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The Information Literacy Model of Faculty Members: A Case of Amin University

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Abstract

Information literacy is a set of capabilities that requires individuals to know when they need information and the ability to locate, evaluate and effectively use the information they need. Informational literacy in the true sense can contribute to the empowerment of researchers in different academic fields. This research has been conducted to investigate the status of information literacy skills of the faculty members of Amin University. A survey method used to collecting data. The research population includes all the faculty members of Amin University. The data were collected through the American Information Literacy Questionnaire and a researcher-made questionnaire. The results showed that, in terms of "identifying information needs" with an average of 3.37, "effective and efficient access to information" with an average of 3.70, "evaluation of information and information channels" with an average of 3.18, "the effective use of information" with an average of 3.69, "observance of legal issues of information and citation practices" with an average of 3.94 are relatively favorable. In general, the information literacy of subjects under study was evaluated as higher than the optimal level with a mean percentage of 74.32 and a mean score of 3.71 out of 4. Therefore, it can be concluded that by presenting educational and research workshops, the inclusion of an information literacy course (theoretical and practical) at the top of the standards of skills and training of faculty members of the university, a great step would be taken in improving their information literacy.

Keywords: Literacy, Information Literacy, Information Need, Information Access, Information Evaluation, Information Channels, Information Use, Information Legal Issues, Referencing Styles, Amin University.

Introduction

Regarding information, different skills are requirements for the third millennium. Hence the cutting - edge information & communication technologies (ICTs) have an influence on information ecology and training. The constantly changing ICTs requiring individuals' new skills to deeply understand, recognize, locate, use, and analyze information needs. The new ICTs alongside new skills have dramatically transformed the routes of access to information. Consequently, familiarity with ICTs and crucial skills are a must. In this regard, a new kind of

skill is introduced as "Information Literacy" (IL). Chronologically the term coined by Zurkowski (1974) and was welcomed by libraries and pioneered organizations (AASL/AECT, 1998; ACRL, 2008; Garner, 2006). He also coined "information literate" and defined it as individuals who learned the techniques and skills necessary to utilize a wide range of information tools and the primary sources to solve their problems regarding information. He found that information literates have a much better ability to use information. IL enables individuals "to identify, locate, evaluate, and use information effectively" (Garner, 2006, 9) to produce new information through bridging current and old information. It is noteworthy that we are confronted with pool of knowledge and information needs drive us to have the capacity to obtain information literacy skills (ILS). Therefore, IL is the core of the learning community in the 21st century and the skills of access to information and its effective use are a fundamental principle of social life and professional career. Consequently, information excellence is one of the top priorities of each individual. To get the full benefit, this plan should be viewed as a long-term investment. It is necessary to recognize the need for information, the right information resources, the ability and skill to access them known as IL. Since faculty members of universities are considered as one of the most important users of academic libraries as well as users of information networks, it is necessary to pay particular attention to their ILS. They as intellectual capital and potential researchers should very well-equipped for ILS to develop efficient human resources as well as their career skills. ILS strongly depend on ICTs. It is boosted by the widespread use of Web 2.0. Researchers' skills and abilities in research are interwoven per se with technological innovations that foster IL among researchers (Exner, 2014). It is perceived that IL skills are dominant issues for researchers' to meet their information needs in changing environment (Koltay, Špiranec and Karvalics, 2016). Therefore, information acquiring, organizing, maintaining, and retrieving which are known as personal information management (Jones, 2007 quoted in Koltay, Špiranec and Karvalics, 2016) play a crucial role in research practice. To this end, IL education and framework are indispensable for researchers (ACRL, 2015). Since education is information-centered practice (Eisenberg, 2008), all researchers, faculty members, and students are expected to gain IL education. Hence, successful teaching and learning heavily rely on IL (Špiranec & Banek Zorica, 2010). IL education is crucial for all researchers including Iranian researchers in information era and the main issue of this research is to answer the basic question: What is the status of IL skills of the faculty members of the Amin University? Considering the main research question, the objectives of the study is to recognize the IL model in Amin University. To this end, we investigated the faculty members' ability in:

1. skill for identifying information needs
2. effective and efficient skills for accessing to information
3. information evaluation skills and information channels
4. skills of effective use of information
5. skill to observe legal issues of information and referencing styles

