

Experiences in the Preservation of Local Knowledge and Indigenous Practices using e-Learning Tools

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Abstract

This paper presents and shares the experiences of the initiatives done in the preservation of local knowledge and indigenous practices using e-learning tools. This paper revisits the understanding of local knowledge and indigenous practices in this modern world. Presented also are the collection of projects and initiatives in relation to the preservation of local knowledge and indigenous practices with the emphasis on the use of e-learning tools. This paper further investigates the current status of the preservation of local knowledge and indigenous practices using e-learning tools in Philippines. A survey is conducted among IT educators to measure the level of their familiarity of the preservation of local knowledge and indigenous practices using e-learning tools. The survey revealed that the respondents have a moderate level of familiarity about the the preservation of local knowledge and indigenous practices with the use of e-learning tools. The result may entail that the respondents have the ability to explain and discuss local knowledge and indigenous practices using e-learning tools but have not experience the actual development and implementation processes. The survey also revealed that all of the respondents are willing to undergo and attend trainings and workshops related to the preservation of local knowledge and indigenous practices using e-learning tools. The academe plays a vital role in the preservation of local knowledge and indigenous practices. Local knowledge and indigenous practices is not a new thing for most educators. However, the use of e-learning tools is something that has to be considered in the teaching-learning process for every educator.

Keywords: preservation, local knowledge, indigenous practices, e-learning tools

Abstrak

Artikel ini membentang dan berkongsi pengalaman tentang inisiatif yang dilakukan dalam pemeliharaan pengetahuan tempatan dan amalan pribumi yang menggunakan alat e-pembelajaran. Artikel ini melihat semula pemahaman pengetahuan tempatan dan amalan pribumi di dunia moden ini. Turut dibentangkan ialah projek dan inisiatif berhubung dengan pemeliharaan pengetahuan tempatan dan amalan pribumi dengan penekanan pada penggunaan alat e-pembelajaran. Artikel ini mengkaji dengan lebih lanjut status pemeliharaan pengetahuan tempatan dan amalan pribumi menggunakan alat e-pembelajaran di Filipina. Satu kajian dijalankan di kalangan pengajar IT bagi mengukur tahap kebiasaan mereka tentang pemeliharaan pengetahuan tempatan dan amalan pribumi menggunakan alat e-pembelajaran. Hasil kajian menunjukkan bahawa responden mempunyai tahap kebiasaan sederhana dalam pemeliharaan pengetahuan tempatan dan amalan pribumi dengan penggunaan alat e-pembelajaran. Dapatan ini mungkin melibatkan responden-responden yang berupaya menjangka dan membincangkan tentang ilmu pengetahuan tempatan dan amalan pribumi yang menggunakan alat e-pembelajaran tetapi tidak pernah mengalami proses pembangunan dan pelaksanaannya yang sebenar. Kaji selidik juga mendedahkan bahawa semua responden bersedia menjalani dan menghadiri latihan dan bengkel yang berkaitan dengan pemeliharaan pengetahuan tempatan dan amalan pribumi menggunakan alat e-pembelajaran. Akademi memainkan peranan yang penting dalam pemeliharaan pengetahuan tempatan dan amalan pribumi. Pengetahuan tempatan dan amalan pribumi bukan satu perkara yang baru bagi kebanyakan pendidik. Walau bagaimanapun, penggunaan alat e-pembelajaran adalah sesuatu yang perlu dipertimbangkan dalam proses pengajaran dan pembelajaran bagi setiap pendidik.

Kata kunci: pemeliharaan, pengetahuan tempatan, amalan pribumi, alat e-pembelajaran

Introduction

Webster defined knowledge as the fact or condition of knowing something with familiarity gained through experience or association. It is the range of one's information or understanding and an acquaintance with or understanding of a science, art, or technique. Sir Francis Bacon said knowledge is power (QuotationsPage.com and Moncur, 2010). Many also said that knowledge is the key to success. Everyone makes life easy

through knowledge. In fact, many will always say, the more knowledge you have, the more opportunities would come to you along the way.

