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A STUDY OF INFORMATION SEEKING BEHAVIOUR AND INFORMATION LITERACY AMONGST FIRST YEAR STUDENTS OF FEDERAL POLYTECHNIC, BALI

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Introduction

This research focuses on the information seeking behaviour (ISB) and information literacy (IL) of first year students of Federal Polytechnic Bali, to explore the role they play in the context of students' academic studies. Since the early 2000s research into the ISB of students and has grown, with many studies indicating increased availability and usage of digital and online resources (Dougan 2016, 2014a, Knop 2015, Matson & Shelley 2013). This has prompted researchers to argue for better IL teaching in education (Dougan 2012), since students must be able to navigate this large quantity of information.

Maple, Christensen & Abromeit argue that teaching IL to undergraduates makes them more effective "life-long information users" (1996, p. 744) and that IL should be embedded in their education right from the start. Their

Abstract

This research is a case study carried out amongst first year students of Federal Polytechnic Bali, focusing on their information seeking behaviour and information literacy skills in an academic context. Using Wilson's (1999) model of information behaviour to inform the research, this study determined how first year students of Federal Polytechnic Bali, search for the materials they require in their studies, what sources they prefer and what barriers inhibit the information seeking process. Information literacy skills were also explored since the purpose of the research was to assess whether or not the school should introduce information literacy instruction to new students. Data was collected using qualitative

*m*ethods. Library inductions for new students were observed to assess the role they currently and potentially could play in teaching information seeking and information literacy skills. Focus groups were organised with first year students to discuss information seeking skills, preferences and competencies. Based on the study sample, the results showed that performance and written work could trigger information seeking amongst first year students Federal Polytechnic Bali. These students utilise various information sources for different academic activities but lack basic information seeking and information literacy skills that could enable them to find the most appropriate materials for academic effort. This study therefore recommends that information literacy sessions should be taught to first year students as part of their curriculum.

Keywords: Behaviour, Information, Students, Seeking, Literacy.

Research prompted the Music Library Association (MLA) to publish an important document - Information literacy instructional objectives for students (Cary & Sampsel 2006) - offering guidelines to librarians, faculty and those working with students, to help them identify the skills that these students should possess when it comes to finding the resources and materials required in their studies.

In light of the MLA objectives, a number of studies have been conducted within the discipline of academic work, demonstrating the positive impact of embedding IL in education (Stone & Sternfeld 2014, Scott 2014, Manus 2009) whilst other commentators have shown that IL skills can improve information seeking activities (Lavranos et al. 2015b, Dougan 2012). There is unanimous agreement that it is not enough simply to understand how students search for materials and what sources they prefer – they should be taught how to think critically about the information they use and encouraged to search for and find information efficiently and independently.

Understanding ISB can help pinpoint gaps in knowledge and information seeking barriers, which in turn can enable educators and librarians to target IL skills teaching to these areas. By equipping first year students with IL skills their ISB can be improved and this can have a positive impact on academic performance.

Using the first-year students of Federal Polytechnic Bali as a case study, this research examined existing ISB and IL amongst first year students, to understand the approaches, preferences and barriers to information seeking displayed by this particular group of students within the context of their academic studies. The results of the research were assessed to decide whether first year students would benefit from being taught IL skills as part of their academic studies and the conclusion submits recommendations to the institution suggesting the implementation of IL skills sessions.

Rationale

Although ISB and IL are separate areas of scholarship, they share a strong connection in that both seek to address how and why people look for and use information. Within the discipline of academic music, studies have been conducted on IL amongst music undergraduates (Manus 2009, Cary & Sampsel 2006, Pierce 2005, Christensen 2004, 2001), ISB of under graduate students (Dougan 2014b, 2012, Matson & Shelley 2013, Lai & Chan 2009) and on the impact of technology in libraries (Knop 2015, Dougan 2014a, Inskip et al. 2007).

However, an overwhelming number of these studies have been conducted in large, American academic institutions (Knop 2015, Dougan 2014b, Clark 2014, Matson & Shelley 2013, Manus 2009). Consequently, there is very little known about academic institutions in Nigeria, like the Federal Polytechnic Bali and how first-year students in this more environment find resources and use information.

