DESIGNING AN EDUCATIONAL MODULE FOR MALAYSIAN STUDENTS LIVING IN URBAN

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ABSTRACT

This study explores students' perceptions of an educational module that was based on the ASSURE instructional design, the purpose of which was to assist students living in urban poverty to increase their uptake of information communication and technology (ICT). Conducted by the researcher the design and development involved three phases: 1. Analysis, 2. Design and development and 3. Implementation and evaluation. Fifty secondary school students were surveyed to investigate the perceived usability of the module in the process of their teaching and learning experience. The participating students' socio-ecomomic status categorised them as living in urban poverty. Data analyses in the form of descriptive statistics found that the majority of students agreed that the use of the module in their teaching and learning process was effective in facilitating their use of information communication and technology (ICT). This is because the students were able to extend the process and content of learning so that learning was more easily understood, enjoyable and engaging for them. Thus, in the future the implementation of this module can be expected to improve the teaching and learning experiences for this target group of students' through their use of ICT tools. Recommendations for practice and future research are identified and discussed.

Keywords: ASSURE instructional design, Information communication and technology (ICT), Secondary school students, Urban poverty

INTRODUCTION

The use of technology has grown significantly in the world. It began in the 1400s with the appearance of the printing press until the invention of the Internet and accessibility for information via Websites in the 1990s (Bishop & Verleger, 2013). Musa (2012) stated that information communication and technology (ICT) plays an important role in community life because it is capable of improving effectiveness and raising the daily standard of living in the community. Mohd (2010) also agreed that ICT plays a key role in the life of society at every level. In 1994, the Malaysian government introduced the National Telecommunications Policy to enhance the capacity to use ICT in society. Malaysia's target to be a developed nation by 2020 has fostered the initiative to widen ICT usage in society to help bridge the digital divide and in an effort to expand the knowledge based economy. The National Vision 2020 envisages a society based on information and knowledge. In efforts to achieve Vision 2020, the government has carried out several programs and prepared the requisite infrastructure.

Technology can be used as a valuable tool to promote and strengthen the teaching and learning (T&L) process. Ducate and Lomicka (2008) state that "*in today's information technology age, Internet tools are becoming increasingly popular in educational settings*". Instructional technology impacts T&L; be it used for the sharing learning materials during out-of-class hours (Miceli, Murray & Kennedy, 2010). Today, some technology tools have

been used in teaching and learning activity as two-way communication between the students and teachers (Adam & Nel, 2009). Face-to-face or traditional learning can be altered by using ICT in the T&L environment. Learning in this era is not only focused on the teachers, but students themselves need to take the initiative and enhance their knowledge and skills in using technology.

URBAN POVERTY AND STUDENTS UPTAKE OF INFORMATION AND COMMUNICATION TECHNOLOGY FOR LEARNING AND TEACHING

Poverty has various definitions which start from inadequate diet as well as lack of money and live in hardship (The Ministry of Women, Family and Community Development, 2015). Currently, statistics from the World Bank shows that more than half the world's population lives in cities, and the population increase is expected to exceed 70 million each year. Urban poverty has received considerable attention in the countries of Asia Pacific for over two decades (Mohd, 2010; Fang et al. 2000; Mohd, 2000; NorAini & Chamhuri, 2003). Siti (2009) and Azyyati (2013) stated that poverty encompasses multiple elements such as lack of nutrition, low education, unemployment, and financial issues (Azyyati et al. 2013). These are ongoing factors that when left unresolved can be expected to cause continuous issues and problems in the future.

According to the Malaysian Ministry of Women, Family and Community Development (2015), community living in poor condition in urban areas are often referred to as an urban poverty community, in which poverty is defined as the state of being poor, without sufficient finances and underprivileged. Teenagers living in areas of urban poverty are typically in the context of the urban poverty communities commonly associated with underprivileged conditions. As a developing country, Malaysia has taken numerous alternatives to expand the use of ICT among every member of the community. This was supported by Walsham et al. (2007) who stated that the use of ICT could assist in economic growth and development of a country (see also Binde, 2005). Soriano (2007) also agreed that the use of ICT could assist in averting and curbing poverty in a country. In the 21st century, emphasize on the use of ICT in teaching and learning process had been considering increasing the potential of ICT to improve the effectiveness of the process (Zhao, 2007). The use of ICT in teaching and learning requirescomputers and laptops, tablets and iPads, Liquid Crystal Display (LCD), printers, radio, television, multimedia and a range of software such as Microsoft Office Word, PowerPoint and Excel electronic spreadsheet, and Internet access to say the least (Shelly et al., 2004; Tochon, 2013).