Cited by Kudngaongarm (2009), local knowledge generally refers to the long-standing traditions and practices of certain regional, indigenous, or local communities. It is similar to the terms like traditional knowledge, indigenous knowledge, and traditional environmental knowledge. However, traditional environmental knowledge particularly refers to the form of knowledge of the diversity and interactions among plants and animals, landforms, watercourses, and other traits of the biophysical environment in a given place. Sometimes called traditional ecological knowledge, it is usually associated with aboriginal peoples. For the purposes of this paper, and the advocacy of the author, the term local knowledge has been used.

In the paper of Anil Hirwade stated that local knowledge encompasses the wisdom, knowledge, and teachings of these communities. In many cases, local knowledge has been orally passed for generations from one person to another person. Some forms of local knowledge are expressed through stories, legends, folklore, rituals, songs, and even laws. Other forms of local knowledge are often expressed through different ways and means.

Due to the fast changing development in information technology (IT), local knowledge is becoming unavailable to the young generation due to its state of scarcity. Young generations nowadays are now immersed in the so-called generation net. Wiis, gameboys, ipods and all other innovations in IT are the common gadgets that most of these kids are playing. *Sungka, bato lata, tagoan* are some of the novelty games in the country that are considered indigenous. The lullabies, old chant, and others are even strange to people of young generation.

With this, there is a need to preserve the local knowledge, its content and indigenous practices. A research by Langton and Ma Rhea (2003) (cited by Ma Rhea, 2004), found that education plays an important role in the preservation and maintenance of indigenous peoples' and local communities' knowledge. There are many methods and tools that are used in preservation of local content and indigenous practices. Among these tools are the e-learning tools. This paper presents an introduction about

preservation of local knowledge and indigenous practices using e-learning tools. This paper further investigates the current status of the preservation of local knowledge and indigenous practices using e-learning tools in Philippines. Likewise, it demonstrates some initiative conducted in preserving local knowledge and indigenous practices through the use of e-learning technology.

Revisiting Local Knowledge

As defined, local knowledge generally refers to the long standing traditions and practices of certain regional, indigenous, or local communities. It also refers to traditional knowledge indigenous knowledge, and traditional environmental knowledge. Traditional knowledge also encompasses the wisdom, knowledge, and teachings of these communities. In many cases, traditional knowledge has been orally passed from one generation to the other generation. Some forms of traditional knowledge are expressed through stories, legends, folklore, rituals, songs, and even laws. Other forms of traditional knowledge are often expressed through different means. Local knowledge and traditional knowledge may be thought of as notable by the duration of time they have existed - decades to centuries versus millennia. A large number of scholarly studies in the naturalistic tradition showed that traditional knowledge is not a natural category, and may reflect power struggles and relationships for land, resources and social control than adherence to a claimed ancestry or heritage (Acharya and Shrivastava Anshu, 2008).

Traditional knowledge, on the other hand, may be perceived very differently by indigenous and local communities themselves. The knowledge of indigenous and local communities was often rooted in a cosmology, and the peculiarity between “intangible” knowledge and physical things was often unclear. Indigenous peoples often say that “our knowledge is holistic, and cannot be separated from our lands and resources”. Traditional knowledge in these cosmologies is inextricably bound to ancestors, and ancestral lands. Knowledge may not be obtained by naturalistic trial and error, but by direct revelation through conversations with “the creator”, spirits or ancestors (Tamariya, 2011).

Indigenous and local communities often do not have strong traditions of ownership over knowledge that resembles the modern forms of private

ownership. Similar situation happened in Tanzania as described by Mwantimwa (2008). Many have clear view of the traditions of custodianship over knowledge, and the head of the customary law who may use a variety of knowledge at particular times and places, and responsibilities that accompany the use of knowledge. From their point of view, misuse and mistreatment of knowledge may be unpleasant to traditions, and may have spiritual and physical repercussions in their cosmological systems. Subsequently, indigenous and local communities argued that others' use of their traditional knowledge warrants respect and sensitivity. On the other hand, for critics of traditional knowledge maintained that demands for "respect" are in fact an effort to prevent unproven beliefs from being subjected to the same scrutiny as other knowledge claimed. This has particular significance for environmental management because the spiritual aspect of "traditional knowledge" can be utilised to justify any activity, including the unsustainable harvesting of resources (Deji, 2011).

