



A Study of Effectiveness of Vocational Training Programs for Taiwan's Indigenous people

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The purpose of this study is to explore the effectiveness of the vocational training programs for employment on Taiwan's Indigenous people. A sample of 317 students from 2017 and 2018 batches of vocational training programs for unemployed people in Hualien County was selected for this study. The secondary data analysis method was adopted through statistical software SPSS 22. The data was made available by the Ministry of Labor Vocational Training Management System Database (TIMS). The findings include that age and education level of the Indigenous trainee(s) adversely affect employment performance, indicating that the lower the age and the lower the education level, the higher the employment effect. The trainees' learning satisfaction however does not affect the employment outcome. The study also found that the objective of the Indigenous people in participating the vocational training was mainly employment. For this reason, their recognition and satisfaction for these vocational training programs was found extremely high. The employment rate after training was also 67.2% but their employment and vocational training correlation was a low on grounds of curriculum attributes. The learning effectiveness of vocational training varies according to gender and it was evident that the effectiveness was higher in women than men. This study recommends strengthening the identification mechanism of employment effectiveness and suggests seeking the cooperation and assistance of the local industry to strengthen vocational training.

Keywords: *Learning Motivation, Learning Outcomes, Indigenous Vocational Training, Taiwanese Aborigines*



INTRODUCTION

The Indigenous aborigines of Taiwan, thought to be living there for thousands of years, constitute about 2.38 per cent of its population or around 567,044 in March 2019 (WorldOMeter, 2019) These people include about 16 families belonging to Ami, Atayal, Paiwan, Bunun, Bein, Rukai, Tsou, Saisiya, Yamei, Thao, Karma, Taroko, and Sahara, Clay, Sedek, La Aruwa and the Kanakana ethnic groups. These groups have a unique culture, language, customs and social structure. Hualien County is largely the habitat of these groups. This country comprises mountains, rivers and plains and is the largest region in Taiwan. The Indigenous peoples are often distinguished between highland and plains; those living in the plains are only six ethnic groups (Ami, Truku, Saqilai, Karma, Bunun and Saidek) while other groups live in mountains and across rivers. The population of Hualien country is about 327,513, about one third of which (93,190) are the Indigenous people (Indigenous Council, 2019). Hence, in view of the effectiveness of Indigenous vocational training programs and their implementation, the subject of this study, it was important to focus on this Hualien County.

The objective of this study was to highlight the socio-economic deficiencies of the Indigenous or Taiwanese aborigines, while focusing on their high unemployment rate and substandard education. In this context, it was important to assess the success of the vocational training program on these ethnic groups. Many of these groups remained marginalized and faced discrimination in all social and economic resources of the country. A severe economic disparity therefore existed between the Indigenous and the other Taiwanese people, resulting in social and educational barriers on Indigenous people preventing them not to go beyond vocational training. The economic marginalization led to social evils like alcoholism and prostitution among them. As a result, the unemployment rate of the Indigenous or Taiwanese aborigines always remained high since most of these Indigenous workers worked as labor in construction and manufacturing industry (Indigenous Council, 2019). Further, because of cultural alienation, they remained illiterate, unexposed to educational and employment opportunities and benefits of high technology and high-knowledge industries. This made them ineligible to the benefits of new wave of employment (Ministry of Labor, 2018). This study also takes up the issue of unemployment of Indigenous peoples and explores the possibility to formulate relevant policies to assist them.

Taiwan has also recently recognized xenophobia in employment and excluded foreign workers from all strategic employment positions. But this did not help the Indigenous people since they were not educated enough to take their place or occupy those positions (Guo Junyan, Wu Huiru, Lai Qinying & Wang Dejun, 2013). Thus Indigenous people who were suffering from external environmental factors, now also suffered from the internal factors which further worsened their issue of unemployment. The only solution to this issue and to deliver them out of this dilemma was to strengthen their professional skills and help them accumulate relevant workplace



experience (Kawa Li Mei, 2016). They should grow as the human capital, whose skills and abilities and enhanced professional knowledge through more learning and educational opportunities would increase their personal productivity and their employability (Becker, 1962). Schultz (1961) believed that investment in education makes individuals acquire greater knowledge and skills and increase their employment prospects with higher salary. As a first step, vocational training was recognized as a key policy to assist these Indigenous people to get into employment or entrepreneurship. Therefore, the effectiveness of vocational training for these Indigenous people has now become a topic of concern in all sectors.

