Study of Information and Communication Technology (ICT) Usage in Technical and Vocational Special Education Programme

Mohd Yusop Ab Hadi[α],
Baharom Mohamad[Ω]
Mohd Shaiful Azhar Jaafar[€]

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***Abstract*-The purpose of this study is to survey the level of teachers and students from Technical and Vocational Special Education Programme has utilized Information and Communication Technology (ICT) usage in their learning and teaching process. The respondents of research were teachers and students from three different of Vocational Special Education Secondary School in Malaysia. The samples consist of 55 teachers and 119 students. Questionnaire has used to collect the target data. Data from questionnaire was analyzed by Statistical Package for Social Science 11.3 for Windows (SPSS) to obtain mean score, percentage and standard deviation. Result shows that the teachers and students almost used ICT in teaching and learning process but not achieve at the high level. Thus, several of suggestions have been made to enhance the usage of ICT in teaching and learning process in Special Education Schools.**

Keywords: Special education, vocational, programme

I. Introduction

Malaysia agreed with the idea that the Information and Computer Technology (ICT) are able to enhance effectively education among the students. Thus the teacher and students have been encouraged to utilize the ICT in education in teaching and learning process. The ICT development promised the immense potential in developing education to the students. ICT can be infused in students learning style which it helps students to gain knowledge more effectively. ICT also may change student's ordinary study, the approach to get information, and knowledge sharing. Therefore, Ministry of Education Malaysia (MOE) has taken some strategies to integrate ICT in teaching and learning process in all category of school system over the country. No doubt that the ICT will help teacher easier to increase the student academic achievement. The ICT developments also give benefits to the students in special education especially in term of emerging the effectiveness of teaching and learning process. According to Malaysia Ministry of Education (2010) Special Education Program consists of:

Special Schools for students with vision and hearing disabilities Special Education Integration Program is provided for children with learning, hearing and vision disabilities. The Program is carried out in normal primary and secondary school, as well as in technical/vocational secondary schools that use the withdrawal and partially inclusive approach to teach and learn.

The Special Education Integration Program is managed by the State Department of Education while the Special Education Department is in charge of issues pertaining to policies and content. The curriculum used in Special Schools and the Special Education Integration Program are the National Curriculum and the Alternative Curriculum. Special education students participate in extra-curricular activities with normal students.

All special education students sit for public examinations such as the Primary School Assessment Testing *(Ujian Penilaian Sekolah Rendah)*, Lower Secondary School Assesment *(Penilaian Menengah Rendah)* and Malaysia Certificate Education *(Sijil Pelajaran Malaysia)* except for those who are following the Alternative Curriculum.

For students under the Alternative Curriculum, those taking the National Standard Skills *(Standard Kemahiran Kebangsaan)* will be certified with the Malaysia Skills Certificate *(Sijil Kemahiran Malaysia)*, while those taking Art and Design Courses will be awarded the Special Vocational Certificate.

Special Esducation Rehabilitation Program is called the Label One Special Education Rehabilitation Program *(Program Pendidikan Pemulihan Khas Tahap Satu)*. Students are assessed for reading writing and mathematics skills using the Reading, Writing and Mathematics skills Achievement Standard Instrument *(Instrumen Penentu Penguasaan 3M)*. This instrument divided into instrument for Year 1 students, instrument for Year 2 students and instrument for Year 3 students.

Conditions of entry for students into the Special Education School Program are:

- Aged no less than 5 years (for Preschool Program).
- Aged 6+ to 14+ years (for Primary School Program).
- Aged 13+ to 19+ years (for Secondary School Program).
- Certified by medical doctor.
- Can manage themselves (self-care) without the assistance of others. (Ministry of Education Malaysia, 2010)

About- Faculty of Technical EducationUniversiti Tun Hussein Onn Malaysia86400 Parit Raja, Batu Pahat, Johore, Malaysia
Phone: +607 4538096H/Phone: +607 0137516451 Faks: +607 454 1050
E-MAIL[α]yusop@uthm.edu.my,E-MAIL [Ω]yusop02@hotmail.com

1. *Problem Statement*

There are a number of questions about the ICT acceptance and usage among teachers and students from special education which emerge problem in special education program and effect the enrollment of the students. The utilize of the ICT in school will develop highly confident upon effort Special Education School to society expectation in educating special students. Therefore, a study in Technical and Vocational Special Education School should be conducted for the purpose of surveying ICT and usage in the teaching and learning process among teachers and students. The focus of the study is to identify the level of ICT acceptance and usage in teaching process among the special education program teachers and the level of ICT acceptance and usage in learning process among the special education program students.