The use of technology for education in Malaysia started around the 70's, with the use of microcomputers which have made a large impact in the field of education (Johari et al., 2010). Integration of computers in T&L began in 1981 when the first computer club was established in Sekolah Menengah La Salle, Petaling Jaya which introduced 'Computer Literacy' to students joining the club. In 1991, Computer in Education Unit was established under Mathematics Unit, School Division, Malaysian Ministry of Education. In the 90's, Malaysia education system prioritized the development of an advanced nation, computer literate, information literate and competitive (Usha, 2000). To expand the use of ICT, the ministry had conducted several programmes such as an introduction to computer programme in 1986, computer literate project in 1992, computer assisted learning project in 1994 and education network programme in 1995. Eventually, Malaysian Ministry of Education (MoE) made some changes to the existing curriculum by introducing Information Technology (IT) as one of the optional subjects in secondary school starting from 1998 (Curriculum Development Centre, 2010). According to Ahmad (2003), current teaching and learning

concept had been influenced by the use of IT through online education and virtual class. Even the Ministry of Education is encouraging the use of multimedia for teaching and learning process in schools around Malaysia.

Traditional teaching methods using whiteboard and memorizing techniques is perceived to be boring and less interesting by current students. However, research has claimed the use of ICT could increase students' understanding of subject matter as far as 30% compared with traditional teaching methods (Baharuddin et al., 2003). This is because teaching and learning processes using computers have been found to increase students' motivation to learn and improve their creative and critical thinking ability in problem solving (Van, 2007). According to Noor (2012), interesting and effective learning could be achieved by using technology-based teaching aids to support the T&L process. Thus, the main objective of this study is to design and evaluate an educational module for students in urban poverty to explore their response to the T&L process using ICT.

CONCEPTUAL FRAMEWORK

The conceptual framework for this study is based on ASSURE instructional design model to design and develop the module in T&L process. The ASSURE acronym stands for the following key components: A- Analyze Learners, S- State Objectives, S- Select Instructional Methods, Media, and Materials, U- Utilize Media and Materials, R- Require Learner Participation and E- Evaluate and Revise. The ASSURE model was used in this study because it is one of the instructional designs with a more systematic form of instruction in the teaching and learning process (Tan & Siti, 2015) as shown in Figure 1.
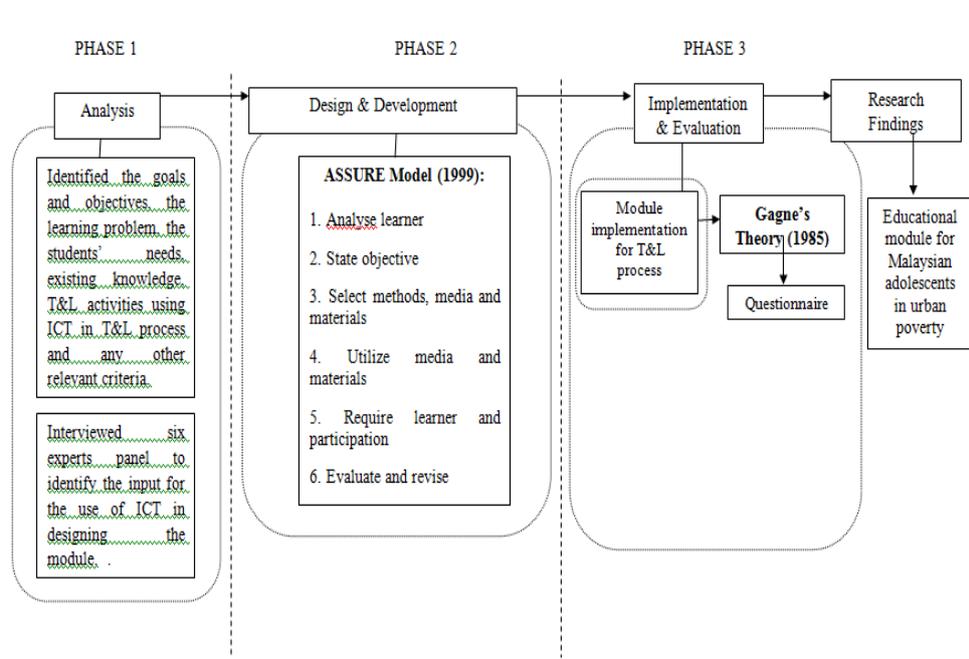

