Exploring the frontier of informal open learning

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EXPLORING THE FRONTIER OF
INFORMAL OPEN LEARNING

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Abstract

More than four decades ago, Moore (1973, p.677) pointed out that the world of learning and teaching was like the iceberg, it was not really as it appeared. Hidden behind formal education, there were large group of people who engaged in informal learning independently. That condition remains valid until today. The informal learners include adult learners, school leavers, and school dropouts, who continue learning for all reasons in diverse areas. An open learning institution has the mission to provide learning opportunities to the people who have no access to education. However, informal learning is an area that is yet to be fully explored. Informal learning environment is drastically different from the normal learning institutions. The mode of these learners is self-directed in nature. It often aims to create values rather than to achieve paper qualifications. Informal learning can be carried out on individual basis or in groups. An example of such activities is the "Maker Movement". An open institution can institutionalise such activities through project based learning to engage informal learners and facilitate learning that aligns with the needs of the changing society.

Introduction

An education institution was regarded as the knowledge provider that helps to channel knowledge to the students. Traditionally, an education institution is where people go to seek knowledge. However, this traditional learning system is unable to cater for growing population and contemporary learning needs. These needs have encouraged the growth of alternative learning system, such as open distance learning (ODL) and blended learning.

In the information age, information has become freely available. Education institution is no longer the only main source for learners to seek knowledge. Knowledge domains have expanded so rapidly that textbooks and curriculums become obsolete in an unprecedented speed. Diverse fields of knowledge are freely available online in countless forms. Learning institutions have come out with innovative approaches such as online learning, e-learning, and massive open online course (MOOC). These efforts have enabled more people to access to learning opportunities by engaging learning institutions or learn at their own pace. Until now, ODL institutions have done extremely well in engaging learners who have left traditional learning institutions.

Nevertheless, the ODL system is still bound by limitations as a result of the legacy of traditional education. The system did not fully break away from the traditional standardised curriculum and examination format. Standardised examination has restricted the flexibility for learners' choice of courses. The problem faced in managing standardised examination is one of the biggest hurdles in advancing the education system (Evans, 2013).

According to Robinson (2006), the education system we have today was designed to produce standardised workforce for the industry. This system was thought to suppress diversity and creativity. He argued that learning should be personalised, and not standardised. Most of the countries in the world use similar system, hence inherited the similar modern education problems. Ito (2014) suggested that "education is what people do to you and learning is what you do to yourself". Generally, people are more motivated to learn independently than being fed with information that they have no interest.

Traditional education structure is built on the "elitist" model. Those who survive the education system were thought to be successful. On the other hand, we have seen talented individuals become successful in their lives not because of their formal education but through self-learning. For example, Albert Einstein, Benjamin Franklin, Bill Gates and Steve Jobs, did not complete their studies but become successful in their careers. While these people do not represent the majority, they have shown that academic achievement is not the only way to success. Friedman (2014) pointed out that a degree does not represent one's ability to do any job, as the world only pays attention to what a person can do with the acquired knowledge. There is another form of learning process that enables learners to be successful. This form of learning is informal, and does not meet the characteristics of standardised education. In contrary, it meets the criteria suggested by Ken Robinson, i.e. diversity and personalised.

There are many suggestions for informal learning, which refer to somewhat similar ideas, such as Competent Based Learning (Bates, 2015), Problem Based Learning (Tan, 2003), Self Directed Learning (Garrison, 2003; Boytzis, 2001), and Quaternary Learning (Meyer-Guckel et al, 2008). In general, they refer to learning processes that are not bounded by standardisation and regulation imposed by the formal education system. This paper intends to suggest the idea of informal open learning as an alternative learning approach, specifically for technical and vocational areas. This paper serves as an exploratory study about a possible approach for education reform.

The Next Frontier – Informal Open Learning

According to Moore (1973), there are more informal learners in this world, than the students who have registered with learning institutions. In fact, it is safe to say that all homo sapient are informal learners. Learning takes place ever since a life is born to the world. Even if we exclude children who are too small for schooling, there is still a large pool of "invisible" learners who have left formal education but continue to learn for career or leisure. The term "informal learner" is used to represent an individual who falls into this category.