The United Board's Initiative on Local Knowledge

The goal of the United Board's *Local Knowledge Initiative* is to help Asia's researchers, faculty and librarians make greater use of available digital tools to document, preserve and share disappearing cultural assets, including those related to language, religion, music and art.

Accordingly, the initiative of the United Board for Christian Higher Education Institution in Asia (UBCHEA) is to provide a medium for colleges and universities across the region to share and disseminate information and resources, acquire knowledge, training and experience in using digital tools, e-learning tools, and to generate new opportunities for collaboration and partnerships. This programme by the United Board was launched through the workshop conducted in Hong Kong on the *Digital Humanities in Asia: Global Technologies and Local Knowledge*. There were 50 specialists, representing 37 institutions from 10 countries, shared, collaborated and exchanged their perspectives and experiences in creating and using repositories of local knowledge using digital tools.

The following excerpts are the projects supported by the United Board which are listed on its website (www.unitedboard.org). These are:

Christ University
Bangalore, India

"Technology-Integrated Curriculum Development for the Course on Indigenous Knowledge for Undergraduate Students - Process and Implementation"

This project will develop a technology-based curriculum to identify, document, develop and disseminate indigenous knowledge courseware. The courseware will be piloted in undergraduate classes at Christ University and will be made available as a model curriculum for other universities and colleges. It will give particular attention to the performing arts – music and dance – and to local knowledge about the use of medicinal plants.

Miriam College
Quezon City, Philippines

"Hiligaynon Lullaby: A Multi-disciplinary Approach to the Preservation and Promotion of Music in the Vernacular"

Faculty, staff and students will conduct a study on lullabies in the Hiligaynon dialect by documenting existing local lullabies and their practice in digital form, collecting stories and information behind the local songs, and connecting the lullabies' knowledge content to various academic fields of studies. The project will expand the currently limited literature and digital resources about the heritage of the Hiligaynon people in Negros Occidental, Philippines.

Peking University
Beijing, China
Hue University
Hue City, Vietnam

"English News Media Literacy"

Students who are aspired to be informed, engaged to global citizens are required to literate in English news media, which involves the ability to use digital tools to access, analyse, evaluate and create news stories in English. Students at Peking University and Hue University will choose a current issue, interview relevant people in their local communities, and create and reflect upon their own digital news stories. The project will generate a replicable curriculum for English programmes in Asian universities and a portfolio of student digital news projects.

Satya Wacana Christian University
Salatiga, Indonesia

"Dieng Plateau Natural and Cultural Preservation Project"

Over the long term, this project aimed to promote tourism as a viable alternative to over-reliance on the potato and tobacco farming as the mainstays of the economy in the Dieng Plateau. Faculty and students from the economics and agriculture departments will interview local farmers to assess the environmental impacts of over-planting of potatoes and tobacco, and will use digital media to document aspects of the region's natural and cultural heritage. The project's final report and multimedia archive will be made available for use as a case study or for teaching material.

Silliman University
Dumaguete City, Philippines

"Preserving and Sharing Local Knowledge and Indigenous Practices in Coastal Resources Using Digital Tools"

A cross-disciplinary workshop will help provide a common understanding of coastal resource management (CRM), digital tools and the benefits of using technology to promote CRM. It will improve the abilities of librarians, IT developers, CRM researchers and multimedia/ communications faculty from colleges and universities across the Philippines to collect, document and disseminate local knowledge of and indigenous practices in CRM.

Soegijapranata Catholic University
Semarang, Indonesia

"Conservation Case Study: Javanese Vernacular Architecture"

Indigenous Javanese architecture strives for harmony between the natural and built environments while incorporating the influences of the many people who have traversed the Indonesian archipelago over the last millennium. But knowledge of this vernacular architecture has diminished in recent years, as architects increasingly imitate the modernity of the west. In this project, students from Soegijapranata's architecture and computer science programmes will digitise existing knowledge of Javanese vernacular architecture and work with faculty to determine the best means to incorporate this online, interactive archive into architectural courses.