In order to improve the employment dilemma of the Indigenous people, the relevant government departments planned to invest a large budget to create more job opportunities through vocational training. It was hoped that the government's vocational training courses should be suitable for the employment of the Indigenous people. Consequently, it was required to strengthen the functions like employment counseling and employment mediation, so as not to waste human resources and budget (Guo Junyan et al., 2013). The government also initiated such programs like pre-employment training for these Indigenous people in order to develop specific working skills in them, and to make them eligible for both employment and self-employment after training. The effectiveness of pre-employment training was more important than post-training employment.

But it was felt that the willingness to participate in vocational training among the Indigenous people was not high, as they alleged the vocational training to be biased, and most of the participants had low-income and the training results were not significant (Ma Caizhu, Wu Yuankai, 2015; Chagan, Deng, 2015). Sun Zhongshan and Li Dechun (2007) argue that the learning outcomes of vocational training are "not necessarily" the key factors affecting the employment of vocationally trained students. The capacity of the training unit and the students' motivation to learn are all major factors affecting employment (Liao Wenzhi, Wang Yuting, 2013). Noe and Schmitt (1986) point out that learning motivation is the main variable that affects learning outcomes.

This study therefore explored the evaluation of training effectiveness and the level of students' motivation and satisfaction from Indigenous vocational training with the following main objectives:

1. To assess the motivation level of Indigenous people for the vocational training programs;
2. To understand the satisfaction levels of the Indigenous people for the vocational training programs;
3. To determine the effectiveness of the vocational training programs on the Indigenous people

4. To analyze the relationship between curriculum attributes, learning motivation and learning satisfaction on the effectiveness of Indigenous training programs.

These objectives of Indigenous vocational training are evidence of the fact that evaluation of learning effectiveness is an important factor for post-training employment. Wang Ruizhi and Liao Lingzhu (2008) believe that learning outcomes can be measured by different indicators, including learning behaviors, self-assessment, learning interests, performance, learning experience, activity process evaluation and participation level. Lin Tusheng (1996) said that factors affecting learning satisfaction should accommodate all stakeholders including students, teachers, parents and community. It should consider students' personal background information such as gender, age, education, interests, motivation for participation, past exposure and like. For teachers, it should focus on their professional skills, teachers' traits, teaching methods, content, attitude, as well as on external factors like environment, equipment and transportation. Long (1985), too, believed that the main goal of adult learning activities is learning satisfaction and learning outcomes, where satisfaction refers to the pleasure of learning activities.

LITERATURE REVIEW

Vocational Training Programs for Unemployed Indigenous People

The Indigenous Unemployed Vocational Training Unit is designed to enhance the use of non-government training resources, enhanced work skills of the Indigenous people and promoting employment in them (Indigenous Council, 2019). It is an annual "Remote Area" event compiled by the North Shore Yehuda Golden Horse Branch of the Labor Department of the Ministry of Labor. It funds the pre-employment training of unemployed Indigenous people including residents and new immigrants. The total number of hours of training per shift is no more than two months (or 300 hours). The qualifications for the training of the units are divided into three categories. The first is legally registered Indigenous people or their consortium of legal persons where the person in charge (coordinator) must be indigenous. Second is such an indigenous group which has filed an application in the local government competent authority and whose coordinator (in charge) should be an Indigenous. Third is that indigenous institution which has filed an application to legally competent authority and whose coordinator (in charge) should be an Indigenous.

