same work could also affect the quality of the findings. The survey included students who were working part-time. Therefore they did not see the benefits of attending the Industry Attachment program and this could affect the perceived effectiveness of the program. It was likely that those who have not worked before would have perceived Industry Attachment to be more effective than those who have worked or are working part-time.

Stallard (2006) cautioned that these communities of practice would “help students settle in, teach them about what is the accepted way to do things, and enable them to grow in confidence; but may also reject students, teach them the bad way of doing things, and resist any new ideas”. In short, Industry Attachment provided a good training ground for the students before they embarked on their careers in the retail industry BUT Industry Attachment may not necessarily be the BEST way of doing things.

In Stone’s (1997) study, he also highlighted that “students do learn about allocating resources, systems thinking, use of technology, acquisition of information, and interpersonal skills. However, his findings revealed that the way in which these workplaces are organized to accommodate young workers may

affect what they learn. Stone (1997) mentioned that in one work environment, the young worker was expected to take on adult roles and responsibilities. In another, the young worker was treated more like an adolescent.

In my opinion, Industry Attachment provided authentic learning but it should not be the ONLY way for the students to learn as the “real world” could be too “unforgiving” for many learners. The Industry Attachment stint should also not be perceived as the standards required in the retail industry as different companies had different sets of expectations, standards of assessment and supervision, and work cultures.

The lecturers and industry’s perspectives were both sought to evaluate the perceive effectiveness of the *Nitec* in Service Skills (Retail) course.

Lecturers’ perspectives

College Staff A commented that in spite of the flaws the Industry Attachment program, it was of great value to the student as “it gave students a head-start in the retail industry. Employers would have a chance of knowing the students better and offer them permanent job on that basis.” College Staff B felt that “Industry Attachment was still important. In school, students worked in a controlled environment whereas there was a sense of realism injected when the students worked in the Industry Attachment program.”

Retail Industry's perspectives

A separate survey questionnaire (Attached in Annex VIII), drafted and carried out by College West, was given to 22 companies involved in the October-December 2007 Industry Attachment period. 19 out of the 22 companies (86.4%) surveyed expressed that ITE students were able to interact and serve customers. 16 out of the 22 (72.2%) companies surveyed felt that the training received by the students in school had added value to the operations of the company. 18 out of the 22 (81.8%) companies surveyed felt that the Retail program which the students underwent in school has been useful in helping them being more efficient and productive in the company as compared to someone who did not undergo such training.

Qiu Xian, from class RP, received positive feedback from a mystery shopper (who was engaged by the company), a customer, the company and her supervisor respectively. Indicated below were comments from the sources:

“Qiuxian helped me with my tops in the fitting room. I came out with an oversized dress. Qiuxian asked how it was. I told her that it’s quite loose so she went to the front to help me look for a smaller size. She returned saying there’s no more size but she’ll help me look for it inside the storeroom. She came out with the right size wanted. I went to pay for my top. Overall, it was a good experience.” – Mystery shopper.

“Qiu Xian has been helpful, takes initiative to offer me a new piece without even me asking. And she’s really friendly too. Thanks.” – Customer.

“Hi, Qiu Xian, thank you for your contribution on the abovementioned comment. All Staff at S company please be like Qiu Xian although she is not a full-timer, she made your shop proud.” – S company.

“Qiu Xian had done a great customer service when she had a complimentary letter from a customer. She is self-oriented and had a positive attitude. Well done, keep it up.” – Supervisor.

All the companies surveyed agreed that it would be good for new employees who are fresh school leavers to go through the *Nitec* in Service Skills (Retail) program before they join any retail companies. The companies also commented that the duration of 8 weeks was insufficient for the Industry Attachment program. 9 companies commented that the duration of 12 weeks would be more feasible.

The survey findings from the company reinforced the lecturers’ belief that Industry Attachment was perceived effective in the Retail course and the necessity of the students completing Industry Attachment although the students’ survey findings indicated otherwise. Indeed, it was necessary to consider ways of narrowing the gaps in perceived effectiveness among the lecturers, companies and students.

Conclusion

Significance

Relevance to policy considerations

The significance of this study was that it provided insight into the role of Industry attachment in vocational education in Singapore. Singapore is a leading educational hub in Asia providing educational support to lesser-developed vocation education institutions. The research would provide an insight on educational practices that could best maximize students' learning. In Mr Shanmugaratnam's (2007) speech at Institute of Technical Education's Graduation Ceremony, he mentioned about Institute of Technical Education's significant role in Asia. He mentioned that "the Institute of Technical Education is also being called upon to provide consultancy services and technical assistance to governments and technical education institutions in many countries such as China, Vietnam, Indonesia and Jordan. For example, Institute of Technical Education played a key role in setting up the Vietnam-Singapore Technical Training Centre, which is now expanding further. It is also currently working with Batam Polytechnic to establish quality training facilities and curricula for the Batam-Bintan-Karimun Special Economic Zone."

With increasing awareness of Institute of Technical Education's pivotal role in providing educational support, it had to constantly improve its curriculum so as to propel vocational education to the forefront to match the more developed predecessors. Much had been written about vocational education in the Western countries, but little has been mentioned in the Asian context. The emerging

countries in East Asia, are potential areas of much growth in the near future. As such, there is a need to be as updated and relevant in the teaching practices and curriculum as possible, in order to provide consultative support to these countries.

The survey findings on the companies and the lecturers' shed light in policy considerations, into the possibility of introducing Industry Attachment as a compulsory core module in other courses, given the positive reviews from the companies. The survey findings also provided insight into the gaps in the perceived effectiveness among the students, lecturers and the companies and the necessity to narrow the gaps.

Relevance to the knowledge in the area

The significance of the research was to determine the perceived effectiveness of Industry Attachment in vocation education. As vocation education gave the students the opportunity to pick up skills and knowledge in their preferred vocation, it was important to determine whether it is effective to send the students for attachment; and whether the students perceive that Industry attachment was a fundamental learning part in their vocation education. Institute of Technical Education students pursued a short study stint up to a maximum of three years. As such, it was vital to equip them with knowledge and skills for the workforce as seamless and comprehensive as possible. Based on the survey findings, both students and the staff agreed that they were able to apply the technical knowledge from their course to their stint. The staff also agreed that Industry Attachment was an effective teaching tool in the course although some

of the students had mixed feelings. The dissonance of effectiveness as a teaching tool provided interesting insights as to why there could be a difference. More in-depth research could be completed in this area.

The teaching staffs were also involved in the survey as most of them to be surveyed have taught most modules in the Retail program. They evaluated the perceived effectiveness of Industry Attachment and provided a more complete picture.

