

The necessity of information literacy education in a marketing department

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Abstract

Purpose – To provide reliable data for the development of efficient information literacy education in a department of a higher educational institute in Thessaloniki, Greece. It requires in-depth understanding of the current situation as well as future expectations.

Design/methodology/approach – Two research objectives were set. One was to record the use of resources by students and their perceptions, as well as the expectations of faculty regarding information literacy skills. The other was to examine the preferences of students and faculty regarding information literacy education. Two surveys were conducted among both students (cluster sampling) and faculty (census) by the utilization of relative structured questionnaire.

Findings – The project reveals that the percentage of students who use the e-resources of the library is relatively low, and that the few students who attended the bibliographic instruction seminar use the e-resources more for the completion of their assignments. Also faculty were found to do very little in class to motivate students to use library sources for completing long research papers. With reference to students' and faculty's preferences concerning future information literacy education, it was indicated that the greatest percentage prefer instruction at user's request, and a course integrated into the curriculum. Focusing on a course integrated in the curriculum, it is suggested that it is provided at the first or second semester of their studies, to be developed on the basis of librarian/faculty cooperation and supported by demonstration of resources and/or hands-on workshops.

Research limitations/implications – Further research is needed to fill the gaps left in understanding faculty attitudes toward information literacy. Also duplicating this survey in other departments of Technological Educational Institution could provide a picture of the kind of information literacy education a Greek institution should apply.

Practical implications – This research implies the need for developing a course integrated into the curriculum tailored to the interests of the students, designed to develop critical thinking skills. It is suggested that this course should be provided at an appropriate time that would allow students to acknowledge its relevance to course content. A multimedia product is suggested as a handbook to this course.

Originality/value – This research tries to fill a gap in the published literature which does not offer any surveys in Greek academic institutions about perceptions and practices of faculty and students regarding information literacy programs.

Keywords Literacy, Training, Academic libraries, User studies, Greece

Introduction

Libraries as social institutions respond directly to the needs of their primary users, who are students in higher education libraries. Librarians can help students conduct library research and evaluate what they find in a systematic manner. In other words, they assist them in becoming information literate. In recent years, many reports from different surveys all over the world reveal that most members of teaching faculty recognize the importance of information literacy education and the need to improve students' information literacy skills (Ivey, 1994; Leckie and Fullerton, 1999; Sinn, 2000; MacDonald et al., 2000).

Information literacy education has been perceived in a variety of ways. There has been an ambiguity regarding terminology of the concept. By some the term is being considered appropriate as a broad term for "... user education and library instruction emphasising student learning and the pedagogical role of the librarian" (Skov and Skoerbak, 2003, p. 326). Terms, such as library instruction, bibliographic instruction (BI), and user education might be used synonymously. However, for the purpose of this study the following definition of information literacy was adopted:

To be information literate, a person must be able to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information (American Library Association Presidential Committee on Information Literacy, 1998, p. 1).

The importance of information literacy should be emphasized, especially at present, with many technological changes taking place. "In this digital age, students need to be more information literate than ever before" (Correia and Teixeira, 2003). However, the development of efficient information literacy education initially requires in depth understanding of the current situation as well as future expectations. What are the information needs of the students and what skills do they hold in exploring the available sources of the library? What are their preferences with regard to their future needs? What is the faculty's perception concerning information literacy education?

In Greece, programs which will enable students to survive and be successful in an information and technologically rich environment (Correia and Teixeira, 2003) have no tradition among the academic community. University curricula do not include any courses aiming to teach students how to select and evaluate the needed information. Academic research in Greece has neglected the need to investigate perceptions and practices of students and faculty regarding information literacy education to date.

Therefore, this study aims to provide further knowledge with regard to the most appropriate information literacy education which will help students become lifelong learners in their discipline. A research project was designed to elicit and classify the perceptions and the needs of both students and faculty of the Technological Educational Institution (TEI) of Thessaloniki and to determine the most appropriate approaches to meet these needs. It is noted that the technological evolution at the TEI library includes the introduction of the online catalogue, the online versions of reference sources, more than 4,000 electronic journals and the advent of the internet and the world wide web. The main aim of the survey was to collect reliable data to support the development of a course integrated in the curriculum which will incorporate the concept of critical thinking aimed at lifelong learning.

