

Information Literacy among Jordanian Teachers: Case of Madaba

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Abstract

Over the past two decades Information Literacy emerged as a central focus for researchers. While "Information Literacy is conceivably the foundation of learning in our contemporary environment of continuous change" (Bruce, 2004. 9) teachers are the main pivots in teaching learning process in the Jordanian Ministry of Education in Jordan (MOE) trends in the last two years, because of the weakness of this process. This study aimed at determining Information Literacy (skills and standards) among Jordanian teachers in Madaba. The participants in this study are 302 Male/Female teachers. The researchers used a questionnaire developed by Mittermeyer and Quirion (2003) and Bani Abdelrahman, Jwaifell and El-Subhieen (2014) as a measurement tool to achieve their aim and objective. The results of this study pointed that information skills are not mastered by Madaba's Teachers in Jordan, while there are interaction between males and females teachers with school stages they belong to. Thus this study recommended better training sessions should be held to Madaba's teachers.

Keywords: Information Literacy, Skills and Standards, Teachers Training, Jordan

1. Introduction

Information Literacy, broadly defined as the ability to recognize, identify, evaluate and effectively use of information. It is related to information skills, which is defined as a term used to describe "the process of acquiring knowledge of attitudes towards and skills in information, as a major determinant of the way by which people exploit reality, develop, live, work and communicate in an information society" as Marais (1992) mentioned in Hepworth (1999, p2). The implications of Information essential for individuals and educational communities, where Teachers can make use of the internet to seek data available in data bases or any source available at the internet like educational websites, portals, wikis, podcasts, blogs and social networks in order of carrier development or make benefits for acquiring or seeking knowledge to make use of it in the learning and teaching process.

The Jordanian teachers in the Arab world are enforced to develop and enhance their abilities within service by the demands of their economic situation to be more competitive for career opportunities, though more salaries, beside their needs to publish their own researches papers. Teachers are still in need of more self steaming and independency in gaining what they are advocating for. They may find some difficulties when need to write a research a problem matter beside the use of search engines in finding the related articles or using the electronic library system, especially new teachers.

2. Information Literacy Competency Standards:

As The American Association for Higher Education (1999) endorsed five critical information literacy competency standards for higher education, which are related to determining, accessing, evaluating, using and understanding what surround information ethically, economically, legally and socially (American Library Association. 2006) the Australian and New Zealand Institute for Information Literacy (ANZIIL) endorsed six standards and examples for information literacy (Bundy. 2004) adding that an information literate person applies new information to construct new concepts or create good and better understanding.

In the schools communities, there are more employees who work in direct or indirect way to achieve the whole system goals, such as the librarians where the boundaries between information literacy and the academics will become more porous if the librarians continue to grow in self confidence as teachers, and can measure their contributions to the achievement of skills in South African higher education institutions for instance (Jager and Nassimbeni, 2005), where the American Association of School Librarians (AASL) and the Association of College and Research Libraries (ACRL) have developed national standards for information literacy skills at the school and college levels. (Breivik. 2005). Teachers are daily in need of the librarians; this point of view leads to a common understanding between the whole school communities of Information Literacy standards.

Information literate teachers should recognize and determine the need and extent of information, evaluate it with respect to its sources, classify, store, manipulate and redraft information collected or generated, and use information. Teachers according to Information Literacy standards need to create new knowledge, solve problems and make decisions, and understand economics, legal, social, political and cultural issues in the use of information.

Standards and competencies of Information Literacy can be divided into five themes, every theme includes variables reflected that theme:

- Concept Identification: include the significant words,
- Search Strategy: translation into keywords, Boolean operators, search indexes and controlled vocabulary,
- Document Types: encyclopedias, periodicals and scholarly,
- Search Tools: data bases, search engines, library catalogues, meta-search engine and catalogue, and
- Use of Results: read in citations, bibliographies, evaluation of information and ethical use of information.

3. Literature Review:

Information is beyond library's books shelves, it can be found in a soft copies form such as cell phones, websites, and many other shapes of knowledge like texts, sounds, videos, images, animations, charts and graphics, which requires skills to be obtained and mastered by teachers, while teachers have a training period when they committed to work as a teachers, the orientation training period advocated to learning and teaching process responsibilities only, not for acquiring information and research skills they need.