2. *Purpose of Study*

The purpose of this study is to be acquainted with the requirement of ICT in teaching and learning process among teachers and students from Technical and Vocational Special Education Program. The finding results of the research can be considered as values add suggestion to guide and enhance the usage of ICT in Special Education Program.

3. *Research Objectives*

The objectives of the research are:

(i) To be acquainted with the weight level of special education teachers acceptance in ICT usage toward teaching and learning process in Special Education Programme.

(ii) To be acquainted with the ICT usage in teaching process by Special Education Programme teachers.

(iii) To determine the Special Education Programme students acceptance in ICT usage toward teaching and learning process in Special Education Programme.

(iv) To be acquainted of the ICT usage by Special Education Programme students in teaching and learning process.

4. *Research Questions*

The research questions of the study are:

(i) What is the weight level of the special education teacher's acceptance in ICT usages toward teaching process in Special Education Programme?

(ii) What is the weight level of the special education programme teachers using ICT in teaching management task which involve teaching and learning process?

(iii) What is the weight level of the students' acceptance toward ICT usage in learning process in Special Education Programme?

(iv) What is the weight level of the ICT usage concerning helps the special education programme student in learning process?

5. *Research Scope*

Scope of research are:

(i) ICT usage in the research is focus on the ICT usage in teaching and learning process conducted in the class.

(ii) Special education students which taken as respondents are the deaf special education programme students.

6. *Research Limitation*

The schools that are chosen to be taken as research sampel are three special education secondary schools which situated in southern region and central region of Malaysia pennisular

7. *Research Importance*

The result of the study are expected to cultivate the idea of renewal teaching and learning process method in Special Education Programme. Invented previously teaching and learning method by attaching ICT in teaching and learning process is pursue to increase the effectiveness of learning among the special education programme students

I. Related Works

Education is the learning process that was established since BC. At the beginning, the education is enlightened in form informal education. The education is accomplished under control of non authority institutions. There is no need a particular institution to distribute conscientious knowledge. Nowadays in Malaysia education was allocated in three types of process. The educations are employing either through informal process, non formal process and formal processes. Formal education process is an education that accomplish under control of authority institution especially be in authority of Ministry of Education Malaysia. There are many types and categories of schools were introduced to deliver formal education. Almost the contents of the education is bind by Malaysian National Educational Philosophy which it is interpret into curriculum and then disseminate to the students through teachers tasks.

1. *Special Education*

In Malaysia, special education is classified since specific education to be given to the handicap person such as the individual with visual disabled (blind), and deaf. The Special Education Philosophy declares that the handicap students should be entertained equally to the normal children is a fundamental right in getting formal education.

2. *Listen Disabled Student (Deaf)*

This research was conducted among deaf students from technical and vocational special education. Based on the statement by Chua and Koh (1992), a deaf student is a student which has listen disabled. Their sense of listening is disorder compare to listening sense capability of normal

person. Endorsement of listening disorder is clarified by authorize body before the child is categorized to special student.

In Special Education System, the students with listening problem will situated in Listening Problem Special Education Programme. Through this programme students will be educate amid signal language communication. Although the entire course given to the normal student equally given to the disability student. This programme is available in special school and normal school (integration programme).

3. *ICT Usage In Special Education Programme*

Based on Abdul Rahim Razalli, *et al.* (2005), the study shows that computer technology are consider to help special students upon enhancing their effectiveness of learning especially onto perform new attitude and value add to reading, writing and mathematic skills.

