

Information Literacy Skills of Students at Paris Descartes University

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Abstract. This article discusses findings from a research study that evaluates the information literacy competencies of students at Paris Descartes University Institute of technology (UIT). This study was carried out to understand how the undergraduate students of this University deal with information. Findings reveal that a number of students have problems with basic information literacy skills and that the students from different disciplines have different needs.

Keywords: Information literacy skills, undergraduate students, France.

1 Introduction

In today's age of abundance of information, “a person must be able to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information”. [1]

Have the students of University Institute of technology (UIT) at Paris Descartes “the foundation for continued growth throughout the careers of graduates, as well as in their roles as informed citizens and members of communities”? [2] By evaluating the information literacy (IL) skills and learning how the undergraduate students of this Institute deal with information, we will have a good overview of the level of French students. In fact, the UIT aims to graduate students after two years of studies based on a national curriculum. Since the year 2000, UIT has delivered bachelor degrees. To join bachelor programs students must have completed two years of studies at any university. Therefore this study will give us also an idea about the level of the students from other universities. That is why we consider this group of students to be representative of the information literacy skills of the French undergraduate students at all the stages of their studies.

Most of the surveys in France have evaluated the way students conduct their research in the primary, secondary and High schools, or how young people behave [3-4]. However, few studies have evaluated the information literacy competencies of university students [5-7].

Gaining an increased understanding on how students carry out their research will let us know if French students are well prepared to face the challenges of our information society. It will help to detect weaknesses and to identify gaps to help improve training. For this purpose, we are going to answer the following questions:

- What are the information literacy competencies of students?
- Is there any relationship between the information competencies of the students and the type of baccalaureate¹ they prepared for?
- Furthermore, is there a meaningful difference in IL skills among disciplines? Are there different requirements for different disciplines?

2 Methodology

The data was collected during the first and the beginning of the second semester 2012-2013 by using an online survey² completed by the students enrolled at the University Institute of Technology (UIT) at Paris Descartes University.

The survey is a self-assessment checklist about the students IL Skills. The self-assessment criterion was the user's perception of his/her own agreement on a Likert scale from "strongly disagree" to "strongly agree" with a "no experience" option. The "neither agree nor disagree" suggested some measure of doubt. For other questions, we used the scale from "Never" to "Almost always". In the data analysis, the "very agree" and "agree" and the "always" and "almost always" were merged as each expressed the same opinion. It was the same for the "disagreement" and to "never" or "rarely".

The demographic questions were designed to explore factors that might have an impact on information literacy skills like gender, type of Baccalaureate, and age.

The survey was conducted in the classroom for the majority of respondents. For some departments, students were in an internship and the questionnaire was sent by mail. For those students, the number of respondents was low and especially for students from the Social Careers Department.

Quantitative data were entered, coded, and analyzed using the SPSS statistical package. Descriptive statistics were used to analyze the findings. Chi-square tests of independence were used to compare the factors such as disciplines and IL competencies.

3 Results

3.1 Participants

The survey questionnaire elicited 375 completed responses. This was an overall response rate of 16.27% of the total number of students at the UIT (2305) distributed in six departments: Social Careers (CS), Business and Administration Management (GEA), Information and Communication (IC), Computing Science (INFO), Statistics

¹ In France, to access the university, students should have their baccalaureate, a national high school diploma. There is two types of baccalaureate divided into streams: the general baccalaureate (ES - economic and social studies, L - literary and S - scientific) and the technological one (Management, Industrial, etc.).

² This survey was adapted from the Project Information Literacy research survey by A. Head and M. Eisenberg. [3]

and Data Processing (STID), and Marketing Techniques (TC). Each department offers a different diploma. The rate of response from each department is illustrated below in Table 1. The highest number of respondents was from the Information and Communication Department followed by the Computing Science Department.

