

Teaching information as an integrated field: Assessing the curriculum of the LIS Dept of the TEI of Athens

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The belief that information organizations, such as libraries, archives and museums have common goals and manage the same resource, i.e. information, leads to the proposition presented here, that they should be regarded as an integrated unit. Furthermore, the development of new technologies offers a common platform via which all information organizations can acquire, organize and disseminate information in the form of electronic data and metadata.

This study focuses on assessing the results of the implementation of a curriculum based on the aforementioned principle. The study collected data from the student work experience program which took place after a three year implementation of the new curriculum. The work experience program took place in diverse information organizations and both parties involved, i.e. students and employers participated in the research. The research was designed to explore the degree of knowledge gained and the ability of students to apply it to diverse information organizations. Furthermore, it attempted to determine the needs of information organizations in specific areas of knowledge. The methodology used included two surveys with cross corresponding questions, one addressed to the students during the work experience program and the other to the hosting organizations.

Results highlight the emerging students' professionalism and indicate that students can manage at a good level all major information science tasks independently of the type of organization or the form of their collections. It became evident that students are able to work and implement professional tasks likewise in libraries, archives and museums. Similarly, organizations perceive their abilities and knowledge in the same way, independently of their nature. Suggestions for further improvement of the curriculum, deriving from the research described here, include the incorporation of a course or a module within a course regarding user education/information literacy.

Keywords: Information science, education, library science, archives, museum studies, curriculum

1. Introduction

The integrated approach towards information is a result of combining the scientific framework with practical applications. Traditional sciences deriving from professional practice are rapidly being transformed due to the use of new technologies thus

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shaping innovative professional fields. Library science, archives and museum studies are becoming all the more closely interconnected with informatics, not simply because technology has offered reliable tools to help organize the influx of information, but also because they deal with the media that in fact comprise information [1].

The transition from holdings to access, the shift, that is, from holding tangible items to simply access the information in them, has brought about essential changes in the notions that were previously dominant in library science. The shift from owning and releasing information -often uniquely available- to offering access to a broad spectrum of information deriving from anywhere and addressed to all clients has created not only new fields, but also new attitudes [2,3]. Library science transformed itself into information science, whilst the technological development was creating informatics. The central core of information science is the resource of information and not the medium via which it is transmitted and diffused. Even though information science today seems to focus almost exclusively on digital information, in essence it comprises the core of an integrated but also interdisciplinary scientific field, as it draws the techniques, the philosophy and the theoretical approach from all forms of information regardless of the medium [1].

This study aims at assessing the results of the implementation of a curriculum based on the principle of integrated information, which is further elaborated below. The study collected data from the student work experience program after a three year implementation of the new curriculum. The work experience program took place in diverse information organizations and both parties involved, i.e. students and employers participated in the research.

The research is designed to explore the degree of knowledge gained and the ability of students to apply it to diverse information organizations. Furthermore, it attempts to determine the needs of information organizations in specific areas of knowledge. Relevant empirical data were collected through the use of two surveys, one addressed to the students during the work experience program and the other to the hosting organizations.

2. Information as an integrated field

Comprehensive treatment of information is no doubt a theoretical concept which attempts to take advantage of the common platform that was created by technology for documentation, transmission and dissemination of information. Humans in an attempt to organize and store information fragmented it by classifying it to different organizations and physical areas. As a result, books went to libraries, manuscripts to archives and artifacts to museums. However, the human mind works in a thematic way, forming sequences that group knowledge by subject. If information on the Acropolis was needed, one would have to search for it in a library, in a museum and in archives. Today, if information on the Acropolis is needed it can be easily found

on the Internet, in electronic libraries, digital archives and digital museums, and it could be supported by a GIS system that would offer a virtual tour on location.

Technology today, by offering an integrated electronic platform, has once again brought about the unification of the lost integrity (wholeness), and serves the human need for “thematic information”; regardless of the point of access, medium of documentation, or distribution. This, of course, does not mean that the professional character of library science, archives and related information sciences has been abandoned. On the contrary, the notion of information management offers a solid scientific basis for the development of an integrated domain of information.

In Greece, the development of an integrated National Information System, while feasible, is still under consideration, while collaboration between interested parties (libraries, archives, museums) is discussed extensively but has not actually been implemented as yet. However, it should be pointed out that the issue has been brought about and some attempts have been made by individual libraries, archival organizations [4] and museums. More importantly, collaboration among professionals and academics of all information related fields, with the sound participation of computer scientists is actually, well established [5]. Libraries, historical archives and museums are regarded as related organizations as they play a key role in the management of cultural resources. There are examples in Greece (e.g. [6]) that professionals and academics from different disciplines and organizations cooperate successfully in cultural resources management by developing open source tools that can be used in aggregation schemas like Europeana. Apart from this fundamental trait, the basis of their common mission in information management is what is actually creating their common ground and their common future [7].

In order to change the mentality and create the links between information organizations, the transformation of education had to be the first step. We strongly believe that professionalism is formed in universities and professional and academic ethics are the core of education. We made this part of our curriculum by incorporating a course on information policy and professional ethics, along with the corpus of knowledge, in order to develop a sense of common goals, practices and principles applicable to all information organizations regardless of the medium that carries the information itself. In this respect, we also emphasized on the one hand the social aspect of the science and on the other hand the importance of the service oriented character of the field.