Relevance to practitioners

The study was also relevant to the Institute of Technical Education. As the Institute of Technical Education constantly develops and reviews curriculum, it was important to find out whether Industry Attachment was of importance in the curriculum or there should be other alternatives. The raw information from both the lecturers and the students assisted in the curriculum review process. It shed light on the possible similar views that students from the non- Business Schools may also have. The survey findings on the companies provided a more complete picture. Their perspectives were also relevant to the Institute of Technical Education's attempt to make the students as employable and relevant as possible. The survey findings from the companies confirmed that as communities of practice, as earlier mentioned in Ghost (2002), they wanted to contribute in making the students "job ready".

Based on the views given by the students, more could be done to correct the misconceptions and expectations held by the students and the companies. The findings given by students on the application of technical knowledge validated the curriculum, but at the same time there was room for improvement in having more training on customer service. More relevant elective modules could be offered to the students and strategies designed to improve the students' self-confidence level.

The research was significant in Singapore as very little research was completed on Industry Attachment's role in vocation education. There was also very little quantitative research on Industry Attachment.

Limitations

There were limitations such as the following:

- 1 Timing of the Industry Attachment- Students had an intensive 8-week Industry Attachment program. This might not be sufficient to fully evaluate the perceived effectiveness of Industry Attachment.
- 2 Small cohort size- The cohort size for the course in College West was very small. Perhaps, if given more time and permission to carry out on a larger scale, combining with another college would have yielded stronger results. Similarly, the sample size of the lecturers could be expanded to provide stronger results.

Recommendations:

Based on the lecturers and companies' feedback, the Industry Attachment program was still important and effective in the *Nitec* in Service Skills (Retail) program. However, the students' post-Industry Attachment feedback had some bearing for consideration.

The following recommendations were proposed to bridge the difference in perceived effectiveness between the students and the lecturers, and improve the efficacy of the Industry Attachment program:

1 Prepare the students to handle peak traffic volume

One of the possible causes of the lowered perceived effectiveness was the timing of the Industry Attachment program in which the students faced peak traffic volume. One way to aid the students in handling Industry Attachment better was the inclusion of worst-case scenarios in role-plays and case studies.

2 Manage students' expectations on work conditions and job scope

To better prepare the students for the work conditions and job scope, a 1-week introductory module could be offered to the students to provide closer glimpses of working in a retail company before they commence on the 8 week program. Students could also pose as mystery shopper and visit the retail outlet to find out more about the companies they are likely to work in. It was also important to provide reality check during course

counseling on the expectations from the company and possible work scenarios which they might encounter during the stint.

3 Improve the pay structure for students on attachment

The pay given to the students was considered as allowance for the transitional training received. However, some of the companies took advantage of the low pay and exploit the students with overtime and no allowance. It was proposed that the basic pay for students to be elevated to a more reasonable level so that it would reduce opportunity costs for those who have worked on a part-time basis. Also, it would provide students who were required to support their family greater subsistence.

4 Improve ways of handling intern-supervisor relationships

One of the possible causes of the lowered perceived effectiveness by the students could be poor working relationships with the supervisors, or inability to meet their supervisors' expectations. To improve the relationships with the retail supervisors, the Institute of Technical Education could offer modules on conflict management and cross-cultural relationships. Such modules were relevant as the current retail employment landscape made up of predominantly Filipinos, mainland Chinese and local retail workers. Aspects of service leadership could be introduced to prepare students with the paradigm shifts in their mindsets. Consequently, the supervisors would be more willing to train such students.

5 Provide more possibilities in the Industry Attachment program

As 81% of the students surveyed had prior working experience, the Industry Attachment program could be made optional for those are working part-time in the retail industry and be replaced with project work, so that they would learn more effectively through other learning modes.

This would be similar to the Industry Orientation Program, which was offered in Republic Polytechnic.

Educational effectiveness (as defined by UNESCO, in Harvey 2004) referred to “an output of specific review or analyses that measure the achievement of a specific educational goal or the degree to which a higher educational institution could be expected to achieve specific requirements.” In the earlier section, it was indicated that the indicators of effectiveness for this research would be the following:

- Module pass rates ;
- Success Rates (Percentage of students graduating with full Institute of Technical Education’s certificates); and
- Self-confidence of the students

It appeared that Industry Attachment was perceived to be effective as the module pass rates and success rates of the 42 students sampled were 100%. However, it was inconclusive to denote that the perceived effectiveness of Industry Attachment would be 100% as this was a small scale project.

Although the overall self-confidence level has decreased after the Industry Attachment, it has provided an insight as to which aspects of self-confidence should be improved. A further study on all 3 colleges could be carried out to further determine the effectiveness of the program.

At the end of the day, the Institute of Technical Education must fulfill its mission of creating opportunities for school leavers and adult learners to acquire skills, knowledge and values for lifelong learning in a global economy.

Ethical Issues

Prior to the commencement of the implementation of pre-test and post-test survey questionnaire, consent was sought from the relevant management. Approval was also being sought by the lecturers who were in-charge of the students undergoing Industry Attachment and the students, themselves. The participants were also aware that they were given the option of not participating in the survey if they did not feel comfortable with proceeding. This also contributed partly to the lower response rate (a reduction of 25%) when the students were completing their post-Industry Attachment survey.

References

1. Billet, S. (2004) From your Business to our business: Industry and Vocational Education in Australia. *Oxford Review of Education*, 30(1), Special Issue: Business, Education and Vocationalism, 13-35.
2. Fitzgerald, T. (1993) Education for Work and about Work: A proposal. *American Journal of Education*, 10(2), 99-115.
3. Ghost, S. (2002) VET in schools: the needs of industry, *Unicorn*, 28(3), 61-64.
4. Harvey, L., (2004) Analytic Quality Glossary, Quality Research International, <http://www.qualityresearchinternational.com/glossary/>, accessed on 28 March 2008.
5. House of Lords (2006): Fifth report taken from publications.parliament.uk/pa/ld200607/ldselect/ldconaf/138/13802.htm, accessed on 16 February 2008.
6. ITE internal database- Corporate database and Human resource database, accessed on 16 February 2008.
7. Jallade, J. (1985) The transition from school to work revisited. *European Journal of Education*, 20(2/3), Ten Years on: Changing Issues in Education, 1975-1985. European Institute of Education and Social Policy Tenth Anniversary Issue, 173-179.
8. O'Donoghue, T., & Punch, K. (Eds.). (2003). *Qualitative educational research in action: Doing and reflecting*. London: Routledge Falmer.
9. Sammon, G. & Becton, M. (2001). Principles of partnerships. *Principal Leadership* February, 1(6), pp.32-35.

