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Sustainability and Productivity Indicators with Sensitivity Truth Table for Unskilled Thai Labour Reverse Migration

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Abstract

Thailand, a developing country, had labours migrating from the agriculture into the industrial due to higher pay in the past. However the economic force has made the government policy to focus on creativity and developing technology towards automatic production. Unskilled Thai labours are facing a big challenge after retirement, which is called reverse migration. This is a rapidly increasing trend in the near future.

The resolving of reverse migration problem can be done by developing unskilled Thai labour through the knowledge management concept. The workplace learning is in coordination with the sufficiency economy philosophy. The key development is for unskilled labours to attend the sufficient knowledge worker activities and become knowledge workers who have self-immunity is known as a "Sufficient knowledge worker". Due to the evaluation of sufficient knowledge worker as social science being complex, the researcher has to indicate that the assessment of sufficient knowledge worker can be achieved by validating the result of the two major dimensions. The research was conducted in an industrial zone in Lamphun, Thailand. Data collection was collected from 32 samples. The result of knowledge and learning dimension was made in transcript from an in-depth interview using Bloom's taxonomy. Upon completing the study, the results had been analysed by using the sufficient knowledge workers truth table that relies on the sensitivity truth table concept.

The results of the sufficient knowledge workers truth table have sensitivity, specificity, positive predictive value, negative predictive value and a research methodology effectiveness of 92.86%, 0%, 0.96, 0.00 and 89.66% respectively. The outcome represents the improvement of sample group in both high level dimensions. Accordingly, they can manage their financial concern with saving and have their own reverse migration plan. Therefore, the idea enables the workers to have confident in their security in the working life.

Keywords: reverse labour migration, workplace learning, sufficiency economy philosophy, sufficient knowledge worker, sensitivity truth table.

1. Introduction

Thailand is a developing country with a development plan that is focused on assisting the well-being of unskilled industrial labours. This policy encourages the establishment of many industrial estates around the country. Due to the labour intensive nature of the industry, workers who have a low-level of working skills have been migrating from the up-country in search of a better livelihood. However, the world economy has changed drastically in the past few decades. To cope with such changes, the National Economic and Social Development Board (NESDB,2007) had integrated the concept of the Creative Economy (Khaman, 2012) in the Thailand vision 2570 initiative (AD2027) and at the 11th national economic and social development plan of Thailand. With the latest information, the industries need to adapt themselves by applying advance machinery and technology for productivity and cost saving. By relying only on their ability to provide labour as the only source of income, unskilled Thai labours are usually faced with financial pressure and constraints in terms of preventing themselves from falling into poverty. This phenomenon has a direct effect on the unskilled Thai labours, thus forcing many of them to migrate back to their home community.

The concept of knowledge management (KM) has become an important strategy for organizational competitiveness and performance. Although knowledge management has been applied in Thailand more than ten years (especially within large organization), it has been only focused on crafting an organizational policy for

skilled labours. Nonetheless, unskilled labour is usually a larger portion of the workforce in the industrial sector. Therefore, it is crucial to implement KM in the industrial sector within the unskilled labourers. The concept is embedding workplace learning (WPL) with the sufficiency economy philosophy (SEP). The aim is to change the practice in living for those taking part in the study by transforming them into a self-immune worker who possesses a tacit knowledge of SEP, as well as being able to apply the way of being a "sufficient knowledge worker (SKW)" in their daily lives. In theory, the SKW can become more confident in their way of life. Also, they will have some positive effects on their work in quality and in their organization. Last but not least, creating a SKW can assist manufacturing in optimizing the production processes and integrating operational requirements (Sanchez, 2008). With this practice, they can attain the knowledge and learning as the means to achieve social economic goals and self-sustainable development (Mansell & Tremblay, 2013).

The most important point is to seek for the concise and measurable way to prove whether an SKW with their main attributes being effective or not. Therefore, we have to develop a tool that is able to combine the relation of knowledge and learning dimensions. Such an idea can also analyse and identify the relation significantly, and represent the criteria of SKW' attributes that should obtain the improved methods of the study design; data collection, analysing, and evaluating for more accurate final result.