Studies into ISB have also tended to focus either on students at all levels (Matson & Shelley 2013, Dougan 2012, Lai & Chan 2009) or in non-academic environments (Kostagiolas et al. 2015, Laplante & Downie 2011, Tepper & Hargittai 2009). However, few studies have been conducted exclusively amongst first- year students.

There are two hypotheses that suggest themselves to the study of first- year students, first of all, that they will possess only basic skills and knowledge when it comes to finding resources and second, that they are what Marc Prensky (2001) describes as “digital natives” and therefore more likely to prefer finding information online. Studying first year students presents a unique opportunity to test the validity of these assumptions and learn more

about how information-literate those transitioning from secondary into higher education are.

Finally, research has shown that teaching IL skills to students has a positive impact on their education (Stone & Sternfeld 2014, Scott 2014, 2013, Manus 2009, Abromeit & Vaughan 2004). The Federal Polytechnic Bali does not have a dedicated IL programme at the time of writing and skills such as bibliographic instruction, research skills and library instruction are not offered.

Students are therefore not instructed on how to search for print and online resources, meaning that students may not be capable at finding information. Teaching IL skills to new students would mean that everyone has the opportunity to become more effective users of information and it was the intention of this research to explore the efficacy of introducing IL skills sessions to new students at the School.

Aims and objectives

The aim of this study is to explore the ISB and IL of first year students at the Federal Polytechnic Bali, to determine how they search for the materials they require and what sources are most commonly used. As well as identifying their approaches and preferences, this study also identifies barriers preventing this user group from finding the materials they require. Finally, this study assesses whether or not IL instruction could benefit new students at the School.

To achieve this, the following objectives were met:

1. Observe library inductions for first year students to assess what role they currently/could potentially play in IL instruction.
2. Organise focus group discussions with first year students to find out how they find information, what sources and materials they prefer and what barriers prevent them from finding the information they need.
3. Use the results of objectives 1 and 2 to explore the efficacy of teaching IL skills to first year students
4. Propose recommendations to the institution.

Background to the case study

The Federal Polytechnic Bali was established following approval by the Federal Executive Council at its 9th meeting held on 14th March, 2007. Formal operation began on the 15th December, 2008 and The Polytechnic Governing

Council was inaugurated 10th February, 2009. Academic programs commenced 2011/2012 session with certificate course in the following disciplines; Agric. Technology, Computer science, Office Technology and Management, Science Laboratory Technology and Statistics.

Since 2013 the Polytechnic has been granted diploma-awarding powers, awarding its first National Diploma in 2015. The Polytechnic maintains a number of professional partnerships with other institutions, (Jen 2016) states that, the orientation program for new students is organized to guide students on how the Polytechnic operates.

The School offers ND programme and students are divided into five (5) disciplines as mentioned earlier. The ND programme is studied over two years with the majority of teaching focused on students' principal study area. Students are entitled to 30 individual lessons per year and over 100 hours of additional lessons, comprised of practical classes, workshops and projects and first year students in particular must take a number of supplementary academic and professional studies classes to help them develop their communication and collaboration skills as well as learn about civic education and wellbeing.

According to the nominal roll for 2015/16, there are currently 96 students fully enrolled in Year 1 of the ND programme. The graph below shows a breakdown of these figures by department:

Located at the academic area of the School Library is staffed by 7 Professionals, 6 para-professionals and 8 non-professionals and is open to students and staff of the School 57.75 hours per week. A maximum of 500 study spaces is available in the library, which spans three levels, each with its own enquiry point.

The number of person hours required per week to staff these enquiry points is 115.5 which means at least twenty hours each in a front-facing role for the five full time members of staff (Eaton 2015).

The library houses around 9,000 volumes of lending and reference scores. The Federal Polytechnic Bali is therefore a unique case study environment for gathering information about the ISB and IL of first year students, since no known studies have been conducted in Nigeria Polytechnic, concentrating on the specific information needs and behaviours of first year students? The library is well resourced and has a range of print and online resources

available for students to access, but there is no formal programme of IL instruction being taught by the library or elsewhere in the School.

Since there is evidence to suggest that implementing IL sessions can have a positive impact on student's ISB and academic performance, this study gathers further evidence to recommend that first-year students at the Polytechnic should be taught IL skills as part of their education.

