Information Literacy: A New Frontier of Learning for Librarians, Educators and Students in the 21st Century

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Abstract

This paper discusses information literacy as a new frontier of learning for librarians, educators and students in the 21st century. It examines the meaning while taking a cursory look at the instructional process. The paper highlights some definitions of information literacy by authors and corporate bodies. The difference between information technology and information literacy was briefly analysed. The challenges of the 21st century education in the information world were enumerated as it affects the students, teachers and librarians. The paper indicates that librarians have over the course of their work life been conversant with teaching students and faculty on how to get needed information for their research investigations and as such are better suited to teach information literacy. It recommends that as librarians and educators collaborate to promote information literacy, they can help each other, and the learners [students] they serve, to find the best way to bypass vast wastelands.

Keywords: Information Literacy, Librarians, Literacy, Educators, Students and 21st Century

1. Introduction

The twenty-first century has brought with it a new kind of frontier, consisting of information and knowledge. This new frontier of learning is expanding exponentially. To be able to plot successfully a course into and through this growing frontier in the information society, information literacy is increasingly becoming important in order to equip people for every aspect of life. This then presents the best way to start this paper. Information literacy is essential for successful expeditions into the ever‐expanding knowledge frontier. An understanding of what information literacy really is will set the pace. Candy,(1993) in a whimsical analogy states as follows:

> information literacy is not simply a response to the demands of the
> information society, but an important set of intellectual accomplishments that
> can aid in the realisation of the 'learning society'.

In his discussion of the concept of information literacy, Wooliscroft, (1997) opines that it is really not an entirely new phenomenon. The term "information literacy" he further observes, first appeared in library literature during the 1970s and it is now sometimes wrongly employed to describe library user education and bibliographic instruction. How then did it emerge? In the new information society as Langford, (1998) notes 'Library skills' was replaced by 'information skills', then the term 'information literacy skills' emerged. However, information literacy programmes do a great deal more than tell how to use the library. Information literacy is vitally tied to the strategic value and use of information. In our world of widening horizons individuals are faced with a lot of information and in order to distinguish reliable information from the mass of information they must have some skills so that they can make use of data and information through information technology and communication technologies, especially the Internet which is spreading every moment at the world. In today's complex environment, information literacy as a process of inquiry is the basis for lifelong learning. It is an essential ingredient common to all disciplines, to all learning environments and to all levels of education. Such a process of inquiry thus demands that students should possess a wide range of skills which can be developed through independent, collaborative, life-wide and life-long learning. Such information cannot be considered knowledge on its own and as a result must necessarily pass through what Agdasi, Baghbannezhad, Mafi, and Talebi (2013) describe as the processes of collecting, studying, planning and observation, inquiry and research, thinking, judging, editing, integration, analysis, synthesis and evaluation before becoming knowledge. This process requires special education which (Nazari, 2005) interprets as information literacy. Ordinarily, education liberates people from darkness and empowers them with knowledge, competencies, and attitudes to become assets for human progress across frontiers. UNESCO has two ambitious programmes namely, Education for All Programme (EFAP) and Information for All Programme (IFAP) to spread education among member nations, and provide access to information to one and all. Education, information literacy, and capacity building are the thrust areas for the UNESCO. A primary goal of education is to empower students to possess such life-long skills that can be used beyond their classroom. In the past, librarians have crammed students full of details on how to use libraries, trying to make them into librarians! This has always been a mistake. As Tennant (2001) points out

Only librarians enjoy looking for information. Everyone else just wants to be able to use   the information and would really prefer that it was just handed to them.

This was the era when librarians enjoyed overarching privilege as the almighty provider of information. In the new frontier of learning, the World Wide Web and ICT have created the potentiality to make knowledge available, immediately and everywhere. This immediate availability of knowledge generates high expectations for all the categories of information users. For the librarian, his exclusive territory of information provision was now been encroached upon. That exclusiveness has been yanked off him. What is responsible for this? It is the Google phenomenon that has fundamentally affected all library users. Simply, these users are used to a single search box like Google, or Amazon, which can give instant satisfaction. Google is currently the first choice search engine for most educators and students. The Google empire is now enormous and encompasses: Google Print Publisher Program, Google Print Library Project and a host of other Google services, including Google Scholar (GS). At just a click Google begins to search the invisible web that was formerly the librarian's territory. The old concept of *use of library* has been built upon and has metamorphosed into *information literacy* which on its own has expanded the decades –long efforts of librarians to help their users learn about and how to utilise research tools and materials in their own libraries. In their day to day interactions with users, librarians desire that their users should be able to transfer and apply this knowledge to new environments and to research tools that were new to them. In this new frontier of learning, information literacy expands this effort beyond libraries and librarians and focuses on the learner [students], rather than on the researcher. The current learning environment provides an opportunity for librarians to play a key role in the evolution of an integrated information literacy curriculum. This new frontier of learning for librarians, educators and students in the 21st Century brought about by information literacy is the focus of this paper.