Table 1. Number of students by department and year of study

| | | CS | GEA | IC | INFO | STID | TC | Total |
|--------------------------|--------------|-----------|-----------|------------|-----------|-----------|-----------|-------------|
| Total N of stud. by dep. | | 249 | 595 | 306 | 397 | 212 | 546 | 2305 |
| Year of study | First year | 8 | 21 | 95 | 32 | 18 | 3 | 177 |
| | Second year | 7 | 16 | 30 | 43 | 17 | 1 | 114 |
| | Third year | 2 | 8 | 30 | 21 | 1 | 22 | 84 |
| | Total | 17 | 45 | 155 | 96 | 36 | 26 | 375 |

47.2% of the respondents were in the first year representing 17.49% of the total number of first year students at the UIT. 30.4% of respondents were in the second year representing 12.88% of the total number of students. 22.4% of respondents were in the third year, which is 20.59% from the total number of students. Third year students, followed by the ones in the first year, were the most surveyed students. Second year students were in internship, which is why the number of participants is low.

62.4% of the participants are aged between 18-20 years (only one person was less than 18, and was counted with this group). 28.8% were between 21-23 years and less than 10% over 24. 54.7% of the respondents were female, with a predominance of girls (80%) in the Information and Communication Department. The boys were predominant (78.1%) in Computing Science. The percentage of males is also high (61.1%) for Statistics and Data Processing. For the other departments the gender difference was not so significant.

Most of the students (77.9%) at UIT come from a general baccalaureate. Few (14.7%) prepared a technological one. Very few (7.5%) has an equivalence diploma.

3.2 Starting an Assessment

The beginning of the course-related research process is rife with challenges for 53.3% of students. Only 18.9% of them do not have problems to start an assignment. There are fewer (41.9%) who have difficulty to define a topic. Only quarter of them (27.5%), find this task easy. A great number (58.9%) admit that they have difficulty in narrowing a topic. Less than quarter (18.1%) said that they do not have problems.

It is important to notice that a quarter of the students answered, “Neither agree nor disagree” for those three questions, which is significant. It is concluded that students are unsure about themselves and their competencies.

Students from different departments do not face equal challenges when they have to define the task for course-related research. Some have more difficulties to start an assessment, to define and to narrow the topic, such as the students from Business and Administration Management. For others, it is the easiest task, and that is the case for

students from the Information and Communication Department, except for the task of narrowing the topic. For this exercise, all the students are at the same level.

We expected that the number of respondents who will have difficulty to start an assignment will decrease with the level of year of study, but it was not the case. While 49.2% of the first year students had difficulty, this number increased to 57% with the second and the third year students. Maybe it is important to reconsider the curricula at UIT to help students improve their competencies.

The same observation can be made concerning the question related to defining a topic with these percentages: 38.4% for the first year, 42.1% for the second year and 48.8% for the third. The first year students have more difficulty to narrow down a topic (64.4%), comparing to the second (51.8%) and third year (57.1%). Narrowing down the topic is also problematic for 67.9% of students who prepared a technological baccalaureate and 60.6% who prepared a scientific baccalaureate.

3.3 Searching for Information

Successful information retrieval is essential for successful studies. We have focused our research efforts on how students find information.

Defining search terms is not considered difficult by 53.6% of students. Only 23.7% of them have difficulty with this step. It is the case for all years of study; students do not report improving their competencies by passing from first to second or to third year. What is difficult is elaborating the search strategy. This is the opinion of 41.1% of students. First year students have more difficulty (47.4%) than the second (25.3%) and the third year students (27.3%).

Students from different departments are not equal concerning the search for information. For Business and Administration Management students, it is difficult to come up with the search terms (46.7%) and to build a search strategy (53.3%).

Students from Social Careers are unsure about their competencies. More than half (52.9%) of them neither agree nor disagree with the assertion that “defining keywords is difficult” and more than a quarter (29.4%) do not have difficulty meeting this objective.

Students from other departments do not have problems with keywords (with a percentage varying between 53.8% and 61%) except for Business students as we saw before. However, the situation differs with building up the research strategy. Only students from Computing Science do not have difficulty, all others except Social Careers students find it hard to develop a research strategy (45.4% to 61.5%).