It is quite clear, that Education within any system which is evolving is absolutely crucial. Information science education had emphasized, even from its very early steps, the importance of applied knowledge. This proved to be of great importance for schools that are characterized as Professional. Curricula today, offer the necessary theoretical framework, required by the developments in the field of information science while at the same time, they maintain a high proportion of information technology [8]. They aim at the formation of a contemporary profile for information professionals, conforming to international standards and educational programs, while keeping up to date with the latest scientific developments. The main objective of such

programs is to educate new graduates, to give them the tools to manage information content, independent of the medium. This enables them to work in all kinds of information service: library, archives, museum, private information organizations, information brokerage, etc.

It is worth noting that the above viewpoints and approaches, in many cases had to be integrated within rather “classic” Departments of Librarianship. Traditionally, departments of Librarianship are associated almost exclusively with printed materials and libraries and this has created a rather blurry image of the field. In Greece, as is often the case in other countries, there is a tendency to place any development happening within the field of information under the umbrella of Librarianship. No doubt, the word “Library” comprises a powerful brand name, and the use of this term does add legibility and prestige. Nonetheless, the concept of information sets forth a broad but disciplinary specific scientific field, which is necessary to an academic unit located in the domain of applied sciences. It is evident however, that the developments in the information field lead us to rethink and draw from the past while at the same time, ponder into the future. The scientific approach that has brought about this expansion is because information is regarded as an integrated field, regardless of the choice of terminology adopted to characterize its origin.

In order to assess this new curriculum and its effectiveness in making students competent to work in various information organizations -and not exclusively in libraries- we designed a study focusing on the students’ work experience program during their final semester. Students were placed to work in libraries, archives and museums. The work experience program is an integral part of the curriculum. It is a six month placement in an organization where under the supervision of a professional, students learn, work and gain experience within a real work environment. This was the test bed of the new curriculum.

3. Framework of the study

The Department under examination is the Department of Library and Information Systems of the Technological and Educational Institute of Athens (TEI-A).

The Department is part of the Faculty of Management and Economics. This has encouraged the consideration of a broad spectrum of information organizations as potential employers of its graduates. Organizations, not necessarily of cultural character were targeted, such as corporate libraries and archives, bank archives, private collections and private information brokers. This had contributed to the shaping of the curriculum by enriching it with relevant courses. In fact, the needs of the job market influenced the curriculum.

The Department of Library Science and Information Systems of TEI-A, is the oldest department of Information Management in the country. Its program and its profile are designed in such a way, that it is regarded as an educational unit which offers a comprehensive Degree in the domain of information [9]. This new curriculum

Table 1
Domains and number of courses

Domain	Number of courses
Broader Education	13
Information Technologies	7
Information Science	11
Library Science	6
Archives	5
Museum Studies	2

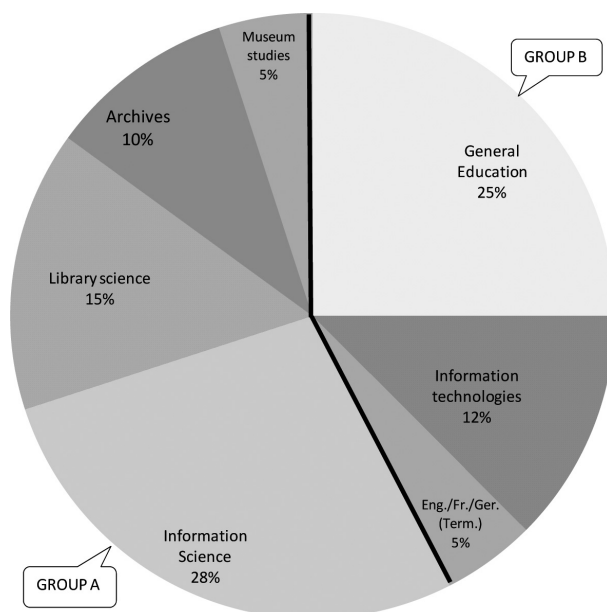


Fig. 1. Percentages of courses.

has been in effect for the past three academic years. The Department modified its curriculum in 2008 and has created two revised subject groups, thus placing the courses within the broader theoretical context of the following two domains:

- a. Information Science Subject Group
- b. General Education and Information Technologies Subject Group

Table 1 and Fig. 1 present the breakdown of the courses:

The first subject group includes the courses of information science. A strong library science core is maintained via six courses in library science while, four courses in archives (one of which being Records Management) are introduced, as well as two in museum studies. The largest number of courses offered (11), appear under the

umbrella of Information Science, serving all three routes (libraries, archives and museums) thus making up the core curriculum. In these courses, theoretical approaches, techniques, technological applications, standards and administrative models are studied. Emphasis is given to the fact that all organizations in question abide by the same principles, while at the same time a novel 'informatics' dimension to subjects is introduced.

General education subjects that appear under the second subject group are primarily subjects from both the areas of "the Humanities and the Social Sciences". They are connected to a large degree with information or its constituent parts, thus giving emphasis to the interdisciplinary character of the program. For example, the radically revised subject of "Conservation and Preservation" deals with both library and archival material. It examines the preservation of information stored in historical and contemporary audiovisual substrates (analog and digital) as well as their digitalization, while all of this is within the sphere of Conservation Management. The General education courses offered are six prerequisites and 4 electives out of the total choice of eight.

Technology courses are also included in the second subject group. They provide the necessary infrastructure for the application of information technologies. There are five information technology courses which are complimented by corresponding information science ones [5].