Review of Literature

Information literacy is welcomed by those who are involved in accessing information in respect to their professional careers. Higher education institutions depend strongly on IL in the education and research activities (Lokse, Låg, Solberg, Andreassen & Stenersen, 2017). IL in education systems is important for both faculty members and students (pinto, 2015). Thus, HE

institutions achievements in IL is important. In this regard, the curriculum of HE institutions is concern about IL (Yousef, 2010). According to faculty members attitudes', IL is important but "which skills are most necessary" (Cowan & Eva, 167). Some faculties believe that they were used to implementing IL in the coursework (Cope and Sanabria, 2014). This is evidence that such practices improve teaching and learning in relation to faculties and students, respectively. Consequently, information literacy programs necessitate for making faculty members more information literate (Radar, 2004). An information literate faculty will doubtless influence over learning environment (Smith, 1997). In this regard reskilling of scholarly communication stakeholders especially librarians (Christensen-Dalsgaard, et al., 2012) and researchers is important. Since scholarly communication is driven by new information and communication technologies shift in previous skills in IL are required considering web 2.0 and research 2.0 (Koltay, Špiranec & Karvalics). It is noteworthy that researchers and librarians in academic libraries instead of resisting, welcome new technologies and involve new skills and abilities (Weller, 2001) regarding IL.

In the field of information literacy, several research projects have been conducted and also translated in Iran. First published article in the field of information literacy is a translation of based on Ford's (1995) work. Ford discusses topics related to information literacy in relation to librarians, libraries and information technologies, information literacy training and its importance, and global activities on Information literacy. In 1996, Khosravi published the first article on Information Literacy with focus on schools. He addressed the educational status of information literacy in schools and the importance of the role of school libraries in the emergence of information literacy. Two years later, Taghavi (1998) investigated information literacy, computer literacy, factors influencing information literacy growth, and global activities related to information literacy development. The themes that we read in the studies of the 2000s. Articles that have applied approach to information literacy. Among the articles in this group are the works of Hafizi & Bakhtiari (2004) and Jokar and Ismailpour (2009). The review of information literacy training and development programs is also discussed in Oberg (2006). Of course, the studies rely on library instruction or information skills, though they are all information literacy titles. Other applied works of this period include articles by Henri, Hay & Oberg (2002) and Clyde (2005). The latter which explores the needs for librarians with knowledge and skills related to user education and information literacy, using the content analysis method, is a valuable work. A number of articles report on information literacy actions and programs implemented in different countries. Among these are the work of Rader (2004) and Norouzi Chakoli (2004). Rader outlines information literacy activities, programs, and research in different continents that result from individual observations and literature reviews; Nowruz Chuckley also illustrates information literacy programs across different continents, while referring to some of the roles of information literacy in enhancing democracy and development. Undoubtedly, the importance of information literacy for those who are covered by distance education is no less important than those who are trained in traditional education. This issue has been the focus of Sacchanand's (2002) and Sharifmoghadam's (2004) researches. Research findings by Hashemi, Hemmati and Abbasi (2012) showed that the information literacy status of faculty members is at medium level in ICCS index and in ICDL index is above medium level. Also, the level of knowledge and skills of faculty members in using databases is lower than average. The observed trend in the content of dissertations is also evident in research projects in this area. The first project was implemented by Parirokh & Moghaddaszadeh (1999).

In this project, the status of information literacy in postgraduate students has been reviewed. Montazar, Nasirisaleh & Fathian (2002) examined the status quo of information literacy of the trainers and officials of the country's technical and vocational training centers. In 2004, the two projects of Parirokh (2004) and Nazari & Alidousti (2004) also went the same way. The study of Khodajoy (2002), entitled as "the study of the use of the Internet network and its impact on scientific and research activities of faculty members of the Agricultural Jihad Institute of Higher Education", showed that more than 85% of the statistical population use the Internet.

