

*An Investigation into the Information Seeking Behaviour of Pre-University Students  
at the UWI Open Campus, Trinidad.*

***Martina Mendoza***

**Abstract**

This paper aims to investigate the information seeking strategies used by the pre-university students enrolled in professional programmes delivered face to face at The University of the West Indies Open Campus (UWIOC). Hard copies of a survey instrument were distributed to pre-university students at the five main centres in Trinidad and the responses were analysed using Statistics Packages for the Social Sciences (SPSS). The findings revealed that Google is the most popular source for searching and locating information followed by lecturers/tutors, and textbooks. In their search for information, students encountered a number of challenges including inadequate resources in the Open Campus (OC) libraries in Trinidad. The findings also indicated that prior library instruction at the last secondary school students attended did not translate into students having more proficient information search strategies. This study would have benefitted from the use of some open ended questions with its attendant advantages of more detailed responses and subsequent improved analysis.

**Keywords – Martina Mendoza; Information Seeking Behaviour; Open Campus Libraries and Information Services; OCLIS; Pre-University Students; The University of the West Indies Open Campus.**

**Introduction**

This study was undertaken to investigate the information seeking behaviour of the pre-university students enrolled in professional programmes delivered face to face at The University of the West Indies Open Campus (UWIOC) sites in Trinidad. It was conducted during

a time of change within The University, the Campus and the Open Campus (OC) Libraries. One of the strategic goals of The University of the West Indies (UWI) for the period 2008 – 2012 was the establishment of a fourth campus. This campus called The Open Campus was formed “to allow the University to provide better educational programmes and services to the UWI 12 countries and the underserved communities in the countries with residential campuses.” (UWI Open Campus 2015a, 7). The OC was launched on 4 July, 2008. In addition to Bachelors and Postgraduate degrees, it offers “a range of access (pre-university) courses and programmes that allow learners to attain the certification they need for matriculation to degree programmes” (UWI Open Campus (2015a, 8). The Open Campus Libraries and Information Services (OCLIS) department is part of this undertaking. One of the main changes taking place in the OC Libraries at this time of transition is the move from a traditional manual library management system to an automated one. The library management system (Aleph) has been implemented and is to be rolled out across the OC Libraries. A search and discovery system (UWIlinc) has also been implemented and is available across the Open Campus Libraries.

The OCLIS has adopted an e-preferred policy for collection development. The policy supports the distributed nature of the Open Campus which “has nearly 50 physical site locations in 17 English-speaking Caribbean countries, offers multi-mode teaching and learning services through virtual and physical site locations across the Caribbean region” (The UWI Open Campus 2015b). Pre-university students are currently unable to access the full text of subscribed/purchased e-resources because their registration status allow only for search and discovery. Print resources are therefore acquired to support the needs of these students. The inter-departmental processes and procedures that support the acquisition of print are not as well organised as those that support the acquisition of online resources. In terms of library materials, OC pre-university students in Trinidad are currently limited to free e-resources and to the print collections located at the two OC Libraries situated in St. Augustine and San Fernando and selected other OC Trinidad sites.

A significant number of the pre-university students are enrolled in programmes that have either a research component or a project which requires students to search for information. In this “digital environment in which information is ubiquitous and knowledge is abundant” (Fister 2015) students need to be information literate to be able to locate information and produce successful papers and projects. This would enable them to navigate the academic environment with some level of competency. Acquiring these skills is very important if students are to become self-directed learners and expand their opportunities for academic success. The OCLIS has not yet developed a formal information literacy programme. At the beginning of the academic year pre-university students enrolled in professional programmes at OC Trinidad are invited to attend two forty-five minute sessions, the first being more of an orientation which introduces them to the Libraries’ services, and the second on citation and referencing for academic writing. The sessions are not mandatory and attendance is dependent on the promotion skills of library staff, the willingness of the students, and the co-operation of tutors and course administrators.