Finally, the curriculum is embellished by courses on terminology in English and an option of French or German languages. The curriculum is made up of forty four courses, a Thesis and a six month work experience program. For the completion of the degree 40 courses are required, along with the Thesis and the work experience. All of this is expected to be completed in 8 semesters (or 4 academic years) and is the equivalent of a 240 (ECTS) credits BA.

The courses are being divided into theoretical (20), laboratory (2), and combined, which have both a theoretical and laboratory component (18). Figure 2 presents the breakdown of the courses. For a more detailed presentation of the new curriculum, see Appendix 1.

4. Methodology

The research being presented here was conducted in order to determine the degree of performance in different information environments of graduates of a curriculum such as the one described above. Precisely, the work experience program was used as the test bed for evaluating the degree of performance as this offered the following advantages:

- The study group could be controlled in terms of their studies after 2008 (year of the implementation of the new curriculum)

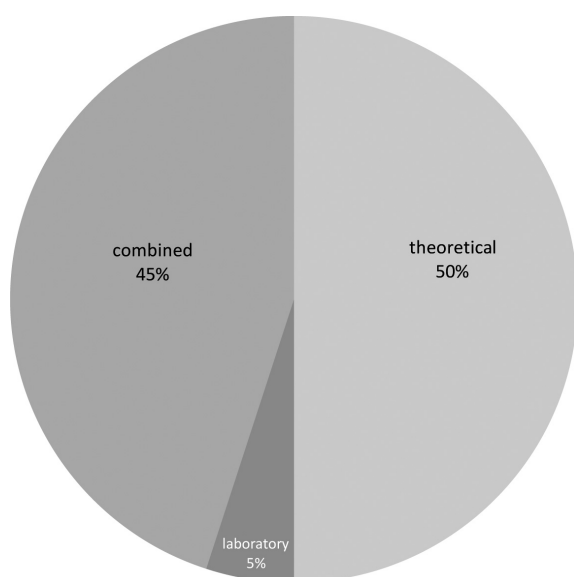


Fig. 2. Percentages of theoretical, laboratory, and combined courses.

- The distribution of students in a variety of information organizations could be achieved through the work experience program that offers a large variety of placements in diverse organizations
- The controlled environment of the study allowed for responses from the receiving institutions and correlations of viewpoints expressed by students and employers
- The target group was willing to participate and provide full data as the importance of evaluating the curriculum was communicated and recognized by all parties involved.

The research was conducted through two questionnaires with corresponding questions, one questionnaire addressed to the students during the work experience program and the other to the hosting organizations, posted on the department's web site and communicated to both students and employers through emails. Overall between winter term of the 2010–2011 (academic year) and fall term of 2011–2012 (academic year) the department had a total of 34 students participating at the work experience program and the response rate was 100%. The students were employed at a variety of information organizations and their response rate was also 100%. 27 employers responded as some of them employed more than one student.

The questionnaires were developed in such a way as to assess same areas of knowledge with corresponding questions yielding results that reflected both points of view and answers that could be compared. Apart from pure knowledge elements, professionalism was also assessed as this was also considered to be one of the main targets of the curriculum, i.e. to develop a sense of professional responsibility and pride among graduates.

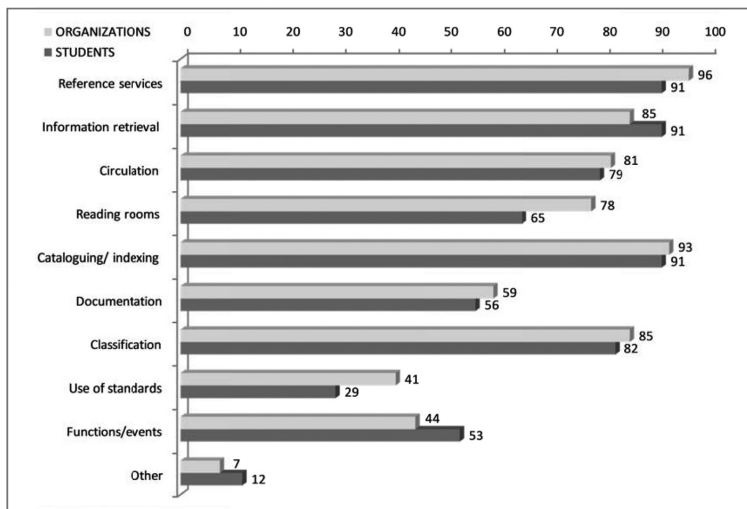


Fig. 3. Students' occupations (percentages) during work experience program according to organizations and students.

In addition, issues regarding the input of students in the development of hosting organizations were examined in order to assess the benefits for both parts.

5. Results and discussion

The students were distributed in 27 different organizations out of which 20 were libraries, 4 were museums and 3 archives. One of the organizations was both a library and a museum. Eleven libraries were academic, four were public libraries, whilst there were two hospital libraries, two special libraries and one children's library.

We secured that all organizations had an orientation day for all incoming trainees and all students were assigned tasks and had a description of duties and responsibilities.

Figure 3 presents students' occupations during their work experience program as these were perceived by both the hosting organizations and the students themselves.

The distribution of tasks is a typical librarian work offering an emphasis in rather traditional professional tasks such as reference services, cataloguing, information retrieval and classification. There was some deviation between students and employers' perception in terms of their assigned tasks. A significant difference concerned the "use of standards" averaging a 10% difference between the two groups, mainly because students might perceive use of standards among other assigned tasks such as cataloguing/indexing and/or documentation. Similar case is the supervision of reading rooms (having a difference of 12%) often mingled in libraries with reference services and information retrieval.