Multimedia technology if fully utilize in education process will brought positive impact to the students, It emerge an exciting learning situation, and friendly use without reducing the quality and quantity of course contains. Example of multimedia technology utilize in learning teaching and learning process are music, video and visualize (Plamen Miltenoff dan Judith Rodgers, 2003)

4. *Teachers And Students Acceptance Toward Ict Usage In Special Education Programme.*

Based on Goh (1998), ICT usage in teaching and learning is not only serving teachers to achieve their teaching objectives but it is also introduce to students of new learning technique to value add the various of learning techniques. Strongly supportive from school administration is the essence to vow the ICT usage in teaching and learning process succeed its target. Accordingly to Zoraini Wati Abas (1995) the positive attitude of school administration toward ICT usage wills courage school citizen to involve in ICT usage in teaching and learning process. It is almost easily influent of changing attitude among staff attitude.

Teacher in special education school should play a role to cultivate disability student's interest towards ICT usage in learning process. By holding positive attitude upon infusing ICT in teaching and learning process, they are prepared to accept any recently arrival ICT.

II. RESEARCH METHODOLOGY

The research is an endeavor to acquire a result of a surveying toward ICT usage in Technical and Vocational Special Education Programme. The methodology used to get the result is a quantitative research method. The research process is involved the activities of data collection, data arrangement, data interpretation, and summarizing the data.

1. *Location of Research*

Location of study is at the southern of Malaysia peninsular and central of Malaysia peninsular.

2. *Population and Sample of Study*

The research population of this study is teachers and students from Technical and Vocational Special Education Programme. The number of research population and the number of research sample among the teachers is shows in Table 3.1.

Table 3.1: Population and Sample of Study (Teachers)

Locations	Population	Sample
Southern of Malaysia peninsular	32	30
Central of Malaysia peninsular	35	25
Total	**67**	**55**

Total of population and sample among the students is shows in Table 3.2.

Table 3.2: Population and Sample of Study (Students)

Locations	Population	Sample
Southern of Malaysia peninsular	57	57
Central of Malaysia peninsular	90	62
Total	**147**	**119**

3. *Instrument of Research*

The instrument of the research is questionnaire.

4. *Questionnaire of Research*

There are two set of questionnaire available to identify weight level of ICT usage in teaching and learning process. Two different set questionnaires are for teachers group of respondent and students group of respondents.

The set questionnaire for teachers is consist of questionnaire item divided into Part A, Part B, and Part C. Items in Part A is to identify teacher demography. It is about teacher sex, experience in teaching and learning process and age.

Item in Part B is to identify the weight level of teacher's acceptance toward ICT usage in teaching and learning process. Item in Part C is to identify the weight level of teacher's ICT usage in implementation task of special education school.

The set questionnaire for the students is also consist of item for Part A, Part B, and Part C. Questionnaire in Part A is to identify students' demography. It is concern on student's sex, student's school and student's study field.

Item in Part B is to identify the weight level of student's acceptance toward ICT usage in the teaching and learning process. Item in Part C is to identify the weight level of student's ICT usage in learning process.

The respondents gave the answer of research questions by responding to all the questionnaire items in term of weight of scale. The weight level of ICT usage in teaching and learning process is shows in Table 3.3

Table 3.3: Weight Level of Scale

Weight	Score
Strongly Agree	5
Agree	4
Slightly Agree	3
Not Agree	2
Strongly Not Agree	1

The interpretation of mean weight scale of ICT usage in teaching and learning process among teachers and students in technical and vocational special education program is shows in Table 3,4. It interpretation of weight scale is adapted from (Mohd Yusop, 2009).

Table 3.4: Interpretation of Mean Weight Scale of ICT Acceptance and Usage

Weight	Scale	Mean Range Scale	Interpretation
Strongly Agree	[5]	>4.21 to ≤ 5.00	Very high in ICT acceptance and usage in teaching and learning process
Agree	[4]	>3.41 to ≤4.21	High in ICT acceptance and usage in teaching and learning process.
Slightly Agree	[3]	>2.61 to ≤3.41	Moderate in ICT acceptance and usage in teaching and learning process.
Not Agree	[2]	>1.80 to ≤2.61	Low in ICT acceptance and usage in teaching and learning process.
Strongly Not Agree	[1]	1 to ≤1.80	Very low in ICT acceptance and usage in teaching an learning process.

