

Competency Level of Employability Skills among the Apprentices of the National Dual Training System: A Comparative Analysis of Industry Perception by Company Status

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Abstract

This study seeks to examine the competency level of employability skills among the apprentices of the National Dual Training System (NDTS) according to the perception of the employers in the industry. The study sample comprises of 56 industrial employers who had given apprentices practical/hands-on training in 2012. Respondents are the industrial bosses in various sectors and different types of companies which are directly involved in training the NDTS apprentices in that particular year. 63 percents of the respondents are from small and medium-sized industries (SME), 23 percents are multi-national companies (MNC) and 14 percents are government-linked companies (GLC). The data is obtained via survey and interviews. The result shows that overall competency level of employability skills of the apprentices' is shown to be at a moderate level. The sub-constructs for the mean of basic skills are 3.23, the mean for personal skills 3.66 and the mean for working as a team 3.35 of 5 point scales. The study findings for the differences of the type of company suggest that the mean score for the employability skill competency among the apprentices in the MNC companies is significantly higher ($M= 4.0$, $SD= 0.125$) than the GLC companies ($M= 3.50$, $SD = 0.227$) and the SME companies ($M= 3.14$, $SD= 0.361$). The one-way ANOVA test demonstrates a significant difference according to the types of companies which train the apprentices in 2012, $F(2,53) = 45.6$, $p<0.05$. As there is a significant difference following the type of companies, the test of *Post Hoc Scheffe* is conducted to evaluate the source of differences in further detail.

Key words: National dual training system (NDTS), cooperative vocational education, competency level of employability skills, industry perceptions of employability skills, Malaysian apprentice.

INTRODUCTION

Education and the development of human resources constitute an essential relationship for most developing countries including Malaysia. According to the 2010/2011 Economic Report, the economic growth rate in Malaysia has grown exponentially, further suggesting positive economic growth. Beginning humbly from a country of agricultural-based economy, it is gradually transformed into one with the manufacturing sector from the years of the '80s. In relation to this,

the science and technology-based industries as well as the knowledge-intensive industries as in the ICT, the pharmaceutical industry, and research and development activities seek to generate occupations necessitating higher education, and in particular, those who are already trained in the technical and vocational fields.

Ramlee and Ramziah (2012) find that education and its planning will continue to play primary role in providing human resource in Malaysia and subsequently, to stay competitive at the global level. Therefore, technical and vocational education and training (TVET) system is needed to fulfill the commercial and industrial needs, in order to produce able workers, who are innovative, productive, and skillful (Ahmad, Jailani & Fadilah, 2011). Workforce of these qualities serves as a very important input to the economic growth and development of a country. Changes in demand of skilled workforce have proven to be a universal issue, involving both developed countries and the developing ones as well.

Collaboration and concerted effort in providing skill training stand out as the challenges that should be confronted by the public and private TVET institutions as well as the employers and the whole industry. According to Venkatraman (2007), the relationship between institution and industry needs to be flexible in the aspects of (1) the management of the process of education; (2) curriculum; (3) assessment; (4) method of delivery and (5) teachers. Thus, careful planning and all-round cooperation will lead to the expanding requests for quality human resource (Hasnah, Luqman, Sanep & Noraziah, 2009). Yahya, Muhammad Sukri and Hairul Anuar (2008) add that in evaluating and planning the curriculum on an ongoing basis, the involvement of the industry plays a substantial role to determine the occupational needs that are compatible with the industrial requirements.

In Malaysia, the relationship between the public TVET institutions with the industrial employers has given birth to the implementation of the cooperative vocational education (CVE). The approach has made effective by the Department of Skills Development under the Ministry of Human Resources through the National Dual Training System (NDTS) since 2005. The DSD is responsible for promoting and coordinating strategies and skills training program in line with efforts to reinforce skills. The approach has objective to produce competent workers both in technical skills as well employability skills including communication, problem solving, and social skills. In implementing the approach, cooperation from various sector industries and type of companies like the small and medium-sized companies (SME), government-linked companies (GLC) and multi-national companies (MNC) have contributed to positive effect in producing skilled workers. The DSD statistics through September 2012 shows that the total numbers of companies which participate in this programme up to 1,787 companies. The highest participation comes from SME companies totalling 1,697, followed by the MNC companies totalling 65 companies and GLC 25 companies. In September 2012, the 27371 apprentices were born.