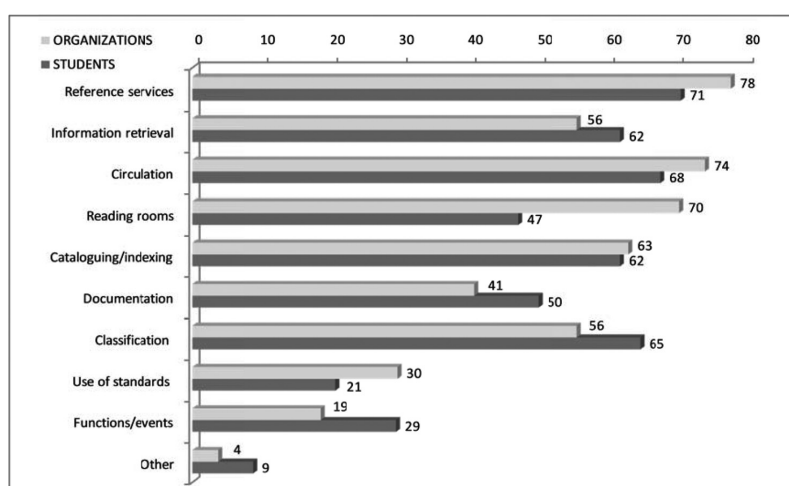


Fig. 4. Students' areas of responsibility (percentages) during work experience program according to organizations and students.

To distinguish between assigned tasks and assigned responsibilities we gave the same selection of duties but emphasizing the responsibility factor.

Figure 4 presents students' areas of responsibility during the work experience program as these were depicted by both hosting organizations and students.

The results shown in Figs 3 and 4 are almost the same indicating that according to both groups (students and organizations) an assigned task meant also full responsibility for the students in terms of carrying out the work and similarly indicated the dependability of the organizations on the students to deliver responsible services.

Having established the areas of student employment we proceeded in assessing student knowledge and organization satisfaction in relation to specific areas of knowledge corresponding to the curriculum. This was designed in a manner that would provide feedback to the curriculum. Areas of knowledge corresponding to the curriculum were correlated to corresponding questions addressed to both groups and this led to their assessment. As a result the following data were gathered.

a) The assessment of the students' level of knowledge in information technology was achieved by a Likert scale type question (question no. 3, see Appendix 2). The average scores in the five domains of IT are shown in Fig. 5 (data pertaining to students and organizations).

Deviation among the perceptions of the two groups is not significant. However, it is evident from the results shown in Fig. 5 that students tend to slightly overestimate their capabilities in ITs in relation to how organizations perceive it. It is also worth noting that IT skills overall rate high from both groups (3.9 for organizations and 4.2 for students). The lowest average 3.6 is given to databases by organizations whilst students present a different perception for database knowledge at a 4.2 average.

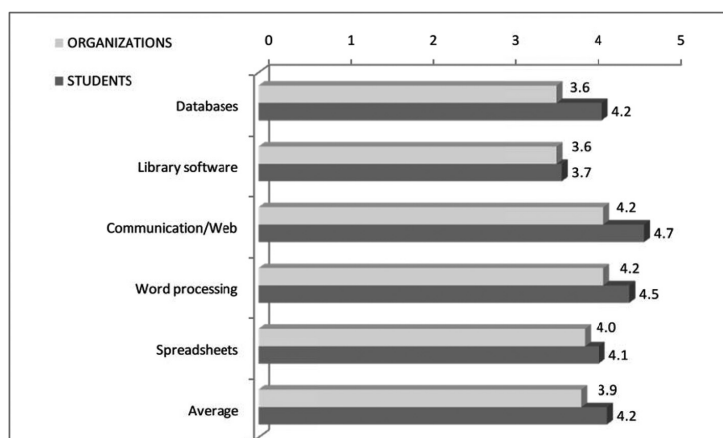


Fig. 5. Students' level of knowledge in information technology during work experience program according to both organizations and students. Averages in Likert scale scores.

It should be mentioned that the curriculum provides a course on databases and information systems (theory and labs) and that the students also have a hands on experience while at the department. Opinions seem to coincide at the low scale 3.6 and 3.7 respectively for the knowledge of library software. Students do get to see and use in labs in various courses a variety of software available for library management, repositories, etc. both commercial and open source. Discussions based on the aforementioned results among faculty members and further investigation through interviews with organizations pinpointed that mostly had to do with experience that is usually gained at the work place.

b) The assessment of the students' level of knowledge in information retrieval and knowledge of resources was also achieved by a Likert scale type question (question no. 4, see Appendix 2). The average scores in the five domains of information retrieval and information resources are shown in Fig. 6 (data pertaining to students and organizations).

Deviation among the perceptions of the two groups is not significant with the exception of "User education". However, it should be noted that students tend to slightly overestimate their capabilities especially in relation to information retrieval. It is also worth noting that "reference services" rate high from both groups (3.9 for organizations and 4.3 for students). The lowest average 3.4 is given to user education by organizations whilst students present a different perception for the same knowledge area at a 4.3 average. It should be mentioned that the curriculum does not include a course on user education. Discussions based on the aforementioned results among faculty members and further investigation in similar curricula pointed out the need to incorporate such issues either by introducing a new course or by integrating it in courses related to reference services.