At the time students graduated from the universities in Jordan, most of them trying to work as a teacher in the Ministry of Education, thus, if they were trained will in universities it will be reflected upon their achievements and career developments as teachers. Information Literacy discussed at the higher education level which provides schools communities with teachers. Leckie and Fullerton (1999) discussed information literacy in science and engineering undergraduate education in point of faculty attitudes and pedagogical practices, where the findings showed one of the common faculty perceptions, which was that students who had not learned to do library-based research by their upper years were unmotivated, uninterested, or just poor students, while a fairly large proportion of faculty (39%) of the two Canadian universities would prefer that librarians assume primary responsibility for information literacy.

Most of the under graduated students are enrolled in paper research tasks, which needs more understanding in how to deal with information collected. Maughan (2001) investigated the literature and the university of California-Berkeley assessment experience at the light of assessing Information Literacy among undergraduates' students. Maughan survey about other studies of student library research skills, showed that the UC-Berkeley experience confirms that students continue to be confused by the elementary conventions for organizing and accessing information, and the most fundamental conclusion is that students think they know more about accessing information and conducting library research than they are able to demonstrate when put to the test.

Carr (1998, P. 4) conclusion "integrating of information literacy into teacher preparation and development has not occurred". While teachers needs skills to facilitate resources based learning (Doyle, 1992) and teacher knowledge and perception, and student knowledge and management of learning are related (Bruce, 2000) and it can be concluded that there is a need for an information literacy education program in schools (Bruce, 2004) to meet learning and teaching interaction, while information technologies are no longer a part of human life and life ling learning and development, though information can be accessed by those technologies, the need then still to have skills about using the internet and computers, even though, Information Literacy is becoming deeply into the Chinese education system, but it still will take a while to establish a viable information literacy education program in Chinese universities (Sun, 2002).

In the Arab world, beside Jordan as one of those countries, Information Literacy received some interest through the form of Information and Communication Technology (ICT) skills as a part of using new technologies such as the web and integrating those technologies in e-learning (Tuhairi, 2011), relationship between Information Technology (IT) and managerial development in the Jordanian public universities, the impact of IT on educational services quality in Jordanian universities (Hararsheh, 2009), the availability of ICT in schools and its use by teachers (Al-Anzi, 2010), the use of ICT in universities and the obstacles faced by faculty members (Al-Hassan, 2011) and effectiveness, employment, status and use of ICT on students' interaction and learning process (Aqila, 2001; Al-Homran, 2006; Al-Oqaili, 2013; AL-Omari, 2011 Saleh, 2011;; Al-Flaieh, 2012; Al-Shaqran, 2012; Melhim, 2012; Al-Borakati, 2012; Al-Nu'airi, 2012). Though, the focus is on educators, but if they already possess the skills and the faculty member has already accepted the idea of integration, the study would show lack of Information Technology skills and applications of e-learning.

The most recent research about Information Literacy in Jordan was conducted by the work of Bani Abdelrahman, Jwaifell and El-Subhieen (2014) where their study aimed at determining Information Literacy skills and standards among undergraduate's students in English Language at Al-Hussein Bin Talal University in Jordan. The study showed a lack of skills among the students.

4. Statement of the Problem:

This study was conducted under the claim that teachers in Madaba District have no skills to find, use and evaluate information. Therefore, this study is aimed at determining Madaba District Teachers' information literacy by answering the following questions:

Q1. Do Madaba District Teachers have skills and standards of Information Literacy in determining the nature and extent of the information needed?

Q2. Do Madaba District Teachers have skills and standards of Information Literacy in using effective and efficient search strategies?

Q3. Do Madaba District Teachers have skills and standards of Information Literacy in selecting the validated types of documents according to its sources?

Q4. Do Madaba District Teachers have skills and standards of Information Literacy in selecting the trusted search tools in information search?

Q5. Do Madaba District Teachers have skills and standards of Information Literacy in understanding economic, legal, and social issues in using information ethically and legally?

Q6- Do Madaba District Teachers have skills and standards of Information Literacy in overall?

Q7- Do Elementary and Secondary of school teachers in Madaba District differ on their acquisition of skills and standards of Information Literacy?