The research finding from a study conducted by the Department of Skills Development and National University of Malaysia (2011) shows that the employability skill of the NDTS apprentices is still at a low level, especially in the aspects of credibility and self-confidence as well in basic skills such as verbal communication and writing. One of explanation of this finding is described by Zuraiah (2008) that stated the lack of emphasis on the aspects of personality and employability skills in the teaching curriculum has led to the fact that the trained graduates find it difficult to face the real working world. This explanation is supported by similar studies conducted in the United States by Kim (2009) and Schanker (2011). Therefore, the implementation of the CVE in the NDTS program seeks to produce graduates who have the desired employability skills, competent in technical skills as well social skills. The inculcation of such skills in the training curriculum is very

important to the students nowadays, in preparation to face the real working world (Jackling & Lange, 2009; Mason, Williams & Cranmer, 2006; Noordeen, 2009). Therefore, this study seeks to:

1. Determine the level of competency of the employability skills among apprentices according to the perception of the employers;
2. Identify the difference in the competency level of the employability skills among the apprentices who undergo practical training according to the type/status of the company.

METHODOLOGY

This study is a descriptive study which performs a survey for the aim of identifying the competency level of the employability skills of the NDTs apprentices in the implementation of CVE. According to Gliner, Morgan, & Leech (2009) this method is suitable to investigate the pattern between the individuals but it does not allow the researcher to control the variables comparatively, as well as the fact that this method is unable to explain the reason for the relationship, and it only elaborates on the relationship between the variables. In the same vein, Creswell (2013) states that the survey method can appropriately be used to measure the opinion, attitude and behaviour obtained from the respondents' immediate reactions. The instrument adopted for data gathering is the survey questionnaire based on the framework of the Profile Model from the Conference Board of Canada (2000). The respondents comprise of the industrial employers who had given training to their respective apprentices for the year 2012.

The Likert Scale of 1 (not very important) to 5 (extremely important) has been used to measure the respondents' feedback for every item established. Meanwhile, open ended questionnaire is asked to support or explain the quantitative results from the survey. The questionnaire is validated by five experts both in the technical and vocational field and NDTs program. The reliability test is also conducted and the result suggests that every item constructed has good reliability with alpha value exceeding 0.72 as shown in Table 1. Data are analysed by descriptive and inferential statistics. The interpretation for the mean has been modified from Landall (1997) with the mean value 1.0 to 2.33 = low level, 2.34 to 3.67 = moderate level and 3.68 to 5 = high level of employability skills. For inferential statistics, the alpha value of 0.05 has been decided to show if there is a significant difference between the variables.

Table 1. The instrument's alpha value for three employability sub-skills.

Employability skills	The skills' Sub-scale	Cronbach's Alpha	Number of Item
Basic skills	Communication	.803	7
	Information management	.891	7
	Number use	.884	7
	Critical thinking and problem-solving	.784	7
Personal management skills	Thinking and solving problems	.820	7
	Being positive	.722	7
	Being responsible	.892	7
	Adaptability	.799	7
	Lifelong learning	.786	7
	Job security	.790	7
Teamwork skills	Working with others	.778	7
	Participating in projects or tasks	.792	7

FINDINGS

A total of 56 respondents from industries of various sectors and types of companies are directly involved in training the SLDN program in 2012. Of that numbers, 63 percents apprentices are from the SME, 23 percents from the MNC and 14 percents are from the GLC. Table 2, 3, and 4 shows the mean, standard deviation and interpretation of level of the NDTs apprentices employability skills based on employer's perception. These measured skills are basic skills, personal skills and teamwork skills.

Refer to Table 2, the result shows that employers perception of the NDTS apprentices overall mean of employability basic skills are 3.23 which interprete as moderate level. These basic skills include communication, information management and using number. Each component of basic skills was measure by seven items. Several items have mean below 3.0 even two items have mean at low level of employability skills which is related to communication in English. Others item that has mean below 3.0 are give clear explanation, using technology with help of others, and covert, compare, calculate using unit.

Table 2: The mean, standard deviation and level of classification of employability skills for basic skills