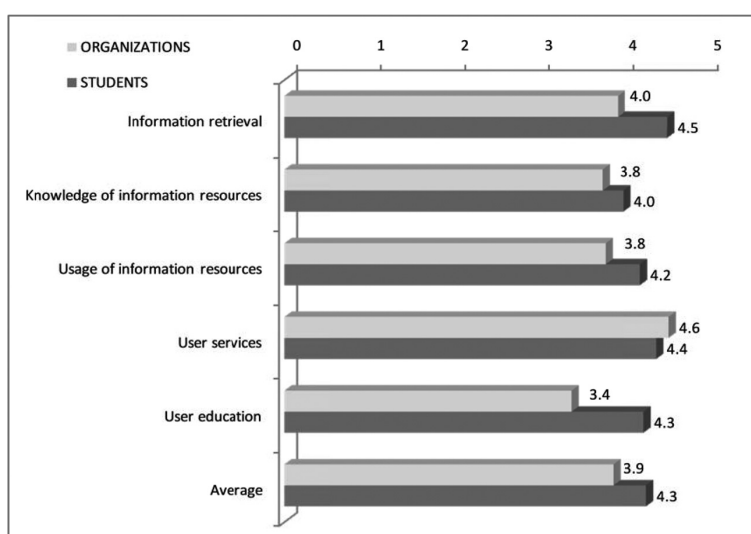


Fig. 6. Students' competence in serving the public during work experience program according to organizations and students. Averages in Likert scale scores.

c) The assessment of the students' level of knowledge in information organization (as cataloguing, classification, indexing, documentation and use of standards) was also achieved by a Likert scale type question (question no. 5, see Appendix 2). The average scores in seven domains of information organization are shown in Fig. 7 (data pertaining to students and organizations).

Deviation among the perceptions of the two groups is not significant with the exception of "Documentation of digital items". In closer examination of these results, it became obvious, especially in relation to data collected through the open ended questions and the actual employment of students in documenting digital objects that students were indeed able to respond sufficiently. The low rate depicted in the statistical analysis was a result of the fact that some organizations had not actually adopted description standards for digitized museum objects. This created somewhat an uncertainty and we believe this should not be taken as a pure statistical result.

Furthermore, in relation to creating records of digital collections, there was also a rather high expectation on behalf of some organizations that the students were to set up the environment (e.g. a repository), select standards and implement a repository. This is considered to be much of an expectation from a beginner professional and at a timeframe of six months within a work experience program. It should be mentioned that the curriculum includes a course on digital libraries, a course on the use of standards and relevant courses in dealing with digital items.

It should be stressed here that organizations with diverse form of collections (libraries and archives) had no significant deviations. Cataloguing, classification and documentation of archival materials are all within the range of 3.6 and 4.

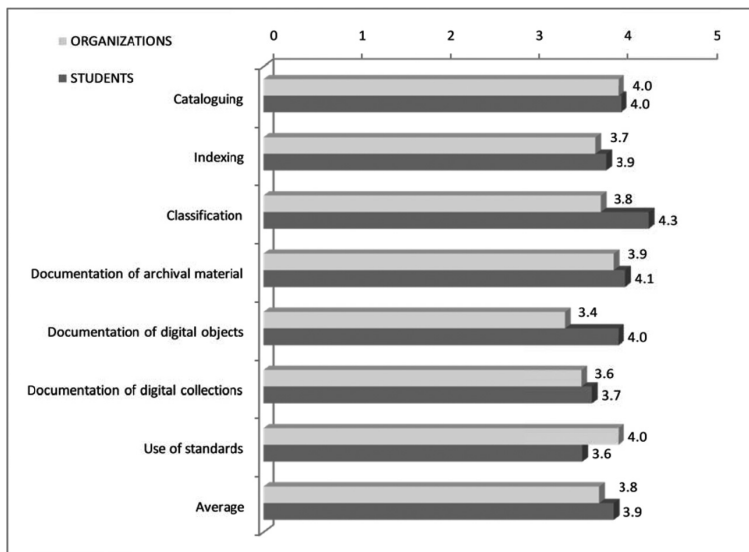


Fig. 7. Students' competence in information organization during work experience program according to organizations and students. Averages in Likert scale scores.

d) The assessment of the students' level of knowledge of a general background, along with languages and writing skills was also achieved by a Likert scale type question (question no. 6, see Appendix 2). The average scores in four domains depicting general knowledge background are shown in Fig. 8 (data pertaining to students and organizations).

Significant deviation is observed in the writing skills (this included writing of reports, proposals, professional letters and academic papers). It became obvious that students were not confident in their abilities whilst organizations rated their work much higher than what they rated themselves. It should be noted that the curriculum offers a research methods course and a research seminar where students have the opportunity to write papers on professional and scientific issues of their choice. General knowledge and use of English had also high scores.

Finally, in an open ended question to suggest areas of knowledge needed to be emphasized further one of the employers made a comment on desiring more familiarity with information sources especially in the area of medical information sources and two of the employers coming from library and archives respectively noted that further familiarity is needed with digitization processes.