5. *Data Collection*

There are two sources of research data and information. The primer data is collected through questionnaire and the secondary data is collected from mass media like books, journals, reports and internet.

6. *Data Analyzed Method*

The collected data was analyzed by descriptive statistical approach in order to get the answer of research questions. The data that collected from Part A questionnaire is presented in form of percentage. Furthermore the data that collected from Part B and Part C questionnaire are presented in form of mean score and standard deviation.

III. RESEARCH FINDING

Research finding is presented concurrence to the research questions.

1. *Weight level of special education teacher's acceptance in ICT usage towards teaching process in Special EducationProgramme*

The weight level of special education programme teacher's acceptance in ICT usage towards teaching and learning process is shows in Table 4.1

Table 4.1: Weight level of special education teacher's acceptance in ICT usage towards teaching process in Special Education School

Item	Mean	Standard Deviation
I am interested to learn about computer usage in teaching process.	3.55	0.538
I am ready to apply computer usage lesson in my teaching activity.	3.49	0.791
I can maintain my focus on teaching by using computer in teaching activity.	3.22	0.738
Computer built students interested upon my teaching activity.	3.15	0.911
Computer usage in my teaching process causes my teaching task easier.	3.15	0.780
Computer technology can be invented to diversity my teaching method.	3.13	0.818
I prefer to use computer in teaching activity.	3.00	1.018
Computer usage in teaching process causes my teaching effectively.	2.95	1.044
Computer technology helps me to teach systematically.	2.82	1.263
Computer built me confident in my teaching process.	2.80	1.253
Computer usage in my teaching process causes me energetic in teaching.	2.80	1.253
I alert on the changing of computer technology development for education.	2.22	1.487
I always use computer in my teaching process.	1.91	1.266
I always solve my teaching problem by using computer technology	1.04	1.440
Weight level of special education teacher's acceptance in ICT usage towards teaching process in Special Education School	**2.80**	**1.043**

Overall mean of weight level of special education teacher's acceptance in ICT usage towards teaching process in Special Education Programme is 2.80. It shows that the acceptance of teacher in Special Education Programme towards ICT usage in teaching process is at a moderate level. Although teacher acceptance is at a moderate level, they have a high interested to learn about ICT usage in teaching process (mean 3.55) and ready to apply ICT usage lesson in teaching activity (3.49). The lower action of teacher acceptance in ICT usage in teaching process is the teacher always solve teaching problem by using computer technology. Mean of it is 1.04.

2. Weight level of ICT Usage among Special Education Programme Teachers

The weight level of ICT usage among special education school teachers is shows in Table 4.2.

Table 4.2: Weight Level of ICT Usage among Special Education Programme Teachers in Teaching Process

Item	Mean	Standard Deviation
Use computer to set up examination paper.	3.31	1.200
Use computer to finish job assignment.	3.31	0.940
Use computer to practice students in order to learn.	3.16	1.316
Engage computer in daily activities.	3.13	1.203
Use computer to prepare teaching note.	2.96	1.247
Use computer to manage student's assessment.	2.95	1.420
Use computer to admin teacher' task.	2.82	1.415
Use computer to record student's back ground.	2.69	1.464
Use internet to find teaching material.	2.53	1.501
Use computer to prepare teaching material.	2.44	1.358
Use computer to keep confidential information.	2.36	1.704
Use computer to solve teacher's duty.	2.29	1.524
Use Power Point slide in teaching activity.	2.15	1.471
Computer as a teaching aid tool.	2.13	1.667
Encourage students to use computer in learning process.	2.09	1.469
Use computer to present teaching material.	1.84	1.537
Weight Level of ICT Usage among Special Education School Teachers in teaching process	**2.64**	**1.402**

