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Delivering information literacy programmes in the context of network society and cross-cultural perspectives

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Abstract:

Looking at information literacy (IL) theories and practices in the context of network society, this paper proposes some extended and updated contents of information literacy in the light of theories of the network society and cross-cultural perspectives. Technological and social aspects of IL practices are emphasised and the role of flexible learning communities in developing IL is analysed and considered as a main IL practice in the context of the network society. According to the author, the best practice of IL development is the one conducted in flexible learning communities basing on the network logic of the network society. The author also affirms the essential role of libraries in building, developing and promoting flexible learning communities.
The main contents of the paper are divided into three major parts: literature reviews on IL development; IL conceptualization in the context of network society, and; IL delivery in the network society.

***KEYWORDS**: Information literacy; the network society; Information literacy practices; flexible learning community; Web 2.0; social networks.*

Introduction

Recently, the network society has emerged as a typical social structure (Castells, 2004). This is profoundly affecting social interactions and relations in real life. Individuals, in meeting conditions of personal and professional developments in this society structure, have to deal with a lot of information streams, objectives, and services coming from different cultural and social contexts. While Web 2.0 - the term proposed by O'Reilly in 2005- and mobile technologies, which are supposed to be backbones of the network society (Castells, 2002), are

enhancing people's access to the information world and online communities, there has been an inequity of information access and a social exclusion for those who fail in dealing with not only information they RETRIEVE, but also information they RECEIVE and LIVE WITH. Information literacy (IL) is therefore increasingly playing an important role in people's daily life where social and cultural interactions happen frequently in many ways. This paper aims at proposing solutions for conceptualizing IL and delivering IL programs in the context of the network society and the cross-cultural perspective.

1. An overview of how IL has been conceptualized.

The concept of IL was mentioned and developed by Paul Zurkowski from 1974 (LearnHigher 2006). In its development history, IL has been understood and applied variously among regions and countries in different cultures and with various pedagogical approaches. This section will focus on analysing current frameworks of IL with a strong emphasis on finding what problematic issues that need to be considered when applying those frameworks to different technological, social and cultural contexts.

In fact, the notion of IL was initially understood as a tool for dealing with information explosion and individuals' need for using information resources in their problem solving situations. Therefore, it was described as a set of information skills and techniques (Spitzer, Eisenberg & Lowe 1998), rather than a process of learning. In this sense, IL was seen as a library perspective whose contents were mainly constituted by library tasks such as library instruction, bibliographic instruction, and user or reader education (Bruce 2000; Seamans 2002).

The concept of IL has been broadened with a focus on the "way of learning" since 1987 (Kuhlthau 1987; Spitzer, Bruce 1997, Eisenberg & Lowe 1998, SCONUL 1999). Seamans (2002) suggests that the *Big Six Skills*, an IL model developed by Eisenberg and Berkowitz (1988), should be integrated into schools' curriculum. In this approach, among popular definitions of IL, the one developed by American Association of College and Research Libraries (ACRL, 1989) can be seen as one of the most comprehensive approaches, which indicates that IL is an understanding and set of abilities enabling individuals to "recognise when information is needed and have capability to locate, evaluate and use effectively the needed information" (ACRL 1989). Especially, the ACRL's framework stresses the concept of "learning how to learn" and "lifelong learning", which can be seen as the key capabilities of an information literate person. This approach has been broadly recognised as an important framework for IL education (Campbell 2004).

The trend emphasising a need for an adaptation of IL definitions and frameworks to individual living, working, and learning environments is supported by Webber and Johnson (2002), Gendina (2004), Campbell (2004), Basili (2006), Gorman and Dorner (2006), Walter (2007), and especially UNESCO (2008). By defining IL as "the adoption of appropriate information behaviour to obtain, through whatever channel or medium, information well fitted to information needs, together with critical awareness of the importance of wise and ethical use of information in society" (Webber & Johnson 2002), Webber and Johnson (2002) point out the role of information behavior in developing IL, which is affected critically by cultural dimensions when dealing with the definition of IL. Especially, Webber (2003) indicates that IL practices are "experienced in variety of context" (Webber, 2003, p. 3). Gendina (2004)

proposes an establishment of information culture which impacts profoundly on IL programs' contents and standards. Campbell (2004) argues that the ACRL's definition of IL needs to be adapted to people's living and learning environment where not everyone can have a chance to use new ICT tools to access information resources, know how to identify quality of information, or understand rules relating to information use and application (Campbell 2004). Gorman and Dorner (2006) raise three important questions: "How can we define IL in a developing country context? How do we best determine the educational objectives of IL education in a developing country context? How can cultural awareness improve IL education?" (Gorman and Dorner 2006, p. 18). In order to answer those questions, the two authors suggest further research using the cultural anthropology approach. In a broader perspective, UNESCO (2008) indicates four important issues relating to deliver IL programs: language role impact; cultural constraints; political constraints; and, economic constraints. In addition, UNESCO encourages considering IL in society, work, education, and well-being context, as in the following figure:

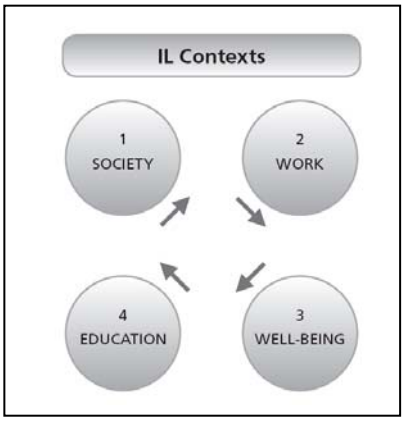

Figure 1. IL contexts (UNESCO, 2008, p. 9)

Obviously, the concept of IL has been recognised more comprehensively when factors affecting an individual's information behaviour and capability are considered as an integral whole. However, five elements of IL proposed by this approach (recognize information needs; locate and evaluate the quality of information; store and retrieve information; make effective and ethical use of information, and; apply information to create and communicate knowledge) show that IL remains to be considered as a learning process.

It is necessary to look at the concept of IL 2.0 recently introduced by Godwill (2007 & 2009), Tuominen, K. (2007), Bussert and Brown (2008), Spiranec and Zorica (2009) and many other scholars. Those authors suggest that, in the current information context dominated by Web 2.0, the concept of IL needs to be extended and updated. Lloyd (2008, p.6) also believes that IL is "more than just an experience with theoretical sources of knowledge. Social and physical experiences with information also play a significant role". It is true that the cross-cultural dimension and the openness of the current information landscape are obvious and profoundly influencing on all online information transactions. As the result, the socio-technological aspect of IL is especially emphasized.

In fact, the global spread of the Internet and the advanced development of information and communication technologies (ICT) lead to a social change with an increasingly critical influence of the network society on individuals' working, learning, and living contexts (van

Dijk, 1999 and Castells, 2002a). Castells (2004) emphasises the rise of the network society "whose social structure is made of networks powered by microelectronic-based information and communication technologies" (Castells 2004, p. 3), in which a mechanism of reconfiguration is applied basing on the inclusion/exclusion principle (Castells 2004, and Stalder 2006). Castells (2004) assumes that networks are constitutions of "the fundamental pattern of life, of all kind of life". Castells (2004) argues that the network society is a global society which has significant impacts on particular societies characterized by geography or cultural boundaries by "the double logic of inclusion and exclusion in the global network that structure production, consumption, communication, and power" (Castells 2004, p. 23). With that trend of social structure, the current information explosions, and the rapid development of information and communication technology, how do people, as nodes of the network, prepare and be prepared for not being excluded from that kind of society? Should IL be a means of helping people to adapt to the new social structure and to make their local values and own experience workable and compatible with global ones? How is IL understood and developed in order to make that mission feasible? In this paper, considerations with a strong focus on analysing the way IL should be conceptualized and delivered will be made based on the cross-cultural approach and the network society perspective.

2. Information literacy in the context of network society

Changes in information and communication technologies make changes in the way people live their personal and social life (van Dijk, 1999 and Castells, 2002a). The emergence of new concepts such as the network society (Castells, 2004), cyber citizen (Gray, 2002), flat world (Friedman, 2005), "second life", and especially "Web 2.0" (O'Reilly, 2005), presents a fact that network communities (which are supported and powered by ICT and the Internet), rather than geographical communities, has been increasingly playing an important role in individuals' daily life. In other words, the network society is becoming a reality where people are more and more deeply involved.