10. Shanmugaratnam, T., (2007) Speech by Minister for Education and Second Minister for Finance, at the ITE Graduation Ceremony 2007 on Tuesday, 24 July 2007, at University Cultural Centre hall , taken from <http://www.moe.gov.sg/speeches/2007/sp20070724.htm>, 16 February 2008.
11. Stallard, L. (2006) “Work-based learning and communities of practice” in “Different Contexts, different learners”, taken from www.icvet.tafensw.edu.au/ezone/year_2006/nov_dec/litreview_workplace_learning, accessed on 31 January 2008.
12. Stern, D., Bailey, T., Merritt, D., (1996) School-to-Work Policy Insights from Recent International Developments. NCVRE, Taken from url: <http://vocserve.berkeley.edu/AllInOne/MDS-950.htm>, accessed on 16 February 2008
13. Stone, J. (1997) “ Learning at Work : From Rhetoric to Reality.”, Center Work, 8(1), taken from <http://vocserve.berkeley.edu/CW81/LearningatWork.html>, accessed on 17 February 2008.
14. Vlăsceanu, L., Grünberg, L., and Pârlea, D., (2004), Quality Assurance and Accreditation: A Glossary of Basic Terms and Definitions (Bucharest, UNESCO-CEPES) Papers on Higher Education, ISBN 92-9069-178-6. <http://www.cepes.ro/publications/Default.htm>, accessed on 28 March 2008.
15. West, A., (1999), Vocational education and training indicators project EU priorities and objectives related to VET, November (European Commission, European Centre for the Development of Vocational Training (Cedefop))
16. Yek, T.M., & Penney, D., (2006) Curriculum as Praxis: Ensuring Quality Technical Education in Singapore for the 21st Century, Education Policy Analysis Archives, 14(26), 1-31, retrieved 10 April 2007, from <http://epaa.asu.edu/epaa/v14n26/>

Additional readings

1. Measuring effectiveness in development education, accessed on 20 March 2008 from http://www.dea.org.uk/uploads/4453d22a64a184b4f76a113996448fcf/p_MED_E_2001.pdf

Polytechnics' websites

1. Nanyang Polytechnic website: www.nyp.edu.sg, accessed on 16 February 2008.
2. Ngee Ann Polytechnic website: www.np.edu.sg, accessed on 16 February 2008.
3. Republic Polytechnic website: www.rp.edu.sg, accessed on 16 February 2008.
4. Singapore Polytechnic website: www.sp.edu.sg, accessed on 16 February 2008.
5. Temasek Polytechnic website: www.tp.edu.sg, accessed on 16 February 2008.

Annex I

A SURVEY ON STUDENTS' PERCEIVED EFFECTIVENESS OF INDUSTRY ATTACHMENT IN THE NITEC IN SERVICE SKILLS (RETAIL) COURSE

Class: _____

Gender: Male/ Female

Please circle all your responses.

6 = "Strongly agree"

5 = "Agree"

4 = "Somewhat agree"

3 = "Somewhat disagree"

2 = "Disagree"

1 = "Strongly disagree"

		Strongly Agree	Agree	Somewhat Agree	Somewhat Disagree	Disagree	Strongly Disagree
1.	I will be able to apply what I have learnt in school to IA	6	5	4	3	2	1
2.	I will be able to apply what I have learnt from the following retail modules during my IA:	6	5	4	3	2	1
	2.1. Customer Relations						
	2.2. Retail Operations	6	5	4	3	2	1
	2.3. Selling Skills	6	5	4	3	2	1
	2.4. Effective Communication	6	5	4	3	2	1
	2.5. Office IT	6	5	4	3	2	1
	2.6. Business Etiquette & Grooming	6	5	4	3	2	1
	2.7. Small Business Management	6	5	4	3	2	1
3.	IA will help me prepare for my career in the retail industry	6	5	4	3	2	1
4.	IA will be useful in helping me decide whether I wish/not to work in the retail industry after I graduate	6	5	4	3	2	1
5.	IA will complement what I have studied in ITE to help me become an effective Retail Salesperson	6	5	4	3	2	1
6.	IA will help me improve my communication skills	6	5	4	3	2	1
7.	IA will help me improve my problem-solving skills	6	5	4	3	2	1
8.	IA will help me improve customer service skills	6	5	4	3	2	1
9.	IA will help me improve teamwork skills	6	5	4	3	2	1
10.	I will be more confident in identifying customer needs	6	5	4	3	2	1

		Strongly Agree	Agree	Somewhat Agree	Somewhat Disagree	Disagree	Strongly Disagree
	and expectations better after going through IA						
11.	I will be more confident in handling customer requests and enquiries after going through IA	6	5	4	3	2	1
12.	I will be more confident in handling customers during service breakdowns after going through IA	6	5	4	3	2	1
13.	IA is important to my course	6	5	4	3	2	1
14.	IA should not be excluded from my course	6	5	4	3	2	1

STUDENTS QUALITATIVE COMMENTS

- 1 What other modules/ subjects (which are not indicated in question 2) can you apply to IA?
- 2 What other employability skills (which are not indicated in the survey) that you will gain from IA?
- 3 In what ways can IA help you become more confident in yourself?
- 4 Why do you think that IA is important?
- 5 In what way/s can IA help you learn in the course?

****Thank you for participating in the survey****

Annex II

A POST- IA SURVEY ON STUDENTS' PERCEIVED EFFECTIVENESS OF INDUSTRY ATTACHMENT IN THE *NITEC* IN SERVICE SKILLS (RETAIL) COURSE

Class: _____

Gender: Male/ Female

Please circle all your responses.

6 = "Strongly agree"

5 = "Agree"

4 = "Somewhat agree"

3 = "Somewhat disagree"

2 = "Disagree"

1 = "Strongly disagree"

		Strongly Agree	Agree	Somewhat Agree	Somewhat Disagree	Disagree	Strongly Disagree
1.	I was able to apply what I have learnt in school to IA	6	5	4	3	2	1
2.	I was able to apply what I have learnt from the following retail modules during my IA:	6	5	4	3	2	1
	2.1 Customer Relations						
	2.2 Retail Operations	6	5	4	3	2	1
	2.3 Selling Skills	6	5	4	3	2	1
	Effective Communication	6	5	4	3	2	1
	2.5 Office IT	6	5	4	3	2	1
	2.6 Business Etiquette & Grooming	6	5	4	3	2	1
2.7 Small Business Management	6	5	4	3	2	1	
3.	IA helped me prepare for my career in the retail industry	6	5	4	3	2	1
4.	IA was useful in helping me decide whether I wish/not to work in the retail industry after I graduate	6	5	4	3	2	1
5.	IA complemented what I have studied in ITE to help me become an effective Retail Salesperson	6	5	4	3	2	1
6.	IA helped me improve my communication skills	6	5	4	3	2	1

7.	IA helped me improve my problem-solving skills	6	5	4	3	2	1
8.	IA helped me improve customer service skills	6	5	4	3	2	1
9.	IA helped me improve teamwork skills	6	5	4	3	2	1
10.	I am more confident in identifying customer needs and expectations better after going through IA	6	5	4	3	2	1
11.	I am more confident in handling customer requests and enquiries after going through IA	6	5	4	3	2	1
12.	I am more confident in handling customers during service breakdowns after going through IA	6	5	4	3	2	1
13.	IA is important to my course	6	5	4	3	2	1
14.	IA should not be excluded from my course	6	5	4	3	2	1

STUDENTS QUALITATIVE COMMENTS

- 6 What other modules/ subjects (which are not indicated in question 2) did you apply to IA?
- 7 What other employability skills (which are not indicated in the survey) that you have gained from IA?
- 8 In what ways has IA helped you become more confident in yourself?
- 9 Why do you think that IA is important?
- 10 In what way/s has IA helped you learn in the course?