Overall, the results of the surveys show that the information literacy skills of our academic community are not in a good position. In the information age, people need to be equipped with information literacy tools to be able to retrieve relevant and different types of information. To use information effectively, academics and students must be equipped with information literacy. In 2000, ACRL published Information Literacy Standards for Higher Education. These standards comprise five main sections, each with the necessary indicators and expected outputs. The elements in these standards can provide a good theoretical framework for curriculum administrators. These elements can be incorporated in different ways of different levels of curricula. Another point to consider is the comparison of our research with other restudies in the field of information literacy; in the majority of studies conducted in the field of information literacy, too much attention is paid to IT skills in the information literacy skills set; It seems that most of the researchers and authors of this field have not paid much attention to critical thinking as an infrastructure for informational literacy and a requirement to become information literate. This problem has been largely addressed in our research by raising various questions.

Methods and Materials

This study aimed to investigate IL among faculty members at APU. To this end, we used the entire population to collect the detailed data about faculty opinion on IL (the census method is applied) via questionnaire. The population consists ----- individuals. The questionnaire distributed to a wide audience and a total of 200 complete responses were received from faculties of disciplines and expertise. After checking and controlling the final questionnaires, 150 questionnaires were available and used for data analyzing. The questionnaire designed based on American Information Literacy Standards and conformed to APU faculty members. The questions consist of 5 skills as follows:

a. skill for identifying information needs (Q 1-7)
b. effective and efficient skills for accessing to information (Q 8-13)
c. information evaluation skills and information channels (Q 14-19)
d. skills of effective use of information (Q 20 to 23)
e. skill to observe legal issues of information and referencing styles (Q 24 to 27)

We achieved the content validity of the questionnaire by experts on the research subject i.e. library and information science. In addition, the faculty members of the communications sciences, sociology of communication, and ICT professionals were included. In order to make the questionnaire suitable, and for internal consistency of the questions or variables of the questionnaire, a preliminary study has been done. Therefore, after designing the first questionnaire and before distributing the final version, 20 questionnaires were submitted to a group of sample population (preliminary test). Reliability analysis performed to run Cronbach's alpha using SPSS. The α coefficient was high (0.96) and showed the items have shared

covariance and probably measure the same underlying concept with excellent internal consistency. The breakdowns are in table 1.

Table 1
Cronbach's alpha coefficient of research items

Items	Cronbach's alpha	Total
skill for identifying information needs	0.86	0.96
effective and efficient skills for accessing to information	0.75	
information evaluation skills and information channels	0.90	
skills of effective use of information	0.83	
skill to observe legal issues of information and referencing styles	0.96	

Results

This research is based on the conceptual model of information literacy skills of faculty members of AU. The variables were measured using the focal groups and received expert opinions and recommendations. The factors and indicators introduced to measure the variables of the proposed model in the research are utilized through Structural Equation Modeling (SEM) and Confirmatory Factor Analysis (CFA) using Smart PLS 2.0 software. Table 2 shows model variables identification.

Table 2
Model variables identification

Variables	codes	Qs
IL skills	ILS	
identifying information needs	M_1	1-7
Information access	M_2	8-13
Information and information channels evaluation	M_3	14-19
effective use of information	M_4	20-23
legal issues of information and referencing styles	M_5	24-27

To measure reliability, the composite reliability (CR> 0.7) and Cronbach's alpha (Alpha> 0.7) are used. If the coefficients are appropriate, we conclude that the research questionnaire is reliable. The Average Variance Extracted (AVE) is used to determine the convergent validity. Using this coefficients, questions with a factor loading of less than 0.4 are not considered as a cut-off for acceptable loadings, so the AVE reaches greater than 0.4 (Adcok & Collier, 2001). Since the Cronbach's alpha coefficients for all variables are above 0.7, reliability is confirmed (Table 3). With regard to the convergent validity of the research, whatever this value is greater than 0.5, the validity of the research is greater. Based on table 3 AVEs are greater than 0.4, therefore the validity of the skills is appropriate. On the other hand, all composite reliabilities are higher than 0.7, the reliability of all aspects of the research is appropriate.

Table 3
Cronbach's alpha coefficients, AVE, and total convergence

Variables	Cronbach's alpha	AVE	coefficient of determination	redundancy	CR>0.7
IL skills	0.96	0.51	-	-	0.96
identifying information needs	0.86	0.54	0.97	0.52	0.89
Information access	0.75	0.48	0.90	0.42	0.83
Information and information channels evaluation	0.90	0.68	0.72	0.48	0.93
effective use of information	0.83	0.70	0.83	0.55	0.90
legal issues of information and referencing styles	0.96	0.89	0.67	0.60	0.97

In the following, the factor loading of each of the research factors and indicators is investigated. The results of CFA and the T-statistic in expressing the influence of the components and indicators of the AU IL skills model are shown in table 4.