IL, as indicated in its core attributes, is firstly and naturally related to dealing with information universe and "influenced and determined by the current information environment" (Spiranec & Zorica, 2009, p. 141), which is very diverse and uncontrollable these days, especially in the context of the network society. In this current information landscape, people are not only retrieving information for their information needs from selected sources, but also inevitably receiving unexpected and unpredicted information from their network communities or personal information sharing tools (such as mobile ads, spam emails, comments on their own blog posts from online communities, tagged information, Twittered shouts, and friends' social network status). Therefore, besides being seen as an essential tool for learning purposes and information needs, IL should be also considered as a type of "human intelligent firmware" which ensures the compatibility and utility of individuals' information and communication competences in any social context, and then fosters the process of social inclusion for everyone.

In this section, issues relating to conceptualizing IL in the context of network society are discussed. Firstly, the context of the network society, where IL is supposed to be applied, is analysed via three aspects: the inclusion/exclusion principle, changes in individuals' information landscape, and cross-cultural features of the Internet. The second part is concerned with the concept of IL in the context the network society.

2.1. The context of the network society

2.1.1. The inclusion/exclusion principle

"Network" is not a new team and has been applied in many fields for a long time, but the concept of the network society has been emerged since information and communication technologies were applied widely and deeply in most spheres of daily life and society (Castells, 2004). According to Castells (2002a), the networking logic, which is a key feature of the informational society's basic structure, is used for explaining the concept of the network society. Castells (1996, 2002a, 2002b, 2004), van Dijk (1999), Schuler and Day (2004), and Stalder (2006) admit that the structure of the network society, which is powered by the Internet and computer-based networks, has influenced profoundly on that of societies characterized by geography, cultural or political boundaries. Therefore, in many ways, individuals, as members of those societies are inevitably involved in and influenced by the network society. Castells (2002b) asserts:

> Core economic, social, political, and cultural activities throughout the planet are being structured by and around the Internet, and other computer networks. In fact, exclusion from these networks is one of the most damaging forms of exclusion in our economy and in our culture (Castells, 2002b, p. 3)

As discussed in the first part of this paper, a network society is constituted with nodes (individuals) and flows (information streams connecting individuals in a network) and defined by codes (protocols of communication and performance), and operates based on the inclusion/exclusion principle without a control centre. The exclusion of an individual from the network occurs when connections (or flows) between that individual and the network society are broken. Castells (2002b) indicates that "lack of technological infrastructure; economic or institutional obstacles to access the network; insufficient educational and cultural capacity to use the Internet in a self-determined manner; disadvantage in the production of the content communicated through the network" (Castells, 2002b, p. 277) are mechanisms causing the social exclusion in the context of network society. It can be seen that issues of technology and information are vitally relating to the social exclusion. Therefore, in the context of network society (and the informational society), the concern of how to communicate, generate, process, and exchange information is prioritized. In regard to that, Castells (2002b, p. 277) states that "the installation of information processing and knowledge generation capacity in every one of us – and particularly in every child" is another major challenge of the network society. In the current information context and the network society, information, connectivity, and community are always concerned and involved by individuals. Individuals' IL landscape is fundamentally influenced by their involved communities' one. Therefore, a community involvement is needed by individuals when they try to solve their own information issues. In dealing with those challenges, individuals need an education to make sure that their local values, cultural awareness, and technological skills are compatible to and workable in their involved communities, and therefore it keeps them being included in the network society. In fact, that education is what IL is originally and ultimately about.

Following parts of this paper will try to answer the question: what is the nature of that education and how should individuals prepare and be prepared for integrating into their involved communities, especially network communities whose fundamental values and beliefs are influenced profoundly by the internet culture?

2.1.2. The Internet – a new information landscape

As mentioned above, the concepts of IL were initially developed in the early stage of information explosion era when the issue of dealing with a huge amount of retrieved information was the main concern. Recently, especially when mobile technologies and Web 2.0 (O'Reilly, 2005) have been increasingly popular and widely applied, there is the fact that the Internet has been becoming available and accessible flexibly and easily without barriers. One of the most significant trends brought by this process is the change in the way, which is profoundly influenced by sharing and openness principles (Castells, 2002b, Cardoso, 2005, and Anderson 2007), that information providers and information consumers play their roles. In fact, the notion of Internet user seems to be more flexible and suitable (rather than that of information providers and consumers) in the new context where anyone can become an information provider or creator. Therefore, individuals are dealing with the information explosion and facing the widely and deeply spreading of information. In other words, people are not only working with the huge volume of information from the information universe, but also having to handle the multidimensional characteristic and unstoppable and uncontrollable spreading of information around them.