The regions identified for vocational training were Xiulin Township, Wanrong Township, Zhuoxi Township, Hualien City, Fenglin Town, Yuli Town, Xincheng Township, Ji'an Township, Shoufeng Township, Guangfu Township, Fengbin Township and Ruisui Township. The Indigenous tribes in the vocational training included the Fuli Township (Indigenous Administration of the Hualien County Government, 2019). The special feature of this unique training program was that Indigenous groups planned themselves the skills training courses

suitable for their employment, based on their characteristics and industrial scenario. Further, they conducted training in the Indigenous tribal areas, mainly to strengthen their own employment skills, and increase their employment rate. In relation to Canadian aborigines, Loizides (2003) had proposed to base vocational training courses on the needs of enterprises, to promote their employment situation. Likewise, Huang Yusheng (1996) had pointed out that the closer the content of vocational training is to labor market needs, the more effectively it can respond to employers' needs but more competitive it will be for the students.

Ma Shouzhi (1996) has spelt out relevant counseling measures to improve the employment situation of Indigenous Peoples. These factors included combining the resources of private enterprises in response to the needs of the business community and the aborigines; conducting vocational training and employment counseling; and matching the living characteristics of aborigines and meeting market needs in order to improve vocational training and the effectiveness of employment counseling.

Personal Background

The factors influencing the effectiveness of training include personal traits such as gender, age, education level, class and years of experience, motivation to participate (including attitudes, expectations, and perceptions of training content) and environmental factors (e.g. organizational climate, work environment, and supervisors). The support of peers and subordinates is also important (Xu Rongji, 2004). Many studies on adult learning motivation confirm that individual background variables influence learning motivation. Men prefer work-related courses, while women prefer social and personal development courses (Huang Fushun, 1996). As for age, the studies reveal that the interest to participate in educational activities declines slowly after the age of 30 which declines sharply around the age of 55 (Huang Fushun, 1996). The results of the study confirmed that age variables affected learning motivation (Huang Yuxing, 1995; Zou, 1997). The variables in education sector have also been examined in previous research on adult education. The higher the education level, the more likely is participation in educational learning activities. Empirical research explains how educational level variables affect learning motivation (Huang Yuxing, 1995; Zou, 1997).

Several of these research studies have recommended follow up research to focus on differences in training effectiveness, and personal variables of gender, age, and education as background variables. Hence these are included in this study.

Learning Motivation

Learning motivation refers to the internal process of triggering, maintaining and guiding individual behavior (Ye Bingyan, 2013; Ding Zhen Feng, 2000). Motivation can make an individual energetic, objective, and maintain one's internal state of behavior (Maher, Meyer, 1997). In other words, learning opportunities increase the motivation level and participation of



learners. The participants who have varying motivation levels in receiving vocational training will also have varying performance levels. Learning motivation is thus an internal thinking process that triggers the learner's behavior to achieve a specific goal. Each learning activity motivates the individual to invest and maintain the driving force of learning. The most important thing is that the real motivation from the heart drives the inner strength of the action, making the learning intentions more certain, which is the turning point of learning motivation (Huang Fushun 1996).

Each person's intrinsic motivation is different from the external environmental stimulus received and hence the choice of the vocational course will also be different. In order for learning to be successful, it requires to see whether the studied courses and activities can meet individual needs and goals (Liao Wenzhi & Wang Yuting, 2013). Huang Fushun (1996) synthesized several studies and described the factors that hindered adult participation in training such as cost, time and transportation. The Taiwan's Ministry of Labor Vocational Training Information Management System database options included other factors like skills that generate employment; the Skills of a second expertise enabling the individual to transfer between vocations; skills to gain a promotion; skills to enrich practical experience; skills to get a promotion and like. Scholars have found that learning motivation have a positive influence in the form of desired learning outcomes (Liao Wenzhi & Wang Yuting, 2013; Wen Lingyu & Lin Yi'an, 2005).

In accordance with these findings, the current study views motivation of the Indigenous people to participate in vocational training as: "improving their employment skills to enhance their work productivity, gain promotions, and further their education, and engage in learning according to their plans." The "Learning (Participation) Motivation" is therefore listed as a variable of this study in order to verify its impact on learning components of satisfaction and learning outcomes.