2. Literature Review

The following section is proposed a context and details of workplace learning which emphasized the importance of adult learning. And draws attention of SEP and KM to implement with unskilled labour

2.1 Workplace Learning (WPL)

WPL is one of the knowledge management concepts (Smith, 2001). It is a way in which workers or groups of worker acquire, interpret, assimilate or reorganize related clusters of fact, skill, and feeling, and how they construct meaning from their personal or shared organization life (Matthews, 1999). It starts from individual learning or self-directed learning as adult learners in having motivation from themselves by informed learning, with the aim of developing into social or group learning in terms of shared visions and personal mastery as a team (Eraut & Hirsh, 2007; Senge, 1990). The learning becomes long term and as a continuous process (Gerber, 1998). Most of the unskilled labours' performance problems can be solved with training and management action. Rowdon (2007) proclaimed that10% of performance comes from a lack of knowledge, skills, and abilities (KSAs) and that 90% of performance needs a change in the working environment and have been mostly solved by the actions of management. The outcome of WPL is innovation, job performance and organizational performance.WPL concept is adult learning that is suitable for the sample of unskilled labour.

2.2 Sufficiency Economy Philosophy (SEP)

Sufficiency economy is the philosophy that His Majesty King Bhumibol Adulyadej gave to his populace as a form of guidance for coping from extensive and rapid socioeconomic, environmental and cultural changes in the world.

The main idea of SEP is to act as a guide on how to live or behave for people of all level; from individual, family, community and/or nation for keeping on the middle path. Economic development has to survive in the world of globalization. The aim is to balance and resist the rapid and wide changes in the social aspects, environment and culture which have been affected from external forces (Office of the National Economic and Social development Board, 2007; UNESCO, 2013). The principle of SEP is subjected to the word of sufficiency (Figure 1).

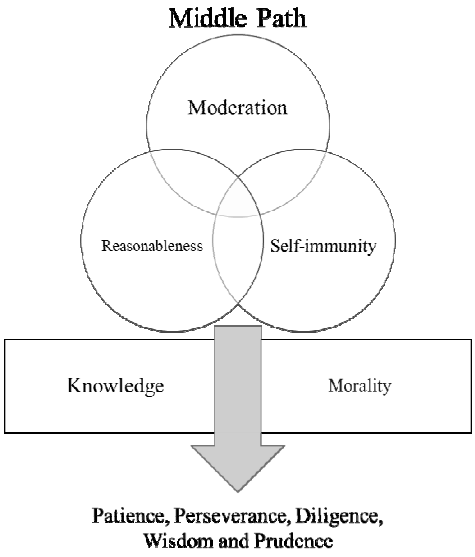

Figure 1.The Sufficiency Economy Philosophy

(Adapted from the Office of the National Economic and Social Development Board, 2007)

The values are the means in mechanism for moderation, reasonableness and enough self-immunity against internal and external changing influences. To make it functional, the two conditions required are knowledge and morality. For knowledge the condition has to rely on omniscience, cautiousness and carefulness, as well as a careful step by step planning. For morality it has to be reinforced from the individual's honesty and integrity. Also, it has to go through a way of life that is based on patience, perseverance, diligence, wisdom and prudence.

Thai people have been using SEP since 1974. Since they admired and believed in this idea, it is best to catalyse the philosophy as a tool. The interesting idea about compatibility of workplace learning and the sufficiency economy philosophy is that both theories are the same in challenging individuals, teams, and organisations in being highly substantial. So, this study applied the activity of SEP which is a household accounting used for participants who are gradually absorbing the concept and aiming to improve their spending in the knowledge dimension.

2.3 Bloom's Taxonomy

In 1956, Benjamin Bloom led a psychologists group to develop a taxonomy classification of intellectual skills that is vital to learning. This model has been widely perceived. Bloom's taxonomy is the key model of learning in pedagogy. It serves as the benchmark for measuring a level of knowledge gained by learners (Hvorecky, 2012). Afterwards, the Bloom's taxonomy has been developed in 1990. Led by Lorin Anderson, who was a member of the original team, with another psychologist they developed a new enhance behaviour to replace the traditional cognitive domain as a noun with a verb to make it easier to understand. The new domain of Bloom's taxonomy has six core domain levels. The model starts from the simplest to the most complex. Each level represents a knowledge being gained or the degrees of difficulties being divided into Remembering, Understanding, Applying, Analysing, Evaluating, and Creating (Pohl, 2000). Bloom's Taxonomy can be used to correlate on improving of samples about the cognitive domain of learning such as the learning dimension.