So, what is the current information landscape? The answer can be seen by looking at the development of Web 2.0 applications and mobile technologies. With the use of the web as platform (O'Reilly, 2005) combined with the advancement of mobile broadband technologies, individuals are able to have the information world in their pocket and produce or share their information with their involved communities constantly right on their hands (Castells, 2007). Traditional information sources, which are usually supported by ICT enterprises, educational institutions, or publishers, such as search engines, library catalogues, paper - based publications, learning sources recommended by educators or librarians, or commercial multimedia products have not longer been unique information channels for individuals' information needs. While the information retrieved from those channels can be evaluated and handled with users' personal knowledge and experience, other information coming from Web 2.0 based resources (such as: shared information from social networks (Facebook's comments and statuses), tagged information from social bookmarking tools (Twitter, Diggs, Facebook, Flickr, etc), Really Simple Syndication (RSS) feeds, comments from personal publishing systems and media sharing tools, and unexpected messages from unexpected "friends" via emails, instant messengers or even from mobile advertisers) are spreading all over to information users constantly (see *Figure 2*).

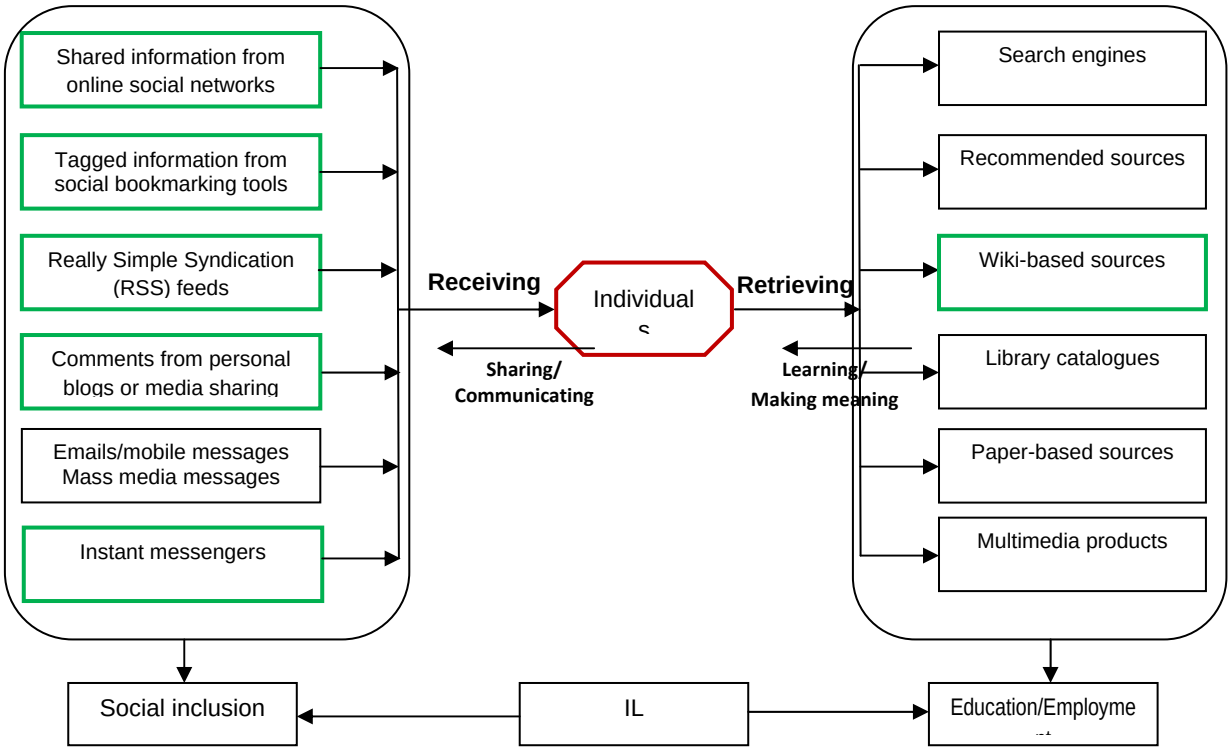

Figure 2: Individuals' information landscape and the role of IL

*(Note: **green items** representing Web 2.0 ones)*

As can be seen on Figure 2, individuals have to deal and live with two information streams (or network flows). Those two streams mainly focus on two purposes: social inclusion and education/employment. In this situation, the role of IL is to make sure that individuals are not excluded from the society because of failing in connecting to and handling their information universe. If one of those two information flows to the network is broken, the risk of social exclusion is obvious. Therefore, IL is needed in helping individuals to maintain their lifelong learning and social interactions with their communities.