Women's Christian College
Chennai, India

"Developing Open Courseware and Teaching Modules on Nutrition and Health and on Indigenous Communities and Their Cultures"

Faculty will train students to gather information on nutrition, health and environmental practices through observation and interviews with members of the local community about traditions, lifestyles and local practices. Readily available tools, such as mobile phones and digital cameras will be used to collect data, which will be integrated into teaching modules and open courseware. The local knowledge also will be made available globally through the construction of a web portal.

Yunnan University
Kunming, China

"Documenting Wa (Lawa) Plants and Herbs for Food and Medicine in Awa Mountains"

This project will raise awareness about the indigenous knowledge of the Wa people who lived along the Sino-Myanmar border, particularly about the role that Wa women played in feeding the local communities. Faculty and student teams will use digital tools to document the edible parts of plants and fruits in this habitat and to record interviews with Wa people. The research processes and outcomes will be incorporated into teaching undergraduate and MA-level courses and materials collected will be used to construct a digital database.

Local Knowledge Initiatives in the Local Context

As a partner institution of the United Board for Christian Higher Education, Silliman University has been initiating the preservation of local knowledge and indigenous practices using e-learning tools or IT in general, by making local knowledge and indigenous practices as one the research thrust in the College of Computer Studies, Silliman University. Among these undergraduate studies are:

Learning the History of Negros Oriental through 'No Boundaries'

'No Boundaries' is a standalone application role-playing game with mix genre of adventure game. This novel role-playing adventure game is being developed with an engaging story which takes the history of Moro Pirates invasion in Negros Oriental, Philippines. The player will know about

history in Negros Oriental, Philippines through exploration in the game world where fantasy also coexists. This helps to expand the player's historical knowledge and mental capabilities while playing. During the course of the game, the gamers would encounter riddles which require problem solving which was based from the game's storyline. These riddles would be accompanied by puzzles wherein the solution to these puzzles lie within the riddle's answer. The storyline would serve as the core element of the game. The gamers must follow the storyline to be able to understand the flow of the plot and to progress through the game (Te et al., 2010).

e-Sillimanian: A Virtual Tour Campus Game

Considering that most of the incoming college students are not familiar with Silliman University and do not have enough knowledge about the institution such as the history of the school, name of the buildings and their locations, facilities, courses offered, processes, and etc., a simulation game was developed. e-Sillimanian is a simulation game wherein the player portrays the role of an incoming college student and has to go through the enrollment process while learning facts and trivia about the university. The player will also be acquainted within the campus since the game also provides a virtual tour. The engine used in developing the game is Adventure Game Studio (AGS). It is an engine used in creating point and click adventure games that use 2D graphics. The project uses prototyping together with RAD wherein the developers is guided with the concept and design of the game. Tools such as AutoCAD and Adobe Photoshop were used for creating the designing the game map, characters and interface while Adobe Flash was used for the game animations (Medura et al., 2010).

SU Biology Museum Virtual Exhibit

The Silliman University Rodolfo B. Gonzales Museum of Natural History Biology Virtual Museum is a content management system. The system allows the administrators, e.g. museum staff, to manage the data found in the website and makes the data available to the public. These data are the specimen information and images of the collection found in the museum. This website features rare species found only in the Philippines, which is the main reason for making the museum available to the public. It contains

useful information about the specimens and the museum itself and has been confirmed to be user-friendly and efficient through user evaluation. Upon analysis and assessment of the system, it has been proven that it is a functional and proficient website that facilitates the needs of the Silliman University Rodolfo B. Gonzales Biology Museum (Lara, Cabrera and Juntilla, 2010).

Anthropology Item Management and Locator System

It is a stand-alone system that enables the user to maintain the accession of artifacts. It supports security in the keeping of records of artifact and corresponding information, given that only museum administrators and members are given access. It also allows user to search for an artifact name along with the artifacts corresponding description and related information (e.g. accession #, catalogue #, date). Likewise, this system gives information on the location of the artifact within the museum's vicinity by category or type. Lastly, the system generates inventory, donor and visitor volume reports (Geronimo, Que and Almendral, 2011).