2.4 Sensitivity Truth Table

The truth table is implemented as a tool in the field of health sciences. It has been widely used to help physiotherapists, and physicians for evaluating a new concept. The random patient samples are often run with the new notion with reference or current methods, by the objective of introducing new technology for increasing productivity or saving money. It is a 2 by 2 table matrix that displays an analysis on multi-functional views. This illustration is in Figure 2.

	Sick	Not Sick
Test Positive	a	b
Test Negative	c	d

Figure 2. The 2 by 2 matrix or sensitivity truth table (UAMS, 1997; Thompson, 2001)

By creating a "truth table" and using a few simple calculations, we can do just that (Davidson, 2002; Wanner, 2010). This is done by comparing positive and negative values between two tested methods and then considering their diagnostic sensitivity and specificity. The dissimilar idea, analytical sensitivity and specificity are different than diagnostic sensitivity and specificity. Analytical sensitivity is the smallest amount of substance in a sample that can be accurately measured; analytical specificity is how well the test measures one substance compared to others. So we get a large group of people, conduct the screening tests, and put them into one of two categories: test positive or test negative. In terms of the letters above, people who test as a positive would be a + b, and those who test as a negative would be c + d (Thompson, 2001; Haynes, Sackett, Guyatt, & Tugwell, 2006). Those who tested positive and were truly diseased would be put into the "a" cell and the others would be put in the “b” cell. From this simple table, we can calculate sensitivity, specificity, and the predictive value (UAMS, 1997). Test characteristic and formula are shown in Table 1.

Table 1. Sensitivity truth table calculation (Adapted from Thompson, 2001)

Test characteristic	Calculation
Sensitivity P (T^+|T)	$\frac{a}{a+c}\ x\ 100\%$
Specificity P (F^-|F)	$\frac{d}{b+d}\ x\ 100\%$
Positive Predictive value (P^+)	$\frac{a}{a+b}$
Negative predictive value (P^-)	$\frac{d}{c+d}$

The way to develop a tool for ensuring the attributes of SKW (Figure 3) as the indicator of productivity and sustainability is by the idea of WPL being applied with SEP.

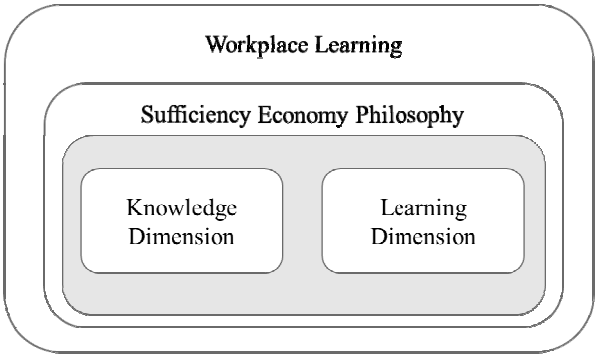

Figure 3. Summarize concept of WPL, SEP, and knowledge management
(Adapted from Eraut and Hirsh, 2007)

The tool has been determined as the engagement between the knowledge and learning dimensions. Therefore, the procedures have to review the ideas of WPL, SEP, Bloom's taxonomy and the Sensitivity Truth Table. WPL is the main developing framework for design at the Saha Group Industrial Park. The learning activity in this study was designed based on SEP principles and link with knowledge management concept. Knowledge management was focused on the knowledge and learning of knowledge worker that can increase more productivity. Bloom's taxonomy was used as a learning evaluation instrument and was applied with the Sensitivity Truth Table for sustainability and productivity indicators. The next section will describe about the integrate application of the four main principles.

With regards to the literature review, the study has deemed it possible to create an innovation tool called the "Sufficient Knowledge Worker Truth Table". The method belongs to the concept of sensitivity truth table coinciding on the same sample with two methods as a cross-tabulation. This is attributed with the SKW. The idea can applied for workers trying to survive after making the reverse labour migration attend SKW Activity.