1.1. Literacy and the New Frontiers of Information Literacy

Literacy is a lifelong process. The United Nations in 1948 defines literacy as the ability to read and write a simple letter in any language spoken by the person. A literate person in the 1951 UN definition: is someone who understands what he writes and is able to write the basic facts of his life. Literacy however, is not just about reading and writing. While reading and writing provide the necessary foundation for learning, literacy is fundamentally about an individual's capacity to put his/her skills to work in shaping the course of his or her own life. For someone who is able to read according to Eyni, 2009) is only known as semi-literate. The concept of literacy in the knowledge society is not only reading and writing. Literacy – in the traditional sense of being able to decipher printed words in a meaningful way – has been attached to information which is a major distinguishing factor of the modern world to create a new concern: information literacy. And just as literacy in the traditional sense has always been a main focus of the educational systems, so too is information literacy. In the new frontier of learning in today's information society, someone who knows reading and writing and even someone who has a higher education, but does not know how to use the Internet, for example, is not considered literate. This requires fundamental changes in the educational systems of our time. Literacy has been conceptualized by Ahmadian Rad (1386) as a set of multiple functions that are beyond the traditional understandings and is used by many of the thinkers and leaders of organisations in the field of education. Literacy according to Freire, (1972) involves ***"reading the word and the world"*** in a variety of contexts. Individuals need literacy skills to obtain and use information effectively, to act as informed players and to manage interactions in a variety of contexts.

Over the years, a variety of terminology has been used to describe this process. This instructional process has been called different things overtime: **library orientation-**[developed to introduce users to the collection, services, building layout and organization of materials held to make the user feel comfortable using the services the library provided]**, library instruction/ user education [use of library]- [**focuses on the instruction in the use of the library, with a detailed explanation of reference sources, catalogues, indexes and policies]**, bibliographic instruction- [**exposes users to go beyond the physical boundaries of the library to locate and use information by employing a *search strategy,* or a systematic approach to identify, locate and evaluate information**, and now, information literacy instruction-[** which focuses on the actual process of learning(Bopp, & Smith, 2001). The nomenclature changes because the semantics keep spilling out of the boundaries we put around the concept. Fister, (2013) whimsically states

It's not about libraries, though being able to use a library is certainly helpful. It's not about books, as is implied in the word "bibliography" – though books are likely to be relevant to many kinds of inquiry. Nor is it just about "information" and "literacy." The active work of framing questions and creating new understanding is poorly represented by the first word, and the second suggests a focus on remedial education or a very basic level of ability. Call it what you will,   it's a complex set of skills and dispositions that are important on every campus, and not just to librarians.

Since 1985 the concept of Information Literacy (IL) emerged when Patricia S. Breivik described it as 'an integrated set of skills and the knowledge of tools and resources '(Grassian, & Kaplowitz, 2001). The authors

observe that Information Literacy had its roots in the Library Instruction Movement which began in early academic libraries in the early 1960's. Melville Dewey had at the first ALA Conference in 1876, opined that *'the library is a school and the librarian is in the highest sense a teacher'*. However, it was not until the 1980's as technology was becoming more important in libraries, that Patricia Breivik re-conceptualized the concepts and goals of library instruction as "information literacy", and it is Breivik's definition of IL which is still widely used today. According to The Association of College and Research Libraries, (2000) information literacy forms the basis for lifelong learning. It is common to all disciplines, to all learning environments, and to all levels of education. It enables learners to master content and extend their investigations, become more self-directed, and assume greater control over their own learning. In addition to traditional literacy, libraries are now involved with new literacies – new forms of literacy made possible by digital technology developments, although new literacies do not necessarily have to involve use of digital technologies to be recognized as such. When we think about *21st Century literacies* and skills, such literacies and skills come quickly to mind -*internet literacies*, *digital literacies*, *new media literacies*, *visual literacy, multiliteracies*, *ICT literacies*, *computer literacy* and *information literacy*, Each of these literacies as Fister, (2013) states, espouses different aspects of information, but all are relevant to information literacy (if not always equally stressed). **Information fluency, transliteracy,** and **metaliteracy** – have been proposed as alternative phrases to take care of the limitations of the phrase **"information literacy"** as well as emphasize that this form of learning is far more comprehensive than its library-focused antecedents. From this perspective therefore, it is not just a "library issue". However, today's libraries will focus on these literacies that make access to information faster and more achievable. So what is information literacy?

