



Readiness for Life Long Learning and Computer Literacy among Students in Technical Institute in Malaysia

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Abstract

Malaysia nowadays is emphasis the effort to produce large scale amount of k-workers for facing an economic competitive at global level. Industrial organization is also searching k-worker to activate industrial production and then is able to compete with other industrials whether at local and global competitiveness level. Almost industrial organizations are depending on Technical and Vocational Education and Training institution to supply human resource such as workers. Prominently to be k-worker the workers have to qualified in work based knowledge especially the knowledge of the lifelong learning method and computer literacy. This research was conducted among 638 students in Technical and Vocational Education and Training to identify their level of knowledge in term of long life learning and computer literacy to be industrial k-worker. Research finding shows that the students are ready with these types of knowledge. Although some attributes of these knowledge are suggested to be upgrade.

Keywords: Lifelong learning methods, Computer literacy, Technical and vocational training institution, Knowledge worker

1. Introduction

Malaysia is also has gone through experience in effecting the information technology rapidly changes. The change is absolutely promptly impacted on organization administration in Malaysia. The advance change in information technology is bringing out the concept of borderless world and globalization which any changes happen out side the country will immediately effected to all countries over the world. According to Noe (2002) the challenges of competitiveness facing by organization can be divided into; Globalization challenges, challenging to fulfill the needs of significant holder and challenging in working system highly performance.

By using new technology such as production computer aided, expert system, fuzzy logic, the companies will gained much advantage. New technology will assist worker be admitted smart worker that able to produce quality product and service.

Technologies recently use in the production administration system will defeat its production capability to new invented technologies for the next future time. Consequently the company has to involve in reengineering the working design, training programmed, and remuneration system for sequences time to undoubted the knowledge utilize in the company is always renew and fit with coming new technologies.

According to Delahaye (2002) since 1990s developed countries were introduced with learning organization and knowledge capital concept in the business management and administration. It is apply for the purpose of assisting managers to strengthen the economy and confronting the global competitiveness effectively. Learning organization concept implies knowledge elements are significantly like a major capital for business organization to stimulate business activities. Zalina Zainal *et al.* (2001) divided business capital into psychical capital and knowledge capital. Towards both of the capitals, knowledge is dominant in strengthening the company economy and effort able company

to compete with other business organization. The overriding to use knowledge in managing the business activities in economy system is identified as knowledge economy (k-knowledge).

There are two types of knowledge not to put aside while discussion in the way to decide the scope of knowledge should be given to the worker candidate instead of other knowledge known as curriculum. The knowledge is lifelong learning methods and computer literacy. Curriculum is the entire spectrum of educational experiences made available to students through an institution. Determining curriculum in technical and vocational training institution is a problem of broad policy definition related to the overall career needs of students and labor forces of a geographic region. Curriculum development in technical and vocational training institution has to do with determining which occupations should be covered by the institution's educational efforts, and what priority order resources should be allocated (Wenrich *et al.*, 1988). Lifelong learning is a term that is widely used in a variety of contexts; however its meaning is often unclear (Aspin and David, 2007). The term recognises that learning is not confined to childhood or the classroom, but takes place throughout life and in a range of situations. During the last fifty years, constant scientific and technological innovation and change has had a profound effect on learning needs and styles. Learning can no longer be divided into a place and time to acquire knowledge (school) and a place and time to apply the knowledge acquired (the workplace) (Fischer, 2000). Computer literacy is the knowledge and ability to use computers and technology efficiently. Computer literacy can also refer to the comfort level someone has with using computer programs and other applications that are associated with computers. Another valuable component of computer literacy is knowing how computers work and operate. As of 2005, having basic computer skills is a significant asset in the developed countries (Wikipedia, 2008).

It is clarify that if the workers candidate well performance in lifelong learning methods and computer literacy, they will have great potential to be an everlasting workers for the industrial. Both types of knowledge is catalyst of knowledge value added continuously to the workers.

In conjunction with the beneficial carried out by the learning lifelong learning methods and computer literacy knowledge arrange equipped upon workers to the workplace organization, there will be a necessity to conduct a research to identify the readiness for lifelong learning and computer literacy among students in technical institute which the institute plays role in supplying in worker for work place organization. The objective of this research is to identify the readiness of lifelong learning methods and computer literacy among the students in technical and vocational education and training institution to fulfill industrial workplace competence.

2. Problem Back Ground

The implementation of knowledge economy must be operated by knowledge workers (k-workers). K-workers are the workers whose are always ready in to value added their knowledge. They are creative, imaginative, and willing to use the new ideas while working. Beside expert in using information technology, they have multiple skills for accomplishing the task of work.