The approach to engage the informal learners is very different from the learners of formal education. Informal learners would require more autonomy in the learning process. They are self-directed in determining what they learn and how they learn. Most of them are already equipped with experience and prior knowledge. What they need is a new "environment" that enables them to achieve self-development. To understand what new environment is, we need to explore how these informal learners manage knowledge in the learning process.

Informal learner includes every one of us, who engaged in learning through reading, working, and leisure in daily activities. The sources for learning vary from books, television, radio, Internet, and day-to-day interactions. The learning process takes place without the intention of fulfilling the formal education requirements, such as examinations and assignments. The motivations could come from curiosity or the need to do something. At the end of the learning process, there is certain value to be created. The value could be something for self-satisfaction, or a creation that will benefit others.

An informal learning process takes place when there is a motivational factor, which stimulates learners to seek more knowledge. Concurrently, the learners apply the knowledge gained on their tasks. New knowledge could be gained from the experience, and the learning process continues.

In formal education, there are series of goals to fulfill. Those goals include passing examinations, beating the competitions, qualifying for one level to another, getting a degree,

and gaining recognitions. In informal learning, the goal may be as simple as to learn when there is a need, and use the knowledge to achieve something or to create a value.

According to Robinson (2006), the reason we have a complex formal education system could be traced back to the industrial age. Education system was created to produce standardised workforce to serve the industry at that time. However, as time evolved, the system has become more complex. The education system has developed into a rigid structure, like a conveyance process that produces batches of students throughout the hundred years. This education system has been standardised across the world through globalisation. While the needs of the learners have changed, the process that produces the graduates has not evolved fast enough.

As the world moves into the information age, new generations who adopted Internet as the main source of information have emerged. Internet has enabled everyone to freely access information with much flexibility. The role of education institutions as the knowledge provider has somewhat been duplicated by the Internet. Nevertheless, this new generation is still a part of the student pools in the formal education today. The education system requires the students to comply with the formal process of following the standardised curriculum and passes the examinations in order to graduate. This condition has created a conflict between the desire for a degree and the freedom to learn.

Realising the constraints of current education system, almost all countries in the world are looking for education reform. However, to change a system that has established for a hundred years is not an easy task. In most countries, education reforms started from lower education and extended to higher education. However, education reform can also start from another end, i.e. the pools of formal students who have past formal education, who have become the informal learners.

Managing informal learning seemed to be difficult, as it does not have fixed curriculum. However, there is a fixed pattern in the learning process that can be observed and studied. Learning process involves flow of knowledge, which can be well described by the knowledge management (KM) process.
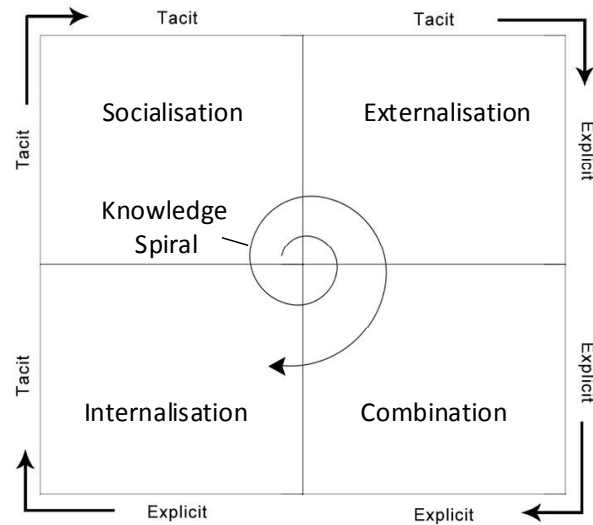
Knowledge Management

Knowledge Management (KM) was the favourite topic for the industrial world in the 20th century until early 21st century. Beyond that period, KM has evolved into products of the Internet era, such as blogs, social medias and forums. According to Drucker (1993, p.42), "knowledge is the only meaningful resource today". Nonaka and Takeuchi (1999) proposed a notable knowledge management model in series of their publications on knowledge creation. They suggested the concepts of "tacit knowledge" and "explicit knowledge".