Overall mean of weight level of ICT usage among Special Education School Teachers in teaching process is The interpretation of this mean is teacher practice ICT usage in teaching and learning is at a moderate level. The highest action of using ICT in teaching process is also at moderate level. They use ICT to set up examination paper (mean 3.31) and use ICT to finish job assignment (mean 3.31). The lowest practice of ICT usage in teaching process among the special education school teachers is using ICT to present teaching material. It is at low level (mean 1.84). The others ICT usage at low level practice are `Use internet to find teaching material' (mean 2.53), `Use computer to prepare teaching material' (mean 2.44), `Use computer to keep confidential information' (mean 2.36), `Use computer to solve teacher's duty' (mean 2.29), `Use Power Point slide in teaching activity' (mean 2.15), `Computer as a teaching aid tool' (mean 2.13), and `Encourage students to use computer in learning process' (mean 2.09)

3. Weight level of the student's acceptance toward ICT usages in learning process in Special Education Programme

The weight level of student's acceptance towards ICT usage in learning process in Special Education Programme in Table 4.3.

Table 4.3: Weight level of student's acceptance towards ICT usage in learning process in Special Education Programme

Item	Mean	Standard Deviation
Computer assists me to understand learning material in learning process.	2.71	1.371
Computer is able to build up my interest in learning process.	2.66	1.334
I like teacher to teach me with computer assist.	2.53	1.399
Computer built up my confident to achieve learning objective.	2.44	1.494
Use computer to complete	2.44	1.417

school work.		
Computer usage in my learning process causes me energetic to learn.	2.43	1.392
Computer cause me easily to learn learning material.	2.43	1.295
Computer assists me to gain right impression of learning material.	2.17	1.422
Computer cause me not sleepy in learning process.	1.78	1.320
I can maintain my focus on learning by using computer in teaching activity.	1.41	1.445
Weight level of student's acceptance towards ICT usage in learning process in Special Education Programme	2.30	1.389

Overall mean of Weight level of student's acceptance towards ICT usage in learning process in Special Education School is 2.30. It shows that the acceptance of students in Special Education School towards ICT usage in learning process is at a low level.
The highest action of using ICT in learning process is at moderate level. There are `Computer assists to understand learning material in learning process' (mean 2.71) and `Computer is able to build up interest in learning process'. The lower action of students acceptance in ICT usage in learning process are 'Computer cause student not sleepy in learning process' (mean 1.78) and 'Student can maintain his/her focus on learning by using computer in teaching activity' (mean 1.41). There are at very low level.

4. *Weight level of the ICT usage concerning helps the special education student in learning process*

Weight level of the ICT usage concerning helps the special education student in learning process is shows in Table 4.4.

Table 4.4: Weight level of the ICT usage concerning helps the special education student in learning process

Item	Mean	Standard Deviation
Use computer to revise learning material.	2.50	1.297
Store learning material in computer.	2.43	1.422
Use computer to accomplish school work.	2.18	1.483
Experience in using Microsoft Power Point in learning process.	2.09	1.489
Use computer for writing.	2.03	1.383
Use internet to find learning material.	1.84	1.408
Experience in using Microsoft Excel in learning process.	1.83	1.341
Use computer to do calculation in learning process.	1.82	1.381
Experience in doing animation graphic in learning process.	1.73	1.271
Use computer to reduce learning burden.	1.70	1.334
Weight level of the ICT usage concerning helps the special education student in learning process	**2.02**	**1.381**

Overall mean of weight level of ICT usage among special education school students in learning process is 2.02.
The interpretation of this mean is student practice ICT usage in learning process is at a low level. The highest action of using ICT in learning process is at moderate level. There are 'Use computer to revise learning material' (mean 2.50) and 'Store learning material in computer' (mean 2.43).