Figure 1: Conceptual framework

Following analysis of learning problem in phase one, the model consists of the six steps: analyse learner; state objective; select method, media and materials; utilize media and materials; require learner participation and evaluate and revise. Gagne's (1985) theory was used to find out about the students' perceptions of whether the T&L process that used the module at the focus of the research was seen as being able to fulfil the requirements of his

nine learning events. The module, therefore was expected to improve the T&L process using ICT tools for the target group of students who were categorized as living in urban poverty. Details of the steps for each phase are discussed in the research methodology section.

METHODOLOGY

This section briefly explained the procedure on how the researcher integrated the use of ICT in the teaching and learning process. The theoretical framework used in this research is based on the ASSURE model of instructional design, a theory developed by Heinich, Molenda, Russell and Smaldino in 1999. This acted as a guide for lesson planning and instruction which involved instructional technology. In order to investigate the use of ICT among the students, a quantitative study was employed by the researcher. This design and development research was conducted at a University in Malaysia and the instructor held a workshop which focused on five major factors that were seen as influencing students learning.

Purposive sampling technique was used in sample selection for the research. Purposive sampling was necessary to fulfil the research purpose, which could not be achieved by using any other sampling technique (Sidek, 2002). According to Silverman (2000), a purposive sampling technique is able to provided sufficient information in contexts such as this study. A sample of 50 secondary school students in areas identified as representing urban povertywere selected as the subjects of research. They were selected because they lived in urban poverty areas and also had different levels of knowledge and skills in using ICT for education purpose. The respondents were invited to attend a workshop and their participation in the study was entirely voluntary. The validity and reliability of the questionnaire used in this study had been verified in the researcher's previous research (Siti, 2007). The reliability of the instrument was measured using Cronbach's Alpha, which had an internal consistency reliability, higher than 0.7 thus indicating that the items used were adequate and reliable. In questionnaire used a Likert four-point scale that facilitated the classification and analyss of data and assisted. In obtaining the level of usage of each element and also the neutral or unsure ratings by the respondents (Trochim, 2002). All data and information collected was analyzed by the researcher using statistical analyss that provided, percentage, mean, and standard deviation using the SPSS version 17.0 software. The SPSS software was also used to manage the data in which the characteristics allowed the user to control output (scanning, editing and printing) besides facilitating the results of analyss.

This study also focused on the use of ICT (digital technology) as a platform for supporting the T&L process. Digital technologies used in this study were a laptop, LCD, YouTube (video), digital pen & touch, E-quiz, E-games and PowerPoint. These technologies were selected because, according to Shelly et al. (2004), among the use of ICT in teaching and learning are computer, Liquid Crystal Display (LCD), printer, radio, television and other software such as Ms Word, Ms PowerPoint and electronic spreadsheet and Internet and so the like. The researcher used the ASSURE model as an instructional design model to design and develop the module. Further, Gagne's Theory was used to find out about the students' perceptions, whether the T&L process using this module fulfilled the requirements of the nine learning events in Gagne's theory (1985) consisting of providing learning guidance, gaining attention, providing feedback, presenting stimulus, stimulating recall of prior learning, sustaining retention and transfer, assessing performance, informing learner of the objectives and eliciting performance.

Research Design

Richey and Klein (2014) stated that the design and development (D&D) of research has widely applied in designing and developing learning materials and is useful for research that uses a new methodology where there is not have much literature in the field. Siraj et al (2013) mentioned that D&D research focuses on the process, analysis, development and evaluation of the product and involve phases such as analysis, design, development, implementation and evaluation. In this study, the researcher uses the design and development in three phases such as; Phase 1: Analysis, Phase 2: Design and Development and Phase 3: Implementation and Evaluation.

Phase 1: Analysis

During the analysis phase, researchers identified the goals and objectives, the learning problem, the students' needs, existing knowledge, T&L activities, and any other relevant criteria. Firstly, the researcher analyzed what are the goals and objectives of using ICT in teaching and learning process. Next, the researcher identified and investigated the students' needs, learning skills, and any other relevant criteria. In this research, we also use a panel of experts to identify the input for the use of ICT in designing the module. The expert panel consisted of six individuals, four ICT PhD lecturers, a Professor of anthropology and a head of department of sociology in a local university. The experts review suggested that the module need to be developed on a topic related to the five major factors from previous research that had been identified by Hamidah and Siti (2015) and the duration of learning activities should not be more than one hour.

