Assessment of the Youth Information Technology Education Program in Community Services

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Abstract
The Youth Information Technology Education (YITE) is a community based program of ICTED Institute of Science and Technology in Lipa City, Batangas. The program objective is geared for the acquisition of basic knowledge, attitudes, values and skills that will serve to youth and adult as powerful tool in combating illiteracy in information technology education which open great opportunities for all individuals and groups in the community.
The desire of the researcher is to determine if there is a significant relationship between the perceived level of satisfaction on YITE program and perceived learning outcomes. Descriptive survey signifies the gathering data by providing the value of facts, and focusing attention on the most important things to be reported.
The researcher used questionnaire as research instrument in the gathering and collecting data on each item in the perceived level of assessment and learning outcomes of youth on information technology education program. The results of the study confirmed that the respondents are satisfied with the YITE Program (teachers' characteristics, strategies and program content) as well as with the Program's Learning Outcomes. Teachers' characteristics, teaching strategies and program content were found to be significant correlates and predictors of learning outcomes. The program should continuously address these aspects of the program. The knowledge and competence of the teachers as well as the content of the program should be regularly checked and upgraded through appropriate education and training.

Keywords: Information Technology IT Education, Learning Outcomes, Level of Satisfaction

Introduction

The **Youth Information Technology Education** (YITE) is a community based program of ICT – ED Institute of Science and Technology in Lipa City, Batangas. This school project is implemented in the year 2009 as a community service program of ICT-ED Institute of Science and Technology. It aims to introduce the learners to the modern trends of information technology - based education; broaden their knowledge and skills in the use of computer software and other web based information; and promote the proper use of information technology in the field of IT education. The program objective is geared for the acquisition of basic knowledge, attitudes, values and skills that will serve as powerful tool of youth and adults in combating illiteracy. It would also open great career opportunities for all individuals in the community.

Time is indispensable for a change to take root in the educational development of learning. The pragmatic approach has been applied to formal basic education and yet computer literacy is not yet fully achieved due to multiple and complex delivery system of education in the country. It has been realized that this is not enough but in the long run it will make the people become productive and innovative in the future. Computer Literacy also prepares them to become globally competitive in the future.

The YITE is done as bridges of knowledge and skills for technological advancement which could create better linkage of opportunities towards a productive way of living of all the community youth and adults connected to the institutional program of ICT-ED Institute of Science and Technology.

Research Objectives

This study sought to identify the relationship between the respondents' perception of the level of assessment and learning outcome of YITE program. At the end of the study the researcher aims to:

1. Describe the profile of the respondents in terms of:
   1.1. age;
   1.2. gender; and
   1.3. educational attainment,

2. Analyze the respondents perceived level of satisfaction on YITE program in terms of:
   2.1. teacher characteristics;
   2.2. teaching strategies;, and
   2.3. content,

3. Evaluate the level of effectiveness on YITE learning outcomes.

4. Determine if there is a significant relationship between the respondents' level of satisfaction and their level of effectiveness of the learning outcomes.

Research Framing

In the assessment of the Youth on Information Technology Education Program, the researcher used the CIPP model designed by Stufflebeam and Shinkfield (1984) in order to achieve the objectives of program. Objectives are to evaluate the YITE strategies and methodologies that are appropriate to the stages and modes or designs program; design suitable techniques or principles of procedure to gather information or data relevant to the program; and utilize the data or information collected for the purpose of interpretation, analysis and description of the YITE to guide decision-making or judgment regarding the program.

CIPP model theory is used as a basis to measure the effectiveness of a program. The theoretical framework of this research also will be the basis towards method and measurement of this research.

Context, Input, Product, and Process (CIPP) Model

The model was adapted from the theoretical model designed by Stufflebeam and Shinkfield (1984), which focuses on improvement oriented evaluation. The aim is to make a decision towards one‘s course or an educational program. Briefly, through the CIPP model theory, evaluation of effectiveness of one course begins with an agency that operates the control system (course or program) then followed by evaluation in the first dimension that is evaluation of context by setting the curriculum‘s goals to achieve.