Training Effectiveness and Satisfaction

The main purpose of the assessment of vocational training effectiveness is to determine whether training has benefited the trainees and to what extent. It also examines the relevance of training as a reference to take management decisions. Looking systematically, the performance of training is therefore to understand the advantages and disadvantages of training, and know whether its results are different from the set goals. If there is no evaluation process for training effectiveness, it is impossible to know whether the training program has achieved the expected goal, or whether the training implementation has contributed any value and whether there is any basis for an improvement plan (Phillips, 1997). The integrity and effectiveness of such verification practices are seen in the assessment of the effectiveness which determines the value of training (Lin Zheyang, 2018; Lin Zheyang & Zheng, 2016).



The evaluation of training effectiveness is very important in the implementation of vocational training. Generally speaking, the most commonly used evaluation theory of training effectiveness is the four-level evaluation model of the Kirkpatrick. The Kirkpatrick model is a low-to-high level systematic evaluation. Its four levels are positively correlated, that is, their assessment levels are high and there exists causal relationships between the four levels from low to high. The mode from low to high is to divide the evaluation of training performance into four levels: reaction, learning, behaviour and results. (Wen Lingyu and Lin Yu'an, 2005; Lin Zheyang, 2018). In response to Kirkpatrick's four-level assessment model, researchers hold different views and believe that the effectiveness of the response level varies based on responses: even if it is a good response, it does not necessarily guarantee high-quality learning outcomes (Wang Ruihong, 2003).

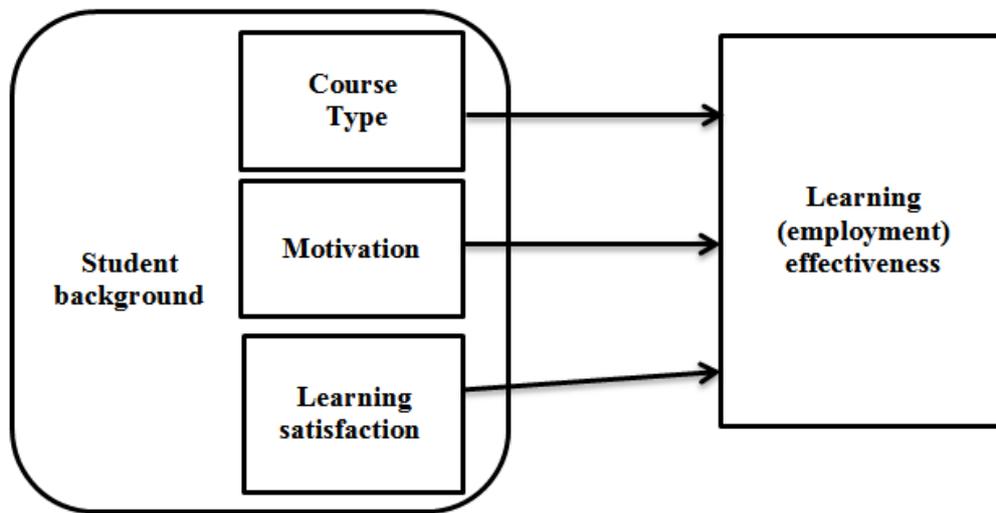
RESEARCH DESIGN

Based on the previous literature, the research design of this study was planned. For instance, the evaluation of learning effectiveness in this study is mainly based on participants of the Indigenous Vocational Training Class in Hualien County during 2017 and 2018. This study assesses the “Employment Effectiveness” of the participants after the completion of each training program in accordance with the norms laid down by Ministry of Labor Vocational Training Information Management System (TIMS) database. This study utilized the secondary data analysis for which it used the statistical software package SPSS on all the data in the TIMS database. The analysis methods included narrative statistical analysis, reliability analysis, Independent sample T-test, single-factor variance analysis and regression analysis.