Thank you for participating in the survey

Annex III

A SURVEY ON LECTURERS' PERCEIVED EFFECTIVENESS OF INDUSTRY ATTACHMENT IN THE *NITEC* IN SERVICE SKILLS (RETAIL) COURSE

Gender: Male/ Female

Please circle all your responses.

- 6 = "Strongly Agree"
- 5 = "Agree"
- 4 = "Somewhat agree"
- 3 = "Somewhat disagree"
- 2 = "Disagree"
- 1 = "Strongly Disagree"

		Strongly Agree	Agree	Somewhat Agree	Somewhat Disagree	Disagree	Strongly Disagree
1.	Students are able to apply what they have learnt in the course to IA.	6	5	4	3	2	1
2.	Students are able to apply the knowledge from the following modules during their IA:	6	5	4	3	2	1
	2.1. Customer Relations						
	2.2. Retail Operations	6	5	4	3	2	1
	2.3. Selling Skills	6	5	4	3	2	1
	2.4. Effective Communication	6	5	4	3	2	1
	2.5. Office IT	6	5	4	3	2	1
	2.6. Business Etiquette & Grooming	6	5	4	3	2	1
	2.7. Small Business Management	6	5	4	3	2	1
3.	IA complements the modules in helping students become effective retail personnel	6	5	4	3	2	1
4.	IA has helped the students to learn more about the retail industry	6	5	4	3	2	1
5.	IA has helped the students to decide whether they wish to work in the retail industry after they graduate	6	5	4	3	2	1
6.	IA has helped the students to prepare for their career in the retail industry	6	5	4	3	2	1
7.	IA has helped the students improve their communication skills	6	5	4	3	2	1
8.	IA has helped the students improve their problem-solving skills	6	5	4	3	2	1
9.	IA has helped the students improve their customer service skills	6	5	4	3	2	1

		Strongly Agree	Agree	Somewhat Agree	Somewhat Disagree	Disagree	Strongly Disagree
10	IA has helped the students improve their teamwork skills	6	5	4	3	2	1
11	Students are confident in identifying customer needs and expectations better after completing IA	6	5	4	3	2	1
12	Students are more confident in handling customer requests and enquiries better after completing IA	6	5	4	3	2	1
13	Students are more confident in handling customers during service breakdowns after completing IA	6	5	4	3	2	1
14	IA is important to the course.	6	5	4	3	2	1
15	IA should not be excluded from the course	6	5	4	3	2	1
16	IA provides students with hands-on training which completes the whole education experience	6	5	4	3	2	1
17	IA complements the teaching and delivery in the course	6	5	4	3	2	1
18	IA enabled the students to be more focused and motivated in vocational training	6	5	4	3	2	1
19	IA positively affects the module pass rate of Retail students graduating from the course	6	5	4	3	2	1
20	IA positively affects the success rates of the Retail Program	6	5	4	3	2	1
21	Retail students are more confident after completing IA	6	5	4	3	2	1

QUALITATIVE COMMENTS

- 11 What other modules/ subjects (which are not indicated in Question 2) can students apply from the course to IA?
- 12 What other employability skills (which are not indicated in the survey) that students gain from IA?
- 13 Why do you think students will be more confident after going through IA?
- 14 Why do you think that IA is important?
- 15 In what way/s can IA help students learn in the course?
- 16 Why do you think that students benefit from the Industry attachment stint?
- 17 In what ways can we improve the Industrial Attachment?

Annex IV

Table 1: Pre-Industry Attachment and Post-Industry Attachment findings (%)

Key Competency / Dimensions	Pre- Industry Attachment						Post-Industry Attachment						
	SA (%)	A (%)	SmA (%)	SmD (%)	D (%)	Str D (%)	SA (%)	A (%)	SmA (%)	Sm D (%)	D (%)	SD (%)	
Application of Technical Knowledge													
1. I will be/was able to apply what I have learnt in school to Industry Attachment	26.2	61.9	11.9	-	-	-	31.0	57.1	11.9	-	-	-	-
2. I will be/was able to apply what I have learnt from the following modules during my Industry Attachment:	33.3	52.4	14.3	-	-	-	33.3	57.1	9.5	-	-	-	-
• Customer Relations													
• Retail Operations	28.6	57.1	14.3	-	-	-	28.6	59.5	11.9	-	-	-	-
• Selling Skills	21.4	57.1	21.4	-	-	-	28.6	61.9	7.1	2.4	-	-	-
• Effective Communication	14.3	52.4	33.3	-	-	-	14.3	64.3	19.0	2.4	-	-	-
• Office IT	14.3	42.9	35.7	7.1	-	-	9.5	54.8	28.6	2.4	4.8	-	-
• Business Etiquette and Grooming	19	64.3	16.7	-	-	-	23.8	54.8	14.3	4.8	2.4	-	-
• Small Business Management	9.5	59.5	31.0	-	-	-							
Role of Industry Attachment in the Retail course	SA	A	SmA	SmD	D	Str D	SA	A	SmA	Sm D			StrD
3. Industry Attachment will help/ helped me prepare for my career in the retail industry	40.5	50	9.5	-	-	-	19.0	54.8	19.0	4.8	2.4	-	-
4. Industry Attachment will be/ was useful in helping me decide whether I wish/not to work in the retail industry after I graduate	23.8	61.9	14.3	-	-	-	33.3	52.4	14.3	-	-	-	-
5. Industry Attachment will complement/ complemented what I have studied in ITE to help me become an effective salesperson	21.4	66.7	11.9	-	-	-	31.0	59.5	9.5	-	-	-	-
Employability skills	SA	A	SmA	SmD	D	Str D	SA	A	SmA	Sm D	D		StrD
6. Industry Attachment will help/ helped me improve my	21.4	66.7	11.9	-	-	-	28.6	52.4	19.0	-	-	-	-

