Shaping the Future Information Professionals: Searching for the Balance of Job Requirements in Libraries and Education

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Abstract. Preparing new information professionals for work is challenging and difficult for organizations like libraries, archives, museums and other public and government institutions as well as for commercial firms seeking highly knowledgeable, skillful and motivated individuals. The paper presents the results from the research study in public libraries in Croatia about their views on knowledge, skills and literacies required for employment in these institutions. The research questions inquire about the understanding of knowledge, skills and literacies of new employees; the adjustment of university study programs to the library practices; and about introduction and frequency of changes of the university study programs. An online questionnaire with nine closed type questions was chosen as the research method. A total of 159 public libraries participated in the research which presents a clear view of public libraries' attitudes about the paper topic, and a need for further and more frequent communication with universities.

Keywords: Employability · Public libraries · Higher education · Croatia

1 Introduction

As the world is changing so are changing the global views on knowledge, skills and literacies of future workforce. Previous experiences in education and employment of students have helped educators and employers construct new paradigms of one's abilities necessary for true inclusion and engagement in the evolving society. One's abilities are commonly defined and described in lists of knowledge and skills forming different types of literacies. It must be noted that the term literacy is now commonly used to describe one's abilities but was previously used in different contexts and with different meanings during the 20th century. Changes in understanding and application of this term in daily use continued to change in the 21st century, especially in different parts of the world based on the level of development of a particular country. Nowadays the term literacy usually has a prefix which explains scope and area of its application. As a result, "the word 'literacy' has begun being used in a much broader, metaphorical sense, referring to other skills and competencies, for example 'information literacy', 'visual literacy', 'media literacy' and 'scientific literacy'" [1, p. 150]. Each skill and

literacy has its own important function and place in education and society. This is especially true for libraries, archives and museums administrators who evaluate their employee's, knowledge, skills and competencies. To employ the best individuals, the information and cultural institutions must be clear about what to expect of their future employees in terms of work related characteristics. This task is especially difficult if we take into account technology developments, globalization of economy, proliferation of information, evolving new ways of thinking, new emphasis on lifelong education, change of fixed cultural categories into a diversity of perspectives, the emergence of interdisciplinary studies - education has become more student-centered new modes of learning material delivery used by learners [2]. The next part of the paper presents basic facts about the crucial types of literacy as an introduction to the research study which discovered what public libraries in Croatia saw as important knowledge and skills their future employees should possess. Public libraries (269 of them [3]) were chosen as the main research partners as major employers of students studying at the Croatian universities.

2 Literacies and Employability

This part of the paper presents characteristics of several well-known types of literacies and employability. These characteristics are essential for understanding of the research study in the second part of the paper.

2.1 Scientific Literacy

The term scientific literacy refers to the general public's understanding of science [4]. It also describes an approach to science education that assumes a functional level of knowledge of scientific terminology and a familiarity with its writing style [5]. Since its first appearance, scientific literacy has been described extensively, and, as a result, many approaches, views and opinions to understanding of scientific literacy have been created. For instance, in his book on scientific literacies and multi-literacies, Ng [4] offered a view on types of scientific literacy which include nominal scientific literacy; functional scientific literacy and conceptual and procedural scientific literacy. The same author described what a scientifically literate individual should know: to develop a knowledge of the general principles of science; understand the applications of scientific theories, principles and methods to solve problems in society; be able to read and critique media reports; be able to collaborate and communicate with peers and experts; develop an awareness that technology plays a major role in the advancement of science; develop curiosity, persistence and positive attitudes towards lifelong learning of science.

2.2 Digital Literacy

Digital literacy is the ability to use technology, including a computer and mobile devices, to send e-mail, to use common household equipment, to locate and understand information on the web and to use other personal computer based tools [6].

For UNESCO [7], digital literacy is a life skill because it targets all areas of contemporary existence. UNESCO's definition describes best the importance of digital literacy in everyday activities. Libraries are by no means excluded from these activities as their daily operations depend on ICT and ICT related procedures and their users expect even more library services and library material to be accessible by use of ICT [8].