The five major factors that had been identified were 1. financial poverty (jobs, income and dependents and housing), 2. poverty status (physical environment, health and nutrition), 3. the poverty of participation (transportation and structural), 4. the ability of poverty (knowledge and skills) and 5. spiritual poverty (moral character, religion, globalization and economic competition).

The selected population for this study consists of secondary school students in urban poverty areas. The students were selected because they live in the urban poverty areas in the city of metropolitan, Kuala Lumpur. They were invited by the Head of Community to participate part in the study. They were secondary students aged 16 years old. Thus, it would be a good representation of the target population.

Phase 2: Design and Development

One complete lesson which comprised the five topics of the five major factors in urban poverty was designed in this phase. In brief, the content and development of the module, strategies and resources are summarized in Appendix 1. The content of learning is easily understood, enjoyable and designed to involve students in the T&L process. Explanation of lesson plans for each step specified in the ASSURE model is as follows:

1. Analyse learner
- Sample: Secondary level students in selected urban poverty areas.
- Number of students: 50 students (25 male and 25 female)
- Age: 16 years

2. State objective

Two objectives have been identified: 1) To design and evaluate an educational module, for students living in urban poverty, based on the ASSURE model; 2) To identify the students' perception of the usability of this module in the T&L process.

3. Select methods, media and materials

• Selecting Methods

The teaching methods used were: role playing / simulation, lectures, discussions, question and answer sessions, visual, repetition and exercises.

• Selecting the Media

In this module, the medium of instruction is considered appropriate for the students and also the content we have planned. Digital technologies used in this study were:
>   i. Laptop
>   ii. LCD
>   iii. YouTube (video)
>   iv. Digital Pen & Touch
>   v. E-quiz
>   vi. E-games
>   vii. PowerPoint

• Select Material

The use of non-printed materials for this module consists of:
>   i.   A4 paper
>   ii. Marker Pen
>   iii. White board (whiteboard)
>   iv. Worksheet

A noted earlier a description of the selected methods, media and materials are shown in Appendix 1.

4. Utilize media and materials

Among the steps taken were:
- Review the lesson content and learning activities.
- Assess the media before using the slides (PowerPoint), radio, laptop, LCD, video, e-games, e-quizzes, digital pen and touch.
- Prepare the paper, A4 paper, markers and worksheets with correct, complete and adequate.
- Teaching and learning activities carried out in the classroom.

5. Require learner and participation

To ensure that the learning process went smoothly, participants needed to be actively involved in learning activities. The activities involved exercise and practice, group work, discussions, quizzes and games in keeping with a student-centred approach to learning underpinned by the belief that this can stimulate the mind and behavior of students. There were several steps in the teaching program that encouraged students to participate. This started with a set of induction processes that were followed by three steps (Steps 1, 2 and 3

conclusions), which involved the student group as a whole. Motion group work, discussions, quizzes and games were employed because they were seen as very good to encourage the participants to be active in the teaching and learning processes for all the related activities.

6. Evaluate and revise

The evaluation involved both observation and written feedback. In the induction, and for steps 1 and 2 a questionnaire was administered. For the 3rd step, the evaluation was made through administering a written test. The principle was applied that everything that happened during the teaching and learning process should be reviewed to provide feedback for further improvement.

Phase 3: Implementation and Evaluation

The module was implemented for a period of five weeks. The research instruments used in this study provided both primary and secondary data. Questionnaires were used in this study based on a questionnaire the validity and reliability of which had been verified by previous research by Siti (2007). The result of Cronbach's alpha is 0.9225 and the questionnaires are considered as reliable and can be potentially used in another case of study. The secondary data represent the second level acquired through review of literature, such as reference books, magazines, journals, newspapers, online sources such as Internet and comparisons of prior studies by others. In this research, the Likert scale is used to facilitate classification and analysis of data. The researcher uses a four-point Likert scale to obtain the level of usage of each element and also the neutral or unsure response by the respondent (Trochim, 2002). In the analysis of questionnaire survey, the researcher divided this section into nine sections based on the nine events of instruction as proposed by Gagne; namely through providing learning guidance, gaining attention, providing feedback, presenting the stimulus, stimulating recall of prior learning, sustaining retention and transfer, assessing performance, informing learners of the objectives and eliciting performance. Each data and information collected was analyzed by the researcher using statistical analysis, such as descriptive analysis (mean and percentage). The data were then analyzed using statistical analysis of SPSS software version 17.0. The students able to experience the use of ICT in T&L and this make the learning is easily understood, enjoyable and engaging for students. The used of module in this study also provided exposure to the students on the five topics, which are relevant in their daily lives since they are living the community in urban poverty.