It was an interesting result to see that students at a rate of 36% responded that they felt they needed more knowledge in the following areas: Web 2 applications and more hours of applications in digital libraries. Some individual but rather interesting comments included the need for further developing their academic writing abilities and knowledge related to a broader background such as history, administrative history,

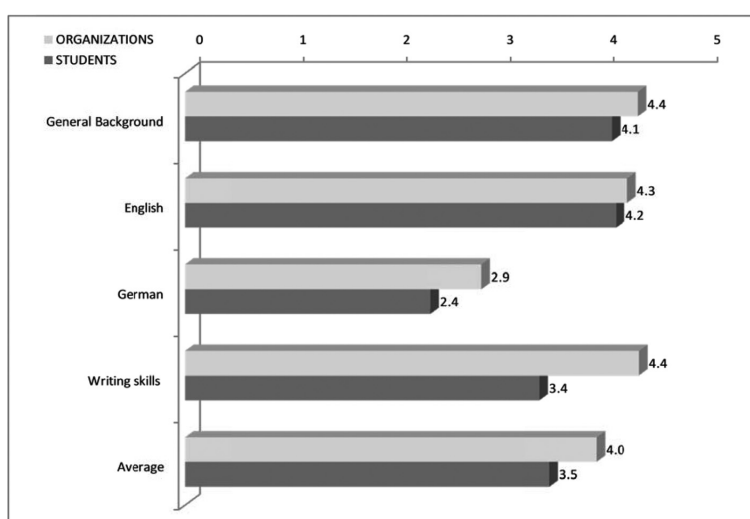


Fig. 8. Students' general knowledge background assessed during the work experience program according to organizations and students. Averages in Likert scale scores.

use of legislation, etc. This was also reflected in the statistical results as student confidence in their writing abilities was low at 3.4 whilst the organizations seemed to have much higher confidence to them assessing them with 4.4.

Furthermore, it was evident that we needed to evaluate the program as a whole and track the ensuing benefits for both hosting organizations and students. The questions were corresponding and geared to measure the same element but phrasing and emphasis was slightly different (question no. 7, see Appendix 2).

For example, the question regarding the benefit of "work" for the student was phrased to indicate "gaining of work experience" while for the hosting organization was "manpower". Similarly, the benefit of "cooperation" for the students meant "develop cooperation skills" while for the organization meant "develop cooperation with educational institutions". Likewise, "taking initiatives" for the students corresponds to "encourage employee initiatives" for the organizations. Different emphasis is given to the element regarding "apply knowledge in a real work environment" set for the students and "encourage cooperation among employees". The final set element to assess benefits deriving from the work experience program was the "new experiences" for the students matching the element of 'introduction of novelties' for the organizations. An open ended element for both groups to present their own ideas about the benefits of the work experience program was also added.

In summarizing, data regarding the benefits for both organizations and students resulting from the work experience program were gathered and are presented in Fig. 9.

The 'work experience' and "manpower" rated high and it gave the emphasis of the program. It was also the main benefit for the organizations. For the students the

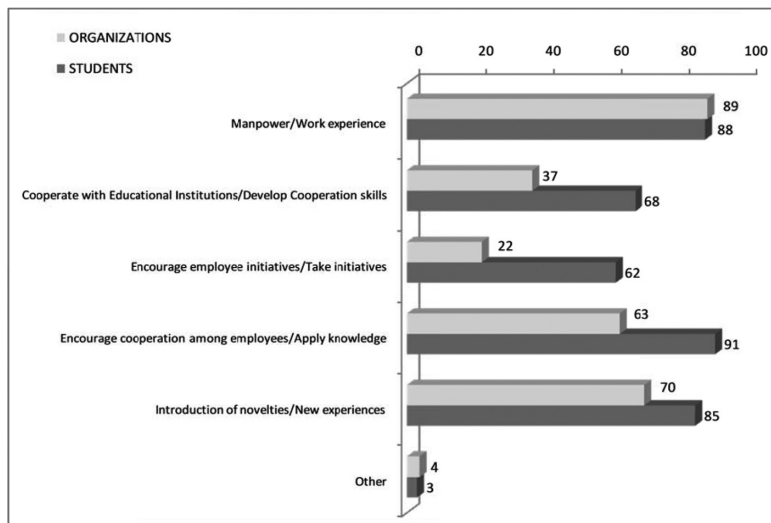


Fig. 9. Benefits for both organizations and students resulting from the work experience program (percentages).

benefit of “apply knowledge” gained in the classroom into a real work environment was even higher than the experience itself and it was by far their major benefit. Close to it is the “work experience” and the element of “new experiences” as a whole in their lives. This factor was also rated high by organizations as they commented that students brought to the organizations new ideas, novelties and acted as a renewing force. The cooperation element for the students -meaning cooperation with other employees- rated medium to high. Contrary to that, cooperation for organizations -meaning cooperation with educational institutions- rated low. This low rating was attributed to the fact that once the student is placed there is no more contact with the department, with the exception of the two unannounced visits by the supervising professor. However, the Department is currently looking for ways to further enhance cooperation with the hosting organizations.

The open ended element did not produce anything significant. Responses (two individual ones, one from each group respectively) reported things that were really new experiences.

As it is mentioned above, we believe that professionalism is built during the studies and it is an element that we needed to assess. Professional ethics, professional responsibility and pride are important elements that we felt we needed to evaluate. Question no. 8 (see Appendix 2) attempted to gather relevant data. Figure 10 presents the measurement of elements depicting professionalism of library and information science students expressed at the work place during their work experience program. The scores are indicative of an emerging professionalism and a high professional ethic of students. It should be mentioned that all scores are above 4 providing an average of 4.6.