Tacit knowledge is part of knowledge that is embedded in the memories of individuals, which is hard to be articulated. On the other hand, explicit knowledge is a type of knowledge that we can codify and capture on paper, files, and in database, so that we can share with each other.

Nonaka and Takeuchi (1999) suggested the conversions of "tacit" and "explicit" knowledge across four quadrants: "Q1: socialization", "Q2: externalisation", "Q3: combination", and "Q4: internalization". The actions that convert information into personal knowledge and vice versa through the four processes enable learning to take place (Figure 1).

Figure 1: SECI Model

	Tacit		Tacit	
Tacit	Socialisation		Externalisation	Explicit
	Knowledge Spiral			
Tacit	Internalisation		Combination	Explicit
	Explicit		Explicit	

The four quadrants (Q1 to Q4) can be described as follows:

Q1: Tacit to Tacit (Socialisation) - This quadrant represents social interactive activities by the members to exchange tacit knowledge. Tacit knowledge is shared through face-to-face conversations or through communication technologies.

Q2: Tacit to Explicit (Externalisation) – The conversion of tacit to explicit knowledge is done through externalisation, i.e. recording, publishing or articulating knowledge. Externalisation can be carried out in the form written documents, illustrations and physical products or other creative media.
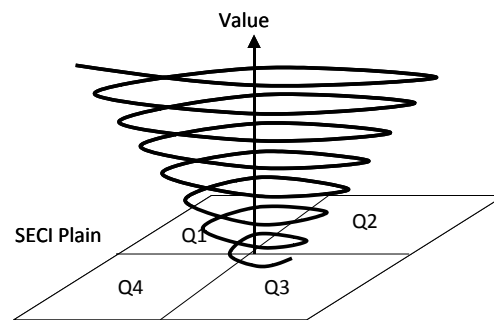
Q3: Explicit to Explicit (Combination) – The creation of explicit knowledge can also be carried out by combining other available explicit knowledge. Writing and editing with texts, images, videos or audio files can be considered as the combination process.

Q4: Explicit to Tacit (Internalisation) – When an individual or a group learns from the available explicit knowledge, and turn it into his or her own, internalisation is taking place. The process includes reading, watching and listening.

Knowledge and Value Creation

The purpose of knowledge is to create values. Having the knowledge in the brains does not add any value until it is translated into actions. Actions guided by specific knowledge will determine if values are created. Through the continuous cycles in the SECI process, value needs to be created. The dimension perpendicular to the SECI plain represents the value of learning as shown in Figure 2.

Figure 2: Value in SECI Model

Value

SECI Plain Q1 Q2

Q4 Q3

The value for learning can be viewed in terms of the outcomes the SECI learning cycles. In business perspective, knowledge is to add values to the customers through products or services. For example, the value of a restaurant is to provide good dining experience to its customer. The restaurant owner and employees learn to provide quality food, nice environment, and good customer service to satisfy its customers.

The main different between formal education and informal learning is the perceived value creation in learning. In formal education, the values of learning are shown in the examination results. However, in informal learning, the values can be directly shown in problem solving or product creation. With the direct link, informal learning can better tie to the original intention of learning. Learning takes place when activities are designed around clear objectives. This is a common framework for project-based learning (PBL). In fact, the exposure to PBL helps to create informal learners who are comfortable with self-directed learning (Stewart, 2007).

Project-Based Learning

Informal learning has no fixed curriculum. The objectives for each learning process are unique. It cannot have standardised assessment like formal education. Learners are given a problem to solve. They can work in team to solve the problem, or to create a product needed by the customers. The role of educator is shifted from teaching to project coaching.

Informal learners need to have basic knowledge about what they want to do, and what knowledge they need to achieve the given tasks. Learning need to be self directed with little supervision. It is not necessary suitable for everyone. There are still learners who need to follow formal education and continue moving through the academic path. Informal learning is an alternative for learners who think that formal education is not for them. Hence, informal learning is more suitable for adult learners. It could focus on hands-on project based learning.