Next is the second dimension, evaluation of input focuses on using various strategies and methods of teaching and learning as the content of the courses. The third dimension is the evaluation of process that focused on the assessment of a process implementation and existing problems that can circumvent components of the program in the form of context and input. Finally the fourth dimension is evaluation of product that focused on outcomes achievement of one‘s course or program.

Stufflebeam (1984) stated that, the evaluation process can also be placed after assessment of a product because the process is significant to existing problems which could hinder the entire course including dimensions of context, input and product. In other words, the more problems exist, the harder to achieve the success of a course. The decision must be made in product and process dimensions whether to terminate, suspend, proceed or modify the course. If modification is needed for the course, the assessors are required to examine any weak dimension to fix the operation system.

Theoretical Framing

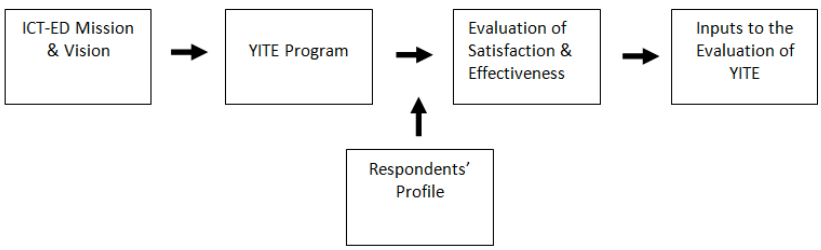

Figure 1. YITE Theoretical Framing using CIPP Model

The mission & vision of the school involves planning, implementing, and assessing a service-learning project aim to meet both the needs of service provider and stakeholders. Once the program is implemented, it is deemed necessary to undergo assessment to find out if the program is tracking its' objectives. This is the evaluation process where the recipient are determined satisfied and its program effectiveness throughout the whole period of the project.

The assessment or evaluation of the respondents focuses on the formative and summative evaluation of each respondent to determine the effectiveness and worth of an evaluation object (context, input, process and product).After the careful assessment of the program, the decision making would rely upon the results of assessment of the YITE program.

The perceived level of satisfaction measures the teachers characteristics; teaching strategies; and content of YITE program. These variables contain input and process measuring the formative evaluation. Input evaluation includes activities such as a description of the program inputs and resources, a prospective benefit/cost assessment, an evaluation of the proposed design of the program, and an examination of what alternative strategies and procedures for the program should be considered and recommended. This type of evaluation examines what the program plans on doing. It helps in making program structure decisions.

The process evaluation includes examining how a program is being implemented, monitoring how the program is performing, auditing the program to make sure it is following required legal and ethical guidelines, and identifying defects in the procedural design or in the implementation of the program. It is here that evaluators provide information about what is actually occurring in the program. In general, process evaluation helps in making implementing decisions.

However, the perceived learning outcomes stands for the product evaluation includes determining and examining the general and specific outcomes of the YITE program (i.e., which requires using impact or outcome assessment techniques), measuring anticipated outcomes, attempting to identify unanticipated outcomes, assessing the merit of the program, conducting a display benefit/cost assessment (to establish the actual worth or value of the program), and/or conducting a cost effectiveness assessment (to determine if the program is cost effective compared to other similar programs). Product evaluation is very helpful in making summative evaluation decisions of YITE learners are the focus of the teaching/learning process in the statements of goals and objectives of YITE assessment.

Research Methodology

The descriptive method of research was employed. This was designed to gather information about present existing conditions. In line with it Sevilla (1999) pointed out that descriptive survey or research presents facts concerning the nature and status of anything, a group of persons, a number of objects, a set of conditions, a class of events a system of thought or any kind of phenomena which one may wish to conduct a study.

The desire of the researcher is to determine if there is a significant relationship between the respondents' profile and the perceived level of assessment on YITE program; the respondents' profile and the perceived learning outcomes; and the perceived level of assessment on YITE program and perceived learning outcomes.

The researcher devised questionnaires for the recipient (YITE participants) of the program. Descriptive survey signifies the gathering data by providing the value of facts, and focusing attention on the most important things to be reported. The researcher used questionnaire as research instrument in the gathering and collecting data on each item in the perceived level of assessment and learning outcomes of youth on information technology education program.