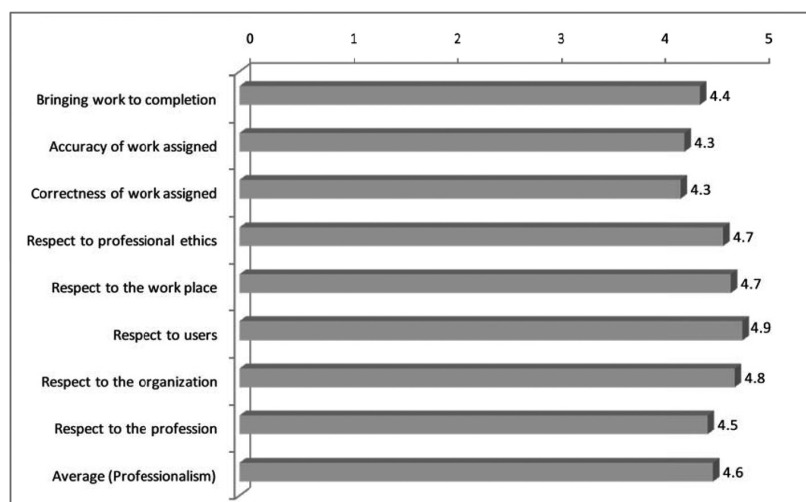


Fig. 10. Student professionalism assessed during the work experience program according to organizations. Averages in Likert scale scores.

6. Conclusions

The implementation of the curriculum and its evaluation presented here, support the belief that information science is an integrated interdisciplinary field and in a sense is the evolution of the traditional fields of library science, archives and partly museum studies.

In cases where this was not applicable we retained the particularities connected to traditional information fields, emphasizing their common elements and primarily treating them all under the light of a unified and integrated set of principles.

Technology provides the vehicle, through which information science is enhanced and at the same time it empowers the human and social character of information. It is also evident, that the curriculum of our department although comprises a dynamic model that is tested in practice, it is bound to undergo further changes and adjustments in order to achieve the objective of a continuously evolving integrated information field in education.

Results indicate that students can manage at good level ITs, Reference Services and Information Organization independently of the form of collections. They are able to work and implement professional tasks equally in a library, archives and museum. Similarly, organizations perceive their abilities and work independently of their nature. Background knowledge, languages and writing skills are also at a good level. Suggestions for further improvement of the curriculum, deriving from the research described above, include the incorporation of a course or a module within a course regarding user education/information literacy.

In concluding, one of the strong points emerging from the implementation of the curriculum is the strong sense of professionalism assessed by the hosting organizations.

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Appendices

Appendix 1

The following table presents the Curriculum, as it is in effect from the fall term of 2008. Column 2 indicates the scientific field that each course pertains to. Courses having an IS (Information Science) code form the core curriculum and illustrate the approach of information as an integrated field. The same holds for Technology courses (T) and Broad Educational Background (BEB) which are also catering to all areas of information. Courses having codes A (Archives), L (Library studies) and M (Museum Studies) are specifically designed for the needs of the corresponding areas

	LIS Code	Subject	Theory (hrs/week)	LAB (hrs/week)	Total (hrs/week)	Work Load (total hrs)	Credits (ECTS)
1st Sem.							
1	L 100	Introduction to Library and Information Science	5		5	225	7.5
2	L 106	Descriptive cataloguing	2	3	5	135	5.0
3	T 140	Introduction to Information Technology	3	3	6	180	6.0
4	A 160	Introduction to Archive Science	5		5	225	7.5
5	BEB 176	Communication	3		3	135	4.0
5	Total		18	6	24	900	30.0
2nd Sem.							
1	L 101	Collection Development	4		4	180	6.0
2	T 145	Introduction to Communications Technology – Internet	2	2	4	120	4.0
3	IS 120	Information Policy	3		3	135	4.0
4	IS 121	Information Sources and Services	4		4	180	6.0
5	IS 130	Subject-Based Access Systems	3	2	5	165	6.0
6	IS 131	Information Encoding Standards	2	2	4	120	4.0
11	Total		18	6	24	900	30.0
3rd Sem.							
1	T 245	Information Retrieval	3	2	5	165	6.0
5	BEB 280	Research Methods	4		4	180	6.0
3	IS 230	Information Organization – Indexing	3	3	6	180	6.0
4	IS 231	Information Organization – Classification	3	3	6	180	6.0
5	BEB 281	History of the Book and Libraries	4		4	180	6.0
16	Total		17	8	25	885	30.0

Appendix 1, continued

	LIS Code	Subject	Theory (hrs/week)	LAB (hrs/week)	Total (hrs/week)	Work Load (total hrs)	Credits (ECTS)
4 th Sem.							
1	L 200	Bibliography	3	2	5	165	6.0
2	A 261	Administrative Institutions and Archive Production in Greece and the European Union	3		3	135	4.0
3	T 240	Information systems – Databases	2	2	4	120	4.0
4	M 220	Museum Studies	3	1	4	150	6.0
5	IS 225	Management of Information Units	4		4	180	6.0
6	BEB 276	English Terminology	3		3	135	4.0
22	Total		18	5	23	885	30.0
5 th Sem.							
1	A 360	Managing Archival Materials	3	2	5	165	6.0
2	T 340	Information System Analysis and Design	2	2	4	120	4.0
3	T 341	Digital Libraries	2	3	5	135	5.0
4	BEB 376	French or German Terminology	3		3	135	4.0
5	BEB 377	Psychology of the Reader and Reading	4		4	180	6.0
6a	BEB 378	Education and School Libraries: A Social Approach					
6b	BEB 381	Art History	3		3	135	5.0
28/29	Total		17	7	24	870	30.0
6 th Sem.							
1	A 361	Records Management	4	2	6	210	7.5
2	IS 321	Information Sources – Humanities and Social sciences	4		4	180	6.0
3	IS 390	Conservation and Preservation	3	2	5	165	6.0
4a	L 302	Publishing					
4b	T 345	Internet Applications	3	2	5	165	6.5
5a	A 370	Modern Greek History Sources					
5b	BEB 382	History of Writing & Information Technology	3		3	135	4.0
33/36	Total		17	6	23	855	30.0