1.1.2. Evolving Definitions of Information Literacy

A range of terminology has been developed worldwide by both academics and librarians, and by national and international organisations, to articulate the suite of skills implicit within the term 'information literacy'. Fundamentally, information literacy is the ability to recognise when information is needed, then locate and evaluate the appropriate information and use it effectively and responsibly. It is a key component in the development of the student as an independent learner. It also contributes to the ability of students to work confidently with information and Information Technology tools, as well as develop essential critical thinking skills. The basic definition of Information Literacy (IL) is the ability to find, evaluate and use information. This idea was first put forward in 1974 by Paul Zurkowski, President the American Association for the Information Science. (Webber and Johnson (2000).In the contemporary world, the term "Information Literacy" is evolving and in fact has become a buzzword in the world of learning. Some researchers in library and information management variously refer to it as:

- Infoliteracy   -   Informacy   -   Information competency
- Information empowerment   -   Information fluency -   Information handling skills
- Information literacy and skills - Information mastery - Information mediacy
- Information problem solving skills

The diversity in the conception and understanding of information literacy has led to its divergent descriptions. It covers the range from purely technical skills (usually referred to as IT – or information technology) to purely cognitive ones – a spectrum which "extends from knowing how to use computers and access information to critical reflection on the nature of information itself, its technical infrastructure, and its social, cultural and even philosophical context and impact" (Shapiro & Hughes 1996). Not so long ago, this skill of information literacy solely pertained to traditional research sources such as books, articles, and journals, but over the past few years a considerable number of new information services have permanently entered into our culture. Currently, we live in a world where knowledge is created by the millisecond due to technological developments that allow people to upload and share information at any time or anywhere. According to Caroline cited by *Sytsma, (2013)* this shift in information generation, "demands that we be critical consumers of these new forms" and "remain responsive to how knowledge is found in today's society." According to Wooliscroft, (1997) information literacy is a set of skills allowing people to make the most of both formal and informal learning opportunities. The skills can be transmitted through the education system and through public libraries in their role as agencies for lifelong learning, although most current programmes appear to be within the context of tertiary education. Some other definitions are as follows:

Table 1 Varying Definitions of Information Literacy

AUTHORS/CORPORATE BODIES	DEFINITIONS OF INFORMATION LITERACY
Doyle (1994)	Ability to access, evaluate and use information from a variety of resources, to recognise when information is needed, and to know how to learn.'
Doyle (1996)	A concept that is shaped by academics, government and business and further asserts that information literacy is a process of mastering processes and is learning tool that has to be learned.
Candy (1993)	A lifelong goal that is achieved through continuous learning evolving behaviours.
Eisenberg and Berkowitz (1990)	Information literacy isn't library skills, computer skills and information problem-solving skills, but these are essential enhancers of information literacy.
Owen (1996)	Shown by our ability to boldly challenge ideas, due to our ability to access and use information effectively.
Todd, (2000).	Information Literacy is the bridge between 'Learning to read' and 'Reading to Learn'.
Williams (2001)	A 'dangerously ambiguous concept'
Moore (2002)	A "dynamic concept [which] extends basic reading, writing and calculating skills for application in information and technologically rich environments (Kuhlthau, 2001) for the purpose of learning or solving problems."
Kapitzke,(2003)	Is about 'learning *with* and *through* information' but it should also include 'learning *about* information and *about* knowledge'.
The National Forum on Information Literacy (2004)	The ability to know when there is a need for information, to be able to identify, locate, evaluate, and effectively use that information for the issue or problem at hand.

One indisputable feature of all definitions of information literacy is that it is a means to the universally acclaimed paradigm of lifelong learning. Information literacy' as Lupton, (2004) describes it,

is a way of learning through engaging with information. Information literacy includes 'library research skills' and 'IT literacy' but it is broader than these. Information literacy is not just about finding and presenting information, it is about higher order analysis, synthesis, critical thinking and problem solving. It involves seeking and using information for independent learning, lifelong learning, participative citizenship and social responsibility.

Abilock (2004) takes a wider view by arguing that information literacy 'is a transformational process in which the learner needs to find, understand, evaluate, and use information in various forms to create for personal, social or global purposes.' It is a problem solving process for:

- 'exploring and questioning
- defining an information need
- creating a plan to locate relevant information
- reading the medium
- synthesizing information to create knowledge
- applying insight to personal, social or global contexts to create wisdom
- self-evaluating the process and the product.

UNESCO (2005), the Alexandria Proclamation of 2005, defines information literacy as *"encompassing knowledge of one's information concerns and needs, and the ability to identify, locate, evaluate, organize and effectively create, use and communicate information to address issues or problems at hand; it is a prerequisite for participating effectively in the Information Society, and is part of the basic human right of lifelong learning."*

The Association of College and Research Libraries (2005) defines information literacy as

the ability to identify what information is needed, understand how the information is organized, identify the best sources of information for a given need, locate those sources, evaluate the sources critically, and share that information. It is the knowledge of commonly used research techniques. Moreover, information literacy is the set of skills needed to find, retrieve, analyze, and use information.