For the past five years the OCLIS, Trinidad has been able to attract to these sessions less than fifty percent of the registered students. Head and Eisenberg (2009) report in a study on early adults in the US and their research habits which provides a useful context for looking at this issue. The study describes the uncertainty felt by this group of users when seeking information. It concludes that “when it comes to doing college research, many students lack confidence in their abilities, and this lack of confidence leads to procrastination and failure” (Head and Eisenberg 2009). This lack of confidence is referred to by Wurman (1989) as “information anxiety” and he cites the causes for this as “not knowing if certain information exists; and not knowing where to find information”. While it is not within the scope of this study, attention must be paid to the role that the OCLIS, Trinidad should play in the retention of these students. There is need to investigate whether and to what extent, the OCLIS Trinidad’s inability to adequately strengthen the skills of our students in information seeking, and use, is contributing to their lack of confidence and withdrawal from programmes.

### **Pre-University Students**

Pre-university students may be described as students who are preparing for transition to higher level university programmes. At The UWIOC, the pre-university students are enrolled in courses some of which assist in fulfilling the matriculation requirements for undergraduate programmes. These programmes are in the areas of Management Studies, Social Sciences, Health Sciences, Mass Media and Communication, Education, Pre-Engineering and Business Management and Technology. The courses are offered at two main sites located in San Fernando and St. Augustine, and at a number of satellite sites including Mayaro, Point Fortin, Sangre Grande and Port-of-Spain. Students may be registered as day students or evening students. The day students are full time students and they complete their course of study within one year. The evening students attend classes on a part-time basis and complete their course of study within a two year period.

The pre-university students of the UWIOC are a diverse group comprising new graduates from secondary school, non-traditional students and mature students. The new graduates are students between the ages of 17 – 19. The non-traditional students are those that exhibit some of the characteristics listed by the US National Center for Education Statistics such as part-time attendance, full-time work, single parenting, financially independent, have dependents and did not immediately continue education after graduation from high school. The UWIOC describes the mature student as a “person over the age of 21 and who has been out of secondary school for at least five years” (The UWI Open Campus, 2015c). These students have disparate information literacy skills. The students who have recently graduated from secondary schools may not have been exposed to instruction in the use of information and library resources at those institutions. The mature and non-traditional students may have been away from the classroom for many years and may be in a similar situation.

Research on the information needs and information seeking behaviour of users at The UWI, seems to have been focused mainly on faculty (Francis 2005; Miller 2002; Rodulfo 1998). The OCLIS has not previously undertaken studies on our major group of users, our students, to determine their information seeking behaviour. As such, there is no data to guide the OCLIS in determining the preferred information sources and formats, and the problems that students

encounter when searching for information. This study is an attempt to partially fill this gap as it will look at our pre-university students' information needs and the strategies that are being employed to satisfy these needs. Assessing the information needs of different categories of users is important if the OCLIS is to provide effective reference services and sources of information for meeting these needs.

The pre-university students comprise the largest user group in the Open Campus. The 2014-2015 Annual Report of the Open Campus revealed that the population of this group of students stood at 15,537. This is the equivalent of almost 80% of the total student population in that academic year. It is hoped that this study will be used as a guide by the OCLIS staff to help determine how best they can use available resources and acquire new resources to assist this group of students in acquiring the skills to "discover, access and use information effectively for academic success" (Association of College and Research Libraries 2011).

The objectives of the study are:

- To identify the reasons for seeking information
- To identify the information sources currently used by the pre-university students
- To identify the challenges pre-university students currently encounter in finding information
- To determine if prior library instruction affects the proficiency of the pre-university students in locating information

## **Literature Review**

### **Information Need**

Before information seeking behaviour occurs an information need must be identified. The concept of an information need can be described as a nebulous one. Miranda and Tarapanoff

(2008) define an information need as “a state or process when one perceives that there is a gap between the information and knowledge available to solve a problem.” Dervin (1983) speaks to the search for information starting with an attempt being made when one is trying to make sense of a current situation. She too identifies a “gap that requires filling.” Kuhlthau (1991, 362) concurs about information need being a gap when she defines it as “the gap between the user’s knowledge about the problem or topic and what the user needs to know to solve the problem.”