LITERATURE REVIEW

Information Literacy (IL) Models

The Chartered Institute of Library and Information Professionals (CILIP) defines IL as “knowing when and why you need information, where to find it, and how to evaluate, use and communicate it in an ethical manner” (CILIP 2013). It outlines eight core competencies as follows:

- a need for information
- the resources available
- how to find information
- need to evaluate results
- how to work with or exploit results
- ethics and responsibility of use
- how to communicate or share your finding
- how to manage your findings.

Competencies are the primary skills that an information literate person should possess and most IL models display core competencies against which teachers, educators and librarians can assess IL. The Society of College, National and University Libraries (SCONUL) has posited its own Seven Pillars model (2011) which describes IL as a “continuing, holistic process” that is circular in nature and “becoming information literate is not a linear process” (2011, p. 4).

Each pillar encompasses a core competency and a person can choose to develop each pillar individually or do several simultaneously. One of the greatest benefits of the guidelines is their flexibility and Carey and Sampsel (2006) note that the objectives can and should be extrapolated and adapted to suit the needs of the individual institution (p. 668).

STANDARD CORE COMPETENCIES

1. The information literate student determines the nature and extent of the information need.
2. The information literate student accesses needed information effectively and efficiently.
3. The information literate student evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system.
4. The information literate student, individually or as a member of a group, uses information effectively to accomplish a specific purpose.
5. The information literate student understands many of the economic, legal, and social issues surrounding the use of information and accesses and uses information ethically and legally.

Christensen & Abromeit (2001, 2004) provides necessary theoretical context but goes further by providing an actual account of how IL can be successfully woven into the undergraduate curriculum. She found that: a) creating assignments in tandem with existing coursework, b) gaining support of the faculty and c) ongoing assessment of the IL programme (2004, pp. 619-22) were key to achieving success.

It is an anecdotal, reflective account that makes a strong case for embedding IL in education with positive results. Manus (2009) has similarly argued that close collaboration between the library and faculty, and ongoing assessment of IL programmes are crucial for success. By describing her experiences of becoming an embedded librarian in a classroom, Manus highlights not only the successes but also the challenges associated with teaching IL skills, such as students getting bored in class and learning how to cope with her dual role as librarian in the library and librarian in the classroom, as she discovered that students treated her differently.

Manus adapted the MLA's Information literacy instructional objectives (Carey & Sampsel 2006) to use as a framework for her own IL programme, and her paper concludes that over a three-year period the IL programme had a positive impact on how students approached their written work.

Pierce (2005) and VanderPol & Taranto (2002) further endorse IL programmes in the classroom, highlighting student-centred learning, tailoring instruction to the individual institution and gaining the support of the faculty as key elements.

The bulk of the literature discussed above shows that there is a great deal of support for embedding IL in education but whilst these papers provide strong theoretical arguments, they often lack data and evidence that could potentially prove useful to someone wishing to weigh up the benefits of implementing an IL programme in Technical education.

To present a convincing set of recommendations to the Federal Polytechnic Bali regarding the implementation of teaching IL skills to new students the present study will present data collected amongst current first- year students to support the recommendations.

Scott believes that it is the duty of the library to educate new students about selecting scholarly editions and authoritative sources by creating worksheets and embedding library training within existing seminars and coursework. By giving the library a strong presence at the beginning of a student's education, they will be more likely to begin their search in the library rather than using often-unreliable online alternatives.

This is a crucial point for the present research, which observed library inductions for new students to assess their impact and the role they currently/could play in IL instruction. Stone and Sternfeld (2014) discuss the findings of creating a historiography assignment to improve IL amongst first-year students in a history class. Both of the researchers wanted to push their students away from using Google as a search tool and created an assignment that prompted students to select five sources from different periods in history to discuss the reception of a particular topic.

Contrary to Abromeit & Vaughan (2004) and Scott (2013) who found that undergraduate students rely overwhelmingly on electronic sources, Stone & Sternfeld found that 48% of students used print sources such as biographies and history books for information, suggesting that format preference may be highly nuanced, depending on what the information is being used for.

All of the above articles on IL within academic point towards the need for strong collaboration between libraries and faculty members when presenting and promoting IL skills. If IL teaching is compulsory or embedded within existing coursework or seminars then there is a greater chance that students will learn how to think critically about sources not just in their written work but for performance purposes too.