Riyolta cited in Leung, (2010) argued that information literacy can be considered literacy in 21st century, where access to information in the digital environment is as important as reading and writing in the decades before. So information literacy is presently a widely used term without a universal consensus about what it actually is. As a result, far from simply being a skill set, information literacy is a concept charged with values, judgments and power dynamics, and thus subject to considerable controversy and debate.

1.1.3. Is Information Technology the Same Thing as Information literacy?

Shapiro & Hughes, (1996) contend that information literacy covers the range from purely technical skills (usually referred to as IT – or information technology) to purely cognitive ones – a spectrum which "extends from knowing how to use computers and access information to critical reflection on the nature of information itself, its technical infrastructure, and its social, cultural and even philosophical context and impact." Information literacy is critical in today's world given the role of technology and the new manner in which knowledge is produced. Technology plays an enormous role in information literacy, and this places great demand on librarians and library support staff to stay informed on industry change and best practices. With the increased number of resources and the challenge of new knowledge genres, people must possess the ability to seek out pertinent information when researching an issue. The prodigious growth of technology, computer networks and information services has already enabled learners at all levels to share resources, collaborate with one another and publish their results electronically. To access electronic information sources effectively, there is need for information technology infrastructure and Information Literacy infrastructure in place. Information literacy is critically important because we are surrounded by a growing ocean of information in all formats. The types of technology used to access, manipulate, and create information will likewise expand. It has become increasingly clear that students need to acquire the requisite learning skills they need in their field of study. Information literacy (IL) equips them with the critical skills necessary to become independent lifelong learners. Candy, (1993) states that:

Access to, and critical use of information and of information technology is absolutely vital to lifelong learning, and accordingly no graduate... can be judged educated unless he or she is information literate.

This has consequences for librarians, teachers and students at all levels of education. "Information literacy as Breivik, (1985) suggests is not only knowledge of resources; it is not dependent on the library as the sole source; and it is not only information finding but also understanding and evaluating that information." Information literacy is not synonymous with IT literacy. IT literacy does not give a person the skills to become information literate. Herring (2004) defines information skills as "the skills which pupils [students] use to identify the purpose of, locate, process and communicate information concepts and ideas and then reflect upon the effective application of these skills." IT literacy therefore is a sub-set of information literacy. To become IT literate only allows the skills necessary to effectively manage the hardware and software which will allow access to that information which is in electronic or digitised form. In the same manner, a person who is library literate cannot be regarded as fully information literate. Library literacy is a sub-set of information literacy. Libraries are not the only information and knowledge resources available. To term a library orientation programme a course engendering information literacy skills is misleading. Library skills, as Behrens,(1994) further notes, tend to focus on the ways of locating information or the instrumental aspects of retrieval. They do not usually cover the broader contextual elements and the higher-level analytical skills necessary to effectively mine and utilise information in a manner which will withstand appropriate scrutiny.

1.1.4. 21st Century Education

21st Century Educator" is probably the most popular buzzword in today's education. The term "21st century" has become an integral part of educational thinking and planning for the future. Educators and librarians are actively searching for ways to prepare students for the future, and the educational system has been evolving faster than ever before. Kereluik, Mishra, Fahnoe and Terry, (2013) opine that it is quite unclear what precisely phrases such as *21st century education, 21st century knowledge*, *21st century skills*, and *21st century learning* mean. In some sense according to Barthes, (1977) the "21st century" becomes an empty signifier - a term that we all think we understand yet are hard pressed to clearly define. We have gone from the machine age of the 19th century industrial revolution to the information age of the 21st century. Education of the 20th century is therefore characterized as a "factory model" based upon the industrial age of the 19th century and the needs of employers.

The 21st centuryschools.com in a question and answer states as follows:

So what is 21st century education?
It is bold. It breaks the mold. It is flexible, creative, challenging,
and complex. It addresses a rapidly changing world filled with
fantastic new problems as well as exciting new possibilities.

The 21st century education is a "global model" that meets the needs of a globalized, high-tech society. Learning in the 21st century is research-based, while 20th century learning is textbook-driven. The 20th century education is teacher-centered with a fragmented curriculum that has students working in isolation and memorizing facts. Focus on learning in the 21st century is about what students know, can do, and what the students are like long after details are forgotten. [*www.capta.org/sections/...01/09**21st_century**%20_education.pdf*].

UNICEF's Global Agenda for Children: Learning for the Twenty-first Century contends that:

In order for the world to survive and prosper in the new century, people will
need to learn differently. A child entering the new century will likely face more risk

and uncertainties and will need to gain more knowledge and master more skills
than any generation before. (UNICEF, cited in Butler, 2005)

Snape and Fox-Turnbull (2011) argue that education in the 21st century requires a new way of teaching and learning with technology. The last century required schools to discipline students for work and life in a society that was the result of an industrial age, but the new century requires schools to prepare students for a society that needs different skills.

