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Explicit Goals, Implicit Outcomes:

Information Literacy Education in Developing University Graduate Attributes

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Abstract

The paper documents the value and integral role of information literacy education in shaping students' graduate attributes by highlighting explicit teaching goals of information literacy programmes of select academic libraries and concurrent realization of these goals as demonstrated in learning outcomes of online information literacy resources developed by these institutions. These goals and learning outcomes demonstrate the aligning of information literacy programmes with stated missions of universities towards holistic development of students. Objectives of advancing knowledge, lifelong learning, and critical thinking as well as developing institutional values and social responsibility in students are explicated by these libraries. While outcomes and strategies for realizing these learning goals via instruction initiatives were less explicit with seeming disconnects, they demonstrate a range of competencies including critical thinking, lifelong learning, accessing and using information effectively and ethical and social values.

Key words: information literacy; academic library; graduate attributes; student learning goals; online tutorial; mission statement.

Introduction

Information literacy is defined and generally understood as the ability to access, evaluate and use information effectively towards a specific purpose and in varied contexts (American Library Association 1989). While there are multiple and sometimes competing understandings and models of information literacy, it is widely recognized as foundational for effective engagement with information in academe, the workplace, for citizenship and for daily living. Information literacy education has, therefore, become more widespread in all types of academic environments as it seeks to develop a range of competencies including accessing, evaluating and using information to create new knowledge, critical thinking, ethics, responsibility, and lifelong and independent learning, which are considered necessary for global citizenship. It follows therefore, that discourses on pedagogical strategies employed by universities in developing graduates as global citizens should address the integral role of information literacy in the process. While information literacy education is espoused mainly in academic library communities as being critical in supporting students' academic achievement, its wider significance in determining how graduates function in a global information-rich environment should also be explored.

The aim of this paper is to document the value and integral role of information literacy education in shaping students' graduate attributes by highlighting explicit teaching goals of information literacy programmes of select academic institutions and concurrent realization of these goals as demonstrated in learning outcomes of online resources developed by these institutions. These goals and learning outcomes demonstrate the aligning of information literacy programmes with stated missions of universities towards the holistic development of students.

This essay draws on select findings from an in-depth study by the author, which investigated conceptions and practice of information literacy in academic libraries in the USA. The aims of the research were achieved through a rigorous qualitative (constant) comparative analysis of concepts as expressed in 60 official mission documents and 150 exemplar information literacy online tutorials of best practice information literacy programmes of 11 academic libraries, as well as transcripts from in-depth interviews with key information literacy educators

(Kerr 2010). While this essay brings to the fore some findings from the extensive study on information literacy, it is beyond its scope to address the multi-dimensional, complex and contradictory dimensions of information literacy which were unearthed (Kerr 2010). This essay instead, emphasizes the supporting role of information literacy education in meeting university, workplace, and societal demands for persons to be equipped with critical and ethical attitudes, and social responsibility, as well as abilities to effectively engage with information in all formats by distilling both the literature and the author's research findings. This is done in distinct sections.

First, the paper provides the context for the discourse on the preparation of university graduates as global citizens through an exploration of issues related to missions of universities in relation to graduate attributes. Secondly, the essay demonstrates the commitment and support of academic libraries to the goals of universities, by providing research findings on the relationships between teaching missions of universities and academic libraries via information literacy programmes. Important tenets of information literacy from the literature are explored to establish the breadth of the concept and its implementation in practice. The discussion is then informed by the author's research findings which indicate that synergy which is identified between the stated goals of libraries and their universities is further observed in the explicit language seen in missions and goals of information literacy instruction.

Information literacy competencies are seen as building a "foundation for life-long learning, workplace and civic lives", "developing students into scholars, informed citizens and socially responsible individuals" (Kerr 2010). While outcomes and strategies for realizing these goals are not as explicitly demonstrated in information literacy tools, and while disconnects were identified between conceptions and practice of information literacy, the research findings indicate clearly the essential role of information literacy education in shaping expected graduate attributes. Strategies and approaches identified in online resources range from teaching procedural techniques in finding resources, to enabling students to think critically about information through analysis and evaluation of information and information sources, and fostering ethical approaches to the use of information through anti-plagiarism and academic integrity instruction.