Q8- Do Males and Females of school teachers in Madaba District differ on their acquisition of skills and standards of Information Literacy?

Q9- Is there an interaction between Madaba District Teachers' gender and school stage regarding their skills and standards of Information Literacy acquisition?

One-sample T test used to answer questions 1 to 6, while Two-way ANOVA used to answer the questions 7 to 9.

5. Research Methodology:

The design of the study is a descriptive study, thus the researchers conducted the survey through a measurement tool as a mean of collecting data on the information literacy of teachers.

5.1 The Study Sample:

The sample of this study was taken out of 302 teachers in public schools in Madaba District in Jordan which reflect 20% of the population. The measurement tool was used as an achievement test conducted in group setting to all teachers. The researchers' main concern committed to measure the information literacy among the Madaba District Teachers in Jordan in order to understand the whole picture of their competencies and give recommendations to the administration of Ministry of Education in Jordan, teachers and Universities for better understanding when planning to the teachers training and Pre-service training.

Table (1): Teachers' Population and Sample Distribution

Schools	N	Population		Sum	Sample 20%		Sum
		Male	Female		Male	Female	
Elementary	42	216	401	617	43	81	124
Secondary	30	384	505	889	77	101	178
Total	72	600	906	1506	120	182	302

All the teachers possess the Bachelor degree and none of them hold a diploma.

5.2 The Measurement Tool:

Sense the Information Literacy Competency categories are not restricted to a nationality or race, but advocated to skills needed in seeking data the study developed and modified the questionnaire used by (Mittermeyer & Quirion, 2003) and (Bani Abdelrahman, Jwaifell and El-Subhieen, 2014) as a measurement tool of information literacy achievement test after transcribing its items into Arabic Language which reflects the information literacy competencies and standards, while analyzing the items content, it appears to the researchers and the 6 referees that those items does not have any cultural biases and commonly applicable to the Madaba District Teachers in Jordan as within middle eastern context. The Arabic version where validated by 6 referees of Al-Hussein Bin Talal University who hold PhDs in: Instructional Technology, Information Technology, Curriculum and Instruction, Education Foundation and one of them hold a PhD in Library and Information Sciences. The Reliability of the questionnaire where calculated using Pearson's Coefficient (test-retest) which where (.854) by applying the measurement tool on a 30 teachers out of the population but not from the sample of the study before the conduction of the study.

The items with multiple choices of the measurement tool are based on the information literacy competency standards for higher education which was published by the Association College and Research Libraries (ACRL). Those skills were linked to variables grouped under five themes as shown in the following

table (table 2). Items 17, 18, 19 and 20 have more than one correct answer, the themes scores converted to a percentage score equally.

Table (2): Questionnaire items distributed onto their variables and themes

Themes	Variables	Questions	Score	Full Mark	Mark Percentage	Crucial Score
Concept Identification	Significant Words	4,8 and 13	3	3	11%	5.5
Search Strategy	Translation into keywords, Boolean Operators, Search Indexes and Controlled Vocabulary	2, 9, 16, 11 and 12	5	5	18%	9.0
Document Types	Encyclopedias and Periodicals Scholarly	3 and 15 20	2 3	5	18%	9.0
Search Tools	Databases, Search Engines, Library Catalogues and Meta-search Engine Catalogue	1,6,7 and 14 17	4 2	6	21%	10.5
Use of Results	Read in Citations and Bibliographies Evaluation Information Ethical use of information	5 and 10 18 19	2 3 4	9	32%	16.0
Information Literacy		20	28	28	100%	50.0

6. Results:

To determine the information literacy and skills of Madaba District's teachers, the Means and Standard Deviations are calculated as shown in table (3):