RESULTS AND DISCUSSION

The students' perceptions of the effectiveness of the use of this module in the teaching and learning process with the use of ICT was analyzed using their responses to the questionnaire. Findings from the evaluation conducted among 50 participants suggested that the use of ICT in teaching and learning process is effective. The findings showed the students were able to extend the process and content of learning so that learning is easily understood, enjoyable and engaging for them. Table 1 displays the results of the descriptive analysis of the students' responses to the questionnaire in the form of percentages, means and standard deviations. The research shows the percentages, means and standard deviations as a reflection of the agreement recorded of the T&L process using ICT.

Based on Table 1, the students' agreement recorded percentages exceeding 50% and mean values more than 2.50 showing that the respondents hold positive views regarding the use of this module approach in the T&L process. This suggests that use of this module for the

target group of students has the capacity to attract their deeper interest in the T&L process. The students agreed that they experienced a positive change in performance and became more confident to take part in the T&L process using this module (see Appendix 2 for the questionnaire). It has been argued above that the role of ICT in education must be seen as something that accelerates the learning process more effectively, and the results of this research, although a small case study, bear this out, and provide encouragement that the use of ICTs with this target group of students who are dealing with urban poverty has the potential to be transformative.

Table 1. Percentage agreement, mean values and standard deviations for overall items based on the nine events of instructions

Gagne Nine events of learning	Overall Means (*SD*)	Overall Percentage (%)
1. Providing learning guidance	2.91 (0.96)	89
2. Informing learner of the objectives	2.89 (0.94)	82
3. Enhancing retention and transfer	2.83 (0.91)	80
4. Stimulating recall of prior learning	2.81 (0.85)	76
5. Providing feedback	2.72 (0.83)	70
6. Presenting the stimulus	2.70 (0.80)	65
7. Gaining attention	2.68 (0.79)	63
8. Eliciting performance	2.63 (0.75)	61
9. Assessing performance	2.57 (0.72)	59

SD – Standard Deviations

According to Chance (2006), learning refers to the process of acquiring new knowledge, skills, attitudes and values whereby indirectly the behavior of the individual will change. The role of media in the learning process is defined as technology that conveys information useful for the purpose of delivering T&L content. This means that use of this module in this study is capable of attracting deeper interest of students in the T&L process because of the use of ICT. On the whole, it was found that the percentages recorded in Table 2 show that more than 60% of students agreed with all the questions presented. Each of the topics in the module based on five major factors recorded a mean exceeding 2.50; indeed, the percentage agreement exceeded two-thirds of the total number of students involved.

The students were learning about the five topics, of finance and poverty reduction, role of ICT in facilitating healthy lifestyle among youth in urban poverty, poverty and transportation access, motivation in using information and communications technology for teaching and learning and emotional intelligence among urban poverty, which equated to the five major factors noted above that comprise the the critical issues that influence poverty in urban communities. Previous research by Hamidah and Siti (2015) discovered there were several challenges, particularly issues faced by low income urban communities. The topics of the module are based on the factors identified as the major challenges faced in such communities. They aim to develop in students a deeper understanding of the challenges they face as members of a low income urban community. The ASSURE model as a systematic instructional design integrates the use of ICT into the teaching and learning experiences. The module is design to increase the ability of students to apply ICT tools in their learning since they lack the requisite infrastructures, the resources to purchase ICT equipment, the knowledge and skills to use it as well as access to training. Thus, the students learning in this module acquire experience in using ICT as a tool for the purposes of teaching and learning. By helping the students explore the use of ICT in this way it has the potential to contribute to

improving awareness in their families and wider community to foster the goal of a knowledgeable society.