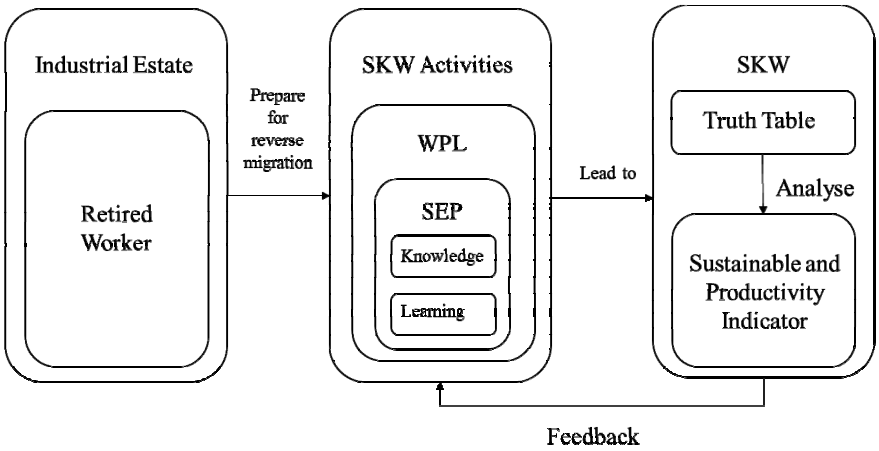

Figure 4. SKW activity conceptual framework

In addition, it can be for improving sustainability and productivity in the organization. The details of the implementation and measurement are described in the research methodology section.

3. Research Methodology

This idea is on creating a knowledge management environment of WPL as a framework for learning to instil SEP as the main concept with the sample group. The idea of motivating the sample group is to make it simple and suitable with their lifestyle. The application of analytical tools on part of the SKW demonstrates that they have knowledge and learning with efficiency. The research context has been conducted with a company located in the Saha Group Industrial Park in the Lamphun province in the northern region of Thailand. The industry has been attracting labours that have migrated from the agriculture field since the beginning of the period. Unfortunately, there is a tendency for these workers to make the journey back home with little in savings and hope for a better future. The research methodology has four steps. Step one focuses on gathering information for step two, three and four to create WPL, implement, and prove unskilled labour after the experiment deems the results being a sufficient knowledge worker.

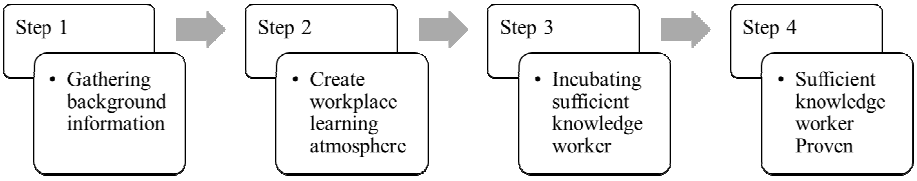

Figure 5. Research methodology

3.1 Sample Selection

The sample selection was done with consideration on the implementation of SKW Activity to the industrial sector. This study relied on the real rule of industrial sector and on some of the factory's limitation effect with the implementation because the workers were occupied in carrying out their duty on the production line. For the training activities, we presumed that it would not have an effect on the number of daily production while upholding the standard work. In this case, the method of sampling used in the research is cluster sampling. The sample was selected from some members of the working group that had been divided by the production line operation. They worked in the same area and had a working life that was 10 years or more before retirement (at age of 55). 97% of unskilled labours are Buddhists, 44% have graduated lower than grade six, and they have their own land. However, they are not farmers or gardeners. Likewise, the methods had been implemented as an experimental study and a control group. This study was designed as a qualitative research. The total number of experimental samples that had been selected was 32. The samples were from 138 unskilled labours. Approximately 20% have been working in the same location environment. The purpose of this paper is to develop an adult learning tool in the food industry through the approach of WPL, SEP, and KM. The challenge of this study is on measuring the sustainable and productivity indicators with the Sensitivity Truth Table.