Sources of Data

The sources of data are the respondents who are given survey questionnaire. The respondents are identified as learners (recipient) of the youth on information technology education in community service. The survey questionnaire used as the research tool in the conduct of research, and this questionnaire is composed of three parts. The first part of the questionnaire contained the profile of the respondents; the second part is the assessment of teacher characteristics; teaching strategies and program content; and the last part is the learning outcomes of the learners. The designed questionnaire is semi structured. The Part III, Student Learning Outcomes is adapted from Deborah Teramis Christian, Lasa Information Systems Team, "ICT Training Need Analysis" used by the researcher to gauge the level of assessment on the learning outcomes of the respondents.

Frequency and Percentage

The frequency and percentage distribution of the respondents profile are presented to describe the respondents and educational attainment. Simple frequency count tallies, the number of times that the score will achieve. This is used to determine the proportion of frequency of respondent profile. Percentage is the numerical analysis to describe or compose the magnitudes of given data. It is used to summarize data on the respondent profile.

Mean and Weighted Mean

Simple mean is used to determine the respondents' perceived level of assessment and learning outcomes. Weighted mean is a statistical tool where there is a variation of relative contribution of individual data values to the mean and is used to describe the average of the result of each item.

Four – Point Scale

The Four – Point scale is used in assessing the respondents' level of satisfaction for both the YITE program and YITE Learning outcomes. The weighted mean for the level of satisfaction of the YITE program was interpreted using the corresponding equivalents given below:

Scale	Weighted Mean	Interpretation
4	3.50 - 4.00	Very Satisfied
3	2.50 - 3.49	Moderately Satisfied
2	1.50 - 2.49	Slightly Satisfied
1	1.00 – 1.49	Not Satisfied

The weighted mean for the level of effectiveness of the learning outcomes was interpreted using the corresponding equivalents given below:

Scale	Weighted Mean	Interpretation
4	3.50 - 4.00	Very Effective
3	2.50 - 3.49	Moderately Effective
2	1.50 - 2.49	Fairly Effective
1	1.00 – 1.49	Not Effective

Pearson Product Moment Correlation

Correlation Analysis is to be done in Pearson Product Moment Correlation coefficient to determine the presence of significant relationship between the perceived level of satisfaction and level of learning outcomes.

Data Analysis and Interpretation of Research

Profile of the Trainees

Table 1 shows the frequency distribution of the respondents according to the age, gender and educational attainment of the learners. Most of the respondents are minor age with 41 learners, or 97.62% of the total number of respondents, while there is only one respondent (2.38%) from the out of school youth. The frequency distribution of the respondents according to gender of the learners. The majority of the respondents are female with 31 learners, or 73.81%, while male learners are 11 or 26.19% of the total number of respondents. The frequency distribution of the respondents according to educational attainment. It indicates that majority of the respondents finished secondary, with 39 respondents, or 92.86% of the population. The minority, at 7.14% that three respondents are completed elementary level.

Table1. Frequency distribution of the respondents' profile according to age, gender and educational attainment.

Age	Frequency	Percentage (%)
14-17	41	97.62
18-21	1	02.38
Total	**42**	**100**

Gender	Frequency	Percentage
Male	11	26.19
Female	31	73.81
Total	**42**	**100**

Educational Attainment	Frequency	Percentage
Elementary	3	07.14
Secondary	39	92.86
Total	**42**	**100**

Perceived Level of Satisfaction on YITE Program

The content of the modules are concentrated on basic computer literacy program and computer application. Module 1 and 2 are computer familiarization and terminologies (General Windows Skills and Printers & Peripherals) where Module 3 to Module 5 focuses on computer application such as Word processing, Spreadsheet, and Presentations. The Module 6 is the application of Internet and On-line Activities.

Table shows the respondents' perception on level of satisfaction in terms of teaching characteristics, teaching strategies and content in Module 1 indicated that they found as "Very Satisfactory". Highest mean rating of 3.63 was given in the Teaching Characteristics. The result of perceived level of satisfaction for Module 2 to Module 6 indicated that they found as moderately satisfied varies according to the level of complexity of the module.