Key Competency / Dimensions	Pre- Industry Attachment						Post-Industry Attachment					
	SA	A	SmA	SmD	D	StrD	SA	A	SmA	SmD	D	StrD
7. communication skills Industry Attachment will help/ helped me improve my problem-solving skills	23.8	52.4	23.8	-	-	-	28.6	47.6	19.0	4.8	-	-
8. Industry Attachment will help/ helped me improve customer service skills	26.2	69	4.8	-	-	-	21.4	50.0	26.2	2.4	-	-
9. Industry Attachment will help/ helped me improve teamwork skills	16.7	59.5	23.8	-	-	-	26.2	57.1	16.7	-	-	-
Self-confidence	SA	A	SmA	SmD	D	StrD	SA	A	SmA	SmD	D	StrD
10. I will be/ am more confident in identifying customer needs and expectations after going through Industry Attachment	19	64.3	16.7	-	-	-	28.6	59.5	11.9	-	-	-
11. I will be/ am more confident in handling customer requests and enquiries after going through Industry Attachment	21.4	69.0	9.5	-	-	-	21.4	59.5	19.0	-	-	-
12. I will be/ am more confident in handling customers during service breakdowns after going through Industry Attachment	16.7	69.0	14.3	-	-	-	28.6	57.1	14.3	-	-	-
Importance to the course	SA	A	SmA	SmD	D	StrD	SA	A	SmA	SmD	D	StrD
13. Industry Attachment is important to my course	47.6	40.5	11.9	-	-	-	26.2	59.5	14.3	-	-	-
14. Industry Attachment should not be excluded from my course	40.5	40.5	11.9	2.4	2.4	2.4	31.0	42.9	11.9	4.8	4.8	4.8

DESCRIPTIVE STATISTICS

BEFORE

<u>Q1</u>		<u>Q2.1</u>		<u>Q2.2</u>		<u>Q2.3</u>	
Mean	5.142857143	Mean	5.19047619	Mean	5.142857143	Mean	5
Standard Error	0.093775057	Standard Error	0.103583276	Standard Error	0.099775757	Standard Error	0.102239726
Median	5	Median	5	Median	5	Median	5
Mode	5	Mode	5	Mode	5	Mode	5
Standard Deviation	0.607731832	Standard Deviation	0.671296352	Standard Deviation	0.646620806	Standard Deviation	0.662589156
Sample Variance	0.369337979	Sample Variance	0.450638792	Sample Variance	0.418118467	Sample Variance	0.43902439
Kurtosis	-	Kurtosis	-	Kurtosis	-	Kurtosis	-
Skewness	0.235780595	Skewness	0.717018996	Skewness	0.531685897	Skewness	0.595726496
Range	2	Range	2	Range	2	Range	2.2746E-17
Minimum	4	Minimum	4	Minimum	4	Minimum	2
Maximum	6	Maximum	6	Maximum	6	Maximum	4
Sum	216	Sum	218	Sum	216	Sum	6
Count	42	Count	42	Count	42	Count	210
							42
<u>Q2.4</u>		<u>Q2.5</u>		<u>Q2.6</u>		<u>Q2.7</u>	
Mean	4.80952381	Mean	4.642857143	Mean	5.023809524	Mean	4.785714286
Standard Error	0.103583276	Standard Error	0.126699497	Standard Error	0.093257572	Standard Error	0.093553628
Median	5	Median	5	Median	5	Median	5
Mode	5	Mode	5	Mode	5	Mode	5
Standard Deviation	0.671296352	Standard Deviation	0.821106587	Standard Deviation	0.604378142	Standard Deviation	0.606296808
Sample Variance	0.450638792	Sample Variance	0.674216028	Sample Variance	0.365272938	Sample Variance	0.367595819
Kurtosis	-	Kurtosis	-	Kurtosis	-	Kurtosis	-
	0.717018996		0.433551978		0.067630076		0.369130557

Annex V

Skewness	0.241109116	Skewness	0.067974066	Skewness	0.008154593	Skewness	0.126633111
Range	2	Range	3	Range	2	Range	2
Minimum	4	Minimum	3	Minimum	4	Minimum	4
Maximum	6	Maximum	6	Maximum	6	Maximum	6
Sum	202	Sum	195	Sum	211	Sum	201
Count	42	Count	42	Count	42	Count	42

Q3		Q4	
Mean	5.30952381	Mean	5.095238095
Standard Error	0.099289551	Standard Error	0.095238095
Median	5	Median	5
Mode	5	Mode	5
Standard Deviation	0.643469833	Standard Deviation	0.6172134
Sample Variance	0.414053426	Sample Variance	0.380952381
Kurtosis	0.627172237	Kurtosis	0.248710131
Skewness	0.385358142	Skewness	0.054335478
Range	2	Range	2
Minimum	4	Minimum	4
Maximum	6	Maximum	6
Sum	223	Sum	214
Count	42	Count	42

Q5		Q6		Q7		Q8	
Mean	5.095238095	Mean	5.095238095	Mean	5	Mean	5.214285714
Standard Error	0.088931741	Standard Error	0.088931741	Standard Error	0.107770134	Standard Error	0.080183546
Median	5	Median	5	Median	5	Median	5
Mode	5	Mode	5	Mode	5	Mode	5

Annex V

Standard Deviation	0.576343555	Standard Deviation	0.576343555	Standard Deviation	0.698430296	Standard Deviation	0.519648769
Sample Variance	0.332171893	Sample Variance	0.332171893	Sample Variance	0.487804878	Sample Variance	0.270034843
Kurtosis	0.152386801	Kurtosis	0.152386801	Kurtosis	0.859423077	Kurtosis	0.098140078
Skewness	0.00970672	Skewness	0.00970672	Skewness	2.2746E-17	Skewness	0.268171209
Range	2	Range	2	Range	2	Range	2
Minimum	4	Minimum	4	Minimum	4	Minimum	4
Maximum	6	Maximum	6	Maximum	6	Maximum	6
Sum	214	Sum	214	Sum	210	Sum	219
Count	42	Count	42	Count	42	Count	42

Q9		Q10		Q11		Q12	
Mean	4.928571429	Mean	5.023809524	Mean	5.119047619	Mean	5.023809524
Standard Error	0.098730955	Standard Error	0.093257572	Standard Error	0.084874581	Standard Error	0.086807457
Median	5	Median	5	Median	5	Median	5
Mode	5	Mode	5	Mode	5	Mode	5
Standard Deviation	0.639849721	Standard Deviation	0.604378142	Standard Deviation	0.550050151	Standard Deviation	0.562576618
Sample Variance	0.409407666	Sample Variance	0.365272938	Sample Variance	0.302555168	Sample Variance	0.316492451
Kurtosis	0.426147578	Kurtosis	0.067630076	Kurtosis	0.37604806	Kurtosis	0.417508601
Skewness	0.05985448	Skewness	0.008154593	Skewness	0.076768432	Skewness	0.010436907
Range	2	Range	2	Range	2	Range	2
Minimum	4	Minimum	4	Minimum	4	Minimum	4
Maximum	6	Maximum	6	Maximum	6	Maximum	6
Sum	207	Sum	211	Sum	215	Sum	211
Count	42	Count	42	Count	42	Count	42