Basic Skills	Mean	s.d.	Level
Communication			
Listen to the instructions given	3.87	0.796	High
Give clear explanation.	2.82	0.974	Moderate
Speak in public.	3.05	0.902	Moderate
Speak fluently in Bahasa Malaysia.	4.16	0.781	High
Speak fluently in English.	2.30	1.142	Low
Write well in Bahasa Malaysia.	3.64	0.903	Moderate
Write well in English.	2.19	0.998	Low
Information Management			
Use email to connect with others.	3.23	0.990	Moderate
Use the computer in completing tasks.	3.37	1.019	Moderate
Search information using website.	3.69	0.951	High
Spread the information using ICT technology.	3.26	1.035	Moderate
Use multimedia resources.	3.87	0.715	High
Use technology without help of others.	2.91	1.079	Moderate
Use multimedia to present their tasks.	3.12	1.073	Moderate
Using Number			
Read measurements on work equipment.	3.39	0.845	Moderate
Calculate percentage.	3.07	1.109	Moderate
Solve and use ratios and fractions.	3.16	1.232	Moderate
Translate writing or verbal statements into mathematical expressions.	3.01	1.079	Moderate
Estimate basic mathematical calculations	3.39	1.070	Moderate
Convert, compare, calculate using unit	2.92	1.093	Moderate
Record in basic calculations.	3.53	0.990	Moderate
Overall Mean	3.23	0.701	Moderate

The answer of open ended questionnaire explains a reason of their perspective on the NDTs apprentices' basic skills at the moderate level. Employers which involved in the NDTs had given lot of opportunities and space to the apprentices in improving their basic employability skills.

Yes, I find that the apprentices' basic skills at the beginning of the practical training are very weak, especially as far as the communication skills and basic calculations are concerned. As they come to learn a lot in the industry, they use a lot of basic skills in their work. Therefore, I find that there is a positive change to their basic skills.

Employer 1

Yes, I have given ample opportunities to the apprentices to be in touch with customers who visit the company. I am confident, that in this way, I can help them to improve their communication skills.

Employer 2

Yes, I have trained my apprentices to make basic report and every week, if there is a meeting between the employers and employees, the apprentices are given the chance to speak up.

Employer 3

Table 3 shows the results of basic personal skills of the NDTs apprentices which measures by six components. These components are thinking and solving a problems, being positive, being responsible, adaptability, lifelong learning, and job security. Employer's perception of these basic skills toward the NDTs apprentices is at moderate level, 3.66 of 5 points. However, this mean is slightly below the category of high level which is 3.68. There was no item rate at low level (2.33) but two items were rates below 3.0 by the employers. As shown by standard deviation, most of all items in normal curves except two items slightly above 1.0 which are be positive towards a change and exercise self-discipline at work.

In addition to a discipline problem and solving a problem, the NDTs apprentices have a lower self esteem as shown by answer by the employers open ended questionnaire.

Yes, in the begining there appeared to be apprentices who committed disciplinary problems like being late to work and not being able to be punctual. Therefore, I am always being strict and I advise them constantly about their attendance and work discipline.

Employer 1

Yes, the apprentices have a brave attitude and the endurance to keep working. Yet, they have this low self-esteem when performing their obligations. I always motivate them to improve themselves and make further advancement.

Employer 2

Yes, the company does have rigid work regulations. A warning letter is issued if the apprentices are not disciplined especially when it involves the aspect of attendance. The purpose for this is to educate the apprentices to be more disciplined in their work.

Employer 3

Table 3: The mean, standard deviation and level of interpretation for personal skills

Personal Skills	Mean	s.d.	Level
Thinking and Solving Problems			
Brave enough to face problems.	3.82	0.508	High
Overcome a problem.	2.62	0.799	Moderate
Sensitive towards the existence of a problem	3.01	0.521	Moderate
Demonstrates patience when confronting a problem.	3.64	0.842	Moderate
Recognize the root of the problem.	3.17	0.575	Moderate
Enlist several steps for solving problems.	2.67	0.955	Moderate
Resolve any problem without being emotional.	3.51	0.660	Moderate
Being Positive			
Honest in his/her work	4.05	0.400	High
Accept constructive criticisms	4.00	0.504	High
Learn from mistakes	3.92	0.709	High
Act without anyone's help.	3.35	0.772	Moderate
Display self-confidence.	3.26	0.700	Moderate
Be positive towards a change.	3.26	1.103	
Motivated to keep on working.	4.07	0.567	Moderate
Being Responsible			
Guide other people	4.07	0.656	High
Accountable for his/her own actions	4.01	0.404	High
Exercise self-discipline at work	3.19	1.034	Moderate
Punctual in working hours	3.16	0.654	Moderate
Demonstrate his/her trustworthiness when performing duties.	4.12	0.574	High
Committed in his/her work.	3.80	0.553	High
Admit that he/she is at fault in their work	4.00	0.330	High
Adaptability			
Adapt to the circumstances	4.08	0.837	High
Work without being supervised.	3.44	0.771	Moderate
Work under pressure	3.87	0.662	High
Face challenges in his or her work	3.25	0.579	Moderate
Sensitive towards surrounding issues.	3.17	0.788	Moderate
Work with more experienced colleagues	3.83	0.531	High
Interact with employers and other employees	4.00	0.467	High
Lifelong Learning			
Strives to enhance self-development	4.12	0.384	High
Ready to keep studying.	4.05	0.443	High
Prepared to add new knowledge outside his/her field of expertise.	3.96	0.570	High
Compete with others	3.94	0.553	High
Bold enough to ask around to get more knowledge	3.91	0.477	High
Realizes the importance of studying	3.37	0.558	Moderate
Ready to go for courses related to skill enhancement.	3.46	0.631	Moderate
Job Security			
Adhere to the safety rules and regulations at work.	4.08	0.354	High
Understand the importance of being safe at work.	4.01	0.356	High
Act appropriately if there is an accident at work.	3.39	0.528	Moderate
Practice healthy and safe working environment.	3.58	0.757	Moderate
Distinguish work materials/ equipment that are considered dangerous.	4.14	0.353	High
Work under strict work safety rules and regulations	3.35	0.553	Moderate
Ready to accept risky, skill-based occupations.	4.14	0.772	High
Overall Mean	3.66	0.341	Moderate