These writers therefore recognise the presence of existing knowledge which is insufficient to satisfy the current need. On the other hand, Derr in his 1983 article ‘A conceptual analysis of information need’ (quoted in Savolainen 2012) speaks to the presence of an “information purpose” as a necessary condition for an “information need” meaning that there must be a legitimate purpose for the use of the information. The presence of this need by a user is fundamental to information seeking and the accompanying behaviours and strategies that make demands on information sources and services. However this concept is not always clearly defined and is “a taken for granted concept” that involves “a variety of behaviours seemingly motivated by the recognition of “missing” information” (Case 2012, 91). Johnson (2005) defines the concept simply as “the purposive acquisition of information from selected information carriers” while Wilson (2000) sees information seeking behaviour as the “purposive seeking for information as a consequence of a need to satisfy some goal.”

### **Information Seeking Models**

There are several models that have been developed to explain information seeking behaviour (Ellis 1993, 1989; Kuhlthau 1991; Wilson 1981). These models are frameworks that attempt to describe “an information seeking activity, the causes and consequences of the activity or the consequences among stages in the information seeking behaviour” (Choukhande 2008, 123). Models by Ellis (1993) and Kuhlthau (1991) identify the activities and problems associated with the information seeking process. Ellis (1993) identifies what he calls eight features of this process. They are starting, chaining, browsing, differentiating, monitoring, extracting, verifying and ending. Starting looks at the means a user employs to begin searching for information.

This feature involves the user identifying sources that could be starting points for their research. Chaining may follow from the initial sources identified in starting e.g. the use of citations from the initial sources. Browsing addresses semi-structures or semi directed searching in areas of potential sources for example, the use of tables of content, abstracts and summaries. Differentiating is where the user looks at differences between sources to filter the quality of the material. Monitoring is where the user employs different means to keep abreast of developments in the field. In the extracting stage the user delves into a source to locate materials of interest. In the final stages of verifying and ending the user checks for the accuracy of materials before creating the final presentation. In addition to the cognitive aspects of the process, which almost parallels that of Ellis (1993) and Kuhlthau (1991) looks at the associated feelings and thoughts such as anxiety and doubt that accompany each stage of the process. In this study emphasis will be on the cognitive and physical aspects of information seeking. As such the focus will be on the first two stages of Ellis's model that of starting and chaining.

Some studies on information seeking strategies look at specific groups of users. For example one of Ellis's studies looks at the information seeking patterns of academic researchers in the social sciences (Ellis 1993) while Kuhlthau's study focuses on three types of users –academic, public and high school (Kuhlthau 1990, 1989, 1988). Other studies looked at the information seeking behaviour of mature learners (Clark 2014; Ezzo and Perez 2000). Ezzo and Perez (2000) paid attention to adult learners and the effects of the information explosion on their information seeking abilities while Clark's exploratory and qualitative study looking at the "lived information seeking detailed experiences of mature students". Farsola and Olabode (2013) investigate the information seeking behaviour of the students at Ajayi Crowther University in South Western Nigeria and concluded that "66% of the students sought information for academic purposes", and that the library was their preferred place for searching and using information. This contrasts with studies on what has been described as the Generation Y students. The Pew Internet Project Survey (2002, 12) found that "the Internet, rather than the library is the primary site of their information needs". In this study 73 % of the respondents revealed that they used the Internet more than the library. This was supported by De Rosa et al. (2011) in the OCLC study on college students' perception of libraries and information

resources which found that 89% of these students begin their information search with a search engine while the libraries' websites were selected by just 2%.

### **Methodology**

This study employed a questionnaire survey as the main instrument for data collection. A random sampling technique was used and the questionnaire was distributed to two hundred pre-university students selected from those enrolled in both full time and part-time programmes. The survey was administered during the first two months of the second semester of the 2015/2016 academic year. The questionnaires were distributed at OC sites in St. Augustine, San Fernando, Mayaro and Sangre Grande. Tutors and site co-ordinators kindly assisted in the administering of the questionnaires during their classes and this resulted in a 100% response rate. The items in the questionnaire were closed ended. The variables measured included demographics, reasons for seeking information, challenges involved in seeking information, format of resources, time and the presence of a library with library staff at the last secondary school attended. A pre-test was conducted by administering the survey to five students to determine if there was need to improve the questionnaire. Improvements were not needed as all students were able to complete the questionnaire effortlessly. Data obtained was analysed using Statistics Packages for the Social Sciences 2011 version.