2.1.2. The Internet – a cross-cultural society

It is easily seen from Figure 2 that information sources that individuals receive from Web 2.0 tools are from their involved communities and networked relatives, not only from particular information providers. In fact, as a sort of daily conversations, those information sources can come to individuals (or receivers) in unexpected ways with both positive and negative aspects. For example, positive comments on blog posts, trusted information source recommended by a networked relative, or an encouragement receiving from a friend via an instant messenger can be a good motivation for individuals to keep going with their works (making meaning). In contrast, spam messages via emails or mobile phones, annoying conversations on a personal blog or a social network profile, or misleading information intentionally sent by a ICT cracker may put one into a disadvantaged psychological and social situation or even a socially and culturally excluded situation. Also, individuals may give up

their engagement in an online community if their ideas, thoughts or social actions (as expressed on their blogs or their own social network profile) are not concerned with or contributed by their networked friends/relatives in that community. Individuals have to deal and live with all types of those information as conducting their daily social relations and activities. In this sense, Counts and Fisher (2008) propose the concept of information ground - information exchanging places which "can occur anywhere at any time, often unexpectedly, and while they form around an instrumental purpose (e.g., receiving a service or good), information sharing emerges as a byproduct of social interaction. As people visit and engage in social interaction, their conversation about life in general and about specific situations leads to both formal and informal information sharing on varied topics, in varied directions" (Counts and Fisher, 2008, p.2). In the world with half of its population owning mobile telephones and nearly 2 billion Internet users (UNESCO, 2009), the information landscape is becoming increasingly complicated and diverse.

In fact, the way people deal with their information grounds, which are mostly based and located on the Internet, can be seen as the way they interact with their online networks or communities. Failing in coping with that may lead individuals to being excluded from their communities. As stated by UNESCO (2009, p. 38), "these days 'www' could stand for World Wide Words, or World Wide Social"**,** the Internet is actually a global community dominated by "the Internet culture" (Castells, 2002b). A survey conducted by De Jonghe (2007) reveals that among the top three things people do when turning on their computer, checking their social network profiles goes into third place with 44% of responses while checking email and browsing the Internet are in the two first places. That means people are increasingly and more deeply engaging to the Internet and influenced profoundly by its culture. As UNESCO (2009) asserts:

> This is all a kind of new cultural revolution: technology is ever more easy to use and man eventually enters the limelight, increasingly translating itself, its communities and society into an online world, which is thus becoming ever more integrated into everyday life (UNESCO, 2009, p. 38)

According to Castells (2002b, p.3), "the Internet culture is the culture of the Internet creators", who are from all over the world with their own cultural and social identification, values, and belief. It is true that individuals, when "being" on the Internet, are living and working in a cross-cultural community where cultural and social aspects of information behavior are required to be taken into account.

To sum up, the information landscape as analysed above indicates fundamental changes in information users' information behaviour and the current information context. Spiranec and Zoricaif (2009) believe that when the current information environment has changed, the concept of IL also needs to be restructured, updated, and extended. On other words, IL should not only be a set of abilities in defining information needs, locating information sources, evaluating information, using and applying information in particular contexts, and dealing with social and ethical issues of information usage (ACRL, 1989), which can be called the traditional IL practices. In the current (and by the end of the Web 2.0 dominated future) information context, IL should be recognised as a comprehensive preparation, which brings an active state of mind, suitable and sufficient information skills and sound social and cultural understandings on the current information landscape to individuals when they conduct their social interactions happening on their information grounds and the network society.

2.2. The concept.

2.2.1. The socio-technological dimension of IL.

In responding to required changes, Godwill (2007 & 2009), Tuominen, K. (2007), Bussert and Brown (2008), Spiranec and Zorica (2009), propose the concept of IL 2.0 with a strong focus on the openness of IL's contents and delivery methods. Godwill (2007) and Luo (2009) suggest using Web 2.0 tools for supporting IL contents and delivery. Especially, Spiranec and Zorica (2009) raise an important statement when emphasizing the relation between IL practice and communities, as follows:

> IL [IL] has its root in the activities of particular groups and communities; it evolves in disciplinary and other contexts and is practiced by communities using their corresponding technologies (Spiranec & Zorica 2009, p. 143)