Students were positive about their T&L in using ICT. Each of the topics in this module facilitates the T&L process throughout their session using ICT. This module created awareness and exposure to the adolescent in urban poverty to open their minds related to the five factors in this module. Since the Malaysian government strives to enhance their ICT development strategy in rural and urban poverty areas, thus this module enabled them to create awareness and exposure to open their minds related to the five factors in this module. Jeynes (2002) stated that socioeconomic factors such as educational background, employment status and income levels also affect the students' education. According to Doris et al. (2012), education plays an important role in enhancing the economic growth of a country but also help in increasing knowledge and skills for a better life. Haryati and Sharifah (2009) stated that in Malaysia, there are many issues and problems specifically related to facilities, services, costs and modes of transportation which will be a constraint in achieving a good quality of life in urban areas. The needs of educational transformation in terms of value and morality are very important, especially among students who will be the catalyst for the country's future development. Thus, this module has helped to sensitize on issues related to the adolescent in urban poverty since the Malaysian government strives to enhance their ICT development strategy in rural and urban poverty areas.

This finding shows that on the whole the students agreed that use of this module fulfils the requirements as stated in ASSURE model hence enhancing quality in the teaching and learning session. This research also found that using ICT in the T&L process enabled them to understand the content of the lesson. This project attempted to trial a T&L process that would be more engaging and better able to meet the target group of students' needs. In recognised the importance of the lecturers being able to ensure that their instructional methods matched the needs of the learners during the teaching and learning process. In keeping with Capron and Johnson's (2004) stance that the effectiveness of computer use in the classroom enhances teaching and learning the present research made an important contribution with respect to the need for the use of ICT with students living in urban poverty. Using technology in the classroom provides students with an opportunity to learn and use technology to learn, and helps them to have more access to lecturers, and be more independent learners by supporting a more personalized learning experience.

DISCUSSION AND CONCLUSIONS

One of the most significant phenomena of the 21st century is the rapid increase in the use of technology. Learning about technology should therefore aid problem solving skills and assist older people to adapt to change if it is a meaningful activity for them. ICT has an important role to play in developing learning opportunities for students both as a topic in its own right and also as a means of learning in the knowledge society. ICT in its different forms (computers, Internet, mobile phones, CDs, multimedia, and multimodal texts) enables new ways of accessing learning resources.

This research considered that the use of the module in the T&L process was effective in the application of ICT tools. The students agreed that the use of this module facilitated the T&L process throughout their session using ICT. It is not clear which data analysis allows you to conclude this. This means that the use of ICT helped the lecturer to deliver the content of the lesson to expedite the T&L and the students' ability to use ICT in T&L. Using ICT in the T&L process helps learners to attain skills and new knowledge in the T&L process. In fact they paid more attention to stimuli such as diagrams, tables, charts, maps and so forth because

these helped them understand the lesson more effectively because of the use of ICT in the T&L process.

This study only focused on the use of ICT such as digital technologies (laptop, LCD, YouTube (video), digital pen & touch, E-quiz, E-games and PowerPoint). Other studies can be done using different platforms such as Proboards, Edmodo, Spicynodes, Teamweaver, Blog and so forth so that the effectiveness of the T&L using these platforms can be investigated. Considering that the respondents were students in urban poverty, they also needed to cultivate expertise in ICT to prepare themselves for the future job market (Norizan, 2004; Pachler, 2001). According to Tappscott (2003), students today are very interested in using technology and want the T&L process to be more challenging and interesting. Related to that, urban poverty students need to make full use of the capabilities of technology so that T&L becomes more effective and produces students who are lifelong learners and able to excel in their chosen field.

Future research should also venture rigorously into the long-term effects which the use of ICT has on teaching and learning as well as the new skills involved. Longitudinal studies are valuable in producing a whole new perspective in exploring retention and sustainment of knowledge and skills from the use of ICT. This study is expected to provide a guideline in particular to the Malaysian Ministry of Education (MOE) as well as in other countries to highlight the module for students in urban poverty in the use of ICT.

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Appendix 1- Description of the module and selected methods, media and materials

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Title
Educational module for Malaysian students in urban poverty based on ASSURE model

Target Audience
Secondary students in urban poverty

Module Objective
The main objective of this module is to share the education Module for Secondary students in urban poverty using information, communication and technology.
The main focus of the module is in aspect:
1) Financial poverty (employment, income and liability and housing)
2) Status poverty (physical environment, health and nutrition)
3) Poverty inclusion (transportation and structure)
4) Capacity poverty (knowledge and skills)
5) Spiritual poverty (moral and moral beliefs, religious beliefs, globalization and economic competition)

Learning outcome
This module can be expected to be used in addressing the poverty problems faced by secondary students in urban poverty areas using ICT tooles. This is aimed at improving the quality of life
Upon completion of this session, participants will be able to understand the critical factors faced by them and increase the ability of students' using ICT in T&L process. Thus, this module may help the students' to explore the use ICT in T&L in order to become a knowledgeable society.