Service-learning is a complex approach to teaching and learning; it needs and deserves approaches to assessment, evaluation, and reporting that are capable of capturing that complexity *(Eyler & Giles, 1999; Karayan & Gathercoal, 2005; Mabry, 1998; Moore, 1999; Pritchard, 2002; Steinke & Buresh, 2002; Troppe, 1995).*

The assessment result of the component of YITE program on teacher's characteristics, teaching strategies and content; the perceived level of assessment indicated that they have found the teacher's characteristics, teaching strategies and content were given overall rating of mean moderately satisfied. The need of rigorous and authentic assessment of service learning outcomes has been increasingly recognized and many challenges in assessing service learning *(Butin 2003; Gelmon, 2000a; Holland, 2001).*

Table2. YITE level of satisfaction in terms of Teaching Characteristics, Teaching Strategies, and Content (Component of YITE Program)

Module	Teacher's Characteristics		Teaching Strategies		Content	
	M	VI	M	VI	M	VI
Module 1	3.63	VS	3.52	VS	3.58	VS
Module 2	3.46	VS	3.43	VS	3.43	VS
Module 3	3.32	MS	3.35	MS	3.39	MS
Module 4	3.27	MS	3.23	MS	3.28	MS
Module 5	3.35	MS	3.35	MS	3.42	MS
Module 6	3.32	MS	3.36	MS	3.24	MS
TOTAL	3.39	MS	3.37	MS	3.39	MS

Level of effectiveness on YITE learning outcomes

Table shows the level of effectiveness on YITE learning outcomes in Module 1 indicated that they found as "Very Effective". Highest mean rating of 3.50 was given in the General Windows Skills. Module2 to Module 6 were rated "Moderately Effective" because of the complexity of learners on the different level.

Allen (2003) stated that assessment is a continuous improvement process. In order to improve, you need to know where you are today and where you would like to go. This requires a clear articulation of the programs mission (purpose), vision (where you would like to go), goals (steps to getting where you would like to be), objectives or outcomes (what you need to achieve for each step in order to get), and measures (how well you are currently doing). In order to improve you need to take action. This includes analyzing the program to determine needed changes, planning the changes and taking actions.

Table3. Level of effectiveness on YITE learning outcomes

Module	Mean	Verbal Interpretation
Module 1 General Windows Skills	**3.50**	**VE**
Module 2 Printer and other peripherals	**3.47**	**ME**
Module 3 Word Processing	**3.47**	**ME**
Module 4 Spreadsheet	**3.34**	**ME**
Module 5 Presentations	**3.48**	**ME**
Module 6 Internet and on-line activities	**3.5**	**ME**

Significant relationship between the respondents' level of satisfaction and the level of effectiveness of the learning outcomes.

Table 4 shows the relationship between the teachers' characteristics and the learning outcomes per module. Results show that teachers' characteristics have strong relationships with the learning outcomes in all modules. The positive r-values indicate that the more satisfied the respondents are with the teacher characteristics the better the learning outcome becomes. The relationships between teachers' characteristics and the learning outcomes for all modules were significant indicating that teachers characteristics are significant predictors of learning outcomes.

Table 4. Relationship between perception on teacher characteristics and Learning Outcome

Learning Outcome by Module	r-Coefficient	Verbal Interpretation	p-Value	Verbal Interpretation
Module 1	0.85	Strong relationship	0.00	Significant
Module 2	0.82	Strong relationship	0.00	Significant
Module 3	0.86	Strong relationship	0.00	Significant
Module 4	0.81	Strong relationship	0.00	Significant
Module 5	0.93	Strong relationship	0.00	Significant
Module 6	0.91	Strong relationship	0.00	Significant

Table 5 shows the relationship between the teaching strategies and the learning outcomes per module. The positive r-values indicated that the more satisfied the respondents are with the teaching strategies the better the learning outcome becomes. Results showed that teachers' characteristics have strong relationships with the learning outcomes in all modules. The relationships between teachers' characteristics and the learning outcomes for all modules were indicating that teaching strategies are significant predictors of learning outcomes.

