Informatıon Literacy across the university and workplace reality

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Abstract. This paper reveals the results of the "Informatıon Literacy across the university and workplace reality" survey. This study revealed which are the most needed information skills for the faculty at the workplace. The questionnaire was addressed to Masters students from two universities in Romania and Moldova, who have a job or have their own business. The results of this study will be taken into account in the improvement of the discipline of Information Literacy and Project Management. The survey targeted a pool of 66 individuals from Transilvania University from Brasov and 53 individuals from the Academy of Economic Studies of Moldova. This study utilized the questionnaire survey method as a research tool, using SurveyMonkey online.

Keywords: Information Literacy, university, work place, Romania, Moldova

1 Introduction

Information Literacy (IL) standards have been defined by many researchers in different ways, covering skills and knowledge that enable individuals to recognize their information needs, and to locate, evaluate and use the needed information, at the same time filtering out the unwanted information. To some extent it also covers the ability to evaluate one's own information seeking process and the consequent final information products. However, an agreement that "IL is important in the workplace has not offered much guidance to universities seeking to prepare their students for professional success" [1]. The initial formulation of IL "was itself a function of a changing workplace where technology was shifting labor from routine manual and cognitive tasks toward more sophisticated behaviors" [2].

The literature shows a lot of programs and courses in IL, but not many instruments to test general IL competence, and what is needed at the workplace [3]. Regarding the complexity of information work, the last decade has seen a shift toward more fine-grained attempts to "identify the discrete information skills needed in business contexts, fleshing out the relationship between traditional library-based definitions of

IL and the business community's concern for more broadly defined communication and critical thinking attributes" [2].

The capacity to manage information and solve problems in technology-rich environments – that is, to access, evaluate, analyze and communicate information through the use of digital devices and applications – is becoming a necessity, as information and communication technology (ICT) applications permeate the workplace, the classroom and lecture hall, the home, and social interaction more generally [4]. There are many authors who consider the workplace a very important place where IL skills are so important [3, 5-11].

Information Literacy knowledge has become part of professional literacy. Much depends upon this knowledge, particularly, the integration of the population from Romania and Moldova into the new society, as well social cohesion and, inequality exclusion related to access to information.

2 Objectives of these studies

Currently many acknowledge that we need to implement an IL course in the workplace. One's IL level determines the economic, social and professional status of the specialist of tomorrow. In order to have well-trained and versatile professionals who are able to be part of the European education, it is inevitable that an IL training program be initiated at all levels. The following objectives have been set:

• to ensure the acquisition of accurate IL knowledge and skills of Masters students at Transilvania University, Brasov and Academy of Economic Studies, Chisinau;
• to verify the subjective perception of respondents regarding IL skills, systems and information sources, and other topics of interest related to IL;
• to identify the necessary skills to use information to open one's own business and obtain government funds for financial support, for example STARTUP;
• to research how the university developed critical thinking for their alumni, and provided information on sources of funding for the development of their own businesses;
• to reveal the level of satisfaction of Masters students regarding IL skills;
• to identify issues and initiate proposals on improving users' education via IL programs.

3 Methodology

The operational definition of the variables refers to the alternatives which may characterize these variables (knowledge, preferences, opinions, motivation, informational tools, suggestions, sex, professional category, country). We used the email address list of Masters students (provided by the corresponding departments from the two universities), and emailed them the online version of the survey.

The survey was also distributed via social networks. The information source consists of the 119 participants who replied directly by filling out the online survey. Graduates with a job, or who owned their own businesses, were polled.

Sampling. The survey targeted a pool of 66 individuals from Transilvania University from Brasov and 53 individuals from the Academy of Economic Studies from Chisinau. The sampling method used in the research was the simple random sampling and the applied mechanical step technique, so we chose every third email from the total of 360 emails to which we sent the survey.

Survey design. A survey is an instrument for collecting data, a logical sequence of 14 questions on the respondents' opinion regarding Information Literacy in general, as well as details such as information tools they used or development of their professional skills. The survey was distributed electronically, and the respondents' opinions and suggestions given during the study were processed automatically in SurveyMonkey. The differences between what employers expect of new employees and what the University perceives those expectations to be, was identified using electronic surveys, in the two universities.

Twenty-five men and 94 women participated in the survey. Of the total number of respondents, 68 people were between 20-25 years of age, 25 people were in the 26-30 years range, and the other 26 were over 30 years old. The Romanian survey was completed by Masters students in medicine, engineering, sociology and communication; the respondents from the Republic of Moldova were Masters students in social sciences and economics.