Review of the literature

The need for information literacy education has been identified by many authors (Harley, 2001; Cunningham and Lanning, 2002; Varga-Atkins and Ashcroft, 2004). Most studies in the relevant literature indicate that faculty members consider information literacy skills to be a prerequisite for academic success. However, most of the faculty do not feel responsible for developing the information literacy skills of their students (Maynard, 1990; Canon, 1994; Thomas, 1994). More specifically, some studies show that most faculty believe that librarians should have the responsibility to teach people how to use library resources (Julien, 1998; Thomas, 1994), while others show that both faculty and librarians should be responsible for information literacy education (Maynard, 1990; Canon, 1994; Sinn, 1998, 2000; Hollister, 2004).

The results of different studies have also indicated differences in faculty perceptions, pedagogical practices and sources or topics introduced to students in various departments. For example, Sinn's (1998, 2000) findings showed that there was a focus on topics such as how to use some specific databases, how to use the world wide web, and the differences between journals and magazines. There are also differences among departments as to the instructional methods faculty prefer, and as to how valuable the information literacy skills would be for their first and second year students (Canon, 1994; Leckie and Fullerton, 1999). Herrington (1998) has suggested that for instruction to be effective it must be presented at the time students realize the need. Canon's (1994) study indicated that information literacy education could be successful, only if it is course related. Students need to learn to solve problems that reflect an authentic context (Savery and Duffy, 1995; Nicaise and Barnes, 1996; Reigeluth, 1996; Reigeluth and Squire, 1998; Farmer, 2003). Opaleke (1999) concluded that students can learn better how to use the information sources of the library if they are given work to search that relates to their area of specialization. On the other hand, there are not many studies concerning students' perceptions regarding their needs, as in most European and American Universities, BI has been already a tradition and has been moved into information literacy education. Thus, the research focuses on evaluating the existing programs (Stewart, 1999; Williams, 2000; Maughan, 2001). In Greece an almost absolute absence of research has been observed. The exception is a study at the TEI of Thessaloniki (Sarmaniotis and Tilikidou, 1998 indicating that the majority of faculty (85.6 percent) and students (79.0 percent) accepted the need for library instruction).

Objectives

At an effort to accomplish the aim of the study and in light of the literature review the following research objectives were set:

- . to record the use of resources by students and their perceptions, as well as the expectations of faculty regarding information literacy skills; and
- . to examine the preferences of students and faculty regarding information literacy education.

Methodology

Considering that the content of the information literacy education should be related to a specific discipline, it was decided to examine a specific department – the Department of Marketing. Market research is essential in a marketing discipline; students are

expected to locate information on a wide variety of topics from seemingly diverse areas of the social sciences and business studies in order to design and implement efficient and effective strategies (Kotler and Armstrong, 1991). Therefore, this population was considered to be appropriate for an investigation of information needs. This diversity contributes to gaining insight in other areas of the social sciences. It was thought that an information literacy program addressed to the students of the Department of Marketing could be used as a model for preparing instructional materials for other departments as well.

Two surveys were conducted, one in the student population and one addressed to the faculty. For the students' survey the sampling method was the one-stage cluster sampling (Tull and Hawkins, 1993, p. 544). With the help of the weekly schedule of the department, one class of each semester was randomly selected. The procedure resulted in distribution in seven classes. The instrument of the survey was a structured questionnaire which was pre-tested by ten students and five members of the department faculty. Members of the faculty were used at this point in an effort to gain face validity of the questionnaire (Tull and Hawkins, 1993, p. 317). The revised questionnaire was distributed to the sample during their class session. The data collection provided 233 usable responses. With regard to faculty, as the population size was 45, a census was conducted. The instrument was a specially designed structured questionnaire. This procedure provided 38 usable responses.

It should be mentioned that the design and the content of the questionnaires were very much assisted by the work of the following authors: Maynard (1990), Thomas (1994), Canon (1994), Sinn (1998, 2000) and Leckie and Fullerton (1999). The students questionnaire included 14 questions, in sum 63 variables, while the faculty questionnaire included 17 questions, in sum 61 variables. The first part of both questionnaires included situational characteristics: semester for students, teaching status, rank and years of experience for faculty. The second part of the questionnaires included topics referring to "use of resources", "assignments", "information gathering methods", "specific resources" and "evaluation of students' abilities concerning information skills". The third part focused on "preferences regarding information literacy education". As most of the variables were measured on a categorical scale, non-parametric techniques (chi-square and Kendal's correlation) were utilized for data processing.