The skills, attitudes, values and competencies that will be needed have
not always been addressed in traditional educational programmes.
Student's resilience and ability to accept and adapt to change will
determine success. Different approaches and methods of teaching are
what many educationalists are calling for. (Snape & Fox-Turnbull
2011,)

In order to prepare graduates for the 21st century, students must be proficient in rigorous academic standards and 21st century content, adept at using 21st century skills, and competent in the use of 21st century digital tools. In the 21st century, information literacy is a key attribute for accessing information and has become imperative for everyone, irrespective of age or experience. Through the use of a variety of tools and technologies effectively and usefully, librarians have tried to make training programmes of library use and its resources practical with subject knowledge and expertise of clientele. Professional librarians using the tools of information technology, have since the mid-eighties, been providing consumer education programmes in the mold of "information literacy" in place of "library literacy". SCONUL (Standing Conference of National and University Libraries) (2003) has a Seven Pillars model (originally developed in 1999) – the diagram of which resembles a building, with its foundation of basic library and basic IT skills and roof of information literacy, held up by seven pillars:

i. Recognise information need;
ii. Distinguish ways of addressing;
iii. Construct strategies for;
iv. Locate and access;
v. Compared and evaluate;
vi. Organise and apply;
vii. Synthesise and create. [See diagram below].

Within each "pillar" an individual information user can develop from "novice" to "expert" as he/she progresses through their learning life, although, as the information world itself is constantly changing and developing, it is possible to move down a pillar as well as move up it.
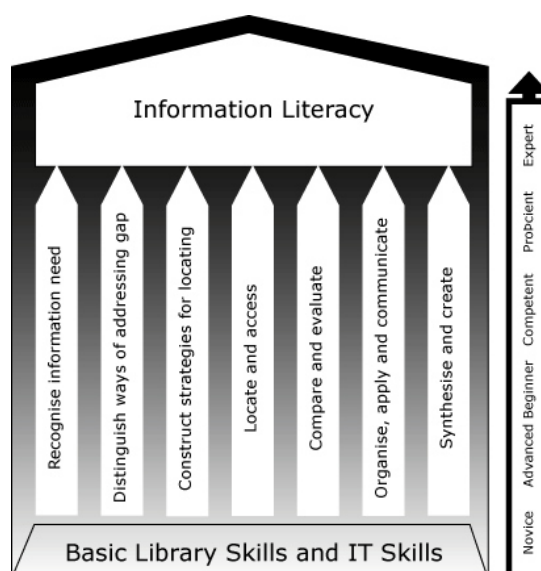
Figure 1 SCONUL (Standing Conference of National and University Libraries) Seven Pillars model

1.1.5. Students Need for Information Literacy

Herring and Tarter,(2007) provide a description of what an Information Literate student is able to do in the 21st century as follows:

- identify the purpose of information and ideas being sought
- identify relevant and authoritative sources (electronic, print, human) of information and ideas
- read/view/listen to, understand and learn from such sources by evaluating the contents of such sources in relation to their purpose
- use the information and ideas found in the sources to produce curriculum related work (written or oral) in school and to extend their own learning of a concept or topic
- reflect on their ability to identify a purpose for and creative use of information and ideas both within the school and elsewhere
- transfer information skills across subjects and year levels in the school
- transfer relevant information skills from school to further/higher education and to the workplace
- learn and adapt to new information skills required in many workplace settings

To meet the challenges of the 21st century information world students are expected to:

- read widely;
- develop an argument informed by varied sources and multiple perspectives;
- use evidence to back up an argument;
- make connections between ideas and concepts;
- synthesise and integrate information;
- cite and reference consistently and correctly;
- evaluate the trustworthiness of information;
- critique the quality of information in regard to bias, viewpoint and perspective;
- explore and use primary and secondary sources;
- manage and organise data and information;
- collect and analyse data;
- contextualise data and evidence with regard to the relevant literature;
- then they need highly developed skills in information literacy.

Using information and communications technology to search for, process, present and communicate information students may need to:

- use the web, library databases and catalogues;
- word process;
- use visual presentation software;
- communicate via email and electronic discussion boards;
- analyse and present data;
- manipulate and present images, video and audio; and
- create websites.

Table 2. The Involvement of Information Seeking and Using

Information Seeking Involves	Information Using Involves
❖ Seeking;	⬥ Analysing;
❖ Locating;	⬥ Synthesising;
❖ Selecting;	⬥ Creating;
❖ Evaluating;	⬥ Learning;
❖ Organising;	⬥ Problem solving;
❖ Managing information.	⬥ Decision making; and
❖	⬥ Critical thinking.