Table (3): Means and Standard Deviations of the Sample Responses

Themes	School Stage	Gender						Total		
		Male			Female			No	Mean	SD
		No	Mean	SD	No	Mean	SD			
Concept Identification	Elementary	43	5.73	3.03	81	4.54	3.24	124	4.95	3.21
	Secondary	77	4.13	3.18	101	4.38	3.07	178	4.27	3.11
Total		120	4.70	3.21	182	4.45	3.14	302	4.55	3.16
Search Strategy	Elementary	43	8.89	3.93	81	6.61	4.27	124	7.40	4.28
	Secondary	77	7.28	3.73	101	9.55	4.08	178	8.57	4.08
Total		120	7.86	3.86	182	8.24	4.40	302	8.09	4.19
Document Types	Elementary	43	9.88	4.73	81	8.64	3.87	124	9.07	4.21
	Secondary	77	8.72	4.28	101	10.57	4.04	178	9.77	4.23
Total		120	9.13	4.46	182	9.71	4.07	302	9.48	4.23
Search Tools	Elementary	43	11.30	7.63	81	6.75	4.03	124	8.32	5.93
	Secondary	77	8.02	4.34	101	10.68	4.09	178	9.53	4.39
Total		120	9.20	5.92	182	8.93	4.50	302	9.04	5.11
Use of Results	Elementary	43	13.62	6.05	81	12.13	5.64	124	12.64	5.80
	Secondary	77	11.97	5.14	101	15.45	5.49	178	13.94	5.60
Total		120	12.56	5.52	182	13.97	5.78	302	13.41	5.71
Information Literacy	Elementary	43	49.42	11.84	81	38.67	7.98	124	42.40	10.77
	Secondary	77	40.12	9.41	101	50.64	10.65	178	46.09	11.37
Total		120	43.45	11.23	182	45.31	11.24	302	44.57	11.26

Out of Table (3) means differences are observed among Madaba District's teachers on the measurement tool.

6.1 Results of Questions 1 to 6:

Q1. Do Madaba District Teachers have skills and standards of Information Literacy in determining the nature and extent of the information needed?

Q2. Do Madaba District Teachers have skills and standards of Information Literacy in using effective and efficient search strategies?

Q3. Do Madaba District Teachers have skills and standards of Information Literacy in selecting the validated types of documents according to its sources?

Q4. Do Madaba District Teachers have skills and standards of Information Literacy in selecting the trusted search tools in information search?

Q5. Do Madaba District Teachers have skills and standards of Information Literacy in understanding economic, legal, and social issues in using information ethically and legally?

Q6- Do Madaba District Teachers have skills and standards of Information Literacy in overall?

To determine the information literacy and skills of Madaba District's teachers, One-sample T test used to answer questions 1 to 6 at the crucial score for each theme as shown in Table (4) which resemble the mid score of the Mark Percentage:

Table (4): Results of One-sample T test

Themes	Means	SD	DF	T	Sig	Crucial Score
Concept Identification	4.55	3.16	301	5.202	.000	5.5
Search Strategy	8.09	4.19		3.776	.000	9.0
Document Types	9.48	4.23		1.990	.047	9.0
Search Tools	9.04	5.11		4.986	.000	10.5
Use of Results	13.41	5.71		7.878	.000	16.0
Information Literacy	44.57	11.26		8.381	.000	50

On-sample T-test showed that all Madaba District's teachers do not have skills and standards of Information Literacy at $\alpha \leq .05$ in:

- Determining the nature and extent of the information needed,
- Using effective and efficient search strategies,
- Selecting the trusted search tools in information search,
- Understanding economic, legal, and social issues in using information ethically and legally, or
- Overall skills and standards acquisition.

Those results revealed that Madaba District's teachers are less likely have the under all standard of Information literacy, where only the theme of Document Types which refer to question 3: Do Madaba District Teachers have skills and standards of Information Literacy in selecting the validated types of documents according to its sources? It appears that the teachers likely have those skills and standards of Information Literacy ($M=9.48$, $SD=4.23$), as $T=1.990$, which is significant at the level of $\alpha \leq .05$.

6.2 Results of Questions 7 to 9:

Q7- Do Elementary and Secondary of school teachers in Madaba District differ on their acquisition of skills and standards of Information Literacy?

Q8- Do Males and Females of school teachers in Madaba District differ on their acquisition of skills and standards of Information Literacy?

Q9- Is there an interaction between Madaba District Teachers' gender and school stage regarding their skills and standards of Information Literacy acquisition?