Table 4 shows the NDTs apprentices of teamwork skills from the employer's perception. The overall mean is 3.35 which are categorized as moderate level. Several items such as working strategy, contributing ideas, and accept a critic among the apprentices shows a slightly significant lower and spread among others items in the group.

Table 4: The mean, standard deviation and level of interpretation for teamwork skills.

Teamwork Skills	Mean	s.d.	Level
Working with others			
Respect other people opinions in a team.	3.53	0.893	Moderate
Work in a team.	3.55	0.932	Moderate
Make decisions in a team.	3.32	0.833	Moderate
Contribute ideas in a discussion.	3.12	1.129	Moderate
Accept other people ideas.	3.19	0.980	Moderate
Determine a work strategy of the team.	3.08	0.883	Moderate
Accept a critic given by other team members.	3.23	1.091	Moderate
Involvement in project/task			
Supervise a project/task continuously.	3.33	0.923	Moderate
Plan the project/task with clear objective.	3.41	0.910	Moderate
Execute the project/task with clear objective.	3.23	0.762	Moderate
Identify suitable equipment and technology for the project/task .	3.32	0.690	Moderate
Use suitable equipment and technology for the project/task .	3.26	0.673	Moderate
Work together with the team members in completing the project/task.	3.67	0.716	Moderate
Following the work stages decided in the project/task.	3.62	0.782	Moderate
Overall Mean	3.35	0.636	Moderate

The answer of open ended questionnaire supports the mean of moderate level of the teamwork skills posses by the NDTs apprentices as observes by the employers. Employers agreed that the NDTs apprentices always working with the teammates. Furthermore, the answer shows that employers make an effort to enhance the NDTs apprentices' teamwork skills during their apprentices training at the industry.

Yes, the task in the industry requires teamwork. Apprentices here are always working with each other to ensure that the task at hand can be completed.

Employer 1

Yes, the company has not regarded the apprentices as trainees. The company even gives the opportunity to the apprentices to offer opinions or ideas to enhance the company's productivity.

Employer 2

Yes, every once a month, the company will organize an innovation-based competition between the units and departments. Thus, cooperation is very important in rendering success to the programme. The company gives room to the apprentices in such a programme.

Employer 3

In comparing the employability skills posses by the NDTs apprentices in regard to employer's perception, the researchers run the one-way ANOVA test. The test was conducted based on the types of companies which are MNC, GLC, and SME's. The results shows the mean score's of employability skills of the NDTs apprentices for MNC companies is significantly higher ($M = 4.0$, $s.d. = 0.13$) as compared to the GLC companies ($M = 3.5$, $s.d. = 0.23$), and the SME companies ($M = 3.14$, $s.d. = 0.36$). Meanwhile, the mean of employability skills of the NDTs apprentices attached at the GLC companies is likely higher than the NDTs apprentices at the SME companies.

The results of one-way ANOVA of comparing the NDTs employability skills based on types of companies shows in Table 4. The result shows there is significantly different between the type of companies and employability skills posses by the NDTs apprentices, $F(2,53) = 45.64$, $p = .001$. Furthermore, the Post Hoc Scheffe was conducted to evaluate the source of existence in details. The result shows that the employability skills of the NDTs apprentices at MNC companies is significantly higher than the NDTs employability skills at the GLC companies as well at the apprentice at SME companies. The result also shows that the employability skills of the NDTs apprentices at the GLC companies is significantly higher than the apprentices at the SME companies.