Appendix 1, continued

	LIS Code	Subject	Theory (hrs/week)	LAB (hrs/week)	Total (hrs/week)	Work Load (total hrs)	Credits (ECTS)
7 th Sem.							
1	L 406	Technical Services		4	4	60	2.0
2	M 420	Cultural Heritage Management	3		3	135	4.0
3	IS 438	Knowledge Management	2	2	3	120	4.0
4	BEB 492	Financial Management of Non-Profit Organizations	4		4	180	6.0
2	IS 421	Information Sources – Sciences and Applied Sciences	4		4	180	6.0
6	BEB 496	Research Seminar		3	3	45	2.0
7a	BEB 480	Literature	4		4	180	6.0
7b	BEB 485	History and Philosophy of Science					
40/44	Total		17	9	26	900	30.0
8 th Sem.							
	TH 450	Diploma Thesis				500	20.0
	WE 470	Work Experience				350	10.0
	Total		122	47	169	850	30.0
	100%		72%	28%		7.845	240.0

Appendix 2

Corresponding questionnaires designed for the assessment of curriculum during the work experience program

No.	Hosting Organizations questionnaire	Students questionnaire
1	<p>Students' occupations (choose from the following list):</p> <ul style="list-style-type: none"> - Reference services - Information retrieval - Circulation - Reading rooms - Cataloguing/ indexing - Documentation - Classification - Use of standards - Functions/events - Other 	<p>Students' occupations (choose from the following list):</p> <ul style="list-style-type: none"> - Reference services - Information retrieval - Circulation - Reading rooms - Cataloguing/ indexing - Documentation - Classification - Use of standards - Functions/events - Other
2	<p>Students' areas of responsibility (choose from the following list):</p> <ul style="list-style-type: none"> - Reference services - Information retrieval - Circulation - Reading rooms - Cataloguing/ indexing - Documentation - Classification - Use of standards - Functions/events - Other 	<p>Students' areas of responsibility (choose from the following list):</p> <ul style="list-style-type: none"> - Reference services - Information retrieval - Circulation - Reading rooms - Cataloguing/ indexing - Documentation - Classification - Use of standards - Functions/events - Other
3	<p>Rate the students' level of competence in the following fields of information technology (use a scale from 1 to 5):</p> <ul style="list-style-type: none"> - Databases - Library software - Communication/Web - Word processing - Spreadsheets 	<p>Rate your level of competence in the following fields of information technology (use a scale from 1 to 5):</p> <ul style="list-style-type: none"> - Databases - Library software - Communication/Web - Word processing - Spreadsheets
4	<p>Rate the students' competence in serving the public (use a scale from 1 to 5):</p> <ul style="list-style-type: none"> - Information retrieval - Knowledge of information resources - Usage of information resources - User services - User education 	<p>Rate your competence in serving the public (use a scale from 1 to 5):</p> <ul style="list-style-type: none"> - Information retrieval - Knowledge of information resources - Usage of information resources - User services - User education

Appendix 2, continued

No.	Hosting Organizations questionnaire	Students questionnaire
5	<p>Rate the students' competence in the following tasks of information organization (use a scale from 1 to 5):</p> <ul style="list-style-type: none"> - Cataloguing - Indexing - Classification - Documentation of archival material - Documentation of digital objects - Documentation of digital collections - Use of standards 	<p>Rate your competence in the following tasks of information organization (use a scale from 1 to 5):</p> <ul style="list-style-type: none"> - Cataloguing - Indexing - Classification - Documentation of archival material - Documentation of digital objects - Documentation of digital collections - Use of standards
6	<p>Rate the students' broader educational background (use a scale from 1 to 5):</p> <ul style="list-style-type: none"> - General Background - English - German - Writing skills 	<p>Rate your broader educational background (use a scale from 1 to 5):</p> <ul style="list-style-type: none"> - General Background - English - German - Writing skills
7	<p>Benefits for the organization resulting from the work experience program (choose from the following list):</p> <ul style="list-style-type: none"> - Manpower - Cooperate with Educational Institutions - Encourage employee initiatives - Encourage cooperation among employees - Introduction of novelties - Other 	<p>Benefits for the student resulting from the work experience program (choose from the following list):</p> <ul style="list-style-type: none"> - Work experience - Develop Cooperation skills - Take initiatives - Apply knowledge - New experiences - Other
8	<p>Rate student professionalism (use a scale from 1 to 5):</p> <ul style="list-style-type: none"> - Bringing work to completion - Accuracy of work assigned - Correctness of work assigned - Respect to professional ethics - Respect to the work place - Respect to users - Respect to the organization - Respect to the profession 	N/A