To determine the differences among Teachers' School Stage and Gender in acquisition of skill and standards of Information Literacy, and interaction between Gender and School Stage, Two-way ANOVA used to answer the questions 7 to 9, as shown in Table (5):

Table (5): Results of Two-way ANOVA

Source	Sum of Squares	DF	Mean Square	F	Sig
School Stage	121.888	1	121.888	1.250	.264
Gender	.938	1	.938	.010	.922
School Stage * Gender	7732.087	1	7732.087	79.300	.000
Error	29056.441	298	96.505		
Total	36910.354	301			

Results of Two-way ANOVA as shown in Table (5), showed no significant differences at $\alpha \leq .05$ between both School Stage (Elementary & Secondary) and Gender, therefore Questions 7 & 8 can be answered:

Q7- Elementary and Secondary of school teachers in Madaba District are not differ on their acquisition of skills and standards of Information Literacy.

Q8- Males and Females of school teachers in Madaba District are not differ on their acquisition of skills and standards of Information Literacy.

For Question 9: There is significant at $\alpha \leq .05$ interaction between Madaba District Teachers' gender and school stage regarding their skills and standards of Information Literacy acquisition. Figure (1) showed the interaction:

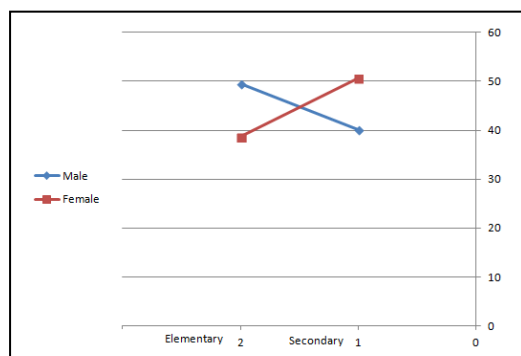


Figure 1. Interaction between Gender and School Stage

Corrected means and confidence interval of the lower bound and upper bound were calculated as shown in Table (6):

Table (6): Corrected Means

Gender	School Stage	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Male	Elementary	49.419	1.506	46.455	52.382
	Secondary	40.121	1.125	37.906	42.335
Female	Elementary	38.668	1.097	36.509	40.828
	Secondary	50.636	.983	48.703	52.270

Out of Table (6) it can be concluded that:

- Males in elementary schools (M=49.419, SD=1.506) are more likely have the skills and standards of Information Literacy than Males in secondary schools (M=40.121, SD=1.125) either Females in elementary schools (M=38.668, SD=1.097), at $\alpha \leq .05$.
- Males in secondary schools (M=40.121, SD=1.125) have the skills and standards of Information Literacy same likely as the Females in elementary schools (M=38.668, SD=1.097) at $\alpha \leq .05$.
- Males in elementary schools (M=49.419, SD=1.506) have the skills and standards of Information Literacy same likely as the Females in secondary schools (M=50.636, SD=.983) at $\alpha \leq .05$.
- Females in secondary schools (M=50.636, SD=.983) are more likely have the skills and standards of Information Literacy than Males in secondary schools (M=40.121, SD=1.125) either Females in elementary schools (M=38.668, SD=1.097), at $\alpha \leq .05$.

This result can be related to efforts that teachers in the elementary schools are trying hard to make for career development to be shifted from the elementary stage to the upper stage (secondary) for many benefits they can gain, such as high school tests committees where they can have more income and some of them may think of giving special lessons for high class students. When looking at secondary school female teachers, we found that they are already come to this stage after being distinct of their colleagues, while the females in the elementary schools are already employed after a period of time which can be years, and at that time they are married and have responsibilities, so they are not motivated enough.

7. Conclusion

In overall, the teachers in Madaba district in Jordan who can't identify the concept under search have no search strategy, have trust on what written at the Internet, can't use the results related to the topic or problem under search, and needs a lot of understanding of the legal issues. These results make us to believe that economic is very essential for teachers, where Jordanian Teachers Union in these days is demanding to improve the teachers' economic status. Teachers are involved in a heavy load of classes (24) per a week and they have no enough time for life learning or self improvement, there is a demand to policy makers, for more attention to teachers' needs and improvements.

8. Recommendations

Depending on the findings and the study results, the researchers' recommendations are:

- Setting a separated course or integrate Information Literacy into the curriculum at the higher education level.

- Setting training sessions for incoming teachers concerning Information Literacy by preparing hardcopy and digital copy of a brochure or by conducting workshops for them at the first year of employment.

