Research article

Determinants of Learners' Intention to Continue Using the E-learning Program of the Agricultural Training Institute (ATI)

MERRIAN PIQUERO SOLIVA*
Agricultural Training Institute-Regional Training Center VII, Bohol, Philippines
Email: aticv.7@gmail.com

Received 16 February 2015 Accepted 6 May 2015 (*Corresponding Author)

Abstract The study investigated the influence of the learners' attitude, perceived satisfaction and perceived e-Learning effectiveness, on their intention to continue using the ATI's e-Learning program for agriculture and fishery in the Philippines. This study was conducted in the 16 regions of the Philippines where the ATI Network of Regional Training Centers were located. The respondents included 960 adult-learners, consisting of e-Learning enrollees and e-Learning graduates from 2009 to 2012. More than half, (58.9%) of the respondents were females, and nearly two-thirds (66.1%) were married. Their age level ranged from 16 to 63 years old with a mean age of 36 years old. More than half (56%) of the respondents were college graduates. More than two-thirds (67.9%) were agricultural extension workers and had a fair experience with e-Learning. They believed that the ATI's e-learning System is well-established, secure and stable. In its entirety, the respondents were satisfied with the course lab used by ATI. They preferred that a multi-media instruction would be used and recognized that the e-Learning system quality and the interactive learning activities of the program are important. The respondents pointed out that operating e-Learning boosted their self-efficacy/confidence and that the e-learning system is effective because it facilitated their learning efficiency, performance and motivation. They intended to continue the use of the ATI's e-Learning program because they could access a wide array of free digital resources like the course materials used that were placed online and the instructions provided were clear and easy to understand. It enhanced their knowledge and skills that are relevant to their field of specialization. They perceived the course contents as sufficient and related to their interests and they could easily contact the online support team anywhere to answer their queries. In addition, they perceived the instructions provided as sufficiently clear and easy to understand. Learners' ability towards the e-learning program, as well as their perceived satisfaction and effectiveness of the program were significantly related with their intention to continue using the ATI's e-Learning program.

Keywords e-learning, learners' intention, e-extension Philippines, ATI, extension, agriextension

INTRODUCTION

People who care for personal growth and development need to continue learning. This is anchored on the idea that learning is a never-ending process. Losing the drive to learn and explore new methods to enhance the innate knowledge is a plain manifestation of ceasing to grow.

Working for community development is a noble endeavor; thus, it needs continuous learning. It also entails crossing boundaries from the so-called traditional learning to modernized kind of learning in order to achieve what is ought to be achieved and accomplished.

Leary and Berge (2006) disclosed that there is a need to improve agricultural education throughout the world. With agricultural technologies that can facilitate increase in food security especially in the developing world, there is a greater chance that income generating activities of the rural people can be modified, enhanced or improved.

Stienen et.al (2007) pointed out that majority of the rural population in the developing countries depend on agriculture. With the dwindling supply of natural resources needed for agricultural production, this sector faces major challenges of enhancing crop production activities and programs. The increasing demand for agricultural products, however, offers opportunities for producers to improve their livelihoods. Thus, there is a need to inform and educate farmers about the technologies they can possibly use to improve crop production. The use of information and communication technology (ICT) has been identified as a potential information dissemination strategy.

As stipulated in the Philippine Government's Medium Term Philippine Development Plan Year for 2010-2016 (http://www.neda.gov.ph/wp-content/uploads/2013/10/pdprm2011-2016.pdf), the Department of Agriculture (DA) is responsible for boosting the income of farmers as well as reducing the incidence of poverty in the rural sector. The Agricultural Training Institute (ATI), which is the extension arm of DA is responsible for training the agricultural extension workers and their clientele. It facilitates the conduct of multi-level training programs to ensure that research results are communicated to the target farmers thus, promotes rural development

Because the Philippine government only has meager resources, and since there are priority plans set by the government, agricultural training and extension activities have little share in the annual budgetary allocation. Indeed, much of the budget goes to infrastructure development and improvement.