Students with a technological baccalaureate have more difficulty than students who prepared for a literature or scientific one.

Dealing with the resources from the library, what is remarkable is the number of students who do not have any experience with finding articles in their databases (24.8%), or figuring out where to find sources in the library (20.3%), or finding gray literature (21.6%). If we add the number of students who said that they have difficulty to find articles in database (32.8%) or to find gray literature (40.8%) to the number of students who didn't experienced this situation (24.8%), it become urgent to enhance training to access databases, especially when we know the quality of information they offer.

3.4 Resources Consulted

What is the students' preferred use of information sources for course work? Web search engines, Wikipedia, and Course reading, received a significantly higher rating than other sources. On the other hand, classical encyclopedias (6.4%), library shelves (5.3%) and library catalogs (4.8%) are seldom used. The worst scores are for gray literature and databases (2.9%) (See Fig. 1 Percentage of resources consulted). The number of years of study makes no difference in resources used. However, we noticed that the first year students consult less library catalogs (13.6%) than the third year (19%), government web sites (25.6 vs 40.5%), and the personal collection (31.8% vs 41.7%). Instead, they consult social networking (56.3 vs 63.1%). There is a possibility that in the next few years, this resource will become more important.

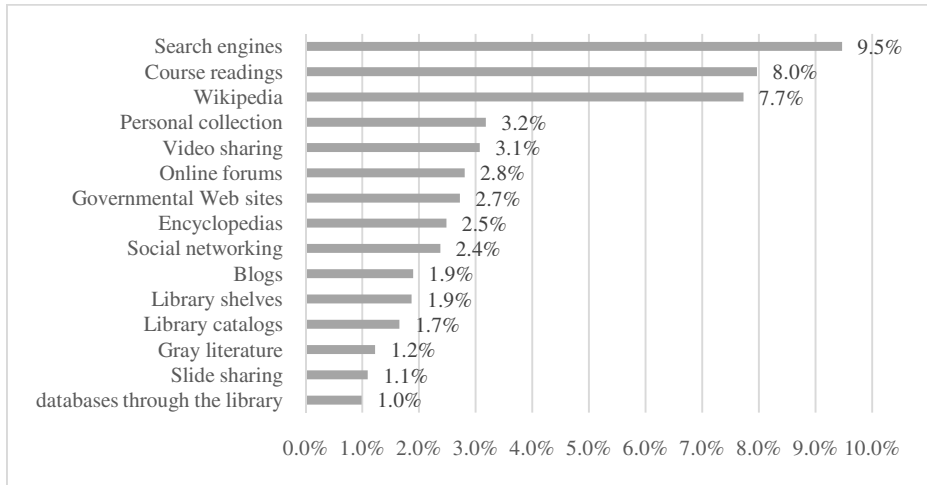


Fig. 1. Percentage of resources consulted

It is important to notice that the results concerning the use of Wikipedia by French students are corroborated by the results of A. Head who demonstrated that: “Over half of the survey respondents (52 percent) were frequent *Wikipedia* users — even if an instructor advised against it” [8].

The difference of resources used varies significantly depending on the disciplines. All the students in Business and Management consult search engines before the course readings (82.2%) and Wikipedia (66.7%). They never use slide sharing. Students at the Information and Communication Department use almost the same resources: less search engines (98%), more course readings (85.2%) and more Wikipedia (84.5%). What is surprising is the low level of use of databases (9%) when we know that this is an important requirement for the librarian students trained by this department. Students from Computing Science make use of Wikipedia (78.9%), which is the second resource by frequency. They have the highest score for the use of online forum (52.6%) and the lowest score for using the library (shelves and databases). Students from Business (61.5%) and Social Careers (58.8%), put

government sites in the third position. Students from Social Careers have the highest score of using the library catalogues (41.2%), the library database (17.6%) and the gray literature (17.6%).