Lifelong learning methods and computer literacy are among the knowledge and skills that have to equip by k-worker. Lifelong learning seeks to deal with individual continuing education. The aim of lifelong learning is to encourage people gaining the knowledge that significant functional in their life. There are several methods can be invented to motivate workers getting knowledge for example non-credit short courses, basic adult education and workplace training. The over-riding principle for the lifelong learning concept is the education and training should be regard as a continuously learning process and accessible throughout the whole life. It must not be thought of as predominantly confined to the formal period education system such as formal primary school, secondary school and even tertiary education (Zainai, 2006).

Furthermore computer literacy among the workers is mainly created to help them generate solution to overcome the rise working problem. With the skills of computer literacy they are able to collect information from all over the world sources and then aggregate, cleanse, and filter before extract it as valid information suitable for decision making to take any action. Computer literacy is also helping the organization store the information systematically and secure and then effortless to retrieve if necessary.

Through become skilled at lifelong learning methods and computer literacy worker are able to be more creative and imaginative. They are also sooner in getting the new information that required by the organization of work place. The organization than has opportunities to use latest knowledge immediately to produce product effectively. Education and learning institution will play initial role to develop lifelong learning and computer literate toward workers. Attributes of lifelong learning and computer literacy should equip to the students before they are admitted the job market.

Malaysia has its own stance and strategy to allow country moving forward to become an industrial country on year 2020 (Abdullah, 2006). One of the approaches to achieve this target is by giving technical and vocational education training to human resource through Malaysia Industrial Training Institute (MITI) to generate knowledge workers (k-workers). It is include delivering the lifelong learning methods and computer literacy to them.

MITI was establishing under Malaysia Ministry of Human Resources for the purpose of providing formal technical training to industrial sector workers and youth of secondary school leavers (Human Resource Department, 2006). Till year 2006 there are 20 MITI in Malaysia which enroll 8689 students in all over the institutes.

Even though MITI was given responsibility to deliver the lifelong learning methods and computer literacy, they are many factor that influence students learning performance. The ability students to acquire lifelong learning methods and computer literacy from MITI are also influenced by teaching environment provided at MITI. According to Wenrich *et al.* (1988) the teaching environment, whether it is a classroom, shop, or laboratory, are social system with characteristics similar to any other social organization. Teaching environment depends, to a large extent, upon the leadership behavior of the teacher. Teaching environment pressures created by external social and technological conditions and by internal pressures brought about by type of instructor and type of students. Furthermore Wenrich *et al.* (1988) clarify that vocational instructors can enhance their roles as instructional managers and leaders by showing more confidence students and using their ideas in planning, thereby making the students more responsible for achieving instructional goals. Vocational instructors can also improve the effectiveness of their efforts in the classroom if they are know the problems faced by individual students and create a climate in which two-way communication is facilitated. Instructor should make decision on the basis of institution policy and students considerations, and should involve students in decision making, especially those decisions related to students' classroom obligation. Instructor and students should participate in evaluating classroom performance.

Basically, instructors are managers of a specific learning environment. They control the specific inputs necessary for learning process, and plan, direct, and coordinate the specific activities of students in the classroom. They may also control various resources required for instruction. In effect, the instructor also sets instructional priorities, even if these decisions are limited to specific course or program. Vocational programs will be most effective if faculty view themselves as managers who control a variety of resource inputs and whose goal is to provide an optimal learning environment for a group of people with diverse abilities and characteristics.

3. Research Methodology

They are 638 out of 8336 final semester students from technical and vocational training institution in Malaysia namely is Malaysia Industrial Training Institute (MITI) was cluster randomly chosen as research respondents. To acquire the samples firstly all the MITI is divided into four zone groups. The four zone group cluster of MITI is shows in Table 1. MITI which was selected to construct up research sample is shows in Table 2. Selected students for research sample are obtaining through random sampling. According to Krejeie and Morgan (1970) since population amount is 8336, 368 sample amount is enough to meet the 95% level of confident.

The data collection is gained through research questionnaires that distributed to the respondents. Pre research was conducted upon 20 respondents in order to identify the reliability of the questionnaire. The result of the reliability test is shows in Table 3.

The Cronbach's Alpha reliability index of the questionnaires for Lifelong learning method is 0.948 and Cronbach's Alpha reliability index of the questionnaires for Computer literacy method is 0.922. Content validity of the questionnaires was validated by two human resources development from the industries and two officers from technical and vocational training institution.

Respondent are requested to state their readiness in lifelong learning methods and computer literacy by choosing one of the scale showed in Table 4. The data gained from respondents are analysis by using of mean score statistic and standard deviation. Statistic interpretation of readiness is showed in Table 5.

4. Research Finding

Readiness of lifelong learning upon students in technical and vocational education and training institution is illustrated in Table 6. Base on Table 6 it given representation that the readiness of lifelong learning upon the students in technical and vocational education and training institution is at the ready status (mean score 4.036).