The lowest action of ICT usage in learning process among the special education school students are 'Experience in doing animation graphic in learning process'. (mean 1.73) and 'Use computer to reduce learning burden' (mean 1.70)

IV. Discussion, Summary and Suggestion

The result of the study shows that the special education teachers aware on the important of ICT usage in learning process however the awareness is not achieve at high level. It is summaries that the teacher is willing to use ICT in teaching activity instead of ordinary teaching method after completed with the knowledge of ICT aid in teaching and learning. Intellectual discourse of ICT is necessitated to them in conjunction to construct ICT teaching aid knowledge and skills. By means of training, participants are anticipated in obtaining new knowledge and skills (Tritos & Lynn, 2008). Through the research finding it shows the teacher is willing to apply ICT usage lesson in teaching activity. Training organizer should emphasize on training agenda to provide the knowledge and skills of teaching problem solving by computer technology onto participants. It is essential to be complete since the research finding shows that `the teacher always solve teaching problem by using computer technology' is at very low level.

Practically ICT usage upon special education programme in teaching process is at a moderate level. The existent of this practice level is influent by various factors (Alessi & Trollop, 1991). Referring to research finding, the items that consequence of ICT usage in teaching process situated at moderate level are `Using computer to present teaching material', `Use internet to find teaching material', `Use computer to prepare teaching material', `Use computer to

keep confidential information', `Use computer to solve teacher's duty', and `Use Power Point slide in teaching activity', All practicing of these ICT usage items in teaching process among the teacher are at low level. It is a highly expected that the more level of practicing ICT usage item among the teacher increase the more ICT usage in teaching process among them will be increase.

According to Alessi and Trollip (1991) the main source of teacher refuse to use ICT in teaching and learning process are they are insufficient of skill and knowledge, lack of motivation and lack of supportive from surrounding. Thus to increase the level of practicing ICT usage in teaching learning the teachers should be develop their level of all influences factor of using ICT in teaching process.

Further more the research finding shows that student's acceptance towards ICT usage in learning process is at a low level. Amongst the criterions that attract student to low level acceptance over using ICT in learning process are they feel that the ICT are unable to vanish out student drowsy while learning and the ICT is able to maintain students focus on learning activity. Meanwhile research finding also shows students practice on ICT usage in learning process is at low level. Two main factor that influent student to low level practice on ICT usage in learning process are very low level in doing animation in learning process and very low level in using computer to reduce learning burden.

Just as students hold expectation for ICT acceptance and usage in learning process, there are some knowledge and skill about the ICT usage in learning need to teach well to them. According to the research finding to being knowledgeable about the ICT usage in learning process, students must have the ability to use ICT to revise learning material, store learning material in computer, computer to accomplish school work, experience in using Microsoft Power Point in learning process, use computer for writing, use internet to find learning material, experience in using Microsoft Excel in learning process, use computer to do calculation in learning process, experience in doing animation graphic in learning process, and use computer to reduce learning burden.

V. Conclusion

As the research is completed, it can conclude that the teacher and student of technical and vocational special education programme toward ICT acceptance and usage in teaching and learning process is still can be improvise. Although the level of acceptance and usage are almost at moderate level it does not mean recently the effectiveness of teaching and learning in technical and vocational special education programme is worried. The effectiveness of teacher teaching is still emerging because the teacher has various of teaching methods to be selected. ICT usage is among the teaching method to be select for teaching activity. According to Parkay and Stanford (2010) to respond effectively to the complexities of teaching, they must have four kinds of knowledge: knowledge of teacher self and student self, knowledge of subject, knowledge of educational theory and research, and knowledge of how to integrate technology into teaching. In addition to being knowledgeable about the subject they teach, teachers must have the ability to communicate, inspire trust and confidence, and motivate students, as well as understand their students' educational and emotional needs. Teacher must be able recognize and respond to individual and cultural differences in students and employ different teaching methods that will result in higher students achievement.

Teacher will be expected to know how to integrate ICT technology into teaching. Teacher also is expected to be familiar with newly emerging technologies and how they can be used in the classroom. Using ICT to enhance students' learning requires more than knowing how to use the latest hardware and software. Conducting classroom demonstrations augmented with multimedia, using presentation graphics to address students' varied learning styles, and designing lessons that require students to use ICT as a tool for inquiry.

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