Results

In the students' survey the variable "semester" was recoded in three categories. There is almost an equal number (around 30 percent) of students in each category. Relationships were looked for between each one of the variables under examination and each one of the situational characteristics. Significant relationships were found for students between "semester" and some variables to which we explicitly refer. No other situational variable provided any statistically significant relationships.

Current situation concerning the level of information skills

With regard to the sources students use, the findings indicated that a significant percentage (18.6 percent) of students have never used any "kinds of resources" in the library. The chi-square technique indicated a statistically significant χ^2 , $p < 0.01$ relationship between "kinds of resources" and "semester" recoded. Reading the Table I

horizontally the following observations were made: from those students who do not use any sources: almost all (93 percent) belong to the first two semesters; the percentage of students who use only the electronic sources is higher in the first and second semesters; in the fifth-eighth semesters most students (45.6 percent) use both printed and electronic, while none of them uses only the electronic sources; the percentage of those students who use both the electronic and printed sources increases in higher semesters, 21.5 percent in the first and second semesters, 32.9 percent in the third and fourth semesters and 45.6 percent in the fifth-eighth semesters (Table I).

As for the specific resources of the library, the question consisted of ten variables, measured on a 5-point frequency scale from 0 O not aware to 4 O more than 11 times during an academic year. It is observed (Table II) that a significant majority of the students either are not aware of the specific resources and tools of the library or have never used them. The greatest percentage is “not aware” or has “never used” most of the electronic resources. They stated that they have used mainly “books and monographs”, “printed reference materials” and “current journals”. The majority of the faculty (84.2 percent) declared that they expected their students to use “library resources”; mainly “books” and “research or review articles” (Table III).

Data indicated that the majority of students (68.8 percent) use library resources mainly for the completion of “long research papers”, while 36.8 percent used them for a “short paper”. The chi-square technique indicated a statistically significant $\pi p, 0:01\acute{\eta}$ relationship between “semester” and “long research paper” (Table IV). Kendal’s non-parametric correlation verified the above finding. It indicated a statistically significant, positive, moderate relationship between “semester” and “long research paper” $\pi O 0:328; p, 0:01\acute{\eta}$: As for the kind of assignments faculty expect their

	1st and 2nd semesters (percent)	3rd and 4th semesters (percent)	5th-8th semesters (percent)	Total (percent)
Printed	17.0	45.3	37.7	100
Electronic	66.7	33.3		100
Both	21.5	32.9	45.6	100
None	93.0		7.0	100

Table I.
Students’ use of library resources across semesters

	Not aware and never (percent)	1-5 times (percent)	6-10 times (percent)	11 ó times (percent)
Current journals	41.6	39.8	14.3	4.3
Indexes or abstracts	56.3	32.9	6.9	3.9
Books/monographs/textbooks	26.8	42.9	24.7	5.6
Printed reference material	34.7	42.0	16.5	6.9
Popular literature	42.8	38.1	14.3	4.8
The catalog	71.0	22.5	4.8	1.7
CD-ROM network	87.4	11.3	0.9	0.4
Greek periodical index	76.6	20.8	5.2	0.4
E-journals	74.5	19.9	3.9	1.7
Internet	40.3	34.2	12.6	13.0

Table II.
Times students have used the sources of the library during the last year

students to complete, 47.4 percent declared a “short paper”, while 26.3 percent expected them to complete a “long research paper”.