Those changes profoundly affect traditional IL practices, whose stories used to belong to mainly librarians, educators, and learners. As seen on the Figure 2, traditional IL practices have helped individuals to deal with working and learning concerns, basing mainly on traditional sources (search engines, library catalogues, paper-based sources, or commercial multimedia products) and fundamentally for working and learning purposes. The picture is now being broadened with an emphasis on the important role of communities in IL development, a strong focus on cultural and social fundamentals of information in building IL programs, and the flexible use of methods for delivering IL programs in different contexts. According to Lloyd (2005), it is necessary to put IL in individuals' educational, working and everyday environments. Harris (2008) considers communities, especially learning communities as necessities in developing IL. Spiranec & Zorica (2009) emphasize that a shift in practicing IL needs to be made with "the integration of tagging issues, the issues of reliability, authenticity and privacy, including various other questions related to learning communities" (Spiranec & Zorica 2009, p. 149).

In fact, in the context of the network society and the Internet culture as analyzed above, the socio-technological aspect of information needs to be considered as the core feature of IL. Therefore, IL should be a social and technological education on dealing with information universe in a culturally and socially suitable way, which enables individuals to adapt to and integrate themselves into different cultural, eco-social, and educational contexts flexibly and effectively. In different social, cultural and technological contexts, IL practices are possibly applied in different ways with a focus on their cultural and social suitability to individuals' information landscape. Therefore, instead of mainly dealing with information needs and the information explosion and supporting lifelong learning, which can be quantitatively examined in educational settings, IL should also focus on individuals' information and communication contexts, coping with the uncontrollable spread of information, and especially helping people to know how to learn, communicate and integrate into different social, cultural and educational settings, therefore adapt themselves to the network society. Thus, this leads to changes in others aspects of traditional IL concept in both practical and theoretical spheres.

2.2.2. Core elements of IL

As analysed above, in the context of cross-culture and the network society, individuals are not only be interested in their own **information needs**, they also need to take care of their involved communities' ones in order to ensure their integration into those communities, maintain their information flows to the network society, and deal with all information streams. In the context of network society, individuals' information needs are the common concerns of the community. That is the reason why individuals need to be equipped with knowledge and understandings on social and cultural fundamentals of the current information landscape and suitable technological skills when participating in their information grounds and conducting information transactions. In other words, individuals need to be aware of the role of communities and their social responsibility in contributing to the communities' development.

Information skills should also be one of core elements of IL in any information context. It can be seen that skills on using traditional retrieval tools (search engines, library catalogues, databases, referred websites, paper-based publications, or multimedia products) or using computer-based platforms are not enough for individuals to deal with their information concerns in the current information landscape. Other skills (including but not limited to) such as: approaching recommended, shared or tagged information sources from communities or relatives, using media sharing tools, using online learning tools, and operating mobile platforms (smart mobile phones, personal digital assistants (PDA) or even Global Positioning System (GPS) devices) are necessarily provided to individuals. In a modern fashioned wording form, that can be called the information skill 2.0. However, in order to play both roles as an information consumer and an information creator/provider on information grounds, individuals are required to have more skills than that. While there are many open-source softwares available for everyone with free of charge and full supports, especially personal publishing systems such as Joomla, Dupral, Wordpress, etc, information literate individuals are expected to have capabilities to control their own information platforms by hacking (modifying and customizing) those softwares when necessary in order to meet their communication and information needs.

In terms of **how information is evaluated** and determined to use, not only individuals' own knowledge and experience or those gained from education, but also evaluations, recommendations or reviews contributed by their involved communities can be used for evaluating individuals' retrieved/received information. These days, there is an enormous number of online discussion board (or forums) for both professional and entertainment purposes. Those are places where people can help each others to appraise uncertain or problematic information, or even, learn from each others. For instance, many people usually visit dpreview.com or photographyreviews.com, which are rich information sources contributed and shared by a community of photography experts and users, before they decide to buy a camera. Alternatively, when buying a particular item on eBay, it should be useful to look at sellers' profile and especially their feedbacks and rates provided by their buyers before reaching to final decision on purchasing the item. Also, many online communities have been grouped basing on similarities of professionals fields or habits, on where many informal academic discussions have been made and becoming good sources for people to learn or appraise their uncertain information. This is not a story about places to find information; it is a story about emphasizing and advocating the role of learning communities in the current context of information landscape.