References

- Al-Anzi, Rhaiel. (2010). The availability of information and communication technology in the intermediate stage school and its use by social studies' teachers in the province of Gurayat use of the teaching process. Unpublished thesis. Yarmouk University. Jordan.
- Al-Borakati, Khadeejah. (2012). The status of using information and communication technology in the teaching the developed science curriculum by the first middle grade teachers at Al-Quirat Schools. Unpublished thesis. Yarmouk University. Jordan.
- Al-Flaieih, Fahad. (2012). Employment of information and communications technology in classrooms of the intermediate school stage in the Kingdom of Saudi Arabia. Unpublished thesis. Yarmouk University. Jordan.
- Al-Hassan, Lyali. (2011). The use of information and communication technology at department of Sharia and Islamic Studies in Jordanian Universities and obstacles faced by their faculty members. Unpublished thesis. Yarmouk University. Jordan.
- Al-Homran, Mohammad. (2011). A field study for the current status of information and communication technology in discovery schools in Jordan. Unpublished thesis. University of Jordan. Jordan.
- Al-Nu'airi, Mohammad. (2012). The employment of information and communications technology in "My Immortal Language" curriculum for the first intermediate grade and the obstacles facing it use as perceived by teachers working in Qurayyat District in Saudi Arabia. Unpublished thesis. Yarmouk University. Jordan.
- Al-Omari, Islam. (2011). The effect of information and communication technology environment on the interaction of the ninth grade students at Irbid first directorate of Jordan. Unpublished thesis. Yarmouk University. Jordan.
- Al-oqaili, Majdoleen. (2013). The status of employing information technology in school administration from the principals and teachers. Unpublished thesis. Yarmouk University. Jordan.
- Aqila, Layla. (2001). Problems Associated with introducing information technology into Pre-university Education and means of confronting them. Unpublished thesis. Damascus University. Syria.
- Al-Shaqran, Abdullah. (2012). The degree of applying information and communicational technology by academic and administrative leaders at Jordanian Universities: Obstacles and suggested solutions. Unpublished thesis. Yarmouk University. Jordan.
- American Library Association (2006) "Information Literacy Competency Standards for Higher Education", September 1, 2006. <http://www.ala.org/acrl/standards/informationliteracycompetency> (Accessed April 26, 2013) Document ID: efeb57df-7090-e1d4-558f-d59c7537f9c7
- Bani Abdelrahman, Mahmoud., Jwaifell, Mustafa. And El-Subhieen, Eid. (2014). Information Literacy: Study of incoming first-year undergraduates students who major in English Language at Al-Hussein Bin Talal Yniversity. *Journal of Education and Practice*. Vol.5, No. 18. 152-167. Retrieved from: <http://www.iiste.org/Journals/index.php/JEP/article/view/13936/14088>
- Breivik, Patricia. (2005). 21st Century Learning and Information Literacy. *Change*, 37(2), 20-27. Retrieved from: <http://erl.acrl.org/content/60/1/9.full.pdf>.
- Bruce, Christine S. (2004) Information Literacy as a Catalyst for Educational Change. A Background Paper . In Danaher, Patrick Alan, Eds. *Proceedings "Lifelong Learning: Whose responsibility and what is your contribution?"*, the 3rd International Lifelong Learning Conference, pages pp. 8-19, Yeppoon, Queensland. <http://eprints.qut.edu.au>
- Bruce, Christine S. (2000) Information literacy research: dimensions of the emerging collective consciousness. *Australian Academic and Research Libraries (AARL)*, 31(2), pp. 91-109. <http://eprints.qut.edu.au/46274/>
- Bundy, Alan. (2004). Australian and New Zealand Information Literacy Framework: principles, standards and practice. Second edition. <http://www.library.unisa.edu.au/learn/infolit/Infolit-2nd-edition.pdf>
- Doyle, C. (1992). Outcome measures for information literacy within the national education goals of 1990: Final report to national forum on information literacy: Summary of findings. (ERIC Document Reproduction Service No.: ED351033). Retrieved from: <http://files.eric.ed.gov/fulltext/ED351033.pdf>.
- Carr, Jo. Ann. (1998). Information literacy and teacher education. *ERIC Digest*. New York: ERIC Clearinghouse on Information Resources. Retrieved from: <http://files.eric.ed.gov/fulltext/ED424231.pdf>.
- Hepworth, Mark. (1999) 'A study of undergraduate information literacy and skills: the inclusion of information literacy and skills in the undergraduate curriculum'. *Proceedings of the 65th IFLA Council and General Conference, Bangkok, Thailand, August 20-August 28, 1999*. Available at: <http://www.ifla.org/IV/ifla65/papers/107-124e.htm>. (Accessed 1 May 2013).
- Jager, Karin De and Nassimbeni, Mary. (2005). Information Literacy and Quality Assurance in South African Higher Education Insitutions. *International Journal of Libraries and Information Services (Libri)*, 2005, vol. 55, pp. 31-38. <http://www.librijournal.org/pdf/2005-1pp31-38.pdf>