It was found that students were informed about “information gathering methods” mainly by asking librarians (41.6 percent), while a small percentage (14.7 percent) had attended a user education seminar. From those that attended the seminar, almost all (94.1 percent) belonged to the four last semesters (Table V). Kendal’s correlation indicated a statistically significant, positive, moderate relationship between “semester” and the variable “attended a seminar” $\tau = 0.445$; $p = 0.014$. In addition chi-square technique indicated statistically significant $\chi^2 = 10.11$ relationships between “semester” and students “attended a seminar”, as well as “semester” and students “asked a librarian”. Focusing on those who attended a seminar it is interesting to note that correlation indicated a statistically significant, positive, moderate relationship between “attended a seminar” and the number of times they have used the resources: “current journals” $\tau = 0.408$; $p = 0.014$ and “periodical indexes or abstracts” $\tau = 0.306$;

		Percent
Table III. List of library resources faculty expect their students to use	Research or review articles	73.7
	Monographs	34.2
	Books	73.7
	Studies/essays	55.3
	Periodical indexes and abstracts	28.9
	Text-books	44.7
	Encyclopedias and dictionaries	7.9
	Statistical data	55.3
	Popular literature (newspapers/magazines)	55.3

		1st and 2nd semesters (percent)	3rd and 4th semesters (percent)	5th-8th semesters (percent)
Table IV. Assignments students have to complete across semesters	Short research paper	25.9	36.5	37.6
	Long research paper	22.6	34.6	42.8
	Compile bibliography	22.1	38.2	39.7
	Class presentation	28.4	43.2	28.4
	Specific data (i.e. statistics)	18.5	23.5	58.0

		1st and 2nd semesters (percent)	3rd and 4th semesters (percent)	5th-8th semesters (percent)
Table V. Students informed about gathering methods across semesters	Attended the seminar		5.9	94.1
	Asked a member of the faculty	24.0	40.0	36.0
	Asked a librarian	18.8	47.9	33.3
	Asked a friend	37.2	38.4	24.4
	Read user’s guides	38.9	27.8	33.3

p , 0:01ñ: Finally, it should be noted that no students answered an open question referring to which “specific resources” they have mostly used for their information needs.

About 44.7 percent of the faculty stated that they provided some kind of library instruction to their students. The greatest percentage (42.1 percent) suggested their students ask librarians for help, while 10.5 percent asked students to attend the one-hour seminar. Only 7.9 percent of faculty provided “integrated instruction”. Of those providing “integrated instruction” during their class sessions, it seems that their favourite subject is the “development of a topic” (60.5 percent). Next is to teach their students how to use “printed journals” (55.3 percent), how to “structure and design a research paper” (52.6 percent) and how to “use of internet/web” (44.7 percent). Not surprisingly, only 26.3 percent of faculty include in their class sessions “information retrieval techniques from databases” and 15.8 percent “printed periodical indexes or abstracts”. Like the students, the great majority of the faculty did not answer the question, referring to which “specific resources” they mostly suggest their students to use.

Concerning the perception regarding students’ information skills, it is noted that the question was examined in three separate variables which were measured on a ranking scale from 0 O cannot evaluate to 4 O very good. The students stated that their abilities to search printed and electronic sources (61.9 and 33.8 percent, respectively) and evaluate library sources (63.2 percent) were “satisfactory”. Quite similarly faculty seem to have confidence in their students’ abilities to search printed sources (47.4 percent) and to use the information obtained effectively (47.4 percent). However, most members of the faculty (39.5 percent) did not seem to trust their students in retrieving information from electronic resources and they rated their ability as “not satisfactory”.

The necessity of information literacy education

Almost all students (93.5 percent) considered user education of any kind to be very important for their academic success. User education is the term which was used in the questionnaire and the following definition was given to respondents orally – “to educate library users to utilize the resources of the library effectively”. With regard to the kind of user education programs, they stated to prefer mostly “instruction at user’s request”. However, it should be pointed out that around one-third of students prefer a “separate course” as a user education program (Table VI). However, one-third of faculty stated as a first choice a “separate course” integrated in the curriculum (Table VI).

Students reported that more or less all of the “topics”, “sources or tools” should be included in a course integrated into the curriculum. Details of their choices are shown

	Students (percent)	Faculty (percent)
Instruction at user’s request	42.0	13.2
Separate user education course	32.9	34.2
One-hour seminar	29.4	10.5
Online tutorial	25.5	21.1
One-week seminar	25.1	15.8
BI integrated in a course	19.9	10.5

Table VI.
User education programs
students and faculty
prefer

in Table VII. With regard to the kind of “support” for a separate course, “demonstration of resources by librarians” and “hands-on workshops on specific tools” were found to be the first two choices for both populations (Table VIII). “Computer assisted/multimedia” was the third choice for students. It should be noted that Kendal’s non-parametric correlations indicated that those who prefer “computer assisted/multimedia” were those who were more or less acquainted with information technology. Finally, both students (83.1 percent) and faculty (65.8 percent) indicated the first or second semester of studies as the most appropriate for the course to be included. Also, the majority of students (61.9 percent) and faculty (57.9 percent) believed that librarians cooperating with faculty should be responsible for teaching a user education course.