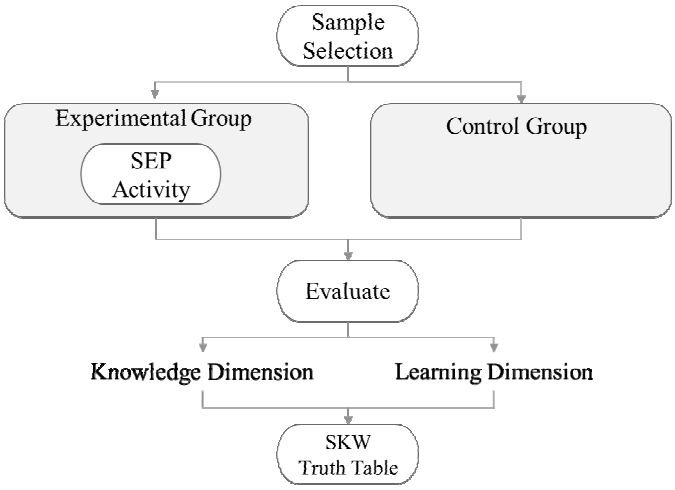

Figure 6. Framework of sample selection and the implementation

3.1.1 Gathering Background Information

During the beginning of the activity, the basic quantitative data collection was based on personal data, the level of knowledge on the job, and knowledge about the SEP. The aim was to understand the characteristics of the target samples and to provide insight on the results of the data in the future.

The objective of the questionnaire was to collect basic bio data for assessing the quality of sample, in terms of independent distribution collective. This approach is suitable for bringing reference to use on the population interest. All acquired data are taken to analyse about the characteristics of the initial sample and for summarizing trends, and on any points of interest from the preliminary results.

3.2 Create Workplace Learning Atmosphere

The study begins with implementing the WPL that creates an environment for supporting Ba in SECI model. The researcher asked for commitment from top management in the organization by explaining to the management team about the concept and on carrying out the research. The researcher obtained some suggestions from them to improve the most suitable steps. After getting the commitment, the qualified sample was selected based on the criteria of 5-10 years before retirement and have been working in the same area to meet the WPL concept. The following step is on creating the SKW Activity based on WPL, SEP, and KM. The main solution is to improve their financial concerns and measure the tools of the SKW Activity.

3.3 Incubating Sufficient Knowledge Worker

The start of the activity with the sample group begins with the "TF LPN CoPs" meeting by emphasizing the cognitive development in the SEP. Teaching is done with them to see the benefits of doing household accounting. One of the important points is that the research plan has to create a mutual benefit between the workers and organization. First, for individual benefit, workers had to learn about the SEP, the level of SEP such as household accounting, new agricultural theory, and community agricultural. To implement household accounting as an activity tool, all samples have to submit the household accounting form for 12 weeks. At the end of each week, data from the personal household accounting and feedback was summarized and analysed. The reports of the personal detail present a balance between income and expense of the sample group. Table 2 indicates a detailed type of income and expense.

Table 2. Personal household accounting sheet

Date	Description	Total Income	Cost of Utilities	Cost of Food	Cost of ……	Total Expense	Balance
8 Jun, 13				140		140	-140
9 Jun, 13				150		150	-150
	Infant Milk Powder			50		50	-50
10 Jun, 13	Wage	12,300		100	100	200	12,100

After summarizing the personal sheet, the researcher analysed and graded the weekly household accounting sheet by establishing the criteria on the evaluation level of understanding throughout the research. This was done by classifying the details into five categories on each type of account that is based on household accounting activity level table (Table 3).

Table 3. Household accounting activity level

	Meaning	Description
N	No Data	Not submitted
P	Poor	Just fill numbers
M	Moderate	A few classified
S	Satisfy	Can be classified
E	Excellence	Fulfil details

After conducting the task, the whole sheet was summarized and presented as a new form which was named as a household accounting check sheet (Table 4).

Table 4. Household accounting check sheet

Employee ID	Week 01	Week 02	Week…..	Week 12	Total Score (24)
200312	E	E	…	S	24
204031	S	S	…	E	21
212404	P	S	…	E	19
214206	N	S	…	E	19

Every month (4 weeks) the samples had a meeting and got a weekly household accounting sheet that had a bar and line graph showing their weekly income, expense and total, and a pie chart for comparing each type of revenues and expenses. In the last session, all of the samples received a three months (12 weeks) summary report. There are examples of some volunteers to sharing an analysis of their development for total balance, revenue, and expenditure on a weekly basis.