Preserving Local Knowledge of and Indigenous Practices in Coastal Resource Management Using e-Learning Tools

A seminar-workshop was conducted to primarily enhance the collection, documentation and dissemination of local knowledge of and indigenous practices in coastal resource management (CRM) initiatives across the Philippines using e-learning tools in improving the teaching-learning process. Each school-participant have developed, at the end of the seminar-workshop, an operational framework plan that they carry out in promoting local knowledge of and indigenous practices in CRM, aimed at achieving collective accountability for the protection of coastal and marine resources. The seminar-workshop provided a common understanding of CRM, digital tools, and the common need for the utilisation of technology in promoting CRM.

The activity was interdisciplinary and attended by ten (10) participating institutions from different private and public schools in Luzon and Visayas regions in Philippines. Participants are the IT/Computer Studies Faculty and graduate students, Communication Faculty, CRM Faculty,

Researchers and graduate students; Natural Science Researchers and Faculty.

The activity is specifically aimed to: a) Enhance the understanding of the participants about CRM, including issues encountered in sustaining local CRM practices and those on the effectiveness of e-learning tools in promoting indigenous practices to the community; b) Expose the participants to actual CRM project through a site visit to a coastal area in the city; c) Train participants on the methods, techniques, and strategies in the identification and preservation of local and indigenous knowledge about coastal resource management through the use of IT; d) Educate the participants on communication techniques in developing effective multimedia presentations for online dissemination; e) Strengthen the familiarity of the participants with a specific set of e-learning tools by testing their skills through hands-on activities that will require public interaction on CRM-related initiatives; and f) Facilitate collaboration among the participants on common CRM-related advocacy projects utilising e-learning tools (Marcial, 2011).

Researches in the Philippine Society of Information Technology Educators in relation to Local Knowledge and Indigenous Practices Preservation

A survey was conducted randomly among 10 IT educators in Region 7 (Provinces of Cebu, Dumaguete, Bohol and Siquijor) to measure the degree of familiarity on the preservation of local knowledge and indigenous practices using digital tools. It was also aimed to measure the respondent's willingness to promote the preservation of local knowledge and indigenous practices using e-learning tools in their school's projects and researches.

The survey revealed a moderate level of familiarity as perceived by the respondents. This may signifies that the respondents have the ability to explain and discuss local knowledge preservation using digital tools but have not experienced the actual development and implementation process. With regards to the respondent's willingness to learn the methods and strategies in the preservation of local knowledge and indigenous practices using digital tools, 100% signified "Yes". This entailed that all of the

respondents are willing to attend trainings and workshops related to preservation of long-standing traditions and practices of certain local or indigenous practices using e-learning tools. However, only 90 % (9 out of 10) signified their willingness to integrate local knowledge and indigenous practices preservation using e-learning tools in their IT projects and researches, and 10% (1 out of 10) signified “Maybe”.

A review of research papers presented during research conferences organised by the Philippine Society of IT Educators in both regional and national conference was conducted. The evaluation is aimed to evaluate if the said research papers are related to local knowledge and indigenous practices preservation using digital tools as perceived by the author of this paper. The conference proceedings evaluated are the Regional Proceedings of the year 2011, 2010, 2009 and 2008 while for the national conference proceedings included the National Proceedings of the year 2010, 2009, 2008 and 2007.

Table 1 shows that for the past 5 years, an average of 22.5% or approximately 4 research papers were presented that are related to local knowledge and indigenous practices. In the national level, shown in Table 2, an average of 16% or approximately 3 research papers for the past 4 years were related to local knowledge and indigenous practices. It is assumed that all authors of the said papers did not have any idea that their papers were related to local knowledge and indigenous practices except the papers presented in the 7th PSITE Region 7 Convention where the authors of the Silliman University had considered the preservation of local knowledge and indigenous practices as one of the school’s research thrust.