1.1.6. The Information Literacy Connection

Consortium of National and University Libaries [CONUL] has endorsed the widely accepted American Library Association (ALA) definition:

To be information literate an individual must recognise when information is needed and have the ability to locate, evaluate and use effectively the information needed. (ALA, 1989)

Information literacy is more than personal processes, skills and lifelong learning. It is also about using information for social responsibility. Bruce (1997a; 1997b) in her use of the phrase "the seven faces of information literacy" suggests a multi-faceted gem, each conception shining depending on how it is held up to the light: information technology; information sources; the information process; information control; knowledge
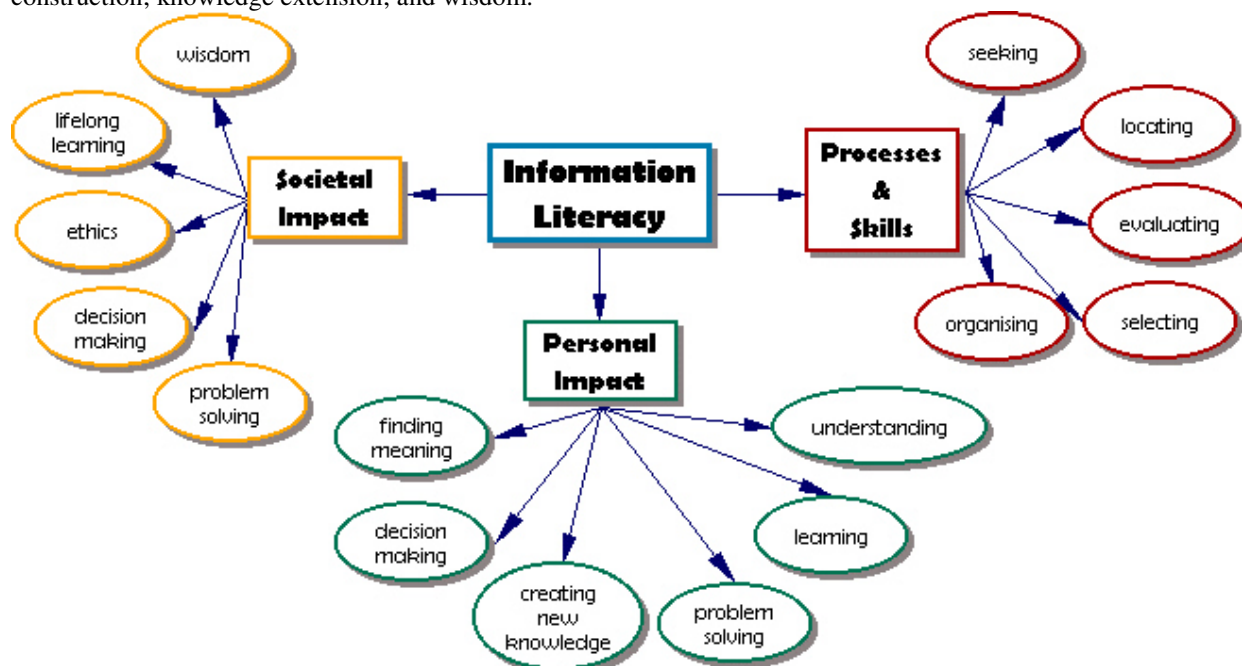
construction; knowledge extension; and wisdom.

Figure 2 The Varying Faces of Information Literacy

Source: Crebert, G., Patrick, C.-J., Cragnolini, V., Smith, C., Worsfold, K., & Webb, F. (2011). *Information Literacy Toolkit.*

Bruce, (2004) notes:

"It is the cumulative experience from a range of subjects and learning experiences that creates the information literate person."

Being information literate the author further states, requires one to

"engage in independent learning through constructing new meaning, understanding and knowledge; derive satisfaction and personal fulfillment from using information wisely; individually and collectively search for and use information for decision making and problem solving in order to address personal, professional and societal issues; and, demonstrate social responsibility through a commitment to lifelong learning and community participation."

Doyle,(1992) drawing on an expert panel provides the following list of attributes: An information literate person is one who:

• recognises the need for information
• recognises that accurate and complete information is the basis for intelligent decision making
• identifies potential sources of information
• develops successful search strategies
• accesses sources of information, including computer-based and other technologies
• evaluates information
• organises information for practical application
• integrates new information into an existing body of knowledge
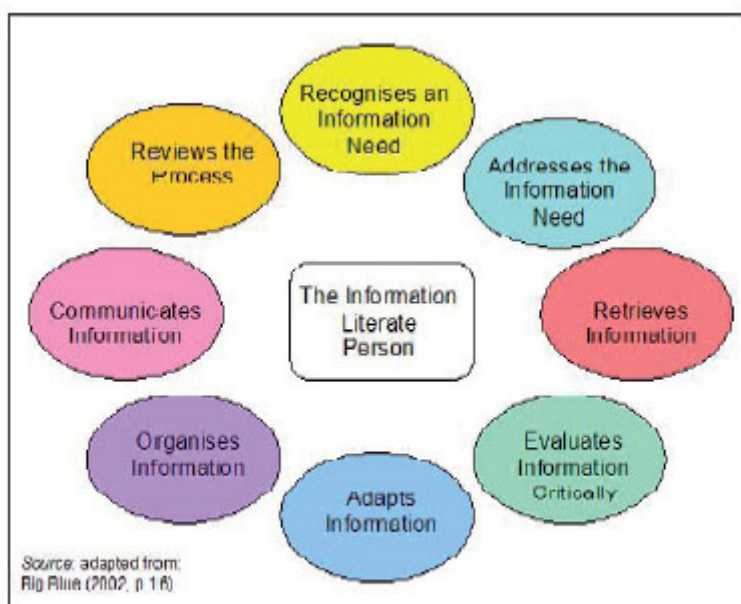• uses information in critical thinking and problem solving.