Moreover, Viñas (2010), in her presentation during the Strategic Review of Decentralization for the In-depth Study of Decentralization, pointed out that the major issues and challenges faced by the agriculture sector include the rising number of extension workers in local government units (LGUs) who are slowly deteriorating due to (a) lack of opportunity for technical trainings; (b) lack of scholarship grants; (c) demoralization and non-motivation from the local executives; (d) political appointment/accommodation; and (e) no authority to provide policy, allocate extension resources and monitor the implementation of agricultural extension.

Against this backdrop, Republic Act 8435 of the Philippines, otherwise known as the Agriculture and Fisheries Modernization Act of 1997 or AFMA, was put into law to strengthen the support services for modernizing agriculture and fisheries, and at the same time empower people particularly the stakeholders to help attain sustainable agricultural development with the hope that the food security program will be given highest priority in response to poverty alleviation. The DA-ATI is tasked to assist the local government units' extension system in improving its effectiveness and efficiency through capacity building and complementary extension activities such as technical assistance, training of personnel, improvement of physical facilities, extension cum research and information support services in coordination with state universities and colleges. Among the DA-ATI's main clients are the agricultural extension workers (AEWs) who need to be updated with the new agricultural technologies and extension delivery modalities.

With this, the Department of Agriculture mandated ATI, through the Department Order No. 3, Series of 2007, to lead in the provision of e-Extension services in collaboration with various agencies, bureaus and organizational units of DA. This aims to integrate and harmonize Information and Communication Technology (ICT) - based extension delivery system for agriculture and fisheries.

Raab, Ellis and Abdon (2002 as cited by Liaw, 2007) stressed that e-Learning "is the latest breakthrough of distance learning where instructors and learners are separated by distance, time, or both. Through network technologies, e-Learning creates, fosters, delivers and facilitates learning anytime and anywhere."

Thereby, this study intends to investigate the determinants of learners' intention to continue using the ATI's e-learning program for agriculture and fishery in the Philippines.

METHODOLOGY

This study was conducted in the 16 networks of ATI Regional Training Center in the Philippines. A total of 960 respondents composed of adult-learners (both e-learning enrollees and graduates from 2009-2012.

These respondents were chosen through purposive random sampling at a fixed number of 60 per region from the total population of 5,200 by which the researcher believed that this number is considered to be doable (http://e-extension.gov.ph/elearning/course/report/stats/index.php). However, such method was not materialized for the following reasons: a) some of the respondents from other regions were no longer employed in the Local Government Unit in the municipality since they were hired on casual and/or contractual basis. With the change of administration, these personnel were co-terminus with the incumbent elected officials; b) contact numbers and e-mail addresses were no longer active, hence, they were not contacted and reached; c) most of the students in the state colleges and universities graduated and they were not from the locality and their contact information such as mobile numbers and e-mail addresses were no longer active.

Thus, the researcher opted to send randomly via electronic mail on the addresses given by ATI-Central Office; whereby, each region varied in terms of number, some had higher while others got lower and a few stick to the desired number.

Table 1 Distribution of Respondents

Region	Number of Respondents
CAR	62
ITCPH	37
Region I	60
Region II	51
Region III	42
Region IVa	44
Region IVb	88
Region 5	59
Region VI	50
Region VII	115
Region VIII	65
Region IX	38
Region X	70
Region XI	23
Region XII	38
Region XIII	118
TOTAL	**960**

A survey questionnaire was administered and it was duly supplemented with a focus-group discussion and is implemented and duly managed by e-Extension Coordinators who are responsible in the full operation and implementation of e-learning and other activities per region, respectively.

Aside from actual distribution and retrieval of survey questionnaire, the researcher also sends and generates it through electronic mail.

RESULTS AND DISCUSSION

The respondents in this study included 960 adult-learners (both e-Learning enrollees and graduates from 2009-2012) in all 16 regions in the Philippines.