- Leckie, Gloria J. and Anne Fullerton. 1999. Information literacy in science and engineering undergraduate education: faculty attitudes and pedagogical practices. *College & Research Libraries* 60:1 (Jan.): 9.30. retrieved from: <http://crl.acrl.org/content/60/1/9.full.pdf>.
- Maughan, Patricia. Davitt. (2001). Assessing information literacy among undergraduates: A discussion of the literature and the University of California-Berkeley assessment experience. *College & Research Libraries*, 62, 71–85. Retrieved from: <http://crl.acrl.org/content/62/1/71.full.pdf>.
- Melhim, Murad. (2012). The status of teacher's use of information and communication technology in the educational process at Al-koura District from their perceptions. Unpublished thesis. Yarmouk University. Jordan.
- Mittermeyer, D. & Quirion, D. (2003). Information literacy: study of incoming first-year undergraduates in Quebec. Canada, CREPUQ. Retrieved March 12, 2013: www.crepuq.qc.ca/documents/bibl/formation/studies_Ang.pdf.
- Saleh, Mreiwan. (2011). The status of information and communication technology in the teaching process in the colleges of education at Sulaimani University as perceived by faculty members. Unpublished thesis. Yarmouk University. Jordan.
- Sun, Ping. (2003). Information Literacy in Chinese Higher Education. *LIBRARY TRENDS*, Vol. 51, No. 2, Fall 2002, pp. 210–217. <http://cdigital.uv.mx/bitstream/123456789/6047/1/Information.pdf>
- Tuhairi, Wafa. (2011). The reality of having faculty members to use information technology skills, to accept the idea of integrating e-learning at the University of M'sila . Unpublished Master thesis. Hadj-Lakhader-Batna University. Algeria.

Appendix A: English Questionnaire

Dear Teacher: This measurement tool covers a variety of topics pertaining to information seeking when you work on a study or seeking knowledge. The goal of this measurement tool is to help us spot the light on your information literacy skills in order to give recommendations to the administration and your supervisors in the Ministry of Education for better understanding when responding better to your needs.

Your responses are anonymous and it is important to answer all questions without consulting anyone else. If you don't know the answer, circle "Don't know".

For questions 1 to 16, circle only one

1) If I want to find journal articles about "The popularity of video games", I will search in:

- a) The library catalogue b) A database c) Yahoo or Google
d) The journals in the library e) Don't know

2) You have used the words "business letters" in a library catalogue search. No document is found by the computer. What do you conclude?

- a) The library does not have any documents on this topic b) I have not used the right words
c) All documents on this topic are already on loan d) The system is down
e) Don't know

3) In order to become familiar with a subject about which I know very little, first I consult:

- a) A journal b) An encyclopedia c) A database d) A book e) Don't know

4) You must use a psychology database to find information on "The effect of family relations on the academic results of primary school students". Which combination of words will you use?

- a) family relations, academic results, primary school b) family relations, academic results
c) effect, family relations, academic results d) effect, family relations, academic results, primary school
e) Don't know

5) Which one of the following citations refers to a journal article?