3.4 Sufficient Knowledge Worker Proven

The samples will be qualified on the characteristics determined to be as SKW (should have knowledge and learning). The research considers both the knowledge and learning dimensions as the measuring criteria for being identified as the SKW. The two dimensions are applied via the concept of SKW truth table to measure the confidence of the sample. The four stages for assessment are the following:

3.4.1 Evaluate Knowledge Dimension in the Concept of SEP Which Has Been Cultivated through the Household Accounting Activity

Measure the household accounting check sheet which has been emphasized in cognition and perseverance. Calculate the weighting score by representing the value as N, P, M, S, E with 0, 0.5, 1, 1.5, 2 accordingly. The maximum score for each sample is a value of 24 points. Comparing the outcome of sample with the knowledge criteria at 75% (score 18/24) is to be considered qualified as SKW. The score that has actual SEP knowledge represents the results in the table as “True” and lower as “False” for the others.

3.4.2 Evaluate Learning Dimension by Considering the After Activity Process

Use the semi-structured interviews to collect data. Capture the sample group's learning through the promotion of the SEP idea and have it applied in their work life and personal life. With trends in self-immunity to plan their life after work or retirement, and to verify the quality of interview, the research had to be aware of other factors that may contaminate the outcome. The results of the interviews were compared to the keyword in the cognitive domain level of Bloom's taxonomy (Table 5) which was divided into six levels, and considering the SKW by holding from the 4th learning level)Analysing) up. The learning table set the results as “Positive” and lower than that as “Negative”.

Table 5. Bloom’s Taxonomy Keyword (Adapted from Pohl, 2000)

Bloom level	Score	Keyword
Creating	6	(assemble, construct, create, design, develop, formulate, write)
Evaluating	5	(appraise, argue, defend, judge, select, support, value, evaluate)
Analysing	4	(appraise, compare, contrast, criticize, differentiate, discriminate, distinguish, examine, experiment, question, test)
Applying	3	(choose, demonstrate, dramatize, employ, illustrate, interpret, operate, schedule, sketch, solve, use, write.)
Understanding	2	(classify, describe, discuss, explain, identify, locate, recognize, report, select, translate, paraphrase)
Remembering	1	(define, duplicate, list, memorize, recall, repeat, reproduce state)

3.4.3 Obtain the Result of SKW from the 2 Dimensions in the Previous Steps to Measure the Research Quality

Comparison is done by using the concept of the SKW truth table of the sample participants. Record the results in

the truth table by putting the results in the column of the knowledge dimension and fill in the row of the learning dimension. From there, calculate the relationships for analysis. There is a sensitivity threshold when the values are over than 80% expected or more. This will mean that the sample that pass the activity "TF LPN CoPs" has the attribute of an SKW both in the growing knowledge of the SEP and learning levels that can be analysed.

3.4.4 SKW Truth Table Refers to the Control Sample Used as a Comparison for Developing both Knowledge and Learning Dimension through the Interviews

The transcript documents are to be analysed on each of the dimension. After that, take the two dimensions that were analysed through the same idea of SKW truth table and compare them with the results from the experimental sample group.

4. Research Findings

The initial objective of this study is for improving the well-being of unskilled labour when they return to their communities. After the initial sampling to identify the research problem, the experiment was designed and implemented. This sample group consisted of unskilled labour: Thai President Foods Public Company (Limited), most of their education level is lower than grade 6th (44%), grade 7–9 (22%), age 36–55 years old. Their working experience was more than six years (77%). They have their own land but they cannot do any farming activities because they come to work in industry at the age of 18 years. They do not have any agricultural skills like their parents. Moreover, their children do not have agricultural skills too. Today, 97% of unskilled labours who work in Saha Group only obtain their income from the company's wage. They will face a high financial risk if they quit their job or retire at an inappropriate time.