Research framework

The research framework of this study included data variables (gender, age, education level), course types, motivation of participation, learning components like satisfaction and learning effectiveness and post-training employment; all included in the TIMS database of students. To explore the differences and correlation between the background variables, learning motivation, learning component satisfaction and learning effectiveness of the participants of the Indigenous Vocational Training Class in Hualien County in 2017 and 2018, a research framework was designed as shown in Figure 1:

Figure 1. Research framework



Date collection and data analysis

The TIMS (Training Information Management System) system is a vocational training information management system established by the Labor Development Department of the Ministry of Labor of Taiwan. It provides data of the registration forms of project applications and related tasks. For the purpose of this study, the data related to background information like gender, age, and education level, the motivation level their satisfaction level, and the employment effectiveness of 317 participant trainees was retrieved. These trainees constituted the research sample of this study. All these participants belonged to the Hualien County Indigenous Vocational Training Class of 2017 and 2018. The data was analyzed using the statistical software SPSS and methods included: descriptive statistical analysis, reliability analysis, Independent sample T-test, single-factor change analysis and regression analysis.

The reliability (α system) was used to assess the credibility and stability of each item of the questionnaire. The reliability coefficient of the total scale was above .80 through a coefficient between .70 and .80, which is an acceptable range. The Independent sample T test was also carried out to collect averages of all variables of the study. One-Way ANOVA was used to characterize age and educational level variables on course attributes, motivation, and learning satisfaction. The Regression Analysis was also made to judge whether there is a linear relationship between the Independent variable and the dependent variables. This enabled the researcher to explore the relationship between the background and motivation of students, the motivation of learning, the satisfaction of learning and the effectiveness of employment.

RESEARCH RESULTS AND ANALYSIS

Descriptive Statistics

This study used descriptive statistics to analyze the gender, age, education level, curriculum attributes, motivation of participation, and various learning satisfactions of 317 Indigenous participants. Among the gender of this study, 56 (17.7%) were males and 261 (82.3%) were females which suggests that a majority of the sample was female. The age distribution of the participants was 77 of them were aged between 25-39 years (24%); 87 of them were aged 40-49 (27.4%); while the largest number of 124 was of 50 to 59 years (39.1 %) and 29 were over 60 years old (9.1%). The data revealed that that maximum participation was in the age group of 50 -59 years.

Regarding the education level of participants in vocational training, it was found that 146 (46.1%) had finished high school, followed by 138 (43.5%) in the middle school; while only 32 (10%) were in the university. The low education background is attributed to lack of educational resources for the Indigenous tribes. This data is consistent with several previous studies (Kava Limei, 2016). The curriculum attributes in vocational courses were calculated in the range of 20 people (6.3%) lowest in leather designing, followed by 24 people (7.6%) in handbags, costumes and accessories; 25 people (7.9%) in food and beverage; 26 people (8.2%) in archery, tribal exploration, and home decoration production; 27 people(8.5%) in hand-stitching; 29 people (9.1%) in tea shop; with highest 30 people (9.5%) in organic farming. These statistics reveal that Indigenous participants preferred vocational training courses in food and catering related vocations.

The Learning Motivation was measured as 226 people (71%) were found quite motivated with their first vocational skill that they had mastered; followed by 67 people (21.1%) who admitted that they were happier with the skill acquired second in their profession; while the rest 24 people(8 %) admitted that they were still looking for developing skills in the fields of academic and technical fields. This clearly shows that a large number of around 29% were more motivated by skills learnt later in their career. Regarding Learning Satisfaction variable, the data revealed that all participants were satisfied with the training standards, curriculum, training hours, and training equipment of the courses provided to them. However, it is interesting to know that only 213 people (67.2%) were employed and the remaining 104 (32.8%) were unemployed, which shows the state of Employment effectiveness variable.

Reliability analysis of learning satisfaction data

A total of five items were analyzed for reliability from the TIMS data. The results of the analysis are shown in Table 1. The overall Cronbach α system is .943 and the alpha value of each sub-item is greater than 0.9, which indicates that the internal representation is high. These results are evidence of having a good reliability of the items of the questionnaire.