Discussion

The fact that a significant percentage of students has never used any kind of resource in the library is not completely surprising. It was found that those who use the library resources more frequently belong in the higher semesters. It is common knowledge in TEI (Korobili, 2004, p. 107) that students in their first two semesters of studies rely

	Percent
Development of a topic	53.7
Compilation of bibliography	44.2
Scholarly journals vs magazines	40.3
Structure and critical reading of articles	46.3
Various forms of sources	55.4
Use of internet/web	66.7
Retrieval of information	56.3
Design of a research paper	66.7
Printed journals	70.6
Printed indexes or abstracts	42.4
Other reference sources	61.9
OPAC	53.7
CD-ROM databases network	51.9
Index of Greek journals	53.7
Electronic journals	60.6
Specific URLs	65.4
Specific sources	45.0

Table VII.
Topics, sources and tools
students prefer for a
course

	Students (percent)	Faculty (percent)
In class demo of resources by librarians	60.6	42.1
Hands-on workshops on specific tools	44.6	47.4
Computer assisted/multimedia	42.9	23.7
Assignments designed by librarians and faculty	30.3	28.9
In class specific lectures by librarians	26.8	18.4
Team teaching and grading by faculty and a librarian	13.9	13.2

Table VIII.
Kind of support students
and faculty prefer for a
course

mainly on textbooks and it is difficult to motivate these students to use library resources for their assignments. The relatively low frequency level of use could also be explained by the fact that not all members of the faculty expect their students to use library resources and that most of the faculty do not require students to complete long research papers.

With regard to the kinds of library resources, given that the majority of the faculty expect students to use printed materials, students have indeed stated that they mainly use them. It is not surprising, though, that very few students use journal indexes or abstracts, the tools, which would help them to locate the most relevant articles for their assignments, as very few faculty choose to talk about them in their class sessions. A long research paper would also force students to use indexes or abstracts. It was also found that only two members of faculty suggest that their students use some printed statistical annuals or specific search services for electronic journals, e.g. Emerald and Wilson web. In fact it was revealed that probably most faculty are not aware of the e-resources that are available in the library and, as a result, students are not acquainted with specific resources.

But how have students learned to retrieve information from library resources? Most stated they are informed by asking librarians. This finding is consistent with faculty findings, according to which the majority suggest that students ask librarians. It is worth noting that only 10 percent of faculty take their class to the library for the one-hour seminar and less than 15 percent of the students have attended this seminar. The few students that have attended the seminar were found to be more frequent users of current journals and periodical indexes or abstracts. This suggests the helpfulness of the one-hour seminar.

Results concerning faculty's instruction to their students provide an indication that they do very little in class about library research. This finding is consistent with Leckie and Fullerton's (1999), Canon's (1994) and Thomas' (1994) findings. With regard to the "topics", "sources or tools" that the faculty include during their class sessions, this study indicated that there is a preference for development of a topic, use of printed journals, structure and design of a research paper and use of the internet and the web. The inclusion of these topics in their class sessions may be due to the fact that they feel more comfortable with teaching such topics or they believe that these are basic needs for their students to help them complete their assignments. Instruction including "specific bibliographic resources", "critical reading scientific articles" and differentiation between "magazines and journals" which were revealed in Sinn's (2000, p. 27) study seem to be underestimated in our findings.

It was also found that most members of faculty do not seem to trust their students' ability to retrieve information from electronic sources and they rate their ability as not satisfactory. A possible explanation is that, as most students learned library skills on their own or by asking librarians without any formal training in electronic sources, this may not always yield the quality of results expected by most faculty. In Canon's (1994) and Leckie and Fullerton's (1999) studies, faculty perceive that their students' ability has been improved by their senior year.