Q13		Q14	
Mean	5.357142857	Mean	5.071428571
Standard Error	0.106803567	Standard Error	0.171733179
Median	5	Median	5
Mode	6	Mode	6
Standard Deviation	0.69216622	Standard Deviation	1.112958201
Sample Variance	0.479094077	Sample Variance	1.238675958
Kurtosis	0.691865226	Kurtosis	4.154638817
Skewness	0.614671062	Skewness	1.818622326
Range	2	Range	5
Minimum	4	Minimum	1
Maximum	6	Maximum	6
Sum	225	Sum	213
Count	42	Count	42

AFTER

Q1		Q2.1		Q2.2		Q2.3	
Mean	5.19047619	Mean	5.238095238	Mean	5.166666667	Mean	5.166666666
Standard Error	0.097816435	Standard Error	0.095238095	Standard Error	0.09588918	Standard Error	0.10176529
Median	5	Median	5	Median	5	Median	
Mode	5	Mode	5	Mode	5	Mode	
Standard Deviation	0.633922948	Standard Deviation	0.6172134	Standard Deviation	0.62143291	Standard Deviation	0.6595144
Sample Variance	0.401858304	Sample Variance	0.380952381	Sample Variance	0.386178862	Sample Variance	0.4349593
Kurtosis	-0.495032346	Kurtosis	-0.471071764	Kurtosis	0.379509908	Kurtosis	1.7526448
Skewness	-0.17142544	Skewness	-0.18770438	Skewness	-	Skewness	

Annex V

Q2.4		Q2.5		Q2.6		Q2.7	
Range	2	Range	2	Range	2	Range	2
Minimum	4	Minimum	4	Minimum	4	Minimum	4
Maximum	6	Maximum	6	Maximum	6	Maximum	6
Sum	218	Sum	220	Sum	217	Sum	217
Count	42	Count	42	Count	42	Count	42
Mean	4.904761905	Mean	4.619047619	Mean	4.928571429	Mean	4.833333333
Standard Error	0.101152039	Standard Error	0.136116628	Standard Error	0.137983053	Standard Error	0.13596417
Median	5	Median	5	Median	5	Median	5
Mode	5	Mode	5	Mode	5	Mode	5
Standard Deviation	0.655540135	Standard Deviation	0.882136568	Standard Deviation	0.89423239	Standard Deviation	0.88114854
Sample Variance	0.429732869	Sample Variance	0.778164925	Sample Variance	0.799651568	Sample Variance	0.77642276
Kurtosis	0.920070686	Kurtosis	2.258839557	Kurtosis	2.016086734	Kurtosis	1.71994020
Skewness	-0.448155297	Skewness	-1.164574138	Skewness	1.144589955	Skewness	1.00653969
Range	3	Range	4	Range	4	Range	4
Minimum	3	Minimum	2	Minimum	2	Minimum	2
Maximum	6	Maximum	6	Maximum	6	Maximum	6
Sum	206	Sum	194	Sum	207	Sum	207
Count	42	Count	42	Count	42	Count	42
Q3		Q4					
Mean	5.19047619	Mean	5.214285714				
Standard Error	0.103583276	Standard Error	0.093553628				
Median	5	Median	5				
Mode	5	Mode	5				
Standard Deviation	0.671296352	Standard Deviation	0.606296808				
Sample Variance	0.450638792	Sample Variance	0.367595819				

Annex V

Kurtosis	-0.717018996	Kurtosis	-0.369130557
Skewness	-0.241109116	Skewness	-0.126633111
Range	2	Range	2
Minimum	4	Minimum	4
Maximum	6	Maximum	6
Sum	218	Sum	219
Count	42	Count	42

Q5		Q6		Q7		Q8	
Mean	5.095238095	Mean	5	Mean	4.904761905	Mean	5.095238095
Standard Error	0.106738817	Standard Error	0.127515343	Standard Error	0.117115565	Standard Error	0.101152039
Median	5	Median	5	Median	5	Median	5
Mode	5	Mode	5	Mode	5	Mode	5
Standard Deviation	0.691746599	Standard Deviation	0.826393871	Standard Deviation	0.758995607	Standard Deviation	0.655540135
Sample Variance	0.478513357	Sample Variance	0.682926829	Sample Variance	0.576074332	Sample Variance	0.429732869
Kurtosis	0.821329586	Kurtosis	0.084478022	Kurtosis	0.383521209	Kurtosis	0.565259538
Skewness	0.127017723	Skewness	0.544534533	Skewness	0.188332511	Skewness	0.097299586
Range	2	Range	3	Range	3	Range	2
Minimum	4	Minimum	3	Minimum	3	Minimum	4
Maximum	6	Maximum	6	Maximum	6	Maximum	6
Sum	214	Sum	210	Sum	206	Sum	214
Count	42	Count	42	Count	42	Count	42
Q9		Q10		Q11		Q12	
Mean	5.166666667	Mean	5.071428571	Mean	5.023809524	Mean	5.142857143
Standard Error	0.09588918	Standard Error	0.104447316	Standard Error	0.099289551	Standard Error	0.099775757
Median	5	Median	5	Median	5	Median	5
Mode	5	Mode	5	Mode	5	Mode	5
Standard Deviation	0.62143291	Standard Deviation	0.676895969	Standard Deviation	0.643469833	Standard Deviation	0.646620806

Annex V

Deviation		Deviation		Deviation		Deviation	
Sample Variance	0.386178862	Sample Variance	0.458188153	Sample Variance	0.414053426	Sample Variance	0.418118467
Kurtosis	0.379509908	Kurtosis	0.714693666	Kurtosis	0.438942398	Kurtosis	0.531685897
Skewness	0.118571465	Skewness	0.085943642	Skewness	0.020488499	Skewness	0.139185129
Range	2	Range	2	Range	2	Range	2
Minimum	4	Minimum	4	Minimum	4	Minimum	4
Maximum	6	Maximum	6	Maximum	6	Maximum	6
Sum	217	Sum	213	Sum	211	Sum	216
Count	42	Count	42	Count	42	Count	42