The results from the 2nd step are based on management's understanding and commitment on the key performance indicator of the experiment. Also, the activities in the 3rd step were on incubating the sufficient knowledge worker. The results derived from this step were from a 12 weeks trial progress based on a household accounting sheet and feedback. The statistics from the worksheet show that in the first four weeks they can reduce their unnecessary expense significantly. Household accounting check sheet, summarizes the total score of 12 weeks. The total score has been calculated and analysed for knowledge dimension. The criterion is over and equals 75%. The result shows that 96.77% of sample group have knowledge that passes the experimental criteria.

At the closed meeting, most of the samples truly understand the SEP concept and its implementation. They intended to manage their household accounting sheet seriously and they can increase their savings. They changed their behaviour by being more careful in spending their money, eliminating waste on food and snack consumption, and reminding their families not to engage in too much material expenses.

The result from the in-depth interview was doing the transcript and analysing the learning dimension. After that, the researcher made a transcript on their learning dimensions to be compared with Bloom's Taxonomy learning level. This study defined the satisfy learning criteria as being related with the top three learning level (analysing level, evaluating level, and creating level). Table 6 presents most of the samples passing the learning criteria at 93%.

Table 6. Bloom's taxonomy score

Learning Scale	%
6. Creating	65.5
5. Evaluating	17.2
4. Analysing	10.3
3. Applying	3.5
2. Understanding	3.5
1. Remembering	-

After summarizing the initial finding of this research into a knowledge dimension and learning dimension, the next step was in applying the two dimensions with the concept of the sensitivity truth table to qualify the quality of SEP learning activities. The aim of the experiment is in developing SKW from being an unskilled labour by

measuring via knowledge dimension and learning dimension.

From separately assessing the worker into the knowledge and learning dimension in the previous step, the next step was on doing a joint analysis between knowledge and learning by adjusting their values as the sensitivity truth table. Table 7 displays the joint analysis which counts as the SKW truth table.

Table 7. The summary of joint analysis demonstrating frequency of worker in two dimensions

Employee ID	Knowledge Dimension	Learning Dimension
200312	True	Positive
204031	True	Negative
212404	False	Positive
216206	True	Positive

The results of Table 7 illustrate that after the experiment these workers have acquired the knowledge and are able to learn. The total number of true positive (T^+) is 26. If workers have knowledge but cannot learn, then the total number of true negative (T^-) is two persons. And for workers who don't have the knowledge but can learn, the total number of false positive (F^+) is one person. The evaluation of SEP learning activities are shown in Table 8.

Table8. The sufficient knowledge workers truth table

		Knowledge	
		True	False
Learning	Positive	26	1
	Negative	2	0

The result of experimental SKW Truth Table present the value of sensitivity, specificity, positive predictive value and negative predictive value are shown in Table 9.

Table 9. The comparison of SKW truth table between experimental group and control group

Description/ Value	Sensitivity	Specificity	Positive Predictive Value	Negative Predictive Value
Experimental group	92.86%	0%	0.96	0.00
Control group	0%	70%	-	0.70

The result shows that high specificity of control and sensitivity from applying the experiment. The data interpreted that sensitivity of SKW improved to 92.86%. Where sensitivity is extremely high, the interpretation of the test results was simple (Davidson, 2002). And % of control sample of a, b, c and d are 0%, 0%, 30% and 70%; experiments were 89.66%, 3.45%, 6.90% and 0%. The research methodology effectiveness is 89.66%. This means that after the experiment these workers have a sufficient knowledge about SEP because they can explain its core concept and discuss their own idea on applying the SEP principles in their own life. They can change their expense or savings by behaving in a positive way. For example, they can increase savings, balance their expenses in each type of expenditure, and find a new way to increase income and decrease expenditure. In addition, one worker had knowledge about the SEP. He can explain the SEP principles very well, but he doesn't want to change his expenditure. Another worker cannot remember much of the SEP concept clearly but can apply SEP in his life (he can evaluate his future and create a future life plan). The findings within the control group in the knowledge dimension found that they have 30% knowledge about SEP and do not have 70% knowledge about SEP. They listened or read about SEP principle from the public media such as television, brochure, and community radio. Moreover, this study revealed that 100% of the control group do not want to learn about changing their saving and expenditure behaviour. However, the experimental group gradually changed their behaviour.