Informal open learning process needs not to be created from scratch. It existed in the form of projects in the current formal education system. The different is that informal learners work based on own initiative and personal choice, either alone or in a group.

These projects should be treated as equally important as academic research projects. Although academic research projects is considered to have higher impact in the eyes of academics, their research targets are usually too far ahead in time to be relevant to the industry. In fact, the researchers in the traditional institution often avoid taking up "industrial relevant" projects as they are considered to have low "impact-factors" in formal research journals. This situation has created a large gap between academia and industry. The projects for informal learning should not be constraint by such views. It should fill the gap in terms of industrial relevancy, and the value should directly meet the needs of the industry. In fact, there is already informal community projects existed, for example of informal learning driven by the Maker Movement.

Maker Movement is an emerging movement by ordinary people, which was extended from the extension of the Do-It-Yourself (DIY) culture. Maker Movement is in line with constructivism (Donaldson, 2014), which emphasises on learning-through-doing, collaboration and sharing. Hence, it is especially suitable for learning with applications of technologies, for example in product design, fabrication, calligraphy, movie making and software programming. It is a movement that brings back the tradition of DIY, which emphasises on sustainable development, in oppose to globalised mass production and consumerism.

Framework for Informal Open Learning

Informal open learning serves a few purposes:
- To bring people who are out of formal education back to the learning system without subjecting them to the formal education constraints
- To encourage and guide informal learners to contribute directly to value creation needed by the society
- To become an alternative learning platform for learners who wish to engage informal learning

SEIC model provides a suitable approach to define the framework for the learning process. While the informal learning appeared to be unstructured, it is a generic knowledge management process that adheres to the SEIC model. The suggested framework is as shown in the following paragraphs.

Firstly, the institution hosting informal open learning needs to prepare facilities needed by learners. The facilities include:

Socialising: Space for meeting and discussion
Externalising: Platform of sharing recorded activities
Combining: Facilities for results and report publication
Internalising: Online learning contents searchable by functional topics

In addition to that, the institution can also provide contacts and networking opportunities so that the students are able to find subject-matter experts and financial supports, to help in the development of industrial relevant projects.

Learning activities are carried out using project-based learning or problem-based learning approaches. Students work into groups on specific tasks they choose to complete. Each group is supervised by a coach. The role of a coach is to maintain conducive environment for SEIC process to take place. The groups need to be monitored in their progress by observing the increase in value after each learning cycle. Here are the possible activities:

Socialising: Students engaging a supervisor and experts (either online of face-to-face), discuss topics, progress and exchange of ideas
Externalising: Record activities and publish reports and technical papers of the project.
Combining: Compile findings, reports and technical papers
Internalising: Learning new information online and from any convenient sources.

There are many possible learning paths that could be executed within the SEIC model. Table 1 illustrates one of the possible learning paths.

Table 1: Informal Open Learning Example in SEIC Framework

	Increase in Values						
Socialising	Idea generation	Finding members	Forming group	Carry out project	Group discussion	Complete prototype	External review
Externalising	Writing down ideas	Writing down proposal	Project plan	Record activities	Record activities	Record activities	Complete portfolio
Combining	Compiling similar ideas	Research	Research review	Prepare reports	Prepare reports	Final report	
Internalising	Reading	Learning	Understand tasks	Self learning	Self learning	Self review	

The outcomes of the learning process are the experience and skills that learners acquired. These outcomes can be demonstrated through an online portfolio to the potential employers or customers.

Roles of ODL Institutions

Open Distance Learning (ODL) is about educating the masses. In line with the objectives of open learning, ODL institutions can play an active role to engage more of informal learners and bring them to the mainstream learning.

So far, ODL system has successfully removed the dependency of students on their teachers. However, it does not fully break away the dependency of the students on contents provided by the schools. These contents are still constraint by the curriculum structures and traditional standardised examination format. Likewise, Massive Open Online Course (MOOC) faces the problem of find the suitable assessment methods for the large group of students. The problem faced in managing standardised examination is a big hurdle in advancing the education system to the next step.