The readiness in computer literacy upon students in technical and vocational education and training institution is illustrated in Table 7. Based on Table 7 it agreed the illustration that the readiness in computer literacy upon the students of technical and vocational education and training institution is at the ready status (mean score 3.810).

Focusing on gender profile of the respondents, research finding showed that among 638 sample research they are 473 male students and 165 female students. Male students' readiness in lifelong learning method is at ready status (mean score 4.014) and female students also at ready status (mean score 4.036). Male students' readiness in computer literacy is at ready status (mean score 3.748) and female students also at ready status (mean score 3.986).

T-test has been conducted to identify the differences of lifelong learning method readiness among male students and female students. The test result shows that there is significantly no difference of readiness in lifelong learning method among male students and female students ($t=.726$, $df=636$, $p>0.05$). T-test also has been conducted to identify the

differences of computer literacy knowledge readiness among male students and female students. The test result shows that there is significantly a difference of readiness in computer literacy knowledge among male students and female students ($t=-4.490$, $df=400.659$, $p<0.05$)

There are four MITIs involved in this research. Statistic analysis enlightened that all the MITIs' students are at ready status upon readiness in lifelong learning method and computer literacy knowledge. Overall readiness mean score of lifelong learning method for MITI (XIII) is 4.090, MITI (V) is 4.010, MITI (III) is 4.0667 and MITI (IX) is 4.0437. The readiness mean score of computer literacy for MITI (XIII) is 3.5682, MITI (V) is 3.7019, MITI (III) is 3.6539 and MITI (IX) is 3.5055. By using T-test the result showed that there are significantly no mean score deference in the readiness of lifelong learning method among the MITIs. There are two significantly mean score deference in the computer literacy knowledge among the MITIs namely MITI (V) and MITI (IX) $\{t=2.776$, $df=354$, $p<0.05\}$, and MITI (III) and MITI (IX) $\{t=2.026$, $df=321$, $p<0.05\}$

5. Conclusion and Suggestion

Base on the research finding it can conclude that students in educational and vocational education and training institution are equipped with lifelong learning methods and computer literacy at a good level since for preparedness to admit the job market. They are geared up active to achieve any given responsibilities from the employer and willing to fulfill industrial need. Although to develop them to be more marketable and employability a number of lifelong learning and computer literacy attributes suggested to be increased upon students. It is because mean score of both knowledge are still not meet mean score 4.21 (mean score 4.21 and above is interpreted as strongly ready with the knowledge). Thus technical and vocational education and training that interested to increase lifelong learning methods and computer literacy over the students should focus on the attributes that below min 2.41.

Lifelong learning methods attributes that below mean score 4.21 are

- Knowing the place to search new knowledge about work skill from now onward (mean score 3.959)
- Like to read latest reading materials about work (mean score 3.956)
- Willingness to use own money to upgraded knowledge about work (mean score 3.925)
- Awareness on the changes of working method in others workplaces (mean score 3.792)
- Able to use internet getting the materials about work (mean score 3.752)
- Experienced in using internet to get the materials about work (mean score 3.690)

Computer literacy attributes that below mean score 4.21 are

- Able to use computer to write report (mean score 4.046)
- Able to use computer to faster accomplishing work (mean score 3.889)
- Able to use computer for data processing (mean score 3.862)
- Able to use computer to get work information (mean score 3.825)
- Able to use computer to do work (mean score 3.821)
- Experienced in using computer to accomplish work (mean score 3.701)
- Experienced in using computer to improve job quality (mean score 3.527).

By referring to the industrial back ground where their human resource officer appointed to validate the questionnaire it is shows that the knowledge of lifelong learning methods and computer literacy can be use in accomplishing the task of work. The works here are related to electrical and electronic technology, information technology, gas pipe fitting, refrigerator and air-condition, furniture technology, building construction, graphic and printing, computer maintenance, and industrial instrument. These fields of occupation need the worker have enough knowledge and skill to achieve the work task. Even though industrial worker graduate from MITI suddenly found his lack of knowledge since doing work task, he will immediately know the appropriate place to get new suitable knowledge. This proactive attitude indirectly assures the production system is going smoothly and effectively.

By comparing the level of student readiness in lifelong learning and computer literacy it is found that the level of readiness in lifelong learning methods (4.036) is higher than the level of readiness in computer literacy (mean score 3.81). If choice is given, MITI students have to initially upgrade the level of computer literacy than lifelong learning methods. Computer literacy aptitude that lowest equip to the students carried out lowest of computer literacy are Experienced in using computer to improve job quality' (mean score 3.527) and 'Experienced in using computer to accomplish work' (mean score 3.701). Meaning that if the students are given enough appropriate experience in using

computer to improve job quality and using computer to accomplish work it might help MITI students in upgrading their computer literacy readiness to be k-worker in industry.