Table 4: The result of one-way ANOVA test for the NDTs apprentice's employability skills based on types of companies

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	8.619	2	4.310	45.64	.001
Within Groups	5.005	53	.094		
Total	13.624	55			

The answer of open ended questionnaire shows that the MNC companies put an effort to make sure the NDTs apprentices undergone a program to enhance their basic skills.

Yes, the company is always organizing programs to enhance basic skills. The apprentices here have the chance to follow the programs organized by the company.

Employer 3

DISCUSSION AND CONCLUSION

The finding of the study shows that competency level of the apprentices' employability skills is at moderate level based on companies' perception. The employability skills measures in this study are basic skills, personal skills, and teamwork skills. Based on the mean and standard deviation of each item in the variables of the study, the mean for basic skills needs to be emphasis in the NDTs training program. This not means the others two skills can be leave alone. The basic skills that need to be polish up in the NDTs program based on employers' perception are including communication skills, information management, and using number especially clear explaination, public speaking, speaking and writing in English, using technology without help of others, and converting unit. The NDTs program should review and evaluate the management of the process of the NDTs program, curriculum, assessemment, method of delivery, and teacher as suggested by Venkatraman (2007) on an ongoing basis (Yahya, Muhammad Sukri, & Hairul Anuar, 2008). This continous effort will fulfill the demands of industrial needs from employees and at the same time accomplish a

responsible of TVET institutions and public funding by the government. As a result of the qualities of the NDTs program, the nation economic will flourish well.

The finding of the study also shows there is a significant difference between the employability skills of the NDTs apprentice in regard to their companies attached. The result shows that the NDTs apprentices who attached with the MNC companies more likely to have better employability skills compared to the GLC and SME companies. The result also shows that the NDTs apprentices attached with the GLC companies is significantly have better employability skills compared to the NDTs apprentices at the SME companies. This finding is in line with the views held by Marken (2010) and Piotti (2011). They suggested that the MNC companies are capable of providing the best vocational training as they are equipped with better expertise and latest technology as well as skilled workers. According to Filipova (2008) and Bensiali (2010), the MNC companies provide workers with appropriate works environment in instilling and developing their workers employability skills. Therefore, the NDTs apprentices at the MNC companies have a better opportunities to develop their employability skills compared to the NDTs apprentices at the GLC and SME companies.

Sharifah, Rahmah and Abd Hair (2011) found out that the different perception of graduates' employability skills is lie on the priorities of requirement of the companies. They stated that the MNC companies emphasis on graduates with employability skills in planning, thinking skills and follow by other skills. Meanwhile, the GLC and SME companies priorities requires a well performing graduates in their field of expertise, ethics and values follows by other skills. Finding of the current study reveal that all item of employability skills measures shows a significantly different among the three types of companies except for communication, interpersonal skills and teamwork. Further analyzed shows that the MNC companies rates their NDTs apprentices slightly higher in making decisions, resolving problems, work planning, thinking skills, and information management compared to the GLC and SME companies.

Although the results of the study suggested that the employability skills of the NDTs apprentices attached with the SME companies is at stake, their participation and contribution in the NDTs program is relevant. According to Suraiya and Ahmad (2011), the participation of SME companies in the NDTs program will opening up job oppurturnities, producing and enhancing workforce skills, aiding a process of technological transfer, enhancing the relationship with larger firms, and solidifying the basic structure of the industries in Malaysia. Meanwhile, as the main country's main players for facilities and services, the GLC companies' participation in the NDTs program is not an issue. Companies with a GLC status serve as a very substantial part of the nation economic structure due to the fact that 5 percents of the nation workforce serves for the GLC companies. Furthermore, approximately 54 percents of the measurement index of the Kuala Lumpur Composite Index has been contributed by the GLC (Khazanah Nasional Berhad, 2013).

In conclusion, the finding shows several employability skills of the NDTs apprentices who undergo training with a GLC and SME companies is at moderate level, the level of inculcation can potentially be improved, especially with the involvement of instructors and industrial employers in the implementation of cooperative vocational education in Malaysia. The practices executed by the MNC should be sampled and become the guidance as to improve the competency level of the apprentices' employability skills in the future. The study established by Lois (2010) in Cyprus validates that personality and experience make up the main noticeable criteria by the employers when hiring should take into account in planning an improvement in the NDTs program in the near

future. Therefore, the cooperation of the employers and TVET institutions cannot be neglected in providing future nation workforce with employability skills as well give them with real working experiences.

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