2.3 Media and Information Literacy

Media literacy is a critical thinking skill that enables people to make independent choices with regard to (1) selection of media program and (2) interpretation of the information they receive through the channels of mass communication. It is also understanding of the process of mass communication, an awareness of the impact of the media on the individual and society [9]. Information literacy is a set of abilities requiring individuals to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information [10]. Together, media and information literacies embody "essential knowledge about (a) the functions of media, libraries, archives and other information providers in democratic societies, (b) the conditions under which news media and information providers can effectively perform those functions, and (c) how to evaluate the performances of these functions by assessing the content and services they offer. This knowledge should, in turn, allow users to engage with media and information channels in a meaningful manner" [7]. Media and information literacy are important for libraries as "media and other information providers such as libraries, archives and the Internet are widely recognized as essential tools for helping citizens to make informed decisions" [7, p. 16].

2.4 Employability

Finally, educational institutions employ students to support their purposes and goals. "In simple terms, employability is about being capable of getting and keeping fulfilling work. More comprehensively, employability is the capability to move self-sufficiently within the labour market to realise potential through sustainable employment" [11]. Employability could be also described as "the combination of factors and processes which enable people to progress towards or get into employment, to stay in employment, and to move on in the workplace" [12]. To achieve students' employability, higher education institutions constantly adjust their study programs to provide students with new knowledge, skills and competencies in many areas of human endeavor.

3 Research Study

Employability of students is an on-going hot topic which is of interest to higher-education institutions, employers and employees. Levels of their knowledge and skills related to their future jobs and availability of such jobs are of interest to many researchers. For instance, Carroll and Tani [13] analyzed literature about graduate over-education and their job search and concluded that "a substantial proportion of university graduates possess more education than is strictly required for them to

perform their jobs, both at labour market entry and later in their careers". Whether or not this is true, remains to be researched in every particular country. This research study puts focus on public libraries in Croatia, a major employer of students of information sciences and other related university studies. The purpose of the research study is finding out what libraries expect from their future employees in terms of knowledge and skills and collecting data about their communication with academic institutions on the topic of study programs. The main hypothesis is that there is a need for more frequent, direct and better communication between libraries and universities about the education of future library employees. The research aimed to find answers to the following questions:

(1) do libraries have a clear understanding of knowledge, skills and competencies based on research of their needs when executing search for new employees?
(2) is there a need for adjustment of the university study programs with the library practice?
(3) who initiates adjustments of the study programs and how frequently do involved parties express their wishes for these adjustments?

An online questionnaire with nine closed type questions was chosen as the research tool. The invitation for participation in the research study was sent to the public libraries in Croatia listed at the Portal of libraries in Croatia at http://www.knjiznica.hr. According to the Statistical yearbook of the Republic of Croatia for 2016 [3], in 2013 (the latest data available) there were 269 public libraries in Croatia. However, a little more than 160 libraries were listed in the Portal of libraries in Croatia and 159 e-mails were delivered without errors on May 12th 2017 with the closing date for participation on May 26th 2017. The total of 105 answer sets collected, is 39% of all public libraries listed in the Statistical yearbook of 2016 and 66% of all invitations sent for participation in the research study.

4 Research Findings

The next part of the paper presents the results of the research study in public libraries in Croatia about the balance of job requirements in libraries and university study programs. The first three questions aimed at discovering what categories of scientific, media and information and digital literacy public libraries want their future employees to possess.

4.1 Categories Related to Scientific Literacy Public Libraries Expect Their Employees to Possess

Scientific literacy is an important aspect of students' education regardless of their future employment. The three most prominent categories (Table 1) chosen by the public libraries in the research study according to their relevance are: evaluation of scientific information resources, possessing an interest in science, and evaluation of scientific information. Public libraries in Croatia are not primarily oriented towards supplying the academic community with information resources but instead they serve as promotors

and facilitators of access to popular scientific information. So, these three rather broad categories related to scientific literacy probably fit best to the broad profile of public libraries users in general. Other, more specific research oriented categories were ranked lower.

Table 1. Categories related to scientific literacy public libraries expect their employees should possess (N = 104)

	N	%
Evaluation of scientific information resources	76	73.1
Possessing interest in science	68	65.4
Evaluation of proper and improper use of scientific information	67	64.4
Understanding of research methods	63	60.6
Understanding and interpretation of basic statistics	55	52.9
Reading and interpretation of graphic representation of data	54	51.9
Creation of graphic representation of data	45	43.3
Organization, interpretation and analysis of quantitative data and scientific information	44	42.3
Recognition of a scientific problem	42	40.4
Planning scientific research	41	39.4
Reasoning of conclusions based on quantitative data	27	26.0
Knowledge about scientific concepts	25	24.0
Identification of scientific proof	22	21.2
Understanding of a research plan and its influence on conclusions	22	21.2
Solving quantitative problems by use of probability and statistics	16	15.4
Something else	1	1.0