Descriptive statistics such as frequencies, totals, percentages, and ranges were used to analyze the respondents' attitudes; perceived satisfaction; perceived usefulness of the e-Learning and their intention to continue using the ATI's e-Learning program for agriculture and fishery and their socio-demographic characteristics.

To analyze the relationships among independent and dependent variables, Spearman Rank Correlation and Chi-Square test were used. Cronbach's alpha, on the other hand, estimated the internal reliability of all the items in the survey.

More than half (58.9%) of the respondents were females. Majority (66.1%) were married. The age of the adult-learners ranged from 16 to 63 years with a mean of 36 years. The respondents got high educational attainment which consisted of college graduates (56%); post graduate (28.4%); college level (10.4%); high school (4.8%) and vocational (0.3%). Most (67.9%) of the respondents were agricultural extension workers.

Generally, the respondents had fair level of experience from the scale of 1 having no experience and 5 as very well experienced in terms of typical software applications plus web development with a mean of 3.12; with all of the above skills plus some programming with a mean of 2.76 and extensive programming with a mean of 2.42. However, the adult-learners who already experienced using the internet had obtained a mean of 4.03 and those who had experienced word processing and/or spreadsheet (Microsoft Applications) got a mean of 3.84.

Basically, the respondents agreed with a mean rating of 3.76 as to their beliefs on the stability of ATI's e-Learning program system used because it is already established and secured.

The adult-learners' agreed on all given items towards course lab satisfaction, having an over-all mean rating of 4.17.

In terms of likelihood of using the multimedia instruction on their intention to continue using the ATI's e-learning program for Agriculture and Fishery in the Philippines, the respondents agreed with a mean of 3.96. As a whole, the respondents' perception agreed on their use of the multimedia instruction.

As to the adult-learners' satisfaction of the e-Learning System Quality of the program, the respondents agreed that they were satisfied with a mean rating of 4.04.

In terms of learners' perception on interactive learning activities, the respondents agreed with an over-all mean rating of 4.24 that there was assistance provided for the interactive learning activities of ATI.

All respondents agreed that they were confident in using and operating the e-Learning program with almost the same mean results of 4.0. Moreover, this result was strengthened since their responses were found to be consistent with the same standard deviation of 0.8.

As for the respondents' perceived self-efficacy, all of the respondents agreed that they were confident in using and operating the e-Learning program with almost the same mean results of 4.0. Moreover, this result was strengthened since their responses were consistent with the same standard deviation of 0.8.

For the respondents' perceived e-Learning effectiveness, majority agreed that they believe e-learning can assist learning efficiency; learning performance and motivation.

When asked for the respondents' intention to continue the use of the ATI's e-Learning program, they agreed to further use the program because they could access a wide array of free digital resources, like the course materials used that were placed online and the instructions provided were clear and easy to understand. These responses were generated both on the survey questionnaire and focus group discussion. Moreover, they also agreed that the course contents of the said program were sufficient and related to their interests. Furthermore, they could also easily contact the online support team anywhere to answer their queries.

Generally, the respondents intended to continue using the ATI's e-Learning program to enhance their knowledge and skills that are relevant to their field of specialization with a grand mean of 4.14.

As to the most consistent responses among the five given items, the second statement which is to continue using the e-Learning program because instructions provided are sufficiently clear and easy to understand, got the least standard deviation which is 0.740.

On the Relationship between the Learners' Attitude towards the Program, findings revealed that the learners' attitude towards the system stability has a positive moderate values of correlation with multi-media instruction, e-Learning system quality and perceived satisfaction with the program, having 0.433, 0.456 and 0.454 respectively. However, the learners' attitude towards the system stability appeared to have a positive weak correlation with the interactive learning activities,

perceived effectiveness and the intention to continue the program with values 0.380, 0.374 and 0.390, respectively.

Furthermore, having ranges between 0.40 and 0.59 correlation coefficient, the learners' attitude towards course lab satisfaction showed to have a positive moderate correlation among all environmental factors that affect learners' intention to continue using the ATI's e-Learning program, the perceived satisfaction and perceived effectiveness of the program as well as their intention to use the said program.