By adopting PBL approach in informal open learning, the focus will be shifted from the learning content to the problem to be solved (Tan, 2003, p.12). Informal learners are experienced people who have strong tacit knowledge. They know what need to be learned, given relevant guidance and stimulation. An institution acts as a facilitator to help finding the learning contents but not as a content provider. Hence, PBL approach helps to break away from overemphasis on rigid curriculum structures.

In informal open learning, the value is measured directly from the results of the student's work. This result can be easily demonstrated from the actual work. With the use of modern recording technology, the working diary of the students can be recorded in the personal portfolio, such as e-portfolio (Chau and Cheng, 2010). E-portfolio has been around for a long time. It can help to record the works of students in details. An e-portfolio can serve a few purposes, i.e. to validate the work, to advertise the capabilities of learners, and to be used as

record knowledge so that others can learn from the experience. In this way, the learners can be evaluated directly on their works rather than through academic assessments (Flores, 2014).

The departure from learning contents and assessments will free the institutions from administrative burdens. It will make learning process even more flexible, efficient and cost effective. The institutions can focus on creating values required by the society rather than fighting to meet schedules and numbers.

The strategy for informal open learning should be to break away from standardised assessment to standardised facilitation. The aim is to ensure that value requirements are clearly spelt out and communicated to the learners. Those values are the beacons that guide the learners to work towards achieving specific objectives. An institution works as an administrative body that ensures the communication between the informal learners and their potential benefiters. For technical and vocational projects, the institutions can work with the local Maker groups to help formalise the projects. The institution needs not to assess the qualifications of the learners, but it needs to assess the commitments of the learners in completing the projects.

Discussion

The Internet has driven many changes to the society. In addition to education, Internet has also changed the way business is conducted, for example, the emergence of "sharing economy".

Sharing economy emerges due to the characteristic of the Internet, i.e. the ability to communicate with many people at the same time. It is a possible to conduct business to a "crowd" through the internet. We have crowd funding that enable fund collection for specific courses. We also have crowd sourcing, where individuals are able to offer their services online to customers, which are traditionally provided by businesses. For example, Uber has enable individuals to become taxi driver on part time basis with a cost lower than the traditional taxi services, and with higher efficiency (Reynolds, 2015). Like wise, other services such as house works, home tuitions, or copy writing can be offered by individuals in the neighbourhoods instead of professionals who could be more costly and difficult to be reached.

In sharing economy, informal learners can present themselves as service providers through the skills demonstrated in their e-portfolios. In this way, they are not just opening themselves to be employees of a company, but also as business owners who provide relevant services for customers in need.

Informal open learning is also a viable strategy for aging society and for the governments to optimise the work force. Retired personnel participating in informal learning will be able to continue contributing their skills to needed customers through sharing economy (Burns, 2013). In this way, the retirees will be able to support themselves through lifelong learning, and depend less on their children or governments.

More and more people have continued to drop out of schools due to the increase in education costs or lack of interests. Despite some successful examples in high profile entrepreneurs, most of school dropouts have little chance to succeed (Carlozo, 2012). ODL institution can play the role in guiding this group of people by allowing them to work on their interests through informal learning. This paper serves as a suggestion to open learning practitioners that this is probably the time to consider informal open learning in the mission to educate the masses.

Conclusion

Formal education has met its limit in providing learning opportunity for all. There is a need to explore new frontiers. One of them is the informal open learning. KM can provide a framework for unstructured process in informal open learning. Through KM process, the emphasis of learning is shifted from academic qualification to value creation. Project based learning is an ideal platform for information learning. ODL institutions can play a leading role to institutionalise informal learning framework. As the society is moving towards "sharing economy", ODL institutions can help to ensure that informal learners are provided with the platform to convert their passions into values that are required by the society.

The quest for academic excellence must continue in traditional education, but the gap between the industry needs and academic pursuit need to be bridged. ODL institutions have the potential to bridge this gap due to their innovative, inclusive and adaptive culture. Hence, informal open learning will push the boundary of learning a step further. The inclusive approach will enable more people involved in lifelong learning, and to be visible in their contribution to the mainstream value chain in the society.