The Use ASSURE Model in designing the module
The instructor needs to implement the teaching according to the systematic teaching design model so that the learning outcomes are achieved. In this module, the ASSURE model was used in this study because it is one of the instructional designs with a more systematic form of instruction in teaching and learning process). This model consists of six steps such as analyze learner; state objective; select method, media and materials; utilize media and materials; require learner participation and evaluate and revise

STEP / METHOD / MEDIA / MATERIALS	ACTIVITIES	DESCRIPTION
Induction Set Methods: Discussion, question and answer. Media: slides (PowerPoint), laptops, LCD.	1. Students' watch a montage prepared by the facilitators.	Facilitators choose this method in order to stimulate participants' interest in terms of their visual learning style.
Step 1 Methods: Discussion, Questions and answers. Media: slides (PowerPoint), laptop, LCD, video, e-games, e-quizzes, digital pen and touch. Materials: A4 paper, colored paper, markers	1. Students' watch the slide presented by the facilitators.	The facilitator explains the purpose of each of the specific activities from activity 1 to 5. Further, this activity can attract students who have a kinesthetic learning style.
Step 2 Methods: audio-visual (audio-visual), quizzes, games, role play, discussion, and question and answer repeated. Media: slides (PowerPoint), laptop, LCD, video, e-games, e-quizzes, digital pen and touch. Materials: A4 paper, colored paper, marker pen.	1. Participants watch a video and hear an explanation of facilitators. 2. Participants are divided into groups for discussion and simulation activities.	Participants who prefer audio learning style will be motivated to follow the instruction given by the facilitator. Participants participate in discussions and quizzes on how to play their role as an individuals or parties involved in accordance with the rules or procedures established by the facilitator. Through this activity, participants can better understand more on the topics of the module.
Conclusion Methods: The discussion and replication. Media: slides (PowerPoint), laptop, LCD, video, e-games, e-quizzes, digital pen and touch. Materials: A4 paper, coloured paper, markers, worksheets	1. Participants gave a summary of the activities carried out. 2. The facilitator reviewed again and discuss on the related topics of the activities. 3. The facilitator explains how to answer the worksheet.	Participants can enhance their understanding through the worksheet provided.

Appendix 2 - Questionnaire

1-Strongly Disagree, 2-Disagree, 3-Agree, 4-Strongly Agree

Items	Statements	Scale			
1.	The T&L process using ICT enhances my motivation to learn better.	1	2	3	4
2.	I am more motivated to learn using ICT in T&L process	1	2	3	4
3.	The learning environment in classroom plays an important part in the lessons being followed.	1	2	3	4
4.	In the T&L session, I paid careful attention to the instructors' demonstration.	1	2	3	4
5.	The T&L sessions help to improve the expected performance of my learning.	1	2	3	4
6.	I am ready with the topics described on the agenda that I has been informed.	1	2	3	4
7.	The T&L sessions helped me to recall the concepts I have learned.	1	2	3	4
8.	I am able to gain more knowledge in the T&L process.	1	2	3	4
9.	In the T&L session, I am able to distinguish the important and relevant information from less important.	1	2	3	4
10.	I will pay more attention to any stimulations (slides (PowerPoint), laptop, LCD, video, e-games, e-quizzes, digital pen and touch) as it helps me to understand the lesson more effectively.	1	2	3	4
11.	I can only remember the information received during the T&L session.	1	2	3	4
12.	The knowledge that I learned through the T&L, I will compare with other learning materials.	1	2	3	4
13.	I showed better performance in the T&L process.	1	2	3	4
14.	I am confident to take participate in the T&L process.	1	2	3	4
15.	Feedback from the instructor can be given more clearly in the T&L process.	1	2	3	4
16.	I also respond promptly to questions raised by instructor.	1	2	3	4
17.	What I learned in the T&L session helped me to learn with other learning materials.	1	2	3	4

*T&L-teaching and learning, *ICT-Information, communication and technology