Computer is a form of technology that very helpful to worker for simplifies their job task. For certain tasks computer will help worker complete the task on time without compromise on work quality. While working, besides using for writing, analyzing and data recording, computer also use for prediction, task job planning, and getting information for facilitate problem in job.

Several industries use verities of machines operated by computer control to produce products such as Computer Numerical Control (CNC), Computer Aided Design, Computer Aided Manufacturing, Coordinate Measuring Machine, Roundness Tester, and Hardness Tester. Gibson (1995) found that so many administration and management task in industries be able to simplify with computer aided especially in favor of planning, managing and controlling on industrial activities. According to Hasliza Hashim (2004) a survey in the management department shows that there are many work activities run by computer compared to work activities by manuals.

Although the level of student's readiness in lifelong learning methods shows it is higher than the level of student's readiness in computer literacy instead it is better to endeavor intended for upgrading the level by upgrading the lowest readiness aptitude lifelong learning level upon the MIT students. Two lifelong learning methods that are the lowers equip in MITI student are 'Experienced in using internet to get the materials about work' (mean score 3.690) and 'Able to use internet getting the materials about work' (mean score 3.752). It seems both of the attributes is related with the computer literacy even though there are the aptitude of lifelong learning methods because by using internet it is possible for worker to gain the knowledge. This finding implies that the MITI students need more appropriate activities in using internet to get the materials about work. If MITI give enough experience in using internet to get material about works to the students perhaps their readiness in lifelong learning is increase too. To make MITI students easy to get experience and able to use internet, they should be encouraged of having own computer attached with internet instead of MITI computer for them to explore and getting latest material about job task. While they are become industrial k-worker they must put priority to buy computer attached with internet system for the same purpose.

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Table 1. Zone group cluster of MITI

Zone Group	Malaysia Industrial Training Institute (MITI)
Southern zone	MITI (I), MITI (II), MITI (III), MITI (IV)
Central zone	MITI (V), MITI (VI), MITI (VII)
Eastern zone	MITI (VIII), MITI (IX), MITI (X), .
Northern zone	MITI (XI), MITI (XII), MITI (XIII), MITI (XIV)

Table 2. Research samples

MITI	Selected samples
Southern zone; MITI (III)	151 students
Central zone; MITI (V)	182 students
Eastern zone; MITI (IX)	173 students
Northern zone; MITI (XIII)	132 students
Total	638 students

Table 3. Questionnaire Reliability

Readiness catogery	Questionnaire Item amount	Reliability Coefficient (Alpha)	Reliability Coefficient (Split)	Questionnaire Item Correlate	Mean score	Standard Deviation
Lifelong learning method	9	0.948	0.929 0.862	.709	3.874	0.695
Computer literacy knowledge	7	0.922	0.915 0.869	.535	3.933	0.413

Table 4. Scale Statement of Readiness In Lifelong Learning Knowledge And Computer Literacy

	Strongly not agree	Not agree	Moderate	Agree	Strongly agree
Scale	1	2	3	4	5

Table 5. Interpretation of Readiness In Lifelong Learning Methods And Computer Literacy

Mean score range	Interpretation of Readiness
1 to ≤ 1.80	Strongly not ready
>1.80 to ≤ 2.61	Not ready
>2.61 to ≤ 3.41	Moderate
>3.41 to ≤ 4.21	Ready
>4.21 to ≤ 5.00	Strongly ready

Table 6. Readiness of Lifelong Learning Upon Students In Technical And Vocational Education And Training Institution

	Mean score	Std. Deviation
Experienced in using internet to get the materials about work.	3.690	.948
Able to use internet getting the materials about work	3.752	.913
Awareness on the changes of working method in others workplaces	3.792	.708
Willingness to use own money to upgraded knowledge about work	3.925	.781
Like to read latest reading materials about work.	3.956	.731
Knowing the place to search new knowledge about work skill from now onward	3.959	.690
Willingness to learn new knowledge about work	4.390	.627
Willing to learn new technology	4.403	.653
Willing to learn new knowledge	4.462	.586
Conclusion readiness of lifelong learning methods among the students	4.036	.453

Table 7. Readiness in Computer Literacy Upon Students In Technical And Vocational Education And Training Institution

	Mean score	Std. Deviation
Experienced in using computer to improve job quality	3.527	.999
Experienced in using computer to accomplish work	3.701	.974
Able to use computer to do work	3.821	.842
Able to use computer to get work information	3.825	.881
Able to use computer for data processing	3.862	.812
Able to use computer to faster accomplishing work	3.889	.832
Able to use computer to write report	4.046	.747
Conclusion of computer literacy among the students	3.810	.694