Table 1: Reliability Analysis

Item	Cronbach α	Overall reliability
The training category is in line with market demand	.940	.943
Teaching curriculum	.924	
Trainer professional and enthusiastic	.928	
Training equipment meets industrial needs	.923	
Training hours	.931	

Gender Check for Independent Samples of Variables

Independent sample t verification detected different genders for all the variables. The significant differences of averages of these variables are shown in Table 2. It is evident that the averages of males and females are not the same in all variables or neither gender has any significant difference in all variables. This proves that gender does not hold a significant difference in variables like curriculum attributes, motivation, employment effectiveness, and learning satisfaction.

Table 2: Independent variable sample T test (gender)

Gender Analysis		N	Average	Standard deviation	T	P	n=317
Curriculum Attributes	M	56	5.63	3.705	-2.016*	0.045	F > M
	F	261	6.66	3.434			
Motivation	M	56	1.27	0.646	-2.392*	0.018	F > M
	F	261	1.53	1.118			
Employment Effectiveness	M	56	6.11	3.705	-2.011*	0.045	M < F
	F	261	5.16	3.166			
Learning Satisfaction	M	56	2.07	1.650	-2.312*	0.018	M < F
	F	261	1.83	1.228			

n.s $p > 0.05$ * $p < .05$ ** $p < .01$ *** $p < .001$

Analysis of Single Factor Variance

The results of single factor analysis (ANOVA) for age analysis are shown in Table 3. The analysis show that the F value of all four variables is $> .900$ and $p = > .05$, which indicates that age does not make any significant difference in measuring the curriculum attributes, learning motivation, employment effectiveness, and learning satisfaction.

Table 3: Age analysis of various variables (ANOVA)

			N=317
Age analysis	F	P	Post hoc comparison
Curriculum Attributes	2.143*	0.132	N/A
Motivation	1.627 n.s	0.116	
Employment Effectiveness	2.194*	0.028	N/A
Learning Satisfaction	.960 n.s	0.517	

ps : n.s $p > 0.05$ * $p < .05$ ** $p < .01$ *** $p < .001$; N/A: No significant difference afterwards

The results of single factor analysis (ANOVA) for educational level are shown in Table 4. The analysis show that the F value of all four variables is $> .900$ and $p = > .05$, which indicates that students with different educational levels have no significant difference in curriculum attributes, motivation, employment effectiveness, and learning satisfaction.

Table 4: Analysis of the variables in education (ANOVA)

Education level	F	P N=317
Curriculum Attributes	1.605 n.s	0.173
Motivation	1.710 n.s	0.148
Employment Effectiveness	2.363 n.s	0.053
Learning Satisfaction	.830 n.s	0.507

ps : n.s $p > 0.05$ * $p < .05$ ** $p < .01$ *** $p < .001$

Regression Analysis

The results of regression analysis of individual variables are listed in Table 5. The standardized independent coefficient values (Beta values) show that except for the degree of age and education level, other variables have not reached a significant level. The data reveals that learning motivation has a positive impact on employment outcomes; however, the positive impact of learning satisfaction on employment outcome is not established. The Beta coefficient of age is -120 , which indicates that the age reverse affects employment effectiveness which suggests that age has a negative impact on employment outcome. The higher the employment, the lower is the employment effect. The Beta coefficient of education level is $-.193$, which shows that the education level of the students has a negative impact on the employment effect. It is assumed that education level has a negative impact on the learning outcome. The lower the education level, the higher the employment effect.