Table 5 Relationship between perception on teaching strategies and Learning Outcome

Learning Outcome by Module	r-Coefficient	Verbal Interpretation	p-Value	Verbal Interpretation
Module 1	0.95	Strong relationship	0.00	Significant
Module 2	0.90	Strong relationship	0.00	Significant
Module 3	0.94	Strong relationship	0.00	Significant
Module 4	0.84	Strong relationship	0.00	Significant
Module 5	0.97	Strong relationship	0.00	Significant
Module 6	0.95	Strong relationship	0.00	Significant

Table 6 shows the relationship between the program content and the learning outcomes per module. The positive r-values indicated that the more satisfied the respondents are with the program content the better the learning outcome becomes. Results showed that teachers' characteristics have strong relationships with the learning outcomes in all modules. The relationship between teachers' characteristics and the learning outcomes for all modules were indicating that program contents are significant predictors of learning outcomes.

Table 6 Relationship between perception on program content and Learning Outcome

Learning Outcome by Module	r-Coefficient	Verbal Interpretation	p-Value	Verbal Interpretation
Module 1	0.86	Strong relationship	0.00	Significant
Module 2	0.74	Strong relationship	0.00	Significant
Module 3	0.82	Strong relationship	0.00	Significant
Module 4	0.83	Strong relationship	0.00	Significant
Module 5	0.90	Strong relationship	0.00	Significant
Module 6	0.77	Strong relationship	0.00	Significant

Conclusions

The success of the service learning project requires a good project plan that, if implemented correctly will benefit both service providers and service recipients. The result of assessment in the YITE community service has been identified its current system capabilities to extend the service to the needs of individual by helping not only out school youth but also to adolescent learners.

The lead of satisfaction varies according to the lead of complexity of the modules. The more complex in the succeeding the modules .It result a decreasing rate of mean because of the teaching strategies implemented in the program

The Learning outcomes determine the effectiveness of the module. The YITE give more emphasize the "learning by doing" to identify corrections for problematic project features like teaching strategies. As Stufflebeam has pointed out, the most fundamental tenet of the model is "not to prove, but to improve" (Stufflebeam & Shinkfield, 2007, p. 331).

The higher level of satisfaction is more effective on the learning outcome. The knowledge and competence of the teacher as well as the content of the program should be regularly checked and upgraded through appropriate education and training.

Recommendations

The results of the study confirmed that the respondents are satisfied with the program. However the researcher wishes to make some recommendations to further satisfy in conducting the YITE assessment.

The ICT-ED need to develop tactics or marketing strategic plan for community services to promote YITE program concentrating for adults. It build brand - its legitimacy, identity and unique differences that make it worthy of public support for sustainability learning institution.

Review the teaching strategies of the teachers and create intervention program to facilitate effective teaching learning in the program content. Lardizabal (1996) mentioned that personal qualities of a teacher stem from his interest, attitudes, beliefs and behavior in dealing with students and other individuals. The valuing of high moral, integrity and abiding to ethical and spiritual principles in teaching profession or personal attributes is a social and personal obligation of the teacher in his career. Surely teachers must have basic moral and spiritual principles of teaching profession or in personal actuation has a social and personal obligation of the teaching career.

Additional programs are required to provide or install for further enhancement of YITE programs in the learning community. The YITE will create linkages of innovative approach locally and international to become more effective and stable.

Significance of the Study

The findings of this study are conceived to provide insights and to serve as reference to the following:

School Administrators, the findings could serve as basis in finding for alternative and continuing development program to open more opportunities for teachers in information technology education.

Parents, the information gained could be a contributing factor in the realization of the parents support and assistance needed to help the youth fulfill their need in education. Youth and community people, the information could serve as strategic motivation for them to realize that information technology education would benefit them and would give them a significant tool to combat illiteracy and poverty.

ICT-ED Institute of Science and Technology, the study could provide varied programs and activities which may be responsive to the social needs that will lead to the development and empowerment of community service.

Future researchers, this study could serve as a good source of reference that would somehow inspire others to conduct the same study. Provide qualitative information that may help them pursue studies which could help to further assess YITE programs through carefully studied implementation and community educational projects.

This study could give impact to ICT-ED management technology in terms of enrichment of ICT culture among students and teachers more efficient student and teacher administration better accessibility to information and a higher utilization of school resources.

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