Q13

Q14

Mean	5.119047619	Mean	4.761904762
Standard Error	0.097604174	Standard Error	0.206765713
Median	5	Median	5
Mode	5	Mode	5
Standard Deviation	0.632547345	Standard Deviation	1.339994973
Sample Variance	0.400116144	Sample Variance	1.795586527
Kurtosis	-0.40375683	Kurtosis	1.746074243
Skewness	-0.09407443	Skewness	1.456580931
Range	2	Range	5
Minimum	4	Minimum	1
Maximum	6	Maximum	6
Sum	215	Sum	200
Count	42	Count	42

t-Test: Paired Two Sample for Means

	BEFORE	AFTER
Q1		
Mean	5.142857143	5.19047619
Variance	0.369337979	0.401858304
Observations	42	42
Pearson Correlation	-0.009044189	
Hypothesized Mean Difference	0	
df	41	
t Stat	-0.349840049	
P(T<=t) one-tail	0.364124744	
t Critical one-tail	1.682878974	
P(T<=t) two-tail	0.728249489	
t Critical two-tail	2.01954208	
Q2.1		
Mean	5.19047619	5.238095238
Variance	0.450638792	0.380952381
Observations	42	42
Pearson Correlation	0.358803925	
Hypothesized Mean Difference	0	
df	41	
t Stat	-0.422209509	
P(T<=t) one-tail	0.337538998	
t Critical one-tail	1.682878974	
P(T<=t) two-tail	0.675077996	
t Critical two-tail	2.01954208	
Q2.2		
Mean	5.142857143	5.166666667
Variance	0.418118467	0.386178862
Observations	42	42
Pearson Correlation	0.242790791	
Hypothesized Mean Difference	0	
df	41	
t Stat	-0.197698869	
P(T<=t) one-tail	0.4221288	
t Critical one-tail	1.682878974	
P(T<=t) two-tail	0.8442576	
t Critical two-tail	2.01954208	

t-Test: Paired Two Sample for Means

Q2.3		
Mean	5	5.166666667
Variance	0.43902439	0.43495935
Observations	42	42
Pearson Correlation	0.167443672	
Hypothesized Mean Difference	0	
df	41	
t Stat	-1.266235348	
P(T<=t) one-tail	0.106288049	
t Critical one-tail	1.682878974	
P(T<=t) two-tail	0.212576099	
t Critical two-tail	2.01954208	

Q2.4		
Mean	4.80952381	4.904761905
Variance	0.450638792	0.429732869
Observations	42	42
Pearson Correlation	-0.208502068	
Hypothesized Mean Difference	0	
df	41	
t Stat	-0.598396693	
P(T<=t) one-tail	0.276433476	
t Critical one-tail	1.682878974	
P(T<=t) two-tail	0.552866953	
t Critical two-tail	2.01954208	

Q2.5		
Mean	4.642857143	4.619047619
Variance	0.674216028	0.778164925
Observations	42	42
Pearson Correlation	0.211658356	
Hypothesized Mean Difference	0	
df	41	
t Stat	0.14415456	
P(T<=t) one-tail	0.443042337	
t Critical one-tail	1.682878974	
P(T<=t) two-tail	0.886084674	
t Critical two-tail	2.01954208	

t-Test: Paired Two Sample for Means

Q2.6

Mean	5.023809524	4.928571429
Variance	0.365272938	0.799651568
Observations	42	42
Pearson Correlation	0.183740045	
Hypothesized Mean Difference	0	
df	41	
t Stat	0.627877989	
P(T<=t) one-tail	0.266782852	
t Critical one-tail	1.682878974	
P(T<=t) two-tail	0.533565705	
t Critical two-tail	2.01954208	

Q2.7

Mean	4.785714286	4.833333333
Variance	0.367595819	0.776422764
Observations	42	42
Pearson Correlation	0.114135761	
Hypothesized Mean Difference	0	
df	41	
t Stat	-0.305256971	
P(T<=t) one-tail	0.380857419	
t Critical one-tail	1.682878974	
P(T<=t) two-tail	0.761714837	
t Critical two-tail	2.01954208	

Q3

Mean	5.30952381	5.19047619
Variance	0.414053426	0.450638792
Observations	42	42
Pearson Correlation	0.142505045	
Hypothesized Mean Difference	0	
df	41	
t Stat	0.895914332	
P(T<=t) one-tail	0.187764353	
t Critical one-tail	1.682878974	
P(T<=t) two-tail	0.375528705	
t Critical two-tail	2.01954208	

t-Test: Paired Two Sample for Means

Q4		
Mean	5.095238095	5.214285714
Variance	0.380952381	0.367595819
Observations	42	42
Pearson Correlation	-0.12104332	
Hypothesized Mean Difference	0	
df	41	
t Stat	-0.842224768	
P(T<=t) one-tail	0.202274189	
t Critical one-tail	1.682878974	
P(T<=t) two-tail	0.404548379	
t Critical two-tail	2.01954208	

Q5		
Mean	5.095238095	5.095238095
Variance	0.332171893	0.478513357
Observations	42	42
Pearson Correlation	0.099048361	
Hypothesized Mean Difference	0	
df	41	
t Stat	0	
P(T<=t) one-tail	0.5	
t Critical one-tail	1.682878974	
P(T<=t) two-tail	1	
t Critical two-tail	2.01954208	

Q6		
Mean	5.095238095	5
Variance	0.332171893	0.682926829
Observations	42	42
Pearson Correlation	0.256045778	
Hypothesized Mean Difference	0	
df	41	
t Stat	0.702834194	
P(T<=t) one-tail	0.243065426	
t Critical one-tail	1.682878974	
P(T<=t) two-tail	0.486130852	
t Critical two-tail	2.01954208	

t-Test: Paired Two Sample for Means

Q7

Mean	5	4.904761905
Variance	0.487804878	0.576074332
Observations	42	42
Pearson Correlation	0.368081337	
Hypothesized Mean Difference	0	
df	41	
t Stat	0.752008804	
P(T<=t) one-tail	0.2281707	
t Critical one-tail	1.682878974	
P(T<=t) two-tail	0.4563414	
t Critical two-tail	2.01954208	

Q8

Mean	5.214285714	5.095238095
Variance	0.270034843	0.429732869
Observations	42	42
Pearson Correlation	0.368223426	
Hypothesized Mean Difference	0	
df	41	
t Stat	1.151521857	
P(T<=t) one-tail	0.128094292	
t Critical one-tail	1.682878974	
P(T<=t) two-tail	0.256188585	
t Critical two-tail	2.01954208	

Q9

Mean	4.928571429	5.166666667
Variance	0.409407666	0.386178862
Observations	42	42
Pearson Correlation	0.214690068	
Hypothesized Mean Difference	0	
df	41	
t Stat	-1.952026875	
P(T<=t) one-tail	0.028893732	
t Critical one-tail	1.682878974	
P(T<=t) two-tail	0.057787463	
t Critical two-tail	2.01954208	

t-Test: Paired Two Sample for Means

Q10

Mean	5.023809524	5.071428571
Variance	0.365272938	0.458188153
Observations	42	42
Pearson Correlation	0.353456134	
Hypothesized Mean Difference	0	
df	41	
t Stat	-0.422209509	
P(T<=t) one-tail	0.337538998	
t Critical one-tail	1.682878974	
P(T<=t) two-tail	0.675077996	
t Critical two-tail	2.01954208	