In fact, those learning communities are originated from the Internet's sharing culture (Castells, 2002b, and Anderson 2007). Therefore, **information sharing capacity** is imperative to an information literate person. In fact, the way individuals interact with their communities depends critically on this capacity. That is not only about techniques in using social bookmark and media sharing tools, but also understandings on the cultural and communication behaviours frequently applied in involved communities. That means individuals' awareness of how they share their information, what information should be shared and who are their partners is especially necessary in the current information context. More importantly, IL should be a motivation for encouraging and promoting the sharing culture in communities – a foundation of learning communities. However, sharing does not mean "unconditional openness" and accepting all risks of privacy violence or unsecured information threats. In this context, as an information literate person, one is expected to have sound understandings on how to suitably open and stay properly secured when exchanging information with their communities.

In fact, the ethical **use of information** is still and always the core value of an information literate person in any information context. That is a basic principle for creating and building trust in the informational society. However, in the context of network society, the use of information also has its cultural aspect. As mentioned above, information is not only for learning and working purposes, but also for creating and connecting to networks and integrating individuals into communities. Therefore, the use of information is necessarily suitable to the communities' culture in order to make sure that it is workable, acceptable, and knowledgeable in the corresponding information contexts.

3. Delivering IL in the context of network society.

The mission of IL in the context of the network society is to maintain and power information flows running in that society, and therefore to keep individuals involved and integrated into their communities, leading to their successes in both professional and personal developments. This explains the reason why IL practices are social, cultural, and technological oriented. Although individuals' information context will determine the contents and delivery of IL education (Webber, 2003), in the context of the network society, individuals' information context is relating closely to communities and flexible learning practices. By using ICTs, especially Web 2.0 tools, to build up and develop flexible learning communities, IL can be delivered effectively to individuals.

3.1. Flexible learning communities

"No centre, just nodes" is one of the core features of a network (Castells, 2004). Therefore, the story of how to control and enhance information flows is firstly the story of individuals and their connected partners. That implies the important role of communities (groups of nodes) in the context of network society. In this sense, a concept of flexible learning community in developing information literacy seems to be suitable to the current information context. This community can be characterized by following aspects:

- A group of individuals joined voluntarily basing on relations and correlations in their information culture and socio-technological conditions.

- Operating on any medium or space which is suitable to its members' information contexts and educational level, and

- Having a particular learning goal(s)

Obviously, according to this assumption, a flexible learning community can be a group of friends studying in the same class, a group of a family's members, a professional network of lecturers and students at a university, or even a group of library users. However, to make those groups become learning societies, at least a learning goal needs to be established, and all individuals need to be involved in and contribute to the community's goal(s). That is also the way individuals learn and exchange information in the context of network society. Castells (2004, p.3) asserts "the relative importance of a node does not stem from its specific features but from its ability to contribute to the network's goals". In fact, when the network achieves its goals, its nodes also reach to their expectations made when they joined in the network.

That mechanism can be used in developing information literacy. Instead of using "standard approach", which was supposed to be inappropriate (Webber, 2003) but still quite popular in the recent IL practices, it is important to create and offer social and technological conditions for individuals to build their own flexible learning communities inside a network society. IL practitioners, as ones who are able to share their IL experience and knowledge should play a role as a node in the network. In addition, they can act as an IL stimulant that powers and promotes IL learning activities in the community. In this scenario, the IL delivery is implemented via social and cultural interactions among individuals (nodes). This shows that IL stakeholders should be (but not limited to): librarians; teachers/lecturers; learners/information users; colleagues/friends/families; online communities; and ICT providers. There is one warning: any efforts to control or own the network may damage the nature of network, and therefore ruin the network's goals. For instance, IL practitioners may break the network structure of the learning community if they try to use their own IL contexts and pedagogical approaches to rule the network by requiring (or influencing) other individuals following their subjective pathway of IL development without taking care of individuals' social, cultural, and technological compatibilities. In that case, the learning objectives are not achieved.

Web 2.0 and mobile technologies bring IL practitioners many opportunities to approach to their communities (social networks, blog, wiki, media sharing tools, etc). This is an important foundation for characterizing the culture of the network society which is made of protocols and the value of communication (Castells, 2004). By using Web 2.0 tools and other ICT applications for selecting and building flexible and suitable protocol of communication, IL practitioners contribute to maintaining the culture of the learning communities, and therefore promoting flows among nodes (individuals).