There was no significant relationship between the type of baccalaureate and the resources used by students. The only remarks that could be made are about the importance of the personal collection and the use of classical encyclopedia for the literature baccalaureate.

3.5 Validation of Information on the Web

The first criterion used by French students to validate information is an up-to-date resource. As with American students, they “use a risk-averse strategy based on efficiency and predictability in order to manage and control the information available to them” [9]. That is why three-quarters of the French students prefer the resources they know or mentioned by their instructor. They also single out resources in their native language. No significant difference by discipline was observed.

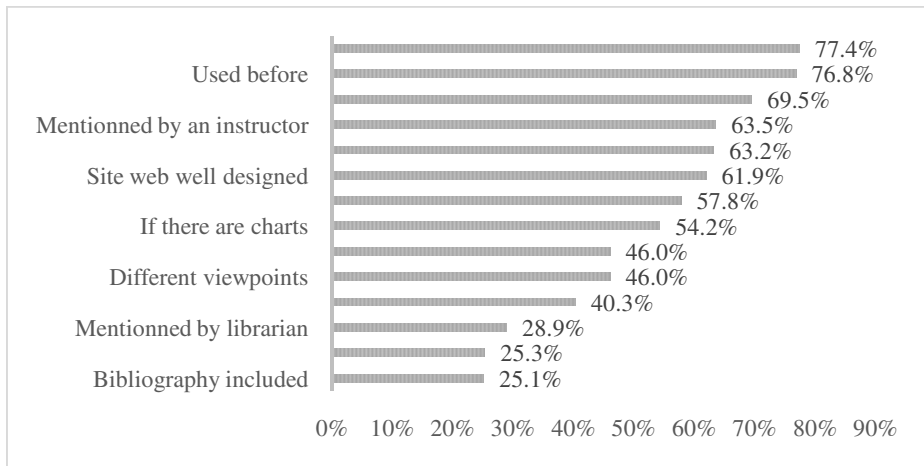


Fig. 2. Criteria for evaluating Web content

4 Findings

The information literacy skills of undergraduate students at Paris Descartes University – UIT are insufficient, as evidenced by the results of this survey. Students are lacking the skills required to effectively and efficiently complete undergraduate course work, even though the methodology of searching information has been included in the curriculum since April 1997 [10]. This appraisal implies that there are weaknesses in the proficiency of preparing students to be IL literate and measures should be adopted to enhance their IL competencies.

In some cases, like searching for information, first year students have more difficulties than others. This could be explained by the fact that students are not adequately prepared for the transition from high school to university. They pass from more to less structured to much more complex assignments and from limited to seemingly unlimited information resources.

Students coming from a technological baccalaureate have some problems with information literacy competencies, but the difference noticed with students from a scientific baccalaureate is not significant. The dissimilarity is more important with students from a literature baccalaureate.

At the beginning of this research, we took into consideration the relation between skills and gender. The results shown that there are no differences among our respondents.

Students are unaware of resources available and offered by the library and especially the databases. In their behavior, they seem to adopt an easy way out attitude. They rely heavily on search engines instead of databases. They prefer Wikipedia to the classical encyclopedia, and they choose the resource they know or have heard about.

5 Perspectives

The results of this study demonstrate that the current IL curriculum expectations are insufficient to ensure that students are acquiring the necessary skills. Information is the lifeblood of academic engagement and successes. Consequently, information literacy is of vital importance. Strong action should be taken to ensure the success of students.

It is interesting to build curriculum and design pedagogy to increase the relevance of students' learning for the digital contexts in which they live and work. However, it is important to underline that this preparation should be commenced earlier, at the high school level. This should assist students in making the transition from the secondary to university level education by helping them to become comfortable and confident when they deal with information.

To build this curriculum, an audit of Information literacy programs and practices at UIT should be a necessary action to adapt the programs to the needs of the students.

As a self-assessment, the results may not reflect the participants' true abilities and it is necessary to complete this study by renewing the survey the next year in order to confirm the findings. The study will be complemented also by a qualitative research project and with focus group research.

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