The body of research agrees that ongoing assessment of IL teaching is essential to ensure that students are actually benefitting from what is being

taught, for example, surveying students at the end of the semester and asking teaching staff to reflect on their experiences will ensure that the programme can be altered to make it more effective. This argument is supported by the current research project and is reflected in the recommendations.

What is most striking about the IL literature is that it has mostly been carried out in American European academic institutions and there is an obvious gap to be filled by studies from a Nigeria perspective. One benefit of this research is that it examines IL amongst first-year students in a Nigeria Polytechnic and is therefore, addressing this gap in the body of literature on IL in Technical education.

Information Seeking Behaviour Model

In order to cope with the diversity of information seeking patterns and approaches that exist, several ISB scholars have posited models that describe information seeking activities whilst aiming to arrive at a deeper understanding of the motivations and reasons why people look for information and how they use it. T. D. Wilson (1999) describes ISB as behaviour which: “Arises as a consequence of a need perceived by an information user, who, in order to satisfy that need, makes demands upon formal or informal information sources or services, which result in success or failure to find relevant information” (p. 251).

Multiple ISB theories exist (Fisher, Erdelez & McKechnie 2009) and some of the more prominent ones are Savolainen’s (1995) Everyday Life Information Seeking (ELIS) model which argues that information seeking is socially conditioned; Ellis’s (1984) model which views information seeking as a purely behavioural process involving a series of activities, rather than a cognitive process; and Kuhlthau’s (2004) Information Search Process (ISP) model which describes the information seeking process as a holistic experience involving thoughts, feelings and actions.

Wilson argues that information seeking must be studied in context, since “the situations in which information is sought and used are social situations” (1981, p. 9). Therefore, a person’s information needs can be influenced by their role (work/study/social roles) and environment (again, work/study/social) and these contexts can in turn influence how information is sought.

Critical to Wilson's model is his understanding of barriers to information seeking. He argues that barriers stem from the same contexts as information needs arise (1981, p. 4). For example, an environmental barrier in the context of this study could be a student not wishing to ask for help at the library counter, as they do not wish to appear ignorant in front of a superior.

Finally, Wilson believes that understanding ISB in the context in which it occurs is "likely to be of more use to the information practitioner, by pointing the way to practical innovations in information services" (1981, 12). Understanding ISB can highlight problem areas and gaps in knowledge, which can then be used to improve or develop particular services that can address these areas. Understanding ISB is therefore crucial for the purposes of this study, since it seeks to explore the feasibility of teaching IL skills to new students.

METHODOLOGY

The aim of this study was to explore the ISB and IL of first- year students at the Federal Polytechnic Bali, to find out if this group of students could benefit from being taught IL skills as part of their education. A case study research design was adopted in order to achieve this aim, since case study research is most suited to the study of people in a real-life context (Yin 2014). Within the case study, qualitative methods were used, including direct observation and focus group discussions.

Yin (2014) believes that using different data collection methods is a key feature of case study research, as it enables the researcher to build a detailed and holistic picture of the case. Since this research focused specifically on ISB and IL, an established model of each was chosen to provide necessary theoretical underpinning to the research. Following the example of other studies into information seeking (Kostagiolas et al. 2015, Lavranos et al. 2015) this research was informed by Wilson's model (1999) since it was considered most likely to meet the objectives of the case study by pinpointing information barriers as well as needs.

Since case studies rely on multiple strands of data, two different data collection methods were chosen. Yin (2014) believes that the greatest advantage of using different methods of data collection "is the development of converging lines of inquiry". He states that conclusions are more likely to be convincing and accurate if they are based on multiple sources of

information (p. 120). The data collection methods used in this study were direct observation and focus group discussions.

Wilson's (1999) model was referenced at each stage of the data collection process to identify the following features:

- a) Context of information seeking
- b) Information needs
- c) Type of information sought
- d) Barriers to information seeking

Understanding information seeking in context is the crux of Wilson's model, and using his framework gave valuable insight and meaning to the results of the study.