4.2   Categories Related to Media and Information Public Libraries Expect Their Employees to Possess

The second question (Table 2) aimed at discovering the public libraries' preferences for categories related to media and information literacy as a special group of knowledge and skills. The first three categories are very indicative of the current developments in electronic media in the world. Working with emerging (new) media is a must not only for media companies but also for everyone else getting in touch with the information and communication technology (ICT) influenced media. Social networks have become the mainstream communication media for many and their popularity is constantly growing and attracting new users because "practically everyone's gone mobile, with real-time photo and video sharing becoming the big trend that people are most excited about, especially teenagers" [14]. Following the recent events in media related to so called "alternative facts" [15], Croatian public libraries have recognized that skills for defining true and untrue information and media messages have become essential for their future employees. The need for new skills and knowledge will change and shift as the world changes and as knowledge and skills in these categories become more important for public libraries.

Table 2. Categories related to media and information literacy libraries expect employees to possess (N = 105)

	N	%
Work with new media	87	82.9
Social networks use related skills	81	77.1
Skills for defining true or untrue information and media messages	81	77.1
News evaluation skills	73	69.5
Skills of learning how to work with different media to understand message	71	67.6
Skills for retrieving information from different media to understand a topic	66	62.9
Active location and following of the national, regional and global news	57	54.3
Skills for location of news in different media in order to communicate with people	56	53.3
Global media recognition to better understand messages	43	41.0
Skills for imagining oneself as a part of society by using media	28	26.7
Something else	0	0.0

4.3 Categories Related to Digital Literacy Public Libraries Expect Their Employees to Possess

The third question (Table 3) aimed at finding out what digital literacy related knowledge, skills, and competencies public libraries consider necessary. Again, the three most highly ranked categories were internet searching, writing and editing text and downloading content from the internet. It is worth noting that public libraries have not ranked highly any type of digitization [16] or content (specially video) broadcasting over the internet [17], which are popular categories of knowledge and skills. 58 libraries answered that they wish their employees possess something else (in terms of digital literacy) but didn't give any true explanation about what exactly would they want. Some rude comments were also given, one library questioned the existence of IT support in libraries, one commented about knowing ICT and one suggested learning Wordpress.

4.4 Skills Future Employees Should Possess

Except for the skills enumerated in previous questions, public libraries were asked to choose from the list of personal skills. Librarians' job is to be in contact with library users and the results in this question reflect the need for skills like (Table 4): listening to other people, interpersonal skills, conflict resolution in addition to other skills necessary for normal operation of a library. It is especially positive to observe skills like listening to other people, problem solving and analytical skills and critical thinking highly ranked as these are skills that are highly sought in many professions related to interaction with other people.

Table 3. Categories related to digital literacy public libraries expect employees to possess (N = 105)

	N	%
Internet searching	99	94.3
Writing and editing text	98	93.3
Downloading (content from the internet)	95	90.5
Presentation creation	88	83.8
Digital photo editing	73	69.5
Online questionnaire creation	61	58.1
Use of spreadsheets	60	57.1
Something else	58	55.2
Web page creation by use of HTML	48	45.7
Digitization by use of camera	47	44.8
Video content broadcasting	45	42.9
Sound content broadcasting	41	39.0
Computer illustration creation	32	30.5
Digitization by use of scanner	24	22.9
Online simulation use	22	21.0
Computer animation creation	19	18.1
Web application programming	18	17.1
Mobile application programming	11	10.5

Table 4. Skills important for future library employees (N = 105)

	N	%
Listening to other people	100	95.2
Problem solving	96	91.4
Information retrieval and organization	90	85.7
Analytical skills and critical thinking	81	77.1
Interpersonal skills	71	67.6
Negotiation skills	71	67.6
Decision making	70	66.7
Conflict resolution	62	59.0
Leading and participating in meetings	58	55.2
Leadership	43	41.0
Something else	2	1.9

4.5   Personal Characteristics Library Considers to be Important to Future Employees

When users evaluate their satisfaction with library services – they frequently take into account personal characteristics of librarians. These characteristics are announced in job descriptions in libraries and are part of everyday library operations. The results

(Table 5) indicate that most of personal characteristics offered in this research were important for achieving excellence in work in libraries and were selected by many libraries in this research study. It is interesting to see personal organizational skills and dealing with change uncertainty confrontation ranked low, however, they remain important because personal organization skills are related to work achievements and uncertainty confrontation is needed as we live in the frequently changing world.