An individual can expect she/he is an information literate person when she/he feels confident in conducting her/his information activities or social actions on her/his information grounds for achieving goals of personal and professional developments as well as integrating into her/his current networks. The openness of the network society allows individuals to involve in different flexible learning communities depending on their own IL development strategy, which is possibly consulted by IL practitioners or libraries.

Benefits of this approach are the flexibility and suitability of the way a flexible learning community build their own learning contents and methods with contributions from other members (including IL practitioners and advanced IL learners) of their involved networks. There will not be worries about how to adapt IL practices to individuals' cultural and social contexts, because the flexible learning communities are built basing on individuals' own considerations about educational, cultural, and technological compatibilities IL practices therefore sometimes are a story between a father and his small son, among a couple of friends at a karate class, among a group of senior users of a public library, or even it may happens in a kitchen among housewives. There will not be worries about building all-in-one IL programmes for every member of the communities, because IL development is the task of the whole community and concerned by every single node (individuals). There will not be worries about how to motivate learners in participating in training courses on IL skills, because learners can choose themselves the most suitable and convenient learning way by using their familiar communication medium and their own learning space.

However, questions are: 1) what is the foundation for individuals to identify their potential partners? 2) Who are responsible for maintaining and supporting to IL campaigns implemented in communities?

3.2. And libraries' missions

Interestingly, those questions reveal the essential role of libraries in developing IL. Although it is undeniable that individuals – with supports from new communication tools such as social network or personal publishing systems – can observe, interact, experience, and find themselves their related nodes (as a autonomy mechanism when experiencing in social networks and other online societies), libraries (in their corresponding communities) should be considered as ideal places for implementing network activities. This is because libraries have been always considered the cultural centre of communities where people share their interests on information, knowledge, or entertaining habits and take part in socializing activities. If libraries can play a role as a community hub connecting people, offering people opportunities to share and learn from each others, promoting network communities and sharing culture in communities, flexible learning communities can be formed from here. In this context, those who have responsibility for IL delivery and development are individuals themselves. However, it is libraries' responsibility when libraries, by using communication tools familiar and friendly with individuals, try to rise people's awareness of the role of IL in the current information and social context, as well as making sure that the IL concept and its core elements are understood thoughtfully by their members. Based on that, individuals can do a self-reflection on their current IL and determine when they should shift to new flexible learning communities in order to update or upgrade their IL competences. Therefore, different individuals having different requirements on their information needs, basing on their own information conditions, may have different pathways of IL development.

In term of the technological aspects of IL practices, again, libraries should ***not*** provide their members with training courses on ICT skills. In this case, promoting new technologies and encouraging people to learn to use those technologies seems to be more important. In fact, people can use Web 2.0 tools, or even hack open-source softwares, by easily taking part in some training course at Technical and Further Education (TAFE) institutions or online schools. The problem is: how to make the best use of those skills. As a node of the network, libraries can inspire people to use new ICT tools for their communication and information

needs by using those technologies for promoting IL awareness and network activities. These are some suggestions:

- Building and developing learning communities (online and offline), including online e-learning systems.

- Creating online/offline discussion board for community members

- Using social networks (Ning, Facebook, MySpace, Diggs, or Twitter ...) for implementing IL pubic relation campaigns and connecting people

- Promoting individuals' personal information portals (blog, multimedia sharing channels, and social bookmark tools) or cultural products for giving opportunities for individuals to integrate into their networks/communities.

This list may be an endless one because libraries can do more on their role in preserving, maintaining, promoting and developing the culture of the network society.

4. Conclusion and recommended future research

Changes the current information landscape and social structure require changes in the way information literacy is conceptualized. By putting IL in the context of the network society – a globally influenced social structure – issues relating to IL contents and delivery in the current information context dominated by Web 2.0 and mobile technologies are recognised. Although the network society provides opportunities to deliver IL in flexible ways, especially the use of flexible learning communities, there are still some issues necessarily discussed and analysed in the near future. Below are some (not limited to) questions for future research:

- What is the role of educational section (i.e. teaching staff and academic management) in building flexible learning communities?

- What are disadvantages in employing flexible learning communities for delivering IL?

- What is the best way for IL practitioners to integrate into their intended communities?

- How should be done to make sure that IL contents have been embed in individuals?

- Traditional IL programs, how we can deal with them if we change our approach?

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