These competencies, while not addressing the vibrancy observed in stated information literacy goals, provide a foundation for developing graduates who will function effectively in the global information environment.

Background and Context

Higher education institutions are increasingly shaping graduate attributes holistically, as they strive to prepare students for the world of work and as citizens of a globalized information environment. In a study of mission statements of over 300 'best universities' in the USA, Meacham and Gaff (2006), identified a range of student learning goals which aimed at developing graduates as citizens of the world. These addressed areas of social responsibility; capacity for continuing, lifelong learning; building of communities that acknowledge and respect difference; engaged, responsible citizens in a democratic society, and international and global understanding. The authors also brought to the fore 'national consensus goals for student learning' which were developed from an examination of standards of accreditation agencies, best practices of educational institutions, and qualities sought by employers. These desired learning outcomes include strong analytic, communication and information skills; intercultural knowledge and problem-solving skills; civic, social and personal responsibility; and ability to transfer knowledge from one setting to another (Meacham and Gaff 2006).

Similar graduate attributes have been articulated in mission documents of the University of the West Indies (UWI) as the University aims at preparing a "distinctive UWI graduate for the twenty-first century – one who has a regional frame of reference" (UWI 2007, 8). According to the UWI Strategic Plan 2007–2012 *Strategic Transformation for Relevance, Impact, Distinctiveness and Excellence (STRIDE)* graduates will exemplify attributes of creative and critical thinking; problem solving; effective communication; IT and information literacy; social and cultural responsiveness; and be ethical and lifelong, self-motivated learners (UWI 2007, 8).

While student learning goals and graduate attributes are explicitly stated in mission documents of academic institutions, outcomes and strategies for real-

izing these are less explicit as these are expected from various, sometimes contending constituents in universities including academic/teaching, administrative and support units. In examining the process of preparing career-ready and life-ready graduates, a number of questions arise, such as:

- Within the university, which constituent has responsibility for developing these attributes?
- Do university mission statements guide the work of faculty and academic support departments and units?
- How are student learning goals reflected in the curriculum and work of university departments?
- What strategies are developed to actualize missions and ensure that students leave with desired graduate attributes?
- Will goals as identified allow for students to be equipped with competencies that have value beyond academia?

Meacham and Gaff (2006) found glaring disconnects between student learning goals, as explicated in official policy documents, and the strategies for realizing these goals as seen in academic curricula. The authors posit collaboration and shared agendas for all involved in developing and realizing university graduate attributes.

The Role of Academic Libraries

This essay brings to the fore the integral role of one major, sometimes overlooked and underestimated constituent and stakeholder in the university – the academic library – in shaping university graduate attributes via information literacy education. The paper contends that while there may be differences in modes of delivery of information literacy programmes globally, Caribbean academic libraries explicate similar information literacy goals as those identified in the author's extensive research, and these also aim at supporting student-centred missions of universities towards the holistic development of students. While there is an absence of the range of online tutorials identified from the author's research, preliminary perusal of information literacy agendas at the

University of the West Indies (UWI), found similar explicit goals of equipping students and staff with skills “required to become lifelong learners”, in information literacy programmes of the Libraries of the Mona and St Augustine Campuses (MILU 2012; Alma Jordan Library 2011). These programmes offer face-to-face teaching programmes, sometimes in collaboration with academic departments with similar learning outcomes and deliverables. The role of information literacy education in shaping graduate attributes, as established from the author’s research, is evident in these programmes. The research findings provided through this paper therefore have implications for the design and integration of information literacy education within Caribbean academic institutions.