STANDARD CORE COMPETENCIES AND OBJECTIVES

1. The information literate student determines the nature and extent of the information needed. Identifies different types of music information (e.g. books; articles; scholarly, critical and performance editions; original compositions; arrangements; transcriptions; sound recordings in various formats; video recordings; websites; subject experts; conference proceedings)
2. The information literate student accesses needed information effectively and efficiently. Investigates the scope, content, and organization of information retrieval systems (library catalogues, union catalogues, music periodical indexes, music encyclopaedias and dictionaries, music bibliographies and discographies, and possibly thematic catalogues)
3. The information literate student evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system. Distinguishes among types of musical editions (critical, performing, and arrangements)
4. The information literate student, individually or as a member of a group, uses information effectively to accomplish a specific purpose. Communicates clearly both in writing and verbally
5. The information literate student understands many of the economic, legal, and social issues surrounding the use of information and accesses

and uses information ethically and legally. Cites musical sources correctly, including scores and sound recordings

Data collection and analysis

main research outcomes

1. To find out about the ISB of first year undergraduate music students in the context of their academic studies
2. To explore IL amongst first year undergraduate music students in the context of their academic studies.
3. To conclude whether teaching IL skills to first year music students would be beneficial.

FINDINGS

Many students reported that they were lost when it came to tackling written, academic work and that there was little guidance given on how to write an essay. Using the guidelines provided by the MLA could provide the Guildhall School of Music and Drama with a very useful framework for devising its own IL skills sessions targeted at showing students how to search using a variety of information channels, using primary and secondary sources, and evaluating information sources critically. The library has a clear role to play in this, since it is very well resourced in terms of scores, books, key music reference works and online resources.

ISB commentators have emphasised the strong connections between IL and ISB suggesting that students' information seeking skills can be greatly improved if they are taught IL skills (Lavranos et al. 2015b, Dougan 2012). Understanding ISB of students can give crucial insight into their information needs, preferences and approaches as well as highlighting barriers that prevent them from finding information in the context of their studies. This knowledge can then enable librarians and tutors to target IL sessions to best meet those needs.

Not enough time is dedicated to showing students effective search strategies to locate information materials. Since the lecture on use of Library comes towards the end of the induction and only lasts 30 minutes, students are not given the opportunity to put into practice the information they have been given. As Carbery & Hegarty (2010) argued, young students prefer

interactive, physical inductions that allow them to engage with their environment (p. 53).

The inductions that were observed contained several questions that suggested that students would like to know how to search the library or log on to the computers and get online, but there is currently not an opportunity for them to do so. The induction process needs to be assessed so that it is meeting the needs of new students today and gaining feedback from past sessions could be a crucial way of developing better inductions.

Another barrier that was discovered in the focus group discussions was online access. IT issues often presented a problem, e.g. logging on and remote access resulted in consistent failure for one particular student and this can put students off from trying again. The suggestion was made that IT information should be made more visible and more easily accessible to new students and again this is something that could be covered in either student inductions or separate IL sessions.

Although students tend to use the Internet to search for information, they still generally prefer printed resources, especially scores, and online searching is often complementary or secondary to a library search. Knop (2015), Mizrachi (2010) and Dougan (2014b) have all argued that undergraduate preferences for online sources is often very nuanced and dependent on the information need and whilst focus group respondents said they engage in online searching, it wasn't wholly preferred over other channels of information seeking.

CONCLUSION

The results of the case study research show that first year students at the of Federal Polytechnic Bali adopt a number of information seeking channels to find resources and materials in their academic studies. Based on the study sample, students were shown to use library searching, as well as seeking recommendations from friends and teachers for finding new information. If the channel they adopt in the first instance fails, they are likely to use another one instead until they find what they are looking for.

The results overall highlighted that new students are relatively information poor and they are unaware of the breadth of resources available to them and what these different resources can do. The library inductions do not currently play a role in showing students how to explore online databases, e-journals

as the polytechnic has yet internet connection and students tend to use the Internet their smart phones when they need to find information for writing essays.

Based on the results of this case-study there is some evidence to support the introduction of IL sessions for new students and the following recommendations are proposed:

Recommendations

1. That the library re-assesses the induction process for new students e.g. by delivering more interactive sessions that involve exploring the library catalogue and library resources.
2. That the library introduces a system of feedback after inductions to find out what went well and what could be improved.
3. That the library liaises with Academic Studies Department and Schools to discuss potential methods of delivering IL sessions to first year students e.g. a bibliographic task that forms part of paper research.
4. That IL sessions are marked or graded and compulsory so that students are motivated to take part.
5. That IL sessions are continually assessed and monitored to ensure that they are meeting the needs of first year students.

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