

"St. Kliment Ohridski" University of Sofia

Globalization and the Management of Information Resources

**Papers from the International Conference
Sofia, Bulgaria,
*12-14 November 2008***

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Sofia 2010

Sofia 2008 Conference Proceedings
Library of Congress Cataloging-in-Publication Data

Globalization and the Management of Information Resources Conference (2008 : Sofia, Bulgaria)

Globalization and the Management of Information Resources : papers from the international conference held in Sofia, Bulgaria, 12-14 November 2008 / edited by Herbert K. Achleitner, Alexander Dimchev. - Sofia, Bulgaria : St. Kliment Ohridski, University of Sofia, 2010.

p. ; cm.

In:English and Bulgarian.

ISBN 0-934068-17-8

ISBN 978-0-934068-17-8

1. Management of information - Congresses. 2. Information Resources - Digitization - Congresses. 3. Information architecture and knowledge management – Congress. 4. Library materials - Digitization - Congresses. 5. Digital and virtual libraries - Congresses. I. Achleitner, Herbert K. II. Dimchev, Alexander Georgiev. III. Title.

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First Edition, 2010

Printed in Bulgaria

Publisher: "*St. Kliment Ohridski*" University of Sofia

First Step to Lifelong Learning: School Libraries and Information Literacy: A Portuguese Case Study

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Първа стъпка към учене през целия живот: Училищните библиотеки и информационната грамотност: Случай от Португалия

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ABSTRACT

This presentation covers a case study centered on the analysis of information behavior of a sample of students that visit the school libraries within the Vila do Conde municipality. We analyze the students' abilities to use collections and technological resources available in school libraries, namely their capacities in information searching and retrieval especially with the documents in free access. We emphasize the role of information literacy as a facilitating element in learning seeing as information literate people are those who learned how to learn and are able to locate, organize and use information effectively.

Keywords: *Information literacy; Information behavior; School library*

РЕЗЮМЕ

Тази презентация отразява изследване, което се занимава с анализ на информационното поведение на група ученици, посещаващи училищни библиотеки в общината на Вила ду Конде. Анализираме уменията на учениците да използват колекциите и технологичните ресурси на училищните библиотеки, а по-точно техните възможности за търсене и извличане на информация от документи на свободен достъп. Обръщаме особено внимание на ролята на информационната грамотност като елемент, който улеснява ученето, защото информационно грамотните хора се научават как да учат и могат да намират, организират и използват информацията ефективно.

Ключови думи: *информационна грамотност; информационно поведение; училищна библиотека*

INTRODUCTION

INFORMATION SCIENCE AND LEARNING

At a time when accessing information has become easier, aided by Information and Communications Technologies (ICT), the role of libraries and also of schools has changed significantly; these must work together and actively, viewing the encompassing of all citizens in an Information Society and, thus, contributing to the resolution of problems deriving from info-exclusion. Considering this, both schools and libraries, basing themselves on an interdisciplinary approach to Information Science and Education Science, should progress embracing new practices, including information literacy (ALA, 1989).

The term information literacy was used for the first time in 1974 by Paul Zurkowski in a paper where he advocated that this skill corresponded to the correct use of relevant information sources in the workplace (Bawden, 2001). At the same time, the idea that information literacy and learning were interconnected arose, seeing as ultimately, information literate people are those who have learned how to learn and are able to locate, organize and use information effectively. Therefore, information literacy constitutes a basis for life-long learning and cannot be seen as an isolated competency but rather as something transversal, capable of turning individuals into effective information consumers. It is what can be labeled an education facilitating aid in learning (Lenox, 1992; Walker, 1992).

Considering these premises, referential systems and models have ensued since the 1990's to establish Information Literacy parameters. The first one was published by the American Library Association (ALA) in 1989 and served as the foundation for subsequent referential systems. In 1998, this same association in conjunction with the Association for Educational Communications and Technology elaborated the referential *Information literacy standards for student learning*. Already in 1997, in France, FADBEN (Fédération des Enseignants Documentalistes de l'Éducation Nationale) had published a specific referential to aid teachers and librarians in creating pedagogical situations to develop competencies in information searching. In 1999, the Standing Conference of National and University Libraries (SCONUL), of the United Kingdom, published a model for the identification of information literacy competencies from an elementary level through to a higher level. The second edition of *The Australian and New Zealand Information Literacy Framework* was published in 2004. In general, all these models demonstrate, be it implicitly or explicitly, the importance of the interrelation of information literacy and lifelong learning. This notion was recently emphasized with the *Alexandria Proclamation on Information Literacy and Lifelong Learning* (2005) which states that "information literacy and lifelong learning are the beacons of the Information Society, illuminating the courses to the development, prosperity, and freedom."

Contextually, an Information Science constituted of a comprehensive transdisciplinary nucleus that integrates library science, archival science and information technological systems (ITS) must adopt approaches, whether in theory or methodology, used in other fields of knowledge, in this case in Educational Science, to scientifically understand information as a phenomenon and as a process (Silva and Ribeiro, 2002). In this way, we can understand the behavior of those who look for and use accessible information from the school library making it easier to adapt and develop services directed to the increase of adequate competencies thus dynamizing learning.

STUDY AIMS AND METHODOLOGY

To better understand the effective relation of Information Science and learning, a study case was carried out with the aim of analyzing the information behavior of the Vila do Conde municipality students, specially the use of the technological resources and the information

services available in the libraries. It was thus possible to determine whether school libraries are or not an active instrument in the teaching/learning process and whether they do perform their part in forming and widening the students' competences, in this way helping them to use information effectively and consequently leading them to autonomous information retrieval. We also ascertained the level of information literacy of various students from different school levels taking the stipulated referential systems into consideration. Accordingly and as an example, the *Australian and New Zealand Information Literacy Framework* (2004) defines a competent person in what concerns information literacy as one who has a need for information; who determines the scope of that need; as one who accesses information effectively; who critically assesses the information and the sources; one who can classify, store, handle and rewrite the gathered or produced information; one who selects and assimilates information; who uses information to learn, broaden horizons, solve problems and make decisions; who understands the financial, social, political and cultural conditions involved in using the information; one who accesses and uses information in an ethical and legal manner; who uses information to become a participating member of society with incumbent social responsibilities, and recognizing information literacy as a component of an autonomous and continuous learning.

Based on this definition we carried out a survey with a questionnaire that was handed out to a sample of students from each of the three school cycles of the Vila do Conde municipality of Portugal (see Endnote 1). This was performed by the teachers, during school hours during the month of February in 2006. A standard questionnaire was used for all three cycles and the only alteration was in terms of the language used in accordance with their level of instruction. The sample comprised of 231 pupils with ages ranging from 8 to 20 and consequently with different levels of instruction, ranging from the primary (1st cycle) and middle school cycles (3rd cycle) and high school. The students observed come from three primary schools (134 pupils), one middle school (48 pupils), and one high school (49 pupils).

The selected schools also belong to different social environments in this way contributing to a bigger diversification. Caxinas primary school (EB1) and Frei João junior school (EB2,3) are situated in a fishing town. Correios primary school (EB1) and Afonso Sanches high school are city schools and Guilhabreu primary school (EB1) belongs to a rural borough in the interior of the Vila do Conde district. The sample was predominately female and increasingly so the higher the level of instruction, indicating that most boys drop out of school earlier.

VILA DO CONDE DISTRICT SCHOOL LIBRARY NETWORK

In 2001 the district of Vila do Conde was one of the chosen areas to integrate the School Library Network, a project of the Portuguese Department of Education with the support of the administrative entity of the Town Halls. The main goal was to provide each school, independently of the level, with a library in order to develop reading habits and the access to information from an early age onwards. It is a progressive project and at present the network comprises 15 schools. The objective is to incorporate all the schools in the district.

The cooperation protocol established that the administration of Town Hall would provide all the technical support through the supply of software and bibliography. The municipality's responsibilities grow in relation to the primary schools seeing as libraries need to be built, in some cases, and furnished and equipped. Financial aid will be administered by DREN - Direcção Regional de Educação do Norte - The Northern Regional Education Board.

The José Régio Public Library of Vila do Conde comprises an OPAC that includes the catalogues of all primary, middle and high school libraries as well as of two educational centres (Centro de Ciência Viva and Centro de Actividades). The main idea is for all schools and institutions to effectively cooperate within the information network.

ANALYSIS OF THE RESULTS

Next, we will present some of the results obtained from the questionnaire and analyze the relevant data.

Library Attendance

Concerning the number of pupils registered at a library (public, school or other) it was noticeable that the older they got, the less they visited a library (1st cycle library attendance: 87%, 3rd cycle library attendance: 48% and high school library attendance: 39%). In primary school, the teachers often take the children to the library within school hours but in middle and high schools the teachers do not and the pupils' interests are also dispersing. Additionally, primary school pupils visit the library more often and within shorter periods of time. It is equally worth mentioning that at this level of instruction, many initiatives are promoted in the school library, namely story-time and other educational activities for children, apart from frequent visits to renew books. The middle and high school students who participated in the questionnaire do not have this routine.

Use of Information Access Instruments

The purpose of one of the questions was to infer whether the students knew how to use the Author and Title catalogue. It was a multiple choice question with the following as choices: "To know how to spell a word"; "To know the books that exist in the library"; "To know whether a book exists in the library or not"; "To know the news of the day"; "Don't know". After analyzing the answers, we concluded that the majority of the students made the correct choice, since more than 50% scored with the two correct choices. The 3rd cycle students always scored less than the other two levels. Surprisingly, the primary school pupils present a higher percentage of correct choices ("To know the books that exist in the library": 80%; "To know whether a book exists in the library or not": 82%) than the other two levels (3rd cycle: 46% and 65%; high school: 55% and 71%, for the two same options).

Another item of the questionnaire served to evaluate the students' knowledge on the Universal Decimal Classification (UDC) in the library context. The students should be able to understand the double function of this classification (information organization and localization) and choose the following: "To organize the documents by subject-matters" and "To find the documents by their subject-matters". It was evident that some students don't fully comprehend this double function seeing as they didn't choose these two options. Furthermore, 1st cycle pupils see the classification system as a way of organizing the library (92%), whereas 3rd cycle (98%) and high school pupils (82%) gave more importance to it in its function as a localizer. There is, however, a great percentage of high school students who do not distinguish between these two functions as well as those in 1st cycle. It is also necessary to refer that the wrong choices were incongruous with the UDC's functions ("To add color to the library"; "To organize the books by dates") which could explain why a high percentage of students answered correctly.

Given the opportunity to understand the general function of the UDC, when confronted with its use, the pupils showed great difficulty in associating the document to its category. The results obtained from the question where the pupils had to identify the topics under which five given documents had to be categorized, exemplified this. The percentage of 3rd cycle pupils capable of making the document correspond to its category, and still only in two situations, was 50%. High school students, on the other hand, chose in their majority not to answer this question. Regardless of that, in all cases, the percentage of correct answers is always less than 50% and in two situations the percentage of wrong choices greatly superseded the right ones.

One of the examples in the class 6 exercise was one with the topic "planes" and a significant number of students (46% of 3rd cycle pupils and 29% high school students), opted for

class 0. This may reveal unfamiliarity with the contents of class 0 allied to the difficulty in associating transportation to Applied Science (class 6).

The 1st cycle sample students are the ones that demonstrate greater knowledge in using the UDC seeing as the percentage of correct answers is always higher than 50%. This is valid if we keep in mind that the results are correlative with the framework of the primary school library. Accordingly, each UCD class or category was represented by different colors and symbols were given to each subclass or subcategory thus making it easier to memorize the organizational structure and consequently easier to use when doing research.

Choices in Information Retrieval

One of the competence defining parameters used in information literacy has to do with the capacity to retrieve information effectively and efficiently, which implies knowledge in the selection of information searching methods and techniques and on retrieval strategies. In this sense, we aimed at similarly verifying the sample students' ability to choose correct information search criteria. One question consisted of the pupils indicating what criteria should be used to determine whether there were books on a certain subject-matter, a CD with stated title and author, a film with a given title and the books written by a given author. In the case of the 1st cycle pupils, search by author was the easiest and where they scored most, 50%; search by subject proved more difficult with only 43% choosing correctly and search by author/title or only title proved to be the most difficult with just 34% of correct choices. However, even at the basic level of search by author, the students revealed considerable inadequacy because 33% chose not to answer and 24% made the wrong choice.

In the 3rd cycle and high school samples, we verified that information retrieval by subject-matter was more successful with 85% and 80% of correct answers. This may indicate that the conventional (author/title or title) elements of search are not the most important, meaning that the origin or source of the information is not being taken into account.

Seeing as the ability to formulate adequate information retrieval strategies is one of the most important information literacy skills, we verified, in our study, that students from different social and geographical settings display equally different behavior in solving the same problem. The pupils of Caxinas primary school (EB1), in a fishing town, revealed high capacity in applying search by author (69%) and by subject-matter (62%) evidencing themselves from the average of other primary school samples where 50% was obtained in search by author and 43% in search by subject-matter. The percentage of correct results is only negative (34%) in the more complex cross search by author and title, but even here Caxinas primary stands out (45%). Relative to this second criterion, we must keep in mind that we were working with 1st cycle pupils where this more complex information retrieval strategy is rare.

Make a Bibliographical Reference

Possessing the ability to organize and manage information correctly is another aspect that helps define information literacy, involving, for example, the elaboration of a bibliography reference. Thusly, one question involved the pupils making a bibliographical reference. This exercise was different for each of the three levels being assessed. The 1st cycle children were asked to build a given book's identification card where title, author, publisher and the year of publication had to be included; the 3rd cycle pupils were asked to identify title, author, publisher and the year of publication of a given bibliographical reference and, finally, the high school pupils were asked to choose a book from the library and write its bibliographical reference.

When performing the data analysis, a total reluctance of the high school students to complete this exercise was perceivable seeing as 90% did not perform the task, which might

be indicative of a gross lack of knowledge pertaining to the elements involved in bibliographical references and their organization. It is to be noted that somewhere else in the questionnaire there was one other question that contained a bibliographical reference as an example.

Relative to the 1st and 3rd cycle pupils, it was verified that they can distinguish the basic elements that compose a bibliographical reference. About 70% of the 3rd cycle students' answers were correct and the 1st cycle pupils' percentage of correct answers is between 50% and 70%.

Selection of and Access to Information Sources

A fundamental component of information literacy is the use of various information sources in any format suited to the problem and the context. It is therefore necessary to use skills when selecting and interacting with the most appropriate sources for the clarification of any sort of information need. Accordingly, we included a group of questions where the students were asked to select the source of information they considered to be the most pertinent in solving a stated information need. The range of selection was: a local newspaper, a weekly magazine, the television, the Internet, encyclopedias, a dictionary, and teletext. Two completely inadequate choices were also given: poetry to the 1st cycle and novels to the 3rd cycle and high school. These two choices merely served to test the reliability of the answers given.

Concerning the ability to satisfy the information needs with the adequate information source, the 3rd cycle, and high school students showed frankly positive results. They evidenced good use of teletext (74%), of the dictionary (80%), and of the Internet (62%). However, in the case of the 1st cycle pupils, even though their choices are generally correct (teletext (32%), the dictionary (77%) and the Internet (49%)), a significant percentage of them did opt for the incorrect choices. In this way showing they do not understand the function of the information source. For example, 3rd cycle and high school pupils make better use of the teletext than do 1st cycle pupils.

Relatively to accessing documents, all three groups of pupils demonstrate a clear preference of the Internet (1st cycle: 47%; 3rd cycle: 92% and high school: 71%) revealing at the same time an autonomous tendency seeing as only 49% of 1st cycle pupils admitted looking for the librarian's help, a percentage that decreases to 21% in the 3rd cycle and to 14% in high school. It is, however, debatable if this autonomy reflects real competence in looking for information since only the 1st cycle students (19%) indicate having chosen to perform the search by catalogue, an option that 3rd cycle and high school pupils omit. Curiously, and in accordance with what is illustrated above, theoretically speaking, the pupils evince understanding the functions of the Author and Title and Subject-Matter catalogues. Nonetheless, they do not seem to take advantage of the potential this instrument presents in information searching and retrieval. Apart from that, as they get older, the pupils tend to prefer the Internet as an information source since the percentage of pupils opting for available information in the library decreases. The percentages of students choosing library books as an information source are 57% in 1st cycle, 8% in 3rd cycle, and 29% in high school.

Relationship between Students and ICTs

Accepting that information literacy implies ability to manage Information and Communication Technologies (ICT) for different purposes, as a result, the students' opinion of the usefulness of the Internet was also surveyed. The pupils of all three levels of instruction reveal using the Internet for "To look for information", complementing this use with "For Work/Study purposes". Only the 3rd cycle pupils use the Internet mainly for "Entertainment" (79%) and "To meet people" (42%), and in fact this last option's percentage is practically insignificant (7%) in 1st cycle and limited (16%) in high school.

When crossing the data gathered on the students' models of Internet use and the sites they most frequently visit, various contradictions presented themselves. In fact, while stating that they use the Internet mainly for "To look for information" and "For work/study purposes", when questioned about the categories of the sites most visited it was verified that most of them were entertainment-related. For instance, 1st cycle students privilege sites related to "Games" (64%), "Films/Music" (35%) and "Sport" (22%), and the sites related to "Study" come in second place with 52%. 3rd cycle students are those who most frequently use the Internet for various purposes, scoring higher than any of the other two school levels in all categories of sites, but not so much for "Games" (48%), unlike in 1st cycle (64%). They do not use the Internet for "Mail" (48%) or for "Study purposes" (50%) as much as high school students ("Mail": 73%; "Study purposes": 71%). The 3rd cycle students revealed to be the greatest users of "Chat Services" (46%) unlike in the 1st cycle (4%) and in high school (22%) which coincides with the answers given, where 42% stated that they used the Internet to meet people.

Concerning the place where the PC is used, more than half of the total sample has a PC at home being this the most common place of use. 59% of the 1st cycle students have a PC at home, a percentage that increases to 76% in high school and to 88% in 3rd cycle. For the 1st cycle pupils (almost 52%) the school library is still, however, a common place to contact with computers.

On the other hand, in terms of the number of times they used a PC, only the 3rd cycle and high school pupils (63% and 53%) stated using the PC every day. Those in 1st cycle do not use one that often (32%).

In relation to internet access, we discerned that the majority of the high school pupils could access the Internet from home (55%) whereas only 33% of 3rd cycle pupils could do the same. Merely 32% of the 1st cycle pupils have a PC with Internet connection at home. It is worth noting that even though 88% of 3rd cycle pupils have PC's at home, only 33% have Internet access.

To conclude, high school pupils are those who in terms of percentage (41%) most frequently use a PC with Internet connection. Internet access seems, however, to be a rare practice not yet embedded in the study or leisure habits of the majority of the pupils. In fact, 25% of 1st cycle pupils and 23% of 3rd cycle pupils do it once a week.

SUMMARY

The results presented here demonstrate that, in their greater part, our pupils' sample start developing information skills and in contacting with libraries in the school environment since primary school level. This contact with the library decreases the higher the level of instruction. Evidently it is necessary to develop teaching and learning strategies that will encompass information literacy in all learning stages.

The school libraries comprising our study showed they possess enormous potential to provide the necessary conditions for the emergence of information literacy practices that will consequently aid in acquiring and developing knowledge on various subjects by means of teachers and librarians adopting interdisciplinary approaches. But this will only be possible when schools, teachers, school librarians and library coordinators, the Department of Education and the administrative entity of the municipality work together through the school library support service – SABE (Serviço de Apoio às Bibliotecas Escolares). This will generate occasions for the school library to induce information literacy contexts and practices that will allow students to contact with a proactive form of learning and new worlds and languages, growing into participative and creative members of the Information Society.

ENDNOTES

1. The Portuguese educational system is structured as follows:

- 1st Cycle: 6 to 9 year olds (4 years) – EB1 schools
- 2nd Cycle: 10 to 11 year olds (2 years) – EB2, 3 schools
- 3rd Cycle: 12 to 14 year olds (3 years) – EB 2, 3 schools
- High school: 15 to 17 year olds (3 years) – High/Secondary schools

EB is an acronym of “Ensino Básico” meaning primary and elementary instruction.

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