Table 5: Analysis of the results of each variable on employment effectiveness

			n=317	
Predictive variable	Standardization	t	P	
	Beta			
Gender versus employment effectiveness	-.043	-.757	.449 n.s	
Age versus employment effectiveness	-.120	-2.068	.039*	
Education level to employment effectiveness	-.193	-3.342	.001**	
course type on employment effectiveness	-.026	-.456	.649 n.s	
Motivation for participation in employment effectiveness	.067	1.199	.231 n.s	
Learning Satisfaction effect on employment	The training category is in line with market demand	.171	1.868	.063 n.s
	Teaching curriculum	.017	.136	.892 n.s
	Trainer professional and enthusiastic	-.137	-1.196	.233 n.s
	Training equipment meets industrial needs	-.073	-.631	.528 n.s
	Training hours	-.075	-.723	.470 n.s
F	2.389			
R square	.072			
Adjusted R square	.042			

ps : n.s p>0.05 *p<.05 **p<.01 ***p<.001

CONCLUSION

The results of this study show that the motivation of the Indigenous aborigines to participate in vocational training is mainly to learn skills and a second specialty of study. It is also evident that their real objective to participate in vocational training is oriented to post-training employment. In addition, the satisfaction of the indigenous people about learning components like teaching curriculum and like is very high. They give high recognition to the content of the vocational training courses and teaching methods, teachers and equipment. The findings also reveal that curriculum planning is in line with the needs of local indigenous people. In terms of learning outcomes, 213 (67.2%) of the 317 indigenous trainees were successfully employed after the training, and these trainees were highly satisfied. The learning results of the Indigenous vocational training classes have reached the expected plan.

The study also reveals that age of the indigenous people adversely affects employment effectiveness. It indicates that the higher the age, the lower is the employment effectiveness. On the other hand, this training made a high impact on trainees with low education background. This suggests that vocational training has an improved effect on the employability of the



indigenous unemployed who are generally low in education. Based on these findings, this study recommends strengthening the identification mechanism of employment effectiveness. If the identification of employment effectiveness is determined by means of labor insurance or employment guarantee, or an employment certificate, it demonstrates the effectiveness of vocational training and employment. Secondly, it is also suggested to seek the cooperation and assistance of the local industry to strengthen vocational training. This will enable on-the-job training in local industry and ensure the development of skills required for employment. It is also suggested that vocational training should be carried out in collaboration with local industries.

The study faced a few limitations too. It was felt that the data related to learning motivation, learning satisfaction and employment effectiveness was much limited in TIMS database due to standardization of data. Also, factors like lack of training venues, non-suitability of training units, and limited options for vocational training allowances to the disadvantaged groups narrowed the scope of this research. Due to the geographical location and the lifestyle and work nature of the Indigenous people also created some issues during the course of this research.



REFERENCES

- Becker, G. S. (1962). Investment in human capital: A theoretical analysis. *Journal of Political Economy*, 70 (5), 9-49.
- Borman, W.C. and Motowidlo, S. J. (1993) Expanding the criterion domain to include elements of contextual performance, In N. Schmitt, W.C Borman and Associates (Eds.), *Personnel selection in organizations*, 71- 98. San Francisco, CA.
- Chagan Deng (2015). On the education and problems of contemporary Taiwanese minorities. *National Higher Education Research*, 3(6), 8-11.
- Ding Zhen Feng (2000). *National Education Institute bilingual vocabulary academic nouns and dictionaries information network*. From: <http://terms.naer.edu.tw/detail/1309154/>
- Guo Junyan, Wu Huiru, Lai Qinying and Wang Dejun (2013). Discussion on the employment predicament of Taiwan's urban aborigines in the post-industrial society: the views of the indigenous leaders of the Taichung Metropolitan Area. *Taiwan Community Work and Community Studies Journal*, 3(2), 69-108.
- Huang Fushun (1996). Enhance the motivation of adult learners. *Adult education*, 34, 2-8.
- Huang Yusheng (1996). Systematic thinking and reform of employment promotion for disadvantaged groups. *Employment and training*, 14, 53-55.
- Huang Yuxing (1995). *A study of the motivation and effectiveness of housewives' participation in informal adult education* (unpublished master thesis). National Kaohsiung Normal University Adult Education Institute, Kaohsiung City.
- Indigenous Administration of the Hualien County Government (2019). *Ethnic exploration*. From: http://ab.hl.gov.tw/zh-tw/Explore/Ethnic_GroupIntro
- Indigenous Council (2019). *Statistics on the number of indigenous people in March 2019*. From: <https://www.apc.gov.tw/portal/docDetail.html?CID=940F9579765AC6A0&DID=2D9680BFECBE80B67DE91329B1A04A56>
- Kava. Li Mei (2016). *Discussion on the employment dilemma and competitiveness of Taiwan's indigenous youth* (unpublished master thesis). National Institute of Human Resource Management, National Sun Yat-sen University, Kaohsiung City.
- Liao Wenzhi and Wang Yuting (2013). Research on the learning outcomes of adult self-learners. Proceedings of the "2013 All-round Success" International Symposium (page 123-135) organized by the National Air University, New Taipei City.
- Lin Tusheng (1996). Improve the quality of primary and secondary education. *Teacher World*, 84, 58-59.