- a) Miller, A.W. (1997). *Clinical disorders and stressful life events*. Madison, CT, International University Press.
b) Anderson, K.H. (1999). "Ethical dilemmas and radioactive waste: A survey of the issues." *Environmental Ethics*, 2(3):37-42.
c) Hartley, J.T. & D.A. Walsh. (2000). "Contemporary issues and new directions in adult development of learning and memory", in L.W. Poon (ed.), *Aging in the 1980s: Psychological issues*, Washington, D.C., American Psychological Association, pp. 239-252.
d) Maccoby, E.E. & J. Martin. (1983). "Socialization in the context of the family: Parent-child interaction", in P.H. Mussen (ed.), *Child psychology: Socialization personality, and social development*. New York, Wiley, vol. 4, pp. 1-101.
e) Don't know

6) Using a search engine such as Google or Yahoo, I would not find:

- a) The books available in the library b) Biographical information about famous people
c) Merchandise catalogues
d) Information about companies
e) Don't know

7) A colleague told me that I should read an article published in the November 2001 issue of Internet Guide, "The Microsoft Xbox Console", by Mark Kenney. To check the availability of this article at the library, I search in the catalogue under:

- a) Internet Guide b) Mark Kenney c) The Microsoft Xbox Console
d) Answers (a), (b), and (c) are correct e) Don't know

8) Using a search engine such as Yahoo to search for documents on "The depletion of the ozone layer and the impact on health", I use the words:

- a) impact, depletion, ozone layer, health b) ozone layer, health
c) ozone layer d) skin cancer, ozone layer e) Don't know

9) In order to find more documents on my topic I can include synonyms in my search statement. To connect those synonyms in my statement, I use:

- a) AND b) + c) NOT d) OR e) Don't know

10) You have found a book that is right on your topic. Which section of the book will you consult to find other documents on the topic?

- a) The glossary b) The index c) The bibliography d) The table of contents e) Don't know

11) To find all the documents about Margaret Atwood in the library catalogue, I would do a search:

- a) By title b) By publisher c) By subject d) By author e) Don't know

12) When searching a specialized database for documents on my subject, it is recommended to use the terminology specific to the database. To identify these terms I would consult:

a) An ideogram b) A dictionary c) A thesaurus d) An Internet search engine e) Don't know

13) You must make an oral presentation on the topic “Measures currently used across the country to decrease the damage to the natural environment”. Among the following choices, which one describes best the ideas contained in your subject?

- a) Damage to the natural environment, Canada
- b) Measures currently used, environment, country
- c) Damage, environment, measures currently used
- d) Protective measures, environment, Canada
- e) Don't know

14) Using a meta-search engine such as Copernic and MetaCrawler, it is possible to:

- a) Launch a search in many search engines simultaneously
- b) Execute a search in all the existing Web sites
- c) Extend the search into foreign language Web sites
- d) Execute the search in all the databases available in the library
- e) Don't know

15) To find the most recent information about drug abuse, I consult:

- a) A book
- b) A journal
- c) An encyclopedia
- d) A dictionary
- e) Don't know

16) You have to write a paper on the “Treatment of depression”. Which search strategy will find the least number of documents?

- a) Depression and psychotherapy
- b) Depression or psychotherapy or antidepressants
- c) Depression and psychotherapy and antidepressants
- d) Depression
- e) Don't know

For questions 17 to 20, you may circle more than one answer.

17) Some of the items that can be found in the library catalogue include:

- a) All the titles of the books available in the library
- b) All the titles of the books available on the market
- c) All the titles of articles found in the journals available in the library
- d) All the titles of journals available in the library
- e) None of the above
- f) Don't know

18) Among the characteristics that are used to evaluate the quality of an Internet site one finds:

- a) The date of publication is provided
- b) The author is known in the field
- c) Responsibility for the site is clearly indicated
- d) The site is rapidly accessible
- e) None of the above
- f) Don't know

19) You found magazine articles and Web pages presenting different views on a current issue. You want to use this information to write your paper. In which case(s) do you need to include a reference to the source of information?

- a) When I copy word for word a paragraph from a magazine article
- b) When I copy word for word a paragraph from a Web page
- c) When I write in my own words what is being said in a magazine article
- d) When I write in my own words what is being said in a Web page
- e) In none of the above cases
- f) Don't know

20) Which of the following best describe(s) articles published in a scholarly journal?

- a) The information is written for the layperson
- b) It includes a list of references
- c) The research method used is described
- d) It has been evaluated by an editorial board before publication
- e) None of the above
- f) Don't know

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