Table 1 Philippine society of IT educators – region 7: Review of research papers

Number of PSITE region 7 convention	Number of related researches	%
Proceedings of the Philippine Society of Information Technology Educators – Region 7 Conference, Tagbilaran City, Phillipines. (2011)	2 / 5	40
Proceedings of the Philippine Society of Information Technology Educators – Region 7 Conference, Siquijor, Phillipines. (2010)	1 / 4	25
Proceedings of the Philippine Society of Information Technology Educators – Region 7 Conference, Dumaguete City, Phillipines. (2009)	0 / 4	0
Proceedings of the Philippine Society of Information Technology Educators – Region 7 Conference, Cebu City, Phillipines. (2011)	1 / 4	25
Mean		22.5

Table 2 National conference on IT education: Review of research papers

Number of national conference of IT education	Number of related researches	%
Proceedings of the National Conference on IT Education by Philippine Society of Information Technology Educators, Inc, Aklan, Phillipines. (2010)	7 / 33	21.2
Proceedings of the National Conference on IT Education by Philippine Society of Information Technology Educators, Inc, Cagayan de Oro City, Phillipines. (2009)	3 / 13	23.1
Proceedings of the National Conference on IT Education by Philippine Society of Information Technology Educators, Inc, Los Banos, Phillipines. (2008)	2 / 14	14.3
Proceedings of the National Conference on IT Education by Philippine Society of Information Technology Educators, Inc, Dumaguete, Phillipines. (2007)	1 / 13	7.7
Mean		16

Lessons Learned

Preservation of local knowledge and indigenous practices is not a new thing for educators in the higher education institutions in Philippines. What is new to educators is the method and process of preservation, that is, the use of e-learning tools.

It has been noted that even the IT educators have only moderate level of familiarity in using e-learning tools in the preservation of local knowledge and indigenous practices. There should be an appropriate training related to the use of e-learning tools in preserving local knowledge and indigenous practices.

In the local context, a continuing education and information must be done about local knowledge and indigenous practices as a topic for IT research and about the development strategies in the collection, processing, and implementation of the preservation activity. Likewise, it has been recommended also that there must be a “champion” faculty member who should lead and initiate in the preservation of such.

The seminar-workshop on the preservation of local knowledge of and indigenous practices in coastal resource management using e-learning tools significantly provided the participants the opportunity to be updated with the current trend in e-learning technologies. Likewise, it provided a chance for the non-IT educators to appreciate intensely the power of e-learning tools in the preservation of local knowledge of and indigenous practices in coastal resource management. It has been recommended that there should be a follow-up training that will elevate the level of understanding and the use of e-learning tools in the teaching-learning process of the preservation of local knowledge and indigenous practices in coastal resource management.

It is also observed that there are already researches related to local knowledge and indigenous practices preservation using e-learning tools in the Philippine Society of IT Educators. It is also observed that the researchers of the evaluated research papers do not have the intention to relate it to local knowledge and indigenous practices. It is recommended that there should be an appropriate and relevant skills training for the Philippine Society of IT Educators. It is further recommended that digital

preservation of local knowledge and indigenous practices should be included in the list of research track in the call for paper during regional and national convention.

Conclusion and Recommendation

The academe plays a vital role in the preservation of local knowledge and indigenous practices. More so, e-learning tools play significant impact and have provided an increasing role and demands in the preservation of local knowledge and indigenous practices. E-learning technologies challenged the traditional process of teaching and learning, and the way education is managed and delivered. Educational institutions should strategically consider e-learning tools and develop working methods of action for an effective implementation, administration and management of preserving local knowledge and indigenous practices. There are a lot of opportunities to be learnt in local knowledge and indigenous practices, and e-learning tools can facilitate these knowledge. E-learning tools provided opportunities for knowledge formation, acquisition and distribution of local knowledge and indigenous practices.

Strategic plan on the preservation of local knowledge and indigenous practices should be formulated in the academe. The academe should develop working methods of action for an effective promotion, research and development in the preservation of local knowledge and indigenous practices using e-learning tools. Campus awareness should be designed involving not only with the school administrators but as well as students, faculty staff, support units and services.

The research and development activities were geared towards the establishment of a center for digital preservation of local knowledge and indigenous practices. This office will take the responsibility in promoting, managing and overseeing research and development in the preservation of local knowledge of indigenous practices using e-learning tools. This office will specifically identify performance factors with strategic initiatives and projects designed to develop and optimise departmental and individual participation.

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