Figure 2
The Eight Key Skills That Make an Information Literate student

Figure 3

1.1.7. Characteristics of the 21st Century Learner and Teacher.

The 21st Century Learners/students are:

- collaborative
- adaptive
- information, media and technology savvy
- communicators
- immediate and instant
- require instant gratification
- creators and adaptor

But what about the 21st Century Teacher, what are the characteristics we would expect to see in a 21st Century Educator? We know they are student- centric, holistic, they are teaching about how to learn as much as teaching about the subject area. We know too, that they must be 21st Century learners as well. But teachers combine all the characteristics depicted in figure 5.
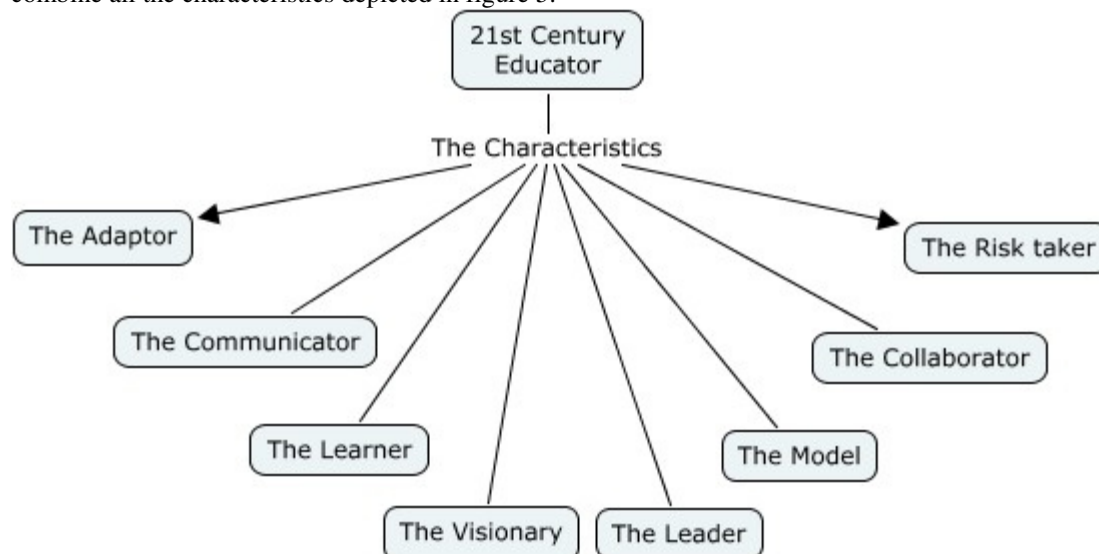

Figure 4. Source: 21st Century Teacher Retrieved from *edorigami.wikispaces.com/21st+Century+Teacher*

1.1.8. Today's Net Generation

Today's Net Generation are different from previous generations of learners who are headstrong in their belief that books and newspapers/magazines will always be in the traditional format- paper and in print. They get so

easily bored and constantly require something to titillate and keep them going (Lorenzo, 2007). The label "digital natives" (variously referred to as "Net-Geners," "Gen-Xers," and "millennials"), although now almost a cliché, describes the characteristics of a new generation of learners, capable of operating at "twitch speed" and able to multitask, imagine, and visualize while communicating in multiple modalities (Prensky, 2001). As a result teaching styles have to adapt to their ways to keep their interest level in order to remain relevant to our clients.

1.1.9. Teaching Information Literacy: Whose Job is it?

"Information literacy is common to all disciplines, to all learning environments, and to all levels of education. It enables learners to engage critically with content and extend their investigations, become more self-directed, and assume greater control over their own learning."