Table 5. Personal characteristics important for future library employees (N = 105)

	N	%
Professionalism	102	97.1
Dependability	100	95.2
Creativity	95	90.5
Good oral and written communication skills	92	87.6
Will for learning	92	87.6
Communication and interaction with other teams and networks	80	76.2
Will for taking responsibility	73	69.5
Planning and strategic thinking	65	61.9
Time management	62	59.0
Work under pressure	56	53.3
Personal organization skills	54	51.4
Uncertainty confrontation	47	44.8
Something else	2	1.9

4.6 Frequency of Communication with Academic Institutions About Adjustments of the Study Programs in Accordance with Needs for Knowledge and Skills in the Public Libraries

This question aimed at finding out one of the most important aspects of successful cooperation between libraries and universities. Unfortunately, the frequency of communication between them is very low which does not lead to better understanding of needs for specific knowledge and skills between libraries and universities. 82 public libraries (78.1%) never communicated with academic institutions, 16 libraries (15.2%) did it seldom, 7 libraries (6.7%) communicated occasionally and 0 libraries communicated often or always.

4.7 When Communicating with the Academic Institutions in Croatia on Adjustments of the Study Programs, Who Proposes the Adjustments in Accordance with Needs for Knowledge and Skills in the Public Libraries?

The results of this question revealed that libraries are initiators of communication regarding adjustments of the university study programs more often than academic institutions. Low number of answers indicated a need for more intensive institutional communication as soon as possible. 14 public libraries (50%) proposed the

adjustments, 8 public libraries (28.6%) stated that the adjustments are proposed by academic institutions while 6 public libraries (21.4%) stated that both sides propose the adjustments of the university study programs.

4.8   Priorities in Possible Adjustments of the University Study Programs

Libraries have been given an opportunity to prioritize their needs for adjustments of the university study programs in order to hire employees who are better prepared. Their priorities are media and information literacy, followed by digital literacy and scientific literacy. For 65 public libraries (63.1%) in this research media and information literacy was priority, for 25 public libraries (24.3%) digital literacy was priority and for 13 public libraries (12.6%) scientific literacy was priority.

4.9   Frequency of Adjustments of the University Study Programs in Accordance with Needs for Knowledge and Skills in the Public Libraries

Finally, public libraries were asked about the frequency of the adjustments of the university study programs in accordance with their needs for knowledge and skills. The results showed very different views on frequency of the university study programs adjustments. The full study program cycle at the Croatian universities lasts 5 years on average (with exceptions lasting shorter and longer than 5 years) and it is difficult to expect that the study programs will change before the completion of at least one full study cycle followed by the proper analysis of their implementation. However, this question aimed at discovering the position of public libraries on expected frequency of the adjustments and almost all libraries participating in this research declared they would adjust the university study programs in 5 years' time frame or more often and only 2 libraries declared they would wait for more than 5 years (every year N = 11, 10.5%, every 2 years N = 29, 27.6%, every 3 years N = 13, 12.4%, every 4 years N = 23, 21.9%, every 5 years N = 27, 25.7% and less than every 5 years N = 2, 19%). To conclude, public libraries think that their needs for knowledge and skills are changing faster than the university study programs.

5   Conclusion

Finding knowledgeable and skillful workforce is always a dynamic and unpredictable task as there are discrepancies between visions of universities about knowledge and skills needed in libraries and visions of libraries what should their future employees be knowledgeable, skillful and literate in. The abilities of future employees in libraries are already known from the developments in society and can be also recognized and verified from the available lists of knowledge, skills and literacies created by the government and/or originating from research. The research about the Croatian public libraries' views on knowledge, skills and literacies provided answers to all three research questions: (1) libraries have a clear understanding of knowledge, skills and literacies based on research of their needs when executing search for new employees;

(2) there is a need for the adjustments of the university study programs with the library practice; and (3) libraries initiate adjustments of study programs in half cases and want them to happen every 5 years or more often. The main hypothesis was confirmed suggesting the need for more frequent, direct and better communication between libraries and universities. The next step would be intensification of communication between libraries and academic institutions on the adjustments of the study programs.

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