5. Discussion and Conclusion

The first finding from this study in step one is that the unskilled labourers were interested in the principle of SEP to apply it in their daily life. The reason for this is that they listened to a short concept on SEP from the local and government media (radio, television). The previous review on WPL, SEP, and KM have the same ultimate goal which is for sustainability (Wong & Aspinwall, 2004; Khamman, 2012). Moreover, Khamman (Deputy Secretary General of NSDB) explained more about the application of SEP lead to the idea of a middle ground between want and extravagance, and that moderation also denotes self-reliance and frugality.

In the past, before joining the SKW Activity, they had a contrasting behaviour. Sachayansrisakul (2009) mentioned that the idea of 'Sufficiency Economy' allows borrowing to a certain limit where their borrowers are certain of their capability of repaying their debts as long as the debts create further capital gains and not an unreasonable amount of over-borrowing. Sample groups cannot have more saving because they don't know what type of expense are categorised as overspending. They start to experience stress and irrationally solve the problem by borrowing money from informal resources that calls for a high interest rate of return on paying back the loan. But after conducting the experiment, they had a better sense of economical management and had the opportunity to have more bank deposits.

Unskilled labourers are concerned about their income and expenditure in the future if they quit job. During the experiments, unskilled labourers can reduce their expenses and have more savings by the fifth week. This is a good sign for changing their spending habits. In 2009, Sachayansrisakul mentioned that the Japanese saved a lot and their savings were channelled to their country's productive economic sectors.

After doing the experiment, they can design and create a plan for the future. They try to change their savings behaviour, by comparing about the present and future. They analysed their family, assets, performance, future need, and communities before reverse migration. Stockdale (2014) mentioned that migration is not a singular occurring decision. His work stated that it's likely to be connected to the past, anticipating for the future, and on their different biographical aspects.

By holding all experiment factors, the results showed that unskilled labourers who work at the Saha Group are concerned about their financial risk. They have a high level of knowledge and learning dimensions. And the household accounting has a high financial improvement effect for the sample group when compared to the study done by Thaitanom (2010).

The comparison between the experimental group and control group revealed a crucial factor that is related with the espoused theory. From the interview, most of the control group truly understood the SEP principle. But in fact, they cannot capture the right main principle or explain the principles correctly. Also, they don't actually apply the concept in their daily life. The control group has a lower learning level than evaluating. Although a few of them can do the savings, they do not have a clear mechanism for thinking and lack in planning for the future and not effectively aiming toward their goals (Argyris, 1998).

Normally, Sensitivity Truth Table is always used in medical sciences to prove the screening test for reducing the cost of diagnosing the patients (UAMS, 1997). The significance is the right diagnostic which has a high sensitivity value. This paper has developed sustainability and productivity indicators to measure the research tools. The measurement use the Sensitivity Truth Table concept to interpret the SKW truth table into two perspectives: 1) analysing data from the SKW truth table that shows the high level significant of SEP learning activity by improving unskilled labour to be a sufficiency knowledge worker (89.66%), 2) benefits of the SKW truth table show that the proportion of true negatives (T^-) and false positives (F^+) of this experiment is two and one respectively. If true negatives (T^-) and false positives (F^+) are high value that means that unskilled labourers in that group are not sufficiency knowledge worker because they are lacking knowledge or learning skills, or both. This result provides a feedback on the SKW Activity for researchers to improve a more effective design for learning activities was. The designing for develop human's learning should concern on a good content, process, and evaluation that suitable for learner.

Based on the empirical perspective, some workers who were evaluated did not pass the experimental criteria after joining the SEP learning activities. As a positive result, the researcher should recheck the SEP learning activities to make an improvement for more sustainability and to create more productivity for Thai unskilled labourers.

In a real situation, the challenge of this experiment was based on two issues. The first issue is the limitation of selecting an experimental group that does not have a negative effect on the production line of industry and being a good sample. The second issue is the assessing the learning outcome of different people who should be

selected as the best fit and fair for learning.

As pointed out by previous scholars, many papers present a large scale of the study about rural-urban migration because of the expansion of Thai economic science in 1987. However, this study only emphasized on from a new perspective based on reverse migration. The Eighth National Economic and Social Development Plan (1997-2001) mentioned that Thailand has some public debt amounts. Thus, family's household debt reduction is necessary and should become a starting point for Thai citizens.

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