Meanwhile, all the correlation coefficients that ranged between 0.40 and 0.59 showed that the environmental factors that affect learners' intention to use the program also appeared to have a desirable moderate correlation with the results of their perceived satisfaction, perceived effectiveness and intention to continue using the ATI's e-Learning program.

Furthermore, the findings illustrated a positive moderate correlation between the learners' perceived satisfaction and the learners' perceived effectiveness of the program and their intention to continue using the said program with values 0.444 and 0.527, respectively.

To sum up, all the Spearman correlation analyses on the selected variables illustrated that the respondents' attitude towards the program, how they perceived the satisfaction and effectiveness of the program and their intention to continue the use of ATI's e-Learning program were most likely related to all other items answered.

The above mentioned findings were also strengthened by the use of Chi-square analyses that examined the significance of relationships among the responses on the items answered to all selected variables.

As to the strengths and challenges of the e-learning program, the adult-learners considered the stated challenges in terms of their participation as manageable and that they could cope with it despite the hindrances that could possibly occur in the e-Learning program with an over-all mean rating of 2.92.

In terms of the extent of influence on the implementation of the program, the respondents answered neutral with an over-all mean of 2.67 wherein they considered these given statements as manageable.

CONCLUSION

The following conclusions are drawn:

1. Most of the adult-learners are in the middle-age category and are college graduates, married and agricultural extension workers and generally have a fair experience with e-Learning.
2. The ATI's e-Learning program is well-established, secured and stable. In its entirety, the respondents are satisfied with the course lab used by ATI.
3. The respondents prefer to use a multi-media instruction program. The adult-learners have recognized that the e-Learning system quality of the program is important as well as the interactive learning activities.
4. Operating the e-Learning system of ATI can boost self-efficacy/confidence of extension workers. The e-Learning program is effective because it assists them in their learning efficiency, performance and motivation.
5. The adult-learners intend to continue the use of the ATI's e-Learning program because they can access a wide array of free digital resources. Consistent with FGD results where learner's said that: *"I intend to continue with e-learning for it gave me satisfaction whenever I see my grades; the knowledge I gained, and the multimedia presentation is enjoyable," quoted by a student-learner*. Moreover, an agricultural extension worker-learner said that: *"Agriculture is a very dynamic field. I need to update my know-how in my field."*

ACKNOWLEDGEMENTS

This study is made possible through the scholarship granted to the author through the Expanded Human Resource Development (EHRDP) of the Agricultural Training Institute. She further wishes

to thanked Dr. Asterio P. Saliot, ATI Director; Dr. Carolyn May O Daquio, ATI-RTC VII Center Director and Mr. Andrew L. Soliva, RSW, the author's husband and soulmate.

REFERENCES

E-extension Website of the Philippines. (n.d.) (Retrieved March 27, 2014, from http://e-extension.gov.ph/ elearning /course/report/stats/index.php).

Leary, J. and Berge, Z. 2006. Trends and challenges of e-learning in national and international agricultural development. International Journal of Education and Development using Information and Communication Technology (IJEDICT), 2006, 2, 51-59

Liaw, Shu-Sheng. 2007. Investigating students' perceived satisfaction, behavioural intention, and effectiveness of e-learning: A case study of the Blackboard system. Science Direct. 2007

The National Economic and Development Authority. (Retrieved October 13, 2012, from http://e-extension.gov.ph/elearning/course/report/stats/index.php)

Stienen, J., Bruinsma, W. and Neuman, F. 2007. How ICT can make a difference in agricultural livelihoods. International Institute for Communication and Development (IICD) Agriculture. The Commonwealth Ministers Reference Book

Viñas, Y.G. 2010. Decentralization in agriculture sector. Drawn from the presentation during the strategic review of decentralization for the indepth study of decentralization. (Retrieved November 7, 2012, from: searca.org/index./da decentralization agriculture/download)