- Lin Zheyang (2018). The case-based approach is applied to the evaluation of the results of the social work specialization course. *Taiwan Education Review Monthly*, 7(8), 234-251
- Lin Zheyang and Zheng Zheng (2016). Evaluate the implementation results of the care model for dementia elderly groups by the perspective of stakeholders. *Taiwan Elderly Health Journal*, 12(1), 1-21.
- Loizides, S. (2003). Indigenous baby boom a challenge for employment prospects, *Canadian HR Report*, 16(22): 10.
- Long, Huey. B (1985). Contradictory expectation? Achievement and Satisfaction in Adult Learning. *Journal of Continuing Higher*, 33(3), 10-12.
- Ma Caizhu and Wu Yuankai (2015). The effectiveness of public employment service agencies in promoting the implementation of Indigenous employment - take the employment center of Yunjianan Branch as an example. *Labor and Occupational Safety and Health Research Quarterly*, 23(3), P335-348.
- Ma Shouzhi (1996). Discussion on the local government's handling of vocational training. *Employment and training*, 13, 5-8.
- Maehr, M.L. and Meyer, H. A. (1997). Understanding motivation and schooling : Where we've been, where we are, and where we need to go. *Education Psychology Review* , 9, 371-409.
- Ministry of Labor, Labor Development Agency, North Kiwi, Golden Horse Branch (2018). *Promote the vocational training program for the indigenous unemployed*. From: <https://tkyhkm.wda.gov.tw/cp.aspx?n=F27B0A4FD020D64C>
- Noe, R.A. and Schmitt, N. (1986). The Influence of Trainee Attitudes on Training Effectiveness Test of a Model. *Personnel Psychology*, 39, 497-523.
- Phillips, J. J. (1997). *Handbook of training evaluation and measurement methods*. Routledge.
- Schultz, T. W. (1961). Investment in human capital. *American Economic Review*, 51(1), 1-17.
- Sun Zhongshan and Li Dechun (2007). Factors Affecting the Learning Effectiveness of Vocational Training Students - A thorough analysis of the attributes of students. *Journal of Kaohsiung Normal University: Education and Social Sciences*, 23, 29-50.
- Wang Ruizhi and Liao Lingzhu (2008). Learning behavior and learning effectiveness of accounting practice courses. *Contemporary accounting*, 9 (1), 105-130.
- Wen Lingyu and Lin Yu'an (2005). Research on the relationship between learning motivation and the effectiveness of educational training. *T&D Fey Xanten*, 35, 1-20.
- WorldOMeter (2019). Taiwan Demographics. Available at: <https://www.worldometers.info/demographics/taiwan-demographics/>



Xu Rongji (2004). *Feasibility study of the in-service training of the full-time police in-service training* (unpublished master's thesis). Fu Neng University, Department of Information Management, in-service special class, New Taipei City.

Ye Bingyan (2013). The definition of learning motivation and the study of related theories. *Pingtung University Sports*, 16,285-293.

Zou Xiuhui (1997). *A study on the relationship between women's lifestyles and motivations for continuing education in Chiayi* (unpublished master thesis). National Institute of Adult and Continuing Education, Chung Cheng University, Chiayi.