References

Bates, A.W. (2015) Teaching in a Digital Age - Guidelines for designing teaching and learning for a digital age. Bccampus.ca. Retrieved on 12th July 2015, from http://opentextbc.ca/teachinginadigitalage/chapter/6-6-competency-based-learning/

Boyatzis, R.E. (2001) Unleasing the Power of Self-Directed Learning. Consortium for Research on Emotional Intelligence in Organisation. Retrieved on 12th May 2015, from www.eiconsortium.org/pdf/self_directed_learning.pdf

Burns, S. (2013). How Retirees Can Earn Money From The 'Sharing Economy'. Forbes http://www.forbes.com/sites/nextavenue/2013/10/07/how-retirees-can-earn-money-from-the-sharing-economy/

Carlozo, L. (2012). Why college students stop short of a degree? Retrieved on 20th August 2015, from http://www.reuters.com/article/2012/03/27/us-attn-andrea-education-dropouts-idUSBRE82Q0Y120120327

Chau, J. and Cheng, G. (2010). Towards Understanding the Potential of E-portfolios for Independent Learning: A qualitative study. Australasian Journal of Educational Technology 2010, 26(7), 932-950.

Donaldson, J. (2014). The Maker Movement and the Rebirth of Constructionism. Hybrid Pedagogy. Retrieved on 12th July 2015, from http://www.hybridpedagogy.com/journal/constructionism-reborn/

Drucker, P. (1993). The Post-Capitalist Society. Oxford: Butterworth Heinemann.

Evans, J. (2013). Problems with Standardized Testing. Education.com. Retrieved on 17th August 2015, from http://www.education.com/reference/article/Ref_Test_Problems_Seven/

Flores, C. (2014). Maker Portfolios; Authentic Assessment that Tells a Story. Fablearn Fellows. Retrieved on 10th August 2015, from http://fablearn.stanford.edu/fellows/blog/maker-portfolios-authentic-assessment-tells-story

Friedman, T.L. (2014). How to Get a Job at Google. New York Times, FEB. 22, 2014. Retrieved on 10th August 2015, from http://www.nytimes.com/2014/02/23/opinion/sunday/friedman-how-to-get-a-job-at-google.html?_r=0

Garrison D. R. (2003). Self-Directed Learning and Distance Education, p.p.161. Handbook of Distance Education. Lawrence Erlbaum Associates.

Ito, J. (2014). Want to Innovate? Become a "now-ist". TED2014. Retrieved on 12th July 2015, from http://www.ted.com/talks/joi_ito_want_to_innovate_become_a_now_ist

Meyer-Guckel, V., Schönfeld, Schröder A.K., Ziegele F. (2008). Quaternary Education – Opportunities arising from higher education institutions from businesses' demand for further education and lifelong learning. Stifterverband. Retrieved on 10th August 2015, from www.quartaere-bildung.de/pdf/quarternary_education_english_2008.pdf

Moore, M. G. (1973). Towards a theory of independent learning and teaching. Journal of Higher Education, 44(9), 661-679.

Nanoka, I. and Takeuchi, H. (1995). The Knowledge Creating Company - How Japanese Companies Create the Dynamics of Innovation. Oxford University Press.

Reynolds, M. (2015). Why Every Business Model May Soon Look Like Uber's. Retrieved on 20th August 2015, from http://www.inc.com/molly-reynolds/is-our-future-heading-toward-the-uber-business-model.html

Robinson, K. (2006). Do Schools Kill Creativity? TED2006. Retrieved on 12th July 2015, from https://www.ted.com/talks/ken_robinson_says_schools_kill_creativity

Steward, R. A. (2007). Evaluating the Self-Directed Learning Readiness of Engineering Undergraduates: A Necessary Precursor to Project-Based Learning. World Transaction on Engineering and Technology Education. Vol 6, No. 1, 2007. Retrieved on 20th July 2015, from http://www98.griffith.edu.au/dspace/bitstream/handle/10072/17799/46993_1.pdf?sequence=1

Tan, O.S. (2003). Problem-based Learning Innovation – Using problems to power in the 21st century. Thomson Learning. ISBN 981-243-717-7.