Like so many critical outcomes of higher learning, information literacy is everyone's business – but nobody's responsibility. Because information literacy is diffused throughout the curriculum, it can be difficult to identify where it is learned, who will teach it, how it will be sequenced for greater complexity, and how learning will be assessed. Here, the role of the librarian and teacher is both essential and fraught. It may be the very prodigious nature of information literacy that makes it hard to nail down. After all, what scholarly activity does not involve information literacy? It would be hard to find any academic library organization that does not believe promoting information literacy is a critical part of their mission, but it is a responsibility shared with faculty in the classroom in every major and across the entire curriculum. If we go by Melville Dewey's 1876 first ALA's declaration that *'the library is a school and the librarian is in the highest sense a teacher',* then we can quickly conclude that the said 'teacher' plays a key role in providing students with diverse opportunities to learn how to use information wisely. The nature of the emerging work of librarians all over the world as indicated by literature of the 1990s has enamoured and tilted them to be active in moving towards the concept of information literacy for their career. By using a variety of tools and technologies effectively and usefully, they try to make training programmes of library use and its resources practical with subject knowledge and expertise of clients. As a result they have since the mid-1980s provided consumer education programmes as "information literacy" instead of "library literacy". Therefore, librarians for some identifiable reasons as Agdasi, Baghbannezhad, Mafi, and Talebi,(2013) conclude are the most pertinent persons in teaching information literacy. Since the organization and dissemination of information are some of their main professional chores, they have during history received useful experiences of information sources, evaluating sources, organizing and disseminating information about the users, their needs and behaviours. As a result they are better placed to teach it. According to Johnston and Webber (2003):

In a conference discussion about who should be teaching information literacy, speakers questioned whether many academics actually were that good at (or interested in) teaching, and commented that academics "often do not have any information skills themselves and have little idea how to teach them.

The methods for delivery of IL content according to (Matthews, 2007) can often depend on student amenability because the present generations of students think they know more about accessing information and conducting library research than they are able to demonstrate when put to the test. Generally, students in higher education perceive themselves as competent users of information resources, having been born into technology. These as Macklin and Culp, (2008) opine, "can lead to students' disinterest in learning skills to improve their use of search engines and electronic research databases." Thus, the authors further contend that:

Educators who accept the challenge of teaching information literacy skills must be
prepared to: find a strategy to reach users who believe they are already proficient; make the
learning relevant to the users' needs, including using the technologies the students already
know to anchor the learning in something familiar; create learning opportunities to keep
the students on task; and assess the impact of instruction on learning outcomes.

To employ the best methods of delivering information literacy, a collective effort by faculty, educators, and libraries must exist. Focusing on a prescribed set of skills is not assessing the impact of instruction on actual use and behaviour in a library (Matthews, 2007). Because it is ultimately the job of the librarian to measure and share the impact of information literacy for students in the long-term, "librarians need to take a more proactive approach to market their unique expertise" and "constantly educate themselves and teach faculty about information literacy concepts, standards, learning outcomes and objectives" (Buck et al., 2006).

Information and Communications Technology with its burgeoning new technologies are deconstructing the stereotype of a librarian, educator and student from analogue to digital ways of doing things while also promoting information literacy education. A major part of a Librarian's job duties while responding to the need for information literacy, is the teaching of this skill to both the faculty and students, which manifests itself in a number of different ways. In the process students are taught how to evaluate information, how to think critically about information, how to reflect on their own strategies that they use, so that they improve their own information literacy. An information literacy based approach to learning will target equipping learners to be able

to read to learn, to read for information, to read to build knowledge and understanding. Librarians must develop one-on-one relationships with a wide variety of faculty teaching different subjects at different levels. These negotiations most frequently go on between a librarian and a willing faculty member who feels librarians can co-teach information literacy especially some of those critical skills.

2.0. Conclusion

Faculty and librarians in universities and other tertiary institutions are the new frontier trail guides. They can guide each other, and the learners they serve, past wastelands to fertile soil and reliable wells to sustain inquiry and cultivate deeper understanding in their fields of study. As they collaborate to promote information literacy, they can help each other, and the learners [students] they serve, to find the best way to bypass vast wastelands. With appropriate guidance and acquired skills, learners can find the most fertile soil, and the most reliable wells, to sustain inquiry and cultivate deeper understanding in their fields of study. Librarians are well placed to have a key role in information literacy programmes as tutors and teachers of both non-curricular and curricular papers as well as providing knowledge of and access to the world of information (not just the resources found in or through the library) and to apply high level evaluative skills to these resources. In this way librarians can certainly enhance the relevance of their profession but the main purpose is to communicate skills which they have developed already, to perform well professionally, and to offer services of excellence to their users. These professional skills have now become highly desirable life skills for library users and essential to both flexible learning and lifelong learning programmes. The general outlines of information skills as provided in this paper can be applied as a basic structure to many fields of knowledge to many levels of education and to many sites. Wooliscroft,(1997) opines that:

Librarians are not only openers of doors and gateways to information; we are not only navigators of the seas of information; we are not only choreographers of the dance of knowledge; explorers, scouts and pathfinders, but we are also key enablers, able to empower our users to become more self-sufficient in developing information gathering and evaluating skills which will assist others to be well resourced for changing life circumstances.

Information literacy has almost become a hackneyed phrase in the new frontiers of learning, but people of all ages need help in becoming information literate -- whether it is to find work or explore a new career path.

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