4 Major findings

Most of the information necessary to solve various problems in the work-place consists of news from the professional field, professional field information and information about continuing education, as well as. Legal information in the field, and information regarding projects and funding sources. Responses were surprisingly varied regarding the situation when information was needed to make a decision, solve a problem or complete a project. Most were able to solve the problem. Most are happy that the university has helped them develop critical thinking skills and given them available sources of information. Satisfaction levels on IL skills are 3.73 out of 5. Masters students believe that IL skills increase the chances of getting a job and a good salary.

Status of respondents on the job market. The respondents from the Republic of Moldova stating they run their own business account for 11.32 percent of those surveyed, which is four times higher than the same category in Romania - 3.03 percent. Conversely, the percentage of inactive respondents from Transilvania University was16.67 percent and twice as low from the Academy of Economic Studies *(Table 1)*.

Table 1. What is your status on the job market? N = 119

Options	Romania	Moldova
Employee	80.3%	81.13%
I run my own business	3.03%	11.32%
Inactive	16.67%	7.55%

We noticed that the Masters students from the Republic of Moldova are more focused on obtaining knowledge needed for the specific objectives of their own business. In respect of the job and the experience of the research subjects we have not found many essential differences in the research: all of them are at the beginning of their careers and do not have professional experience, regardless of their jobs *(Table 2)*.

Table 2. What is the level of your job? N = 112

Options	Romania	Moldova
Management	9.68%	18%
Operational	90.32%	82%

Thus, 9.68 percent of the Romanian Masters students and 18 percent of the Moldavian Masters students said they have management jobs. The people specialized at an operational level were present in almost equal ratios: Romania – 90.32 percent, Republic of Moldova – 82 percent.

The question *"What type of information do you need at the workplace?"* received the following replies: Romanian and Moldavian groups use different types of information for work activities, but there are some additional differences.

Types of information used at the workplace. The Masters students from the Academy of Economic Studies use more information needed for their professional field and for leisure time; and they search for legal information and professional novelty. The students from Transilvania University prefer information on intellectual property and projects, as well as financing sources. Both categories of respondents actively use different types of information at the workplace in order to achieve results in their activities *(Table 3)*.

Table 3. What type of information do you need at the workplace? N = 116

Options	Romania	Moldova
General information	41.27%	47.17%
Information for leisure time	7.94%	11.32%
Information necessary in the professional field	76.19%	84.91%
Information for continuing education	57.14%	47.17%
Novelty, developments in professional field	69.84%	73.58%
Legal information in the industry	47.62%	62.26%
Projects, financing sources	20.63%	33.96%
Intellectual property rights	11.11%	11.32%
Information on patents and technological transfer	7.94%	7.55%

The research subjects were asked to give a short description of the most recent situation when they needed information in order to make a decision, solve a problem or complete a project. Approaching this topic showed a similar situation in the algorithm of information discovery. However, we noticed that the Masters students from the Academy of Economic Studies are more interested in specialized

information, the help of colleagues and librarians, while those at Transilvania University are more autonomous in the process of information consumption.

The respondents from Moldova are more supportive of internet resources and library databases. Both categories of respondents perform information searches based on keywords. The relevance of the information is assessed based on the opinions of their peers, of authoritative people, experts and based on the comments of specialists from various media.

University contribution to the development of critical thinking in analysing information. According to the opinion of Romanian and Moldavian respondents, the ideal methods to find information sources are trainings, individual counselling and distance learning. The survey results prove that most respondents believe the university provides a significant contribution in developing critical thinking in analysing information *(Table 4)*.

Table 4. Has the university created the framework for developing critical thinking in analysing information? N = 118

Options	Romania	Moldova
Yes	61.54%	56.6%
No	15.38%	13.21%
I don't know	12.31%	24.53%
Comment	10.77%	5.66%

This supports the importance of IL for both categories, with some differences in the attitude of the Moldavian respondents. They showed a certain degree of uncertainty, accounting for almost 25 percent when they replied that they did not know the university had the mission to develop such skills.