Q11

Mean	5.119047619	5.023809524
Variance	0.302555168	0.414053426
Observations	42	42
Pearson Correlation	0.267438531	
Hypothesized Mean Difference	0	
df	41	
t Stat	0.849980565	
P(T<=t) one-tail	0.200136141	
t Critical one-tail	1.682878974	
P(T<=t) two-tail	0.400272282	
t Critical two-tail	2.01954208	

Q12

Mean	5.023809524	5.142857143
Variance	0.316492451	0.418118467
Observations	42	42
Pearson Correlation	0.258613097	
Hypothesized Mean Difference	0	
df	41	
t Stat	-1.043679423	
P(T<=t) one-tail	0.151374312	
t Critical one-tail	1.682878974	
P(T<=t) two-tail	0.302748623	
t Critical two-tail	2.01954208	

t-Test: Paired Two Sample for Means

Q13		
Mean	5.357142857	5.119047619
Variance	0.479094077	0.400116144
Observations	42	42
Pearson Correlation	0.290474177	
Hypothesized Mean Difference	0	
df	41	
t Stat	1.952026875	
P(T<=t) one-tail	0.028893732	
t Critical one-tail	1.682878974	
P(T<=t) two-tail	0.057787463	
t Critical two-tail	2.01954208	

Q14		
Mean	5.071428571	4.761904762
Variance	1.238675958	1.795586527
Observations	42	42
Pearson Correlation	0.207934277	
Hypothesized Mean Difference	0	
df	41	
t Stat	1.291056559	
P(T<=t) one-tail	0.101958169	
t Critical one-tail	1.682878974	
P(T<=t) two-tail	0.203916338	
t Critical two-tail	2.01954208	

Lecturers' Survey Findings

QUESTION	RESPONDENT		AVERAGE	
	1	2	3	
Q1	5	5	6	5.3
Q2.1	6	6	6	6.0
Q2.2	6	6	6	6.0
Q2.3	6	6	6	6.0
Q2.4	6	6	6	6.0
Q2.5	5	5	6	5.3
Q2.6	6	6	6	6.0
Q2.7	3	2	6	3.7
Q3	6	6	6	6.0
Q4	6	6	6	6.0
Q5	5	5	6	5.3
Q6	6	6	6	6.0
Q7	5	5	6	5.3
Q8	5	5	6	5.3
Q9	6	5	6	5.7
Q10	5	5	6	5.3
Q11	6	5	6	5.7
Q12	6	5	6	5.7
Q13	5	5	6	5.3
Q14	6	6	6	6.0
Q15	6	6	6	6.0
Q16	6	6	6	6.0
Q17	6	6	6	6.0
Q18	5	5	6	5.3
Q19	5	4	6	5.0
Q20	5	4	6	5.0
Q21	6	5	6	5.7

QUALITATIVE COMMENTS FROM THE LECTURERS

Question 1: What other modules/subjects (which are not indicated in Question 2) can students apply from the course to IA?

Lecturer 1: All the courses/ modules mentioned are already very comprehensive, except for thinking skills

Lecturer 2: No comments.

Lecturer 3: No comments.

Question 2: What other employability skills (which are not indicated in the survey) that students gain from IA?

Lecturer 1: enable them to be more versatile and “Think out of the box”. They have to also learn how to be flexible and adapt to trying situations and issues.

Lecturer 2: No comments.

Lecturer 3: No comments.

Question 3: Why do you think students will be more confident after going through IA?

Lecturer 1: They will be more mature and have no choice but to grow up as they work independently when attending to customers, but as a team as far as the whole shop is concerned.

Lecturer 2: No comments

Lecturer 3: No comments.

Question 4: Why do you think IA is important?

Lecturer 1: Life is too comfortable for them. They need to be “hungry” in order to survive, and learn to ask questions in order to learn.

Lecturer 2: Students will be able to gain real-life experience in their field of study during the IA. This will help prepare them for a retail course upon graduation.

Lecturer 3: No comments.

Question 5: In what way/s can IA help the students learn in the course?

Lecturer 1: They learn to communicate effectively, be patient, kind, disciplined, efficient and to organize their working hours, family time and leisure.

Lecturer 2: IA allows students to apply the skills and knowledge that they have learnt on campus in real-life, practical situations.

Lecturer 3: No comments.

Question 6: Why do you think that students benefit from the IA stint?

Lecturer 1: No comments.

Lecturer 2: It will be an eye-opener for students who have not worked in a retail store before.

Lecturer 3: No comments.

Question 7: In what way/s can we improve the Industry Attachment program?

Lecturer 1: No comments.

Lecturer 2: No comments.

Lecturer 3: No comments.

SURVEY ON IAP EMPLOYER

1 Do you think that our students are able to interact and serve customers?

- Agree
- Disagree
- Neutral

2 Do you feel that the training that our students have received has added value to the operations of your company?

- Agree
- Disagree
- Neutral

3 Do you feel that the retail program that our students go through is useful in helping them to be more efficient and productive in your company as compared to someone who did not undergo such training?

- Agree
- Disagree
- Neutral

4 Do you think it is good for new employees who are fresh school leavers to go through the retail program before they join any retail companies?

- Agree
- Disagree
- Neutral

5 Do you think that the duration of 8 weeks is sufficient for the industry attachment program?

- Agree
- Disagree (Pls state recommended number of weeks: At least ___)
- Neutral

6 Any comments:

Source: ITE College West (Clementi campus) used with permission.

APA Ethical Guidelines – A summary

1. When a study is planned, the researcher must be the first and most important judge of its ethical acceptability.
2. Subjects must be judged to be “at no risk” or “at minimal risk.”
3. The researcher is responsible for ensuring ethical practices, including the behaviour of assistants, students, employees, collaborators, and anyone else involved in the process.
4. A fair and reasonable agreement must be reached between the researcher and the subjects, prior to the beginning of the research.
5. If deception is necessary, the researcher must be sure it is justified and a mechanism must be built in to ensure that the subjects are debriefed when the research is concluded.
6. Researchers must respect the subject’s choice to withdraw and must not practice coercion to get the subject back into participating.
7. Every possible effort should be made to protect participants from physical and psychological harm.
8. Once the research is complete, should the participant so indicate, the results should be shared and the participant should be given a chance to clarify any discrepancies she or he might be aware of.
9. If the research should result in harm of any kind, the researcher has the responsibility to correct the harm.
10. All information obtained in a research study is confidential.

Taken from <http://www.apa.com>.