Table 4
Factor loading and T statistic, related to model components and indicators

	Q	Factor Loading	T-Statistics
identifying information needs	familiarity with the Information Center and the central library of the university and the control of information resources	0.71	5.17
	participate in work discussions to determine the subject of research	0.75	5.75
	use of scientific societies to determine the subject of research	0.84	2.19
	availability of the required information in university resources	0.59	1.67
	consult with managers and professors to determine the subject of the research	0.74	2.28
	define key concepts and terms in describing the information needs	0.79	1.76
	identification of information resources at university	0.69	2.25
Information access	use a targeted method with a timetable to achieve the required information	0.12	1.87
	identify the appropriate data gathering	0.62	4.1
	choosing an effective and efficient way of data gathering or information retrieval systems	0.90	2.11
	repeatedly asking for information with new strategies after a negative result	0.61	2.61
	recognizing cited sources	0.81	2.25
	researcher's awareness of the correct way of referencing to print and electronic resources	0.83	1.72
Information and information channels evaluation	Selection of the main idea of the sources	0.67	2.14
	Determine validity and accuracy of content	0.76	1.74
	Integration of new and old information and knowledge	0.96	1.80
	Use scientific discussions, interviews and ... to get expert views	0.96	1.62
	Organize information in the form of the syllabus, drafts and ... to fulfill the purpose	0.76	1.87
	The extent to which computers and other technologies are used to study the interaction of ideas and other phenomena	0.79	1.77

effective use of information	Provide a daily notes of information search and transfer processes	0.58	2.47
	Thinking about information search success and failure and new search strategies	0.85	10.06
	Implementation of IT applications to disseminate the results of the research	0.95	61.21
	Use of information resources to achieve required information	0.91	21.49
legal issues of information and referencing	familiarity with security issues in print and electronic environments	0.94	22.71
	Use password for legitimate access to information sources	0.95	26.13
	Compliance with regulations on how to access information resources	0.97	64.26
	Compliance with legal issues of information and referencing	0.92	18.49

T value with significant level (5%) for all factors are close to or above 1.96, and the factor loading is greater than 0.4 (in this research the factor loading is considered 0.4); Therefore, the variance between the structure and its indices are greater than the variance of the measurement error of that structure and the reliability of that model is acceptable. In this case all the factors and indices in the AU IL skills model are effective. In other words, the connection between all the factors and components of the model is confirmed. The following formula is used to measure the goodness of fit (GOF) model in the Smart PLS tool:

$$GOF = \sqrt{\overline{Communality} \times \overline{R}^2}$$

If the GOF value is greater than 0.36, then it can be said that the model is generally meaningful and acceptable. GOF indicates that, based on the data, the relationships between the variables are appropriate and desirable, and the closer they are to 1, indicating the greater desirability of the model (Table 5).

Table 5
Values of R square and communality of the information literacy skills model

Variables	Communality	R Square
IL skills	0.51	-
identifying information needs	0.54	0.97
Information access	0.48	0.90
Information and information channels evaluation	0.68	0.72
effective use of information	0.70	0.83
legal issues of information and referencing styles	0.89	0.67

Communalities= 0.63 R square= 0.82 GOF=0.72

Given the fact that the GOF value is equal to 0.720, the model of AU IL in general, is fit of observations. The results of CFA and the T statistics in expressing the influence of the components and indicators of other dimensions of the model are as follows.

Model Estimation of AU IL skills

After expressing the conceptual model, the next step is to obtain the parameter estimates from a set of observed data. The main model of the research in the standardized estimate and the research model in a significant level are shown in figures 1 and 2, respectively. A model in

standardized estimate can estimate factor loading and path coefficients. Figure 1 shows which index can contribute to the measurement of its relative variables and which one contributes less. That is, the higher the factor loading, the greater the share of that variable in measuring its relative variables. Figure 2 interprets the research main model in a significant level of the coefficients (T-value). This model actually investigates all factor loadings and path coefficients using the T test. Chin (1998) states, for the significance of the relationship in the CFA, the absolute value of the factor load and the T statistic must be higher than 1.96 and 0.4, then it can be concluded that the relationship is significant.

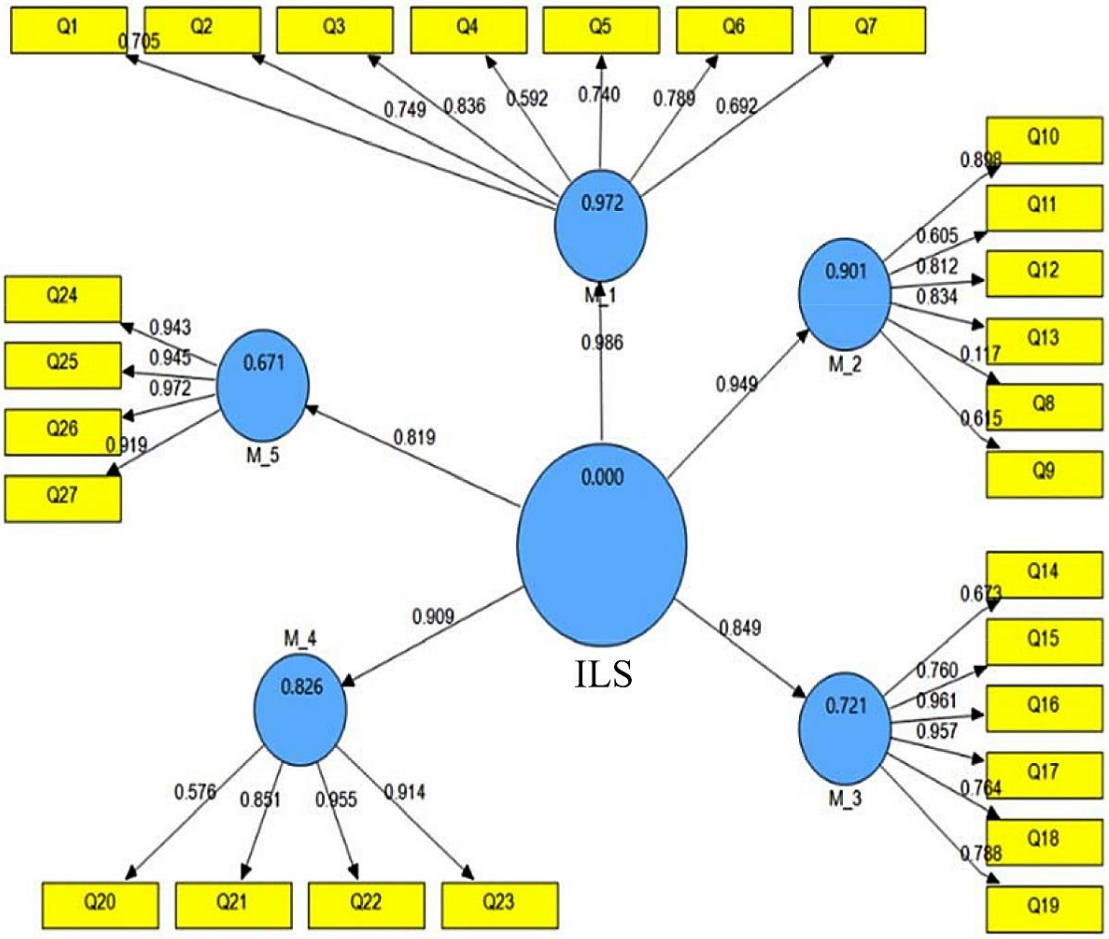

Figure 1: Model coefficients in standardized estimate

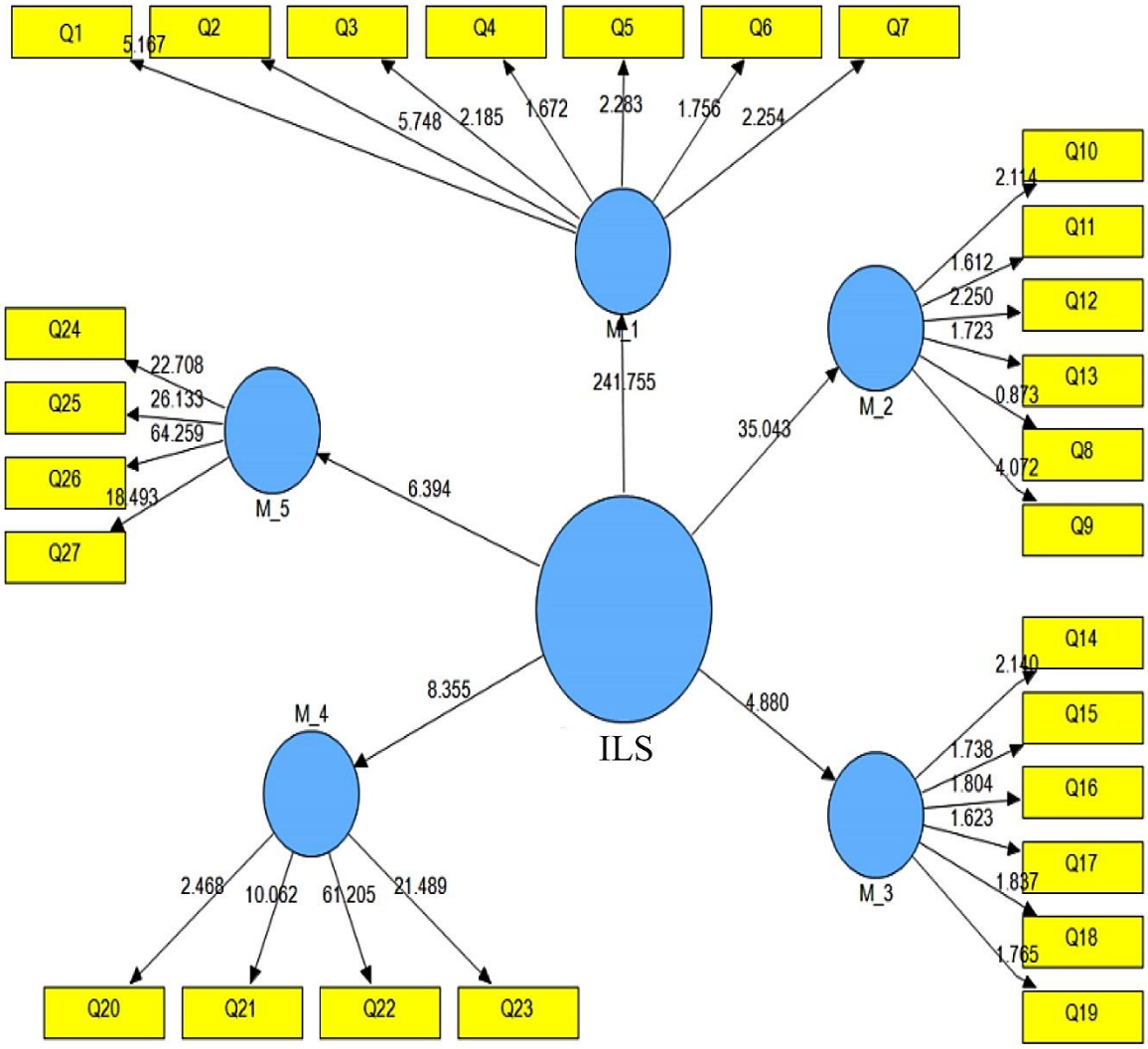

Figure 2: coefficients of the research model at significance level of the path coefficients (T-value)

Figure 2 interprets all the measurement equations (factor loadings) and structural equations (path coefficients) using T test. Regarding the coefficients of the research model in the standardized estimate as well as in the significant level, and the effects of variables on AU IL skills we conclude that:

- The significance coefficient between IL skills and the identification of information needs is 241.755. Since coefficient is higher than 1.96, the correlation is statistically significant. On the other hand, the path coefficient is positive, so the factor for identifying the need for information indicates the direct effect on IL skills positively. Therefore, the significance of the relationship between the two variables is confirmed by AU IL skills model.
- Significant coefficient between variables of information literacy skills and effective and efficient access to information is 35.043. Given that the absolute value of this coefficient should be higher than 1.96, it can be said that the relationships between the above variables are significant. On the other hand, calculated path coefficients are equal and positive, so it can be said that effective and efficient access to information positively affects information literacy skills variables. Therefore, the significant relationships between and effects of information literacy skills variables and effective and efficient access to information on the model of ILS of

faculty members of APU are proved.

- The significant coefficient between IL skills and the evaluation of information and information channels is 4.880. Because of coefficient (higher than 1.96), the correlation is statistically significant. Consequently, the factor of information evaluation and information channels has positive effect on IL skills. We conclude that there is statistically significant relationship between information evaluation and information channels and IL skills.
- The variables of IL skills and the effective use of information obtained coefficient as 8.355. The absolute value of coefficient is higher than 1.96, it shows that the relationship between the above variables is significant. Therefore the variable “effective use of information” has a significant effect on IL skills variable. We conclude that the positive relationship between these two groups in the AU IL model is confirmed.
- The significant coefficient between the variables of IL skills and the observance of legal issues of information and referencing style is 6.394. Given the absolute value of the coefficient (higher than 1.96), it can be said that the relationship between the above variables is significant. On the other hand, the coefficient of the measured path is positive. Therefore, the factor of observance of legal issues of information and referencing style influences the variables of IL skills positively. Accordingly, the significance of the relationship between IL skills and the observance of legal issues of information and referencing style on the model of AU IL is proved.

Discussion

Regarding the coefficient of determination and GOF (0.720), we conclude that the research model for the AU IL skills is appropriately fitted. Hence, it can be concluded that the average of the comments obtained from the subjects are valid. Given that the minimum and maximum grades are one to five. In the first variable, i.e., "Identification of information needs", the mean score and the standard deviation extracted were 3.37 and 0.682, respectively, in the second variable, i.e., "Effective and efficient access to information", the mean score and the standard deviation extracted were respectively 3.70 and 0.643, in the third variable, i.e., "Evaluation of information and information channels", the mean score and standard deviation extracted were 3.88 and 0.694, respectively, in the fourth variable, i.e., "Effective use of information", mean score and the standard deviation extracted were 3.69 and 0.836, respectively, and in the fifth variable, i.e., "observance of legal issues of information and citation methods", the mean scores and standard deviations extracted were 3.94 and 0.812, respectively. According to the average results obtained, the variable of "observing legal information and citation methods" with an average of 3.94 (good) was placed at the highest level and the variable of "identifying information needs" with an average of 3.37 (moderate) in the lowest rank (Table 6).

Table 6
Statistical indicators of information literacy skills

IL skills	Faculty (f)	Min	Max	Mean	SD	%	Level
identifying information needs	153	1	5	3.37	0.682	67.4	Moderate
Information access	153	1	5	3.70	0.643	74	Good
Information and information channels evaluation	152	1	5	3.88	0.694	77.6	Good
effective use of information	151	1	5	3.69	0.836	73.8	Good
legal issues of information and referencing styles	131	1	5	3.96	0.812	78.8	Good

More specifically, the mean scores in the five variables ranging from the highest to the lowest, respectively, are as follows:

1. The first variable: "Identification of information needs", the highest mean of 3.72 is related to the item of "consultation with the commanders and expert professors to determine the subject of the research (information needs)" and the lowest mean of 2.97 is related to the item of "familiarity with the Information Center and the Central Library of the University and the control of information resources".

2. The second variable: "Effective and efficient access to information" with the highest mean of 4.05 is related to the item of "Identification of valid information sources" and the lowest mean of 3.54 is related to the "use of a targeted and timely specified approach to achieve required information".

3. The third variable: "Evaluation of information and information channels" with the highest mean of 1.04 is related to the item of "use of computers and other technologies to study the interaction of ideas and other phenomena" and the lowest mean of 3.74 is related to the item of "use of scientific discussions, interviews etc. to reach expert views".

4. The fourth variable: "Effective use of information" with the highest mean of 4 is related to the item of "use of information resources to achieve the required mode of information" and the lowest mean of 3.37 is related to the "Preparation of the daily note of the search processes and information transfer".

5. The fifth variable: "observance of legal issues of information and citation methods" with the highest mean of 4.22 is related to the "choice of appropriate documentation and use of it in the reference" and the lowest mean of 3.62 is related to the item of "the degree of familiarity with security issues in print and electronic media".