One respondent from Transilvania University said: *"... I believe that each develops his own logical, critical thinking based on previous daily events and the accumulated knowledge".* Another respondent from the Academy of Economic Studies commented: *"... very little or at all in some cases; student often do not even know how to search an information in the library or even on the internet; they settle with what they find on Google, without filtering the information or analysing its source. Critical thinking is developed in practice, when you face a real situation. At the university you are under the impression that things are evolving 10-15 years later than in the real economy. And we should not blame it on the lack of specialists, but on the university strategies, which turns it into a business and not an institution for educating specialists".* These aspects show there are gaps in the activity aimed at informing specialists within university libraries.

Almost half of the research respondents from both countries gave a positive answer to the question *"Has the university made available information regarding the financing sources for developing your own business or for applying for funding in different projects?" (Table 5).*

Table 5. Has the university made available information regarding the financing
sources for developing your own business or for applying for funding
in different projects? N = 118

Options	Romania	Moldova
Yes	43.75%	50%
No	28.13%	30.77%
I don't know	17.19%	13.46%
Not interested	3.13%	3.85%
Comment	7.81%	1.92%

There are people in the groups who are indifferent: 3.13 percent and 3.85 percent respectively of respondents do not consider this information useful and interesting. This fact confirms the hypothesis regarding the informational load of the master students, given they also have an intensive work program.

Satisfaction with the Information Literacy skills of respondents. The matrix response question revealed the opinions and the attitudes of the respondents from both countries about the significance of IL and the degree of satisfaction regarding personal competencies in this field *(Table 6).*

Table 6. Please reply to the questions below, where 1 = the least,
5 = the most. N = 118

Options	Romania	Moldova
How satisfied are you with your informational competencies?	3.65	3.73
Do you believe that a high level of informational competencies would increase the chances of employment?	4.47	4.42
Do you believe that the wage may be different based on the informational competencies?	4.26	3.85

The weighted average calculated based on the scale questions did not reveal significant differences in assessing personal competencies, but the Moldavian respondents group showed a certain degree of uncertainty in determining the wage according to the informational competencies (score 3.85 vs 4.26 for Romania).

According to the opinions of respondents from both groups under study, the main factor of professional competencies development is personal development, self-education (69.7 percent Romania and 58.49 percent Moldova), as well as continuing education (65.15 percent and 50.94 percent respectively).

The respondents from the Academy of Economic Studies assign a higher degree of responsibility to the employer (35.85 percent). However, the role of universities is just as important in the respondents' opinions, for almost half of them *(Table 7).*

Table 7. In your opinion, who is the main responsible for developing professional competencies? N = 119

Options	Romania	Moldova
The university	43.94%	50.94%
The employer	21.21%	35.85%
Continuing education	65.15%	50.94%
Personal development, self-education	69.7%	58.49%
Others (please specify)	4.55%	7.55%

There is a difference of opinion between the respondents from the two countries regarding the question *"Do you intend to work in the future in another country?"*. A positive answer was given by 18.18 percent of Romanian master students and 33.96 percent from Moldova *(Table 8)*.

Table 8. Do you intend to work in the future in another country? N = 119

Options	Romania	Moldova
Yes	18.18%	33.96%
No	42.42%	11.32%
I don't know	39.39%	54.72%

This shows the less stable economic situation in the Republic of Moldova, the increasing migration processes and the uncertain future of youth in their own country. The percentage of people who do not want to leave the country because they already have a satisfying job in Romania is 42.42 percent.

5 Conclusions

The results of the study demonstrate that the Masters students from Romania are well informed in the information field, since the IL course is included in the curriculum. The respondents from Moldova want more practical information for solving business problems.

The algorithm for searching information, the resources used to solve problems at the workplace, decision making, assessing the relevance and the consistency of the information used by both groups are similar and balanced.

The Masters students from Transilvania University and the Academy of Economic Studies support educational activities at the group level and distance learning at the personal level. Universities, libraries and Masters students should have common responsibilities and coordinated efforts for developing competencies, creating, updating and implementing training programs.

It would be advisable to introduce a mechanism for assessing informational competencies for various specialities (e.g., online tests) that will form the basis of training and information competences development programs.

The current trends in lifelong learning and the continuous improvement of information tools create excellent conditions for university libraries to ensure the development of Information Literacy for people who will leave the university and will be employed, especially throughout a time when employees from the real sector attend professional training courses.

The studies are original, performed for the first time in a university in Romania and Moldova. They may be used by companies, but also universities, to identify the informational needs of graduates in the workplace. The results can be a starting point in the realization of joint employer-university courses building IL skills.

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