With regard to the students' preferences, it is noted that their choices for instruction at the user's request may be explained by the claim that many students do not understand that this option cannot yield the necessary skills to find the most relevant information on a topic. It should also be noted that students mainly have to complete

short papers, for which they probably believe that instruction at user's request should be enough. On the other hand, most faculty prefer a separate user education course integrated in the curriculum. Although students reported the separate course as their second choice they seem to acknowledge the importance of all the necessary "topics sources and tools" for this course. It should be noted that indexes or abstracts and specific sources for the topic are not in the students' first priorities. It might be assumed that most marketing students expect their teachers to give them a list of citations and suggestions for specific sources.

If a course was to be integrated into the curriculum, both populations stated that they prefer it to be in the first or second semester of studies. A possible explanation may be that the majority of both populations consider library skills as prerequisite for students' academic success. It is also possible that the faculty would desire their students to master information skills for academic pursuits from their first year of studies. This finding is consistent to an extent with Leckie and Fullerton's (1999) findings at least for a number of the departments their study examined.

The majority of both faculty and students believe that a librarian assisted by members of faculty would be the most appropriate to teach a user education course. This result is parallel to Canon's (1994), Maynard's (1990), Cunningham's and Lanning (2002) and Skov's and Skoerbak (2003) findings. Faculty in our study prefer librarians assisted by members of faculty to teach this course perhaps because they are fully aware of the complexity of the electronic sources and their lack of the necessary information literacy skills. Another indication of the willingness of both students and faculty for faculty/librarians cooperation comes from their answers referring to the kind of support they think necessary for a course. The most popular answers for both populations were for "in class demonstration of resources by librarians" and "hands-on workshops on specific tools". It is noted that in Canon's (1994) study also there was evidence for a faculty preference towards hands-on training for computerized information resources. "Computer assisted/multimedia" was not the most popular for both populations. This may be due to their lack of adequate computer literacy. Those who prefer "computer assisted/multimedia" were probably aware of the necessity of an electronic tool to help them conquer the necessary knowledge for the use of the library e-resources more effectively.

Conclusions and implications

This project contributed to the existing knowledge of library use research by revealing certain issues concerning the Department of Marketing of Thessaloniki TEI. The project reveals that the percentage of students who use electronic library resources is relatively low, especially amongst those who belong to the first two semesters. Also faculty were found not to be adequately acquainted with library resources, thus they do very little in class to motivate students to use them for completing long research papers. Some faculty members incorporate in their classes some basic topics concerning library use. However, topics that could help students examine library resources more closely, such as "information retrieval", "structure and critical reading of scientific articles", etc. are those that are instructed the least. It has been also identified that the few students who attended the one-hour seminar are more acquainted with the electronic resources of the library and make use of them for the

completion of their assignments. Most students acquire some basic skills in library research mainly by asking librarians.

With reference to students' and faculty's preferences concerning future information literacy education, it was indicated that the greatest percentage prefer instruction at user's request, which is students' first choice, and a course integrated into the curriculum, which is faculty's first choice and students' second choice. Focusing on a course integrated into the curriculum, it is suggested this is provided at an appropriate time that would allow students to acknowledge its relevance to course content. As Herrington (1998) previously suggested, our research results indicate that the course should be taught in the second semester, when students will be able to see that there is a link between user education programs and their discipline. It is also suggested that this course must be closely related to the Marketing discipline as Leckie and Fullerton (1999) and Opaleke (1999) have also suggested. It should put heavy emphasis on teaching students how to retrieve relevant information mainly from electronic resources and how to evaluate this information. According to both students' and faculty's preferences, this course should be developed on the basis of librarian/faculty cooperation and be supported by demonstration of resources and/or hands-on workshops. In addition, we might add that a multimedia product would be an optimum support to the above suggested course for both students and educators for learning how to use the electronic sources more effectively.

Limitations and suggestions for further research

The findings of this project are certainly restricted. To begin with, the size of faculty was a limitation in drawing solid conclusions. As for the student survey, the variables measured would need extended improvement with regard to measurement accuracy. For example, findings concerning students' abilities in retrieving and effectively using the information might be argued as over-evaluated. Further research is needed to fill the gaps left in understanding, describing and predicting both faculty's and students' attitudes and behavior towards information literacy education. It would be also necessary to survey other departments of TEI. Duplicating this survey would help in generalizing the information literacy education a Greek higher institution should apply.

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