Academic Libraries as Major Constituents in Shaping Graduate Attributes

As environments of learning within universities, academic libraries have positioned themselves as agents for fulfilling missions of these institutions. Findings from the rigorous analysis of mission statements as well as instruction policies of the purposive sample of 11 academic libraries recognized in two databases documenting information literacy best practice, revealed explicit goals which help to define the role of the academic library within the university, especially in relation to the library’s responsibility in developing graduate attributes. There was demonstrated synergy between the missions and goals of the university and the academic library towards the holistic development of students to effectively function in a global information environment. The espoused discourse of academic libraries therefore indicates intellectual support for universities by advancing knowledge, critical thinking, and learning. Further, these libraries position their activities as integral in developing institutional values and social responsibility in students.

In-depth scrutiny of missions of universities associated with these best practice libraries, revealed major concepts and goals coalescing around development of knowledge outcomes, personal values and social responsibility (Kerr 2010). However, knowledge outcomes emerged as vital for realizing research, teaching

and outreach missions. Concepts such as “generating, sharing and applying knowledge”, “intellectual inquiry”, “investigation and discovery” “knowledge production and use”, “advancing knowledge and lifelong learning”, “critical thinking”, “facilitating acquisition of knowledge” “advance scholarly inquiry, creativity and human values” were identified across mission and goal statements of universities (Kerr 2010, 235). As premier learning environments, these institutions aim at developing specific student competencies of “rational discourse”, “analysis”, “skills of reasoning”, “assimilation of information”, all towards creating knowledge, which confirm their knowledge-oriented focus (Kerr 2010).

In addition, the goals of these universities were guided by values and beliefs, including ethics, truth, religious values, leadership, freedom and human diversity. The social development of students was articulated with goals such as “responsibility as global citizens”, “sophisticated and productive citizens and leaders” (Kerr 2010, 236). Outcomes and goals point to student-centred environments and a holistic development of students in which academic excellence, lifelong learning and social responsibility were intrinsically linked to personal and institutional values.

It is within this knowledge-focused and values-driven milieu that academic libraries associated with these universities articulate missions and goals. The knowledge concepts and values of universities are reflected in missions and goals of these libraries and implicitly shape understandings of teaching and information literacy. So these libraries present missions of “advancing scholarship, critical thinking and creation of new knowledge”, “inspiring learning and discovery”, “providing a rich learning environment where information is explored and assimilated into knowledge”, providing “intellectual leadership and extraordinary information experiences towards the advancement of knowledge”, and “partnering for creation of new knowledge” (Kerr 2010, 237). Table 1 details the span of concepts expressed in missions of academic libraries as they support universities, and these include fostering of ethical values such as integrity and “objective truth” and developing of social competencies towards students becoming global citizens. These concepts indicate the synergy and connection between missions of academic libraries and universities, and suggest that these concepts may drive teaching agendas of academic libraries via information literacy programmes.

Table 1. Categories of concepts from mission statements of academic libraries

Themes	Concepts	
Knowledge	<ul style="list-style-type: none"> • Scholarship • Critical thinking • Critical inquiry • Constructing meaning • Knowledge creation • Knowledge transfer • Knowledge sharing • Intellectual leadership • Discovery • Information discovery 	<ul style="list-style-type: none"> • Learning • Information creator • Information consumer • Information use • Knowledge structure • Problem solving • Reflection • Collaborative learning • Intellectual discovery • Discernment
Lifelong Learning	<ul style="list-style-type: none"> • Workplace success • Future learning • Success in professional lives 	
Values	<ul style="list-style-type: none"> • Ethics • Ethical integrity • Objective truth • Human diversity 	<ul style="list-style-type: none"> • Intellectual integrity • Academic integrity • Agility • Collaboration
Social Responsibility	<ul style="list-style-type: none"> • Global citizens • Civic leaders • Informed citizens 	<ul style="list-style-type: none"> • Productive citizens • Culturally literate • Success in civic life
Information Literacy	<ul style="list-style-type: none"> • Finