The difference in the skills employment, job training satisfaction and job engagement by training duration among NDTS Apprentices in Southern region of Malaysia

Hosalya Devi Doraisamy | Azmanirah Binti Abdul Rahman

Abstract: Globalization, technological advancements, and changes in work organization have increased the demand for skilled employment in many countries. In the absence of skills, employers are less likely to be able to find employment and are more likely to face skills-related unemployment, which decreases their competitiveness. In order to address the challenge of promoting skilled employability, the National Dual Training System (NDTS) apprenticeship training programme is an essential component. This enhances the ability of employees to find employment opportunities and earn income with the help of their skills. The development of skilled employability is one of the most effective strategies for ensuring a successful transition to the workforce and the access to career-oriented employment. Furthermore, the NDTS provides employees with the skills, knowledge, competencies, and attitudes necessary to find employment and to survive in an unstable economic environment. The performance of an employee is also related to the level of job satisfaction along with the skills of the employee. It has been demonstrated that satisfied employees perform better, resulting in a higher productivity level in the organization. Also, employees must be provided with necessary job training to ensure they develop the necessary skills to fulfill the requirements of their respective roles as well as prepare themselves for employment in specialized fields. The existence of training opportunities is likely to lead to employees remaining satisfied with an organization for a longer period of time. The improvement of employee engagement and workplace excellence can also be observed in this regard. As part of this study, the focus will be on identifying how the duration of the NDTS apprenticeship training program affects the employment of skilled employees. This will affect the satisfaction of job training, and the engagement of employees on the job.

Keywords: skilled workers, CO-E, skill employment, SR-U, NDTS

1. Introduction

A significant feature of the National Dual Training System (NDTS) is that it combines three key aims: improving individual capability and capacity to regulate themselves, promoting equality of opportunity and participation in society, and developing human resources (Pilz and Wiemann 2021; Liguori and Winkler 2020). NDTS is distinguished from other skills training programmes in that trainers are required to incorporate both human and social values as well as learning and methodology skills when teaching or facilitating technical subjects. Today's competitive environment requires employees to have access to this added value component of NDTS. In conjunction with structured learning on the job, this training programme will enable the employee to receive relevant and portable skills that are applicable to the labour market, indirectly combating Malaysia's growing skills underemployment (Clarke 2018; Affouneh et al 2020).

Skills underemployment has increased dramatically in several developed countries, including Malaysia, since the global economic crisis began. Even though Malaysia's labour market is recovering, high skills unemployment continues to present a serious problem (Nga et al 2021; Shahirah Mokthar et al 2019). The current workflow system does not balance different products and services adequately, which should be addressed at the job design stage. Insufficient protocols, practices, and standards for performing a particular task or activity in the workplace are largely responsible, which do not match the employer's objectives and adversely affect work design. Poor design limits opportunities to develop a variety of skills and abilities and to experience a variety of learning situations (Hakanen et al 2018). Employee dissatisfaction, increased turnover and lack of engagement are all the results of this interference with the employee's career interest and fulfilment. Employee dissatisfaction, disengagement, and demotivation are the results of poor work design (Islam et al 2019).
Furthermore, employees were unable to acquire and apply new knowledge, adapt to changes in technology and organizational structure. The organization may not retain talented employees. Low employee productivity and stress can lead to psychological issues like high blood pressure, heart disease, psychological strain, burnout, depression, anxiety, irritability, and poor concentration (Rosmala et al 2019). Therefore, NDTS is shaping an industry-driven, skilled workforce that can export in-demand technology based on values. It fosters innovation, economic growth, and community well-being through this diverse talent program. Through this program, employees can acquire the knowledge, skills, and attitudes necessary in order to succeed in a globalized world (Abd Samad et al 2018). Ultimately, training programs must be structured within an ideal duration in order to be effective and highly effective. As a matter of fact, it is not about the duration of training, but rather about the value an employee gain from it. Ideally, training should be tailored to solve a specific problem and fit within the employee's schedule in order to maximize that time (Cascio 2019; Ali 2020).

For greater relevance, the objective of the study is to identify how the duration of NDTS apprenticeship programmes affects skills employment, as well as job training satisfaction, and job engagement, to enrich the research purpose. By implementing NDTS training programs, organizations can achieve a variety of benefits, including increased employee motivation, engagement, and satisfaction. In addition, organizations can achieve increased profit margins. An organization must maximize the impact of such initiatives when they impact it (Basilaia et al 2020) In view of the NDTS' sustainability and inclusivity; it is formulated in such a way as to facilitate economic recovery from skill underemployment. In order to prepare a skilled workforce that can meet the challenges of a rapidly changing future job landscape, this program aims to recover, rebuild, and reform skill-related underemployment among employees. It is therefore important to emphasize that the duration of training is an important determinant of its success (Crawford et al 2020, Martin 2020). However, there is no one-size-fits-all level of employment when it comes to training duration; a few factors can offer valuable insight. In regards to young employees, the findings of the study will benefit society since the NDTS apprenticeship program plays a crucial role in improving the skills of the work force. It will inspire employees to gain meaningful employment and build long-term careers by enriching their knowledge, skills, and attitudes. In doing so, they can support themselves and their families, thereby helping to make our nation and community more sustainable.

2. Conceptual Framework

The conceptual framework for this research is shown in Figure 1, and it describes the different instrument variables adopted for this research. The research model in this study is an adaption of the “The Work Design Questionnaire (WDQ)” which was developed by Morgeson, F.E in 2006 consists of four (4) core job design and the nature of work to determine skill employment, “Job Training Satisfaction (JTS)” which was developed by Steven (Schmidt 2004) consists of two (2) facet scales to assess employee attitudes about aspects of the job and aspects of job training and plus with “Job Engagement (JE)” scale which was developed by Bruce Louis Rich in 2010 consists of three (3) core constructs linking job demands and resources to promote involvement and performance.

![Figure 1 Conceptual Framework](https://www.malque.pub/ojs/index.php/msj)
deal of analysis prior to drawing conclusions. A relationship could be established between the independent and dependent variables.

In this study, all NDTS apprentices enrolled in the Southern region of Malaysia for years 2022 and 2023 are included in the population. There were three (3) subcategories of training certification among the population in this study, which were classified according to their level: Malaysian Skills Certificate (SKM) Levels 1, 2, and 3 as well as three (3) active course codes of NDTS programmes listed on the Standard Registry according to the Malaysian Standard Industrial Classification (MSIC), including C, G, and S. An analysis of cumulative NDTS registration data by state was used to determine the number of NDTS apprentices in the southern region of Malaysia. The NDTS is a skill certification program operated by the Department of Skills Development (DSD) recognized by Malaysian industry. In similar manner to academic qualifications, apprenticeship programs provide apprentices with an exciting career path and a chance for personal growth.

A multistage simple random sampling design was used to select the DSD region, certification levels, and active course codes. This sample represents the entire sample population that is interested in participating in this study. The sample size was sufficient in order to make confident judgments about the findings, including 20 percent to reduce the probability of questionnaires being returned. The sample proportion was estimated by adding the success rate within a sample and the sample size. Lastly, determine the sample proportion based on the number of successes to the sample size.

A questionnaire was used to conduct this study. In order to improve feedback accuracy, a thorough questionnaire preparation process was followed as well as an analysis and conclusion were drawn from the collected data. This instrument was divided into four sections, A, B, C, and D. The demographic information in Section A is the personal information of the respondents. Section B is Work Design Questionnaire (WDQ) to analyse skill employment, Section C is Job Training Satisfaction (JTS) and Section D is Job Engagement (JE). The questionnaire’s sections B, C, and Dare scored on a four-point Likert scale.

3.1. Instruments

In this study, the Work Design Questionnaire (WDQ) was adapted to reflect the Industrial Revolution 4.0 in order to determine skill employment. It was based on a questionnaire published by (Morgeson and Humphrey in 2006). The questionnaire contains four dimensions, namely Task Characteristics, Knowledge Characteristics, Social Characteristics, and Work Context (Morgeson and Humphrey 2006). The WDQ has been subjected to a variety of arguments, comparative analyses, and classifications, ultimately resulting in 18 categories of work characteristics, which are subdivided into three higher-order categories: motivation, social, and contextual characteristics of the work environment (Mat Nawi et al 2020). The WDQ was an effective tool for measuring each of these three factors in a comprehensive and integrated manner. It was necessary to bridge the gap between tasks and characteristics, despite practitioners having limited work characteristics (Madrid et al 2020). The internal consistency reliability of the WDQ scale averages 0.87, while its convergent validity averages 0.74 factor loadings (Morgeson and Humphrey 2006).

The Job Training Satisfaction (JTS) questionnaire was developed by Steven (Schmidt 2004). Employee satisfaction with training is impacted by a variety of factors, including opportunities and rewards, supervision, fringe benefits, operational rules and procedures, co-workers, the nature of the work performed, organizational support for training, feelings about training, and employee satisfaction with training (Schmidt 2004). Job Training Satisfaction Index measures the attitudes, beliefs, and overall job satisfaction of employees. In addition to the variety of training components, employees reported increased satisfaction with their job training. It measures employee satisfaction as well as formal or planned training activities undertaken by an organization (Huang 2020). Training employees in the workplace directly or indirectly contributes to productivity and job satisfaction (Ensour et al 2018). In general, the JTS reliability coefficients range from 0.61 to 0.90. The Cronbach's alphas for both job training and job satisfaction are 0.83 and 0.89, respectively (Schmidt 2004).

Job Engagement (JE) scale was adapted from Bruce Louis Rich's publication in 2010. The scale measured the level of physical, emotional, and cognitive engagement in the workforce (Rich et al 2010). A maximum level of employee engagement, as defined by the JE scale, is the investment of employees' physical, emotional, and cognitive resources in the performance of their duties simultaneously and holistically (Kahn 1990). There was a higher degree of precision in the JE as well as a better theoretical foundation. Various theories of motivation, work design, and role performance have been used to conceptualize job engagement (Nguyen and Pham 2020). A high internal reliability index of 0.89 was found for the Job Engagement Scale, also referred to as Rich Engagement Scale, based on the findings of Bruce Louis Rich. There was also good convergent validity demonstrated by the Job Engagement Scale, with an alpha coefficient exceeding 0.70 (Rich et al 2010).

3.2. Data Collection

The first step in this process was to apply for permission to conduct research in the respective NDTS apprenticeship training centres in collaboration with the Department of Skills Development (DSD). It is mandatory to obtain this permission in order to conduct the study in accordance with the rules and regulations of the DSD and NDTS training centre. A Google form with questions was created and emailed to DSD for NDTS apprentices to complete. A one-month period was provided.
to respondents for completing the questionnaire and submitting their answers. In accordance with established procedures, all data collected will be analysed. Analyses of the finalized data were conducted for the purpose of interpretation of the study.

3.3 Data Analysis

The study’s findings report will be based on the analysis of test results and feedback from respondents. SPSS version 26 was used to analyse the data from this study. Tables were used to present all results. A descriptive and inferential analysis of the research findings was used to describe the answers to research objectives, questions, and hypotheses.

4. Results

A summary of the statistics for skills employment, job training satisfaction, and job engagement has been calculated. Skills employment observations had an average of 3.17 (SD = 0.25, Min = 2.31, Max = 3.73). The observations for job training satisfaction had an average of 2.96 (SD = 0.55, Min = 2.00, Max = 3.80). Job engagement observations had an average of 3.30 (SD = 0.36, Min = 2.33, Max = 4.00). The standard deviation for all three variables is less than 1/3rd of the mean. According to the study, most respondents were satisfied with the level of skill employment, job training satisfaction and job engagement afforded by the NDTS apprenticeship training programme. The levels of skills employment, job training satisfaction and job engagement are based on the levels of mean score range provided in Table 1. This is adopted from Education Policy Planning and Research Division under Ministry of Education based on 2006 (Ibrahim & Don 2014).

### Table 1 Summary Statistics Table for Interval and Ratio Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skills Employment</td>
<td>3.17</td>
<td>0.25</td>
<td>2.31</td>
<td>3.73</td>
</tr>
<tr>
<td>Job Training Satisfaction</td>
<td>2.96</td>
<td>0.55</td>
<td>2.00</td>
<td>3.80</td>
</tr>
<tr>
<td>Job Engagement</td>
<td>3.30</td>
<td>0.36</td>
<td>2.33</td>
<td>4.00</td>
</tr>
</tbody>
</table>

A) Research Question 1: Is there a statistically significant difference in the skills employment by the training duration?

**Null Hypothesis (H₀):** There is not a statistically significant difference in the skills employment by the training duration.

**Alternative Hypothesis (H₁):** There is a statistically significant difference in the skills employment by the training duration.

A two-tailed independent samples $t$-test was conducted to examine whether the mean of skills employment was significantly different between the Less than 6 months and 6 to 12 months categories of training duration. The result of the two-tailed independent samples $t$-test was significant based on an alpha value of 0.05, $t(75) = 2.22$, $p = 0.03$, indicating the null hypothesis can be rejected. This finding suggests the mean of skills employment was significantly different between the less than 6 months and 6 to 12 months categories of training duration. The results are presented in Table 2.

### Table 2 Two-Tailed Independent Samples $t$-Test for Skills Employment by Training Duration

<table>
<thead>
<tr>
<th>Variable</th>
<th>Less than 6 months</th>
<th>6 to 12 months</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Skills Employment</td>
<td>3.23</td>
<td>0.27</td>
</tr>
</tbody>
</table>

Note. N = 77. Degrees of Freedom for the $t$-statistic = 75. $d$ represents Cohen’s $d$. Lower Limit = 0.01, Mean Difference = 0.13, Upper Limit = 0.24.

B) Research Question 1: Is there a statistically significant difference in the job training satisfaction by the training duration?

**Null Hypothesis (H₀):** There is not a statistically significant difference in the job training satisfaction by the training duration.

**Alternative Hypothesis (H₁):** There is a statistically significant difference in the job training satisfaction by the training duration.

The result of the two-tailed independent samples $t$-test was not significant based on an alpha value of 0.05, $t(75) = -0.68$, $p = 0.50$, indicating the null hypothesis cannot be rejected. This finding suggests the mean of job training satisfaction was not significantly different between the less than 6 months and 6 to 12 months categories of training duration. The results are presented in Table 3.

### Table 3 Two-Tailed Independent Samples $t$-Test for Job Training Satisfaction by Training Duration

<table>
<thead>
<tr>
<th>Variable</th>
<th>Less than 6 months</th>
<th>6 to 12 months</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Job Training Satisfaction</td>
<td>2.92</td>
<td>0.54</td>
</tr>
</tbody>
</table>

Note. N = 77. Degrees of Freedom for the $t$-statistic = 75. $d$ represents Cohen’s $d$. Lower Limit = -0.34, Mean Difference = -0.09, Upper Limit = 0.16.
C) **Research Question 1:** Is there a statistically significant difference in the job engagement by the training duration?

**Null Hypothesis (H₀):** There is not a statistically significant difference in the job engagement by the training duration.

**Alternative Hypothesis (H₁):** There is a statistically significant difference in the job engagement by the training duration.

The result of the two-tailed independent samples t-test was significant based on an alpha value of 0.05, t(75) = -4.00, p < 0.01, indicating the null hypothesis can be rejected. This finding suggests the mean of job engagement was significantly different between the less than 6 months and 6 to 12 months categories of training duration. The results are presented in Table 4.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Less than 6 months</th>
<th>6 to 12 months</th>
<th>t</th>
<th>p</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Engagement</td>
<td>M = 3.44, SD = 0.35</td>
<td>M = 3.14, SD = 0.29</td>
<td>4.00</td>
<td>&lt; 0.01</td>
<td>0.92</td>
</tr>
</tbody>
</table>

Note. N = 77. Degrees of Freedom for the t-statistic = 75. d represents Cohen’s d. Lower Limit = 0.15, Mean Difference = 0.30, Upper Limit = 0.45.

5. **Discussion**

An empirical study is being conducted to determine whether training duration is associated with differences in skills, employment, job training satisfaction and job engagement in the southern region of Malaysia. According to the study’s rationale, training duration should be engaging and meaningful for all employees in order to ensure that they are continuously learning, growing, and improving. The length of the training must be determined by considering what is necessary to assist employees in developing a particular knowledge or skill set. Prior to training, it is necessary to determine how much time is required while maintaining a high level of quality. But then there is no point in striving for the optimal training duration. It would be more beneficial to ask employees what should be included to maximize the value of the training program. In other words, it is seeking meaningful information that is presented in an engaging manner without containing any unnecessary information. There is no magical or scientific formula for determining how long a training program should last in order to be most effective. On the basis of the respondents’ perception, the categories of duration of training had a significant impact on the degree of core skill employment and job engagement. Indeed, the length of a training program has a direct effect on both the skills of the trainees and the prospect of employment as well as their satisfaction and engagement in the program. It is more difficult for employees to learn from practice-based learning processes (such as skills training) than those that do not, since they must be repeated until they are capable of learning on their own. A tolerable range of pressure speeds up learning in a way that is highly motivating rather than threatening, so that training can be completed in a timely manner. In situations where training duration becomes monotonous and threatening, learning becomes nearly impossible.

The optimal training duration will depend both on the intensity of the session and the degree of commitment and interest of the employee. Employees typically select a training field that can be accomplished in less than six months. According to this survey, most respondents opt for short-term training over long-term training. The shorter, the better. Employees seek to improve their skills in order to achieve a better and more pleasant job without devoting to extensive training sessions. Long training periods can easily cause employees to lose interest and enthusiasm in repeated duties. Many professions can be entered without much training. However, the salary and job satisfaction levels are comparable to those in need of extensive training. It is extremely encouraged to participate in a short-term job training programme in an emerging field.

In a short period of time, an employee may be qualified for a rewarding new position. Lucrative employment is made possible through short job training. Regardless of their interests, employees can gain knowledge in a short training programme. Short programmes can assist employees specialise more or learn in new manners. They can also make use of them to get a greater understanding of a different field of skills employment in which they are interested. Whatever the case, short training programmes are a form of freedom that raises employee satisfaction and engagement. Although employees may have knowledge in a particular profession, their organisation is now focused on a sector that includes several other disciplines. Employees will always feel competent in their field of professional growth after a short training programme. Nevertheless, the short training programme can sometimes hinder employees from learning all the required skills.

Conversely, considering the findings, the duration of training had no major impact on employee satisfaction. It involves improving employee attitudes, acquiring knowledge, skill development, and self-efficacy. Likewise, the duration of training is only a general guideline and a measure of skill development and maintenance for long-term transfer as well as to promote greater engagement. Whereas employee satisfaction refers to a degree of contentment with their job that goes beyond their normal responsibilities. While the duration of training is one of the criteria used to make job training more effective, accessible, and convenient in order to extend opportunities, it is important that training effectiveness gives opportunities for employees to learn and increase their skills and knowledge. In addition, the efficacy of the training is essential for creating valuable training programme materials that will increase satisfaction with job in the long run. Greater
employee performance and satisfaction, better team morale, higher return on investment (ROI), and support in retaining and attracting talented employees are all benefits of more effective training.

6. Conclusion

The effectiveness of a skills employment and job engagement can be significantly impacted by the duration of the training programmer. However, the training program's quality and contents have a significant influence on how satisfied employees are at work. Determining an employee's interest in a subject is always extremely important since it will greatly affect the degree of attention, they can provide to a training session. The duration of the training programmer is an element to consider, but the organization must spend time studying the demands of its employees. The importance of the skills, knowledge, and attitude that employees need to develop in order to succeed in their professional careers should be factored into the training strategy's relevance and interest level. With this, the organisation can study, taking in mind the level of participation, the ideal duration of the training package. However, the ideal length of a training programme can be one with a shorter training period and higher production quality. The training objective or purpose can get neglected if the training period is too long. Focusing on quality over quantity will help to guarantee that employees get the most out of it possible and will also boost their spirits, engagement, and satisfaction.

Ethical considerations

Not applicable.

Declaration of interest

The authors declare no conflicts of interest.

Funding

This research did not receive any financial support.

References


Huang W (2020) Job training satisfaction, job satisfaction job performance Career Development and Job Satisfaction. DOI: 10.5772/intechopen.89117


Liguori EW, Winkler C (2020) From offline to online Challenges opportunities for entrepreneurship education following the COVID-19 pandemic Entrepreneurship Education Pedagogy.


Mat Nawi FA, Abdul Malek Tambi A, Muhammad Faizal Samat, Wan Masnieza Wan Mustapha (2020) A review on the internal consistency of a scale the empirical example of the influence of human capital investment on Malcom Baldridge quality principles in tvet institutions Asian People Journal (APJ) 3:19-29. DOI: 10.37231/apj.2020.3.1.121