Statistical results indicate that all items regarding IL skills are good except identifying information needs which is in moderate status. This finding shows that the score of AU IL skills is higher than Imam Ali's Officers' University (IAOU) (Abdi, 2011). Although it seems that their motivation and readiness to implement IL courses at IAOU due to the number of participants is higher than AU. In the field of information literacy, several research projects have been conducted in Iran. The observed trend in the content of dissertations is also evident in research projects in this area. The first project was implemented by Parirokh and Moghaddaszadeh (1999). In this project, the status of information literacy in postgraduate students has been reviewed. Montazar, Nasirisaleh and Fathian (2002) examined the status quo

of information literacy of the trainers and officials of the country's technical and vocational training centers. In 2004, the two projects of Parirokh (2004) and Nazari and Alidousti (2004) also went the same way. The study of Khodajoy (2002), entitled as "the study of the use of the Internet network and its impact on scientific and research activities of faculty members of the Agricultural Jihad Institute of Higher Education", showed that more than 85% of the statistical population use the Internet. The abovementioned project was somewhat in line with the results of our project because "familiarity with the techniques and techniques of searching scientific information on the Internet" in our samples was good. However, at the same time, our result was not in accordance with the results of Bakhtiyarzadeh's research (2002), in which the level of familiarity (their samples) with the World Wide Web and the rate of use of reference resources was 3.16 out of 6, which indicates a low level of information literacy. The results of the research by Keikha , Tahmatan & Mohammadi (2010), which examined the information literacy status of faculty members of Zabol University of Medical Sciences showed that the level of knowledge and utilization of the studied population from information sources is moderate and the result of the status of information literacy of the studied community is moderate and somehow closely related to the results of our assessment. The review of literatures uncovered the results of Sajedi & Isfandiari Moghadam (2012), which examined the information literacy of Ph.D. students and faculty members at the Qom University and Seminary Research Institute, considering subjects information literacy is very favorable and is in the line of our results.

Deficiencies in the information literacy and education system have been much in the news. This fact rooted in the faculty members' level and competency in search strategies to find relevant documents. A study by Rafique (2014) found that Information literacy skills of faculty members of the University of Lahore are poor which is in contrast to our findings. However, training in ILS is a matter of importance for faculty members even with high level of ILS thanks to digital information landscape (Bury, 2016). Despite the divergence in performance of faculty members regarding ILS, the impetus for change in skills has had to come from collaboration between researchers and academic librarians (Yevelson-Shorsher & Bronstein, 2018).

Conclusion

Workplace training focuses on faculty members' information literacy skills is crucial for the higher education sector in an information society. To this end, organized schedule to developing career skills is a requisite for lifelong learning. In this regard faculty members, students, and librarians familiarity with ILS finally have the capability to do the job properly. To enable researchers and students to search and find relevant documents necessitates IL courses include in universities' first-year curriculum. Despite our results and other studies that showed the skills of populations ranged in two extremes, it is necessary to improve the subjects' skills and competences in IL. New technologies and rapid technological changes and global scholarly communication are drivers of individual's ILS improvement. Two paradigms, i.e. computational and data-driven (Dovey, 2015) dominance in international collaboration considering researches witness to master ILS. Researchers need to upgrade their skills to search and find research findings in their respective fields. Consequently, if individuals are quite good at ILS but they need to practise to serve in higher education settings. According to the findings it is recommended that AU:

1. Provide more training and education for information literacy within the workplace

2. Promote and enhance conceptions as ILS being basically good.
3. Emphases on new information and communication technologies to share knowledge
4. Empower academics' abilities in identifying information needs, awareness of scientific and professional ethics, evaluating information needs, effective use of information

Workplaces are becoming diverse and complex. The new circumstances compel a change in ILS policy. Considering continuing academics' education at AU it requires a few adjustments such as utilize technology, self-motivation, the concept of lifelong learning as a driven of "knowledge society and the various social, economic, and educational changes (Kehm, 2001, p.5), focus ILS as an action-oriented concept of knowledge, consider ILS within the frameworks of university education. Within that context, the CAREER model (Candy, 2006) i.e. comprehensive, anticipatory, research-based, exemplary, embedded and reflective, is suggested for effective programme of teachers and learners development in AU workplace.

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