### **Findings**

21% of the respondents were male while 79% of the respondents were female. This is not surprising as the student population of the Campus has always shown that female students outnumbered male students. In the academic year 2014 -2015 the enrolment in face to face programmes showed that female students outnumbered male students almost 2-1. While this study did not actively seek to look at gender as a variable in the information seeking process it was felt that it may be useful to do so.

The majority of the respondents, just under 50%, were from the 15-20 age group and this corresponds to the number of students that are enrolled as full time students. (Fig. 1)

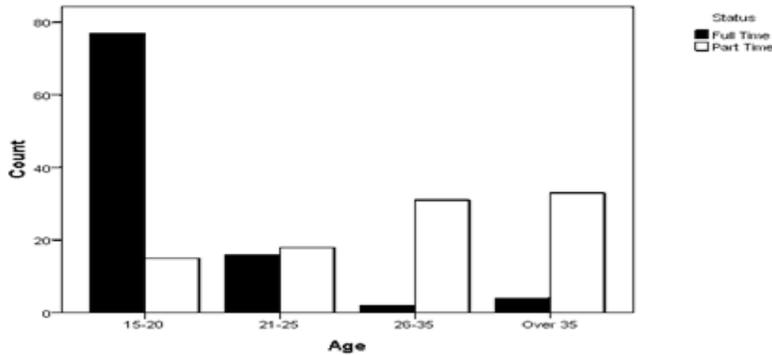


Figure 1 – Enrolment by Status and Age

Table 1 lists the main reasons for seeking information by the pre-university students. Participants were allowed multiple responses to this question. The results showed that for 137 students (65%) the main reason for seeking information was for a research paper. This was followed closely by exam preparation 51% and class presentation 49.5%. 28.5% of the participants selected class discussion. Participants were allowed to identify other reasons and a small number 8 (2.5%) identified personal knowledge and 3 (1.5%) identified an assignment.

Table 1 Reasons for seeking information

Reasons	N	%
Research Paper	137	68.5
Exam	102	51
Class presentation	99	49.5
Class discussion	57	28.5
Other	8	4

To support the objective of finding out what information sources were currently used by the pre-university students, respondents were asked the questions “Where do you start looking for information?” and “Where are you most likely to discover information for your purpose?” Participants were allowed to select multiple responses to these questions. The majority of the

respondents, 81.1% selected Google, 35% selected textbooks, 29.9% selected their lecturers' notes and 29.5% selected recommendations by their lecturers. Library staff and the librarian were selected by 3% and 4% respectively as sources to begin an information search.

Table2 Where do you start looking for information?

<b>Sources</b>	<b>N</b>	<b>%</b>
<b>Google</b>	163	81.1
<b>Textbooks</b>	71	35.5
<b>Lecturers Notes</b>	59	29.5
<b>Library</b>	56	28
<b>Recommendation by Lecturer</b>	40	20
<b>Wikipedia</b>	21	10.5
<b>Newspapers</b>	20	10
<b>Recommendation by Friend</b>	16	8
<b>Other Search Engines</b>	15	7.5
<b>Journals</b>	15	7.5
<b>Social media</b>	14	7
<b>Librarian</b>	9	4.5
<b>Library Staff</b>	6	3
<b>Reading List</b>	7	3

The analysis in Table 3 shows that the majority of the respondents, 85%, were also most likely to discover information in Google while 31% selected their lecturers as the source from which they are most likely to discover information. 20% of the participants indicated that they were most likely to discover information while browsing the library stacks, 15% indicated their classmates and 10% selected library staff and social media.

Table 3 Where are you most likely to discover information for your purpose?

<b>Sources</b>	<b>N</b>	<b>%</b>
<b>Google</b>	170	85
<b>Tutors</b>	62	31
<b>Browsing the library stacks</b>	41	20
<b>Classmates</b>	30	15
<b>Other Search Engines</b>	28	14
<b>Library Staff</b>	21	10
<b>Social media</b>	20	10
<b>UWIlinc</b>	9	4.5
<b>OPAC</b>	6	3

Students were asked to rate their competency in locating and accessing information. The majority of the students 104 (65.4%) rated themselves as very competent, 51 (26.7%) rated themselves as competent while 14 students indicated that they were not competent and 1 student rated himself as very incompetent.

To support the objective of finding out the challenges the pre-university students encounter in finding information, students were allowed to select multiple responses from a list of possible challenges. Table 4 analyses the responses. As presented in Table 4, the responses reveal that the major challenges perceived by students were inadequate resources in the libraries, unawareness of the availability of resources, and being unsure where to look for information. These responses were selected by 34%, 32% and 31% of the respondents respectively. Another common challenge was the feeling of being overwhelmed by too much information which was selected by 46 (23%) participants, while 29 respondents (14%) were uncertain how to look information. Other challenges identified in finding information were: limited access to the Internet (11%); inadequate access to the library (9.5%) and the unapproachability of library staff (8.5%).

Table 4 What are the challenges you have encountered in finding information?

Challenges	N	%
<b>Inadequate resources in the library</b>	68	34
<b>Unaware of the availability of resources</b>	65	32
<b>Unsure where to look for information</b>	63	31
<b>Overwhelmed by too much information</b>	46	23
<b>Uncertain how to search for information</b>	29	14
<b>Limited access to the Internet</b>	22	11
<b>Inadequate access to library</b>	19	9.5
<b>Unapproachable library staff</b>	17	8.5

To determine how their search strategies might be affected by time, respondents were asked to rate time as a factor in their search for information. The majority, 142 (71%) identified time as being very important, 54 (27.1%) saw time as important while 3 (1.5%) did not see time as an important factor.

When participants were asked how often they used the libraries' resources and services in their search for information 64 (34.6%) selected weekly and 44 (23.8%) selected monthly. 37 students (20%) indicated that they used the library only once per semester, 10.3% indicated daily while 10 (5.4%) respondents declared that they never used the library. Respondents were given the choice of "other" and 11 respondents indicated that they use the libraries' resources and services only when research papers were given.

When asked which format they preferred in their search for information, respondents in the 15-20 age group showed a slight preference for electronic while print was the preferred format in the 26-35 and over 35 age groups (Fig. 2).

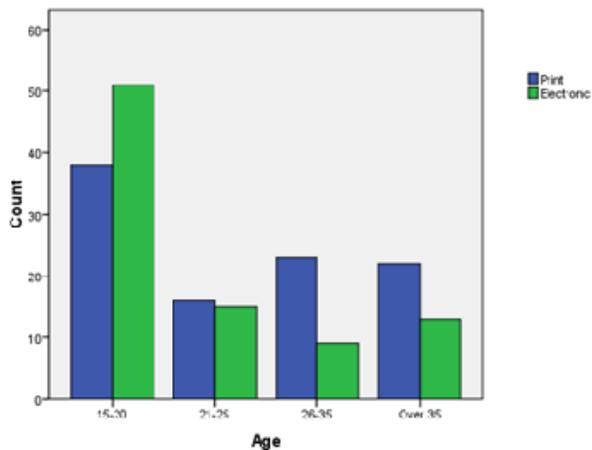


Figure 2 – Preferred Format of Resources

One of the objectives of the study was to determine if prior library instruction affected the proficiency of pre-university students in their information seeking strategies. A number of questions were asked to support this objective. One question sought to determine the presence of a library at the last secondary school the student attended. An overwhelming majority, 182 (92.9%) respondents, indicated “yes” while 14 (7.1%) indicated “no”. The level of training of the staff who managed the library was seen as important and students were asked if the library was managed by a librarian or library assistant. 51(78.6%) said that their library was managed by a librarian while 19 respondents (9.9%) said “no” and 22 indicated that they did not know. 156 (81.2%) respondents indicated that the school library was managed by library assistants, 15 (7.8%) said “no” and 21 (10.9%) did not know. The students were also asked if library classes were conducted at their school library. More than half of the respondents 104 (57.1%) indicated that their last secondary school offered library classes while 78 (42.9%) respondents indicated that no library classes were offered.

## Discussion

The findings suggest that Google was the number one choice of the majority of the pre-university students as they begin their search for information. This finding is supported in the

literature by Lawrence (2015) whose research looks at the behaviours of today's college students and concluded that Google had a major influence on their information seeking behaviour. Lawrence points out that in starting their information search the most common starting point is Google. Similarly, a report by OCLC (2010) found that 84% of college students typically begin their information search using a search engine, and 68% reported Google as the search engine most frequently used. Also, in a study of undergraduate students at the University of the West Indies, Mona Campus, 77% of the respondents indicated that it was "extremely likely that Google .....would be their first choice to start research for an assignment" (Kean et al. 2016). It is noteworthy that in the current study, the findings also show that a significant number of the pre-university students selected their textbooks, lecturer's notes or used sources recommended by their lecturers as the starting point for their research. An overwhelming majority of the respondents also indicated that Google was the source from which they were most likely to discover information for their purposes and this was followed by their tutors as the second most common source for discovering information.

The librarian and library staff were selected by the smallest number of respondents as the source they would use to start their information search. Again this is typical of findings in the literature. Head and Eisenberg (2009, 3) in their study on how college students seek information in the digital age, found that librarians were "tremendously underutilised by students" and that "eight out of ten students reported rarely if ever turning to librarians for help" with research assignments. Some students are "not aware of the educational role of librarians" (Burns and Harper 2007) while others may suffer from "library anxiety" (Robinson and Reid 2007).

The conclusion can be drawn that the pre-university students of the Open Campus are turning to the sources that they perceive as easier and more convenient, and with which they are familiar. However, there is also need to note the responses given by respondents on the challenges they experienced in finding information. A significant number of students indicated that there were inadequate materials in the library, and an almost equal number indicated that they were unaware of the availability of resources in the library. This is significant for the staff

of the OCLIS as it not only highlights the urgent need to increase and develop the collection in the library, but it also speaks to the need to promote the library, its services and resources to the pre-university students.

Almost all students who responded indicated that there was a library at the last school they attended, and almost half of them were exposed to library instruction conducted by a librarian or library assistant. However, this does not seem to have translated into these students being more confident with their information search when they transition to the pre-university level. While the majority of them rate themselves as being competent or very competent with their information search, a sizeable number of students also indicated that they were challenged in finding information because they were unsure where to look for information, and when they found the information they were overwhelmed by too much information. These responses are also sending a strong message to the OCLIS that our hit or miss orientation sessions at the beginning of the academic year are inadequate and there is need to design and develop an information literacy programme for these students. It must be noted that efforts are being made to improve this situation. The OCLIS Trinidad is becoming more aggressive in proactively seeking out the cooperation of the tutors. This has resulted in the tutors facilitating the attendance of students at an additional session during the semester for instruction on the research process. However this is currently being done on an ad hoc basis.

Of note to the OCLIS is that a significant number of students across all age groups have selected print as the preferred format in their search for information. The tendency towards print is supported in the literature. The Olsen, Kleivet, and Langseth (2013) survey findings confirm this strong inclination by students for printed books. They cautioned that it may not be a good idea to promote a reliance on e-books solely as this may not provide the most efficient learning experience in higher education. The OCLIS may need to pay some attention to this in light of the e-preferred policy it has adopted for collection development. At present the OC pre-university students do not have access to any of the Library's subscribed/purchased electronic resources because of their registration status. They are therefore limited mainly to the print resources in the Libraries and this may explain the current bias for print by a significant number

of the respondents. However in the 15-20 age group the majority of students favoured the electronic while a substantial number, although not the majority, in the other age groups also expressed this preference. The Open Campus is currently implementing a new system that will regularise the registration status of pre-university students thus enabling access to all electronic resources. When this system is in place, the OCLIS will need to focus on the promotion of these electronic resources together with training on their use which can result in an improved response.

### **Conclusion**

This study has shown that the OCLIS has much work to do in remaining relevant and in assisting pre-university students in becoming more proficient and confident in their search for information. In addition to developing an information literacy programme that can reach students at all sites, in the short term efforts must be made at improving the Libraries' collection with current and relevant material in all programmes offered at the pre-university level. There is need to bring the Library to the students. This study can also be used as a foundation for further research. There will be need to determine if the pre-university students' information behaviour would have changed over time due to the implementation of the new student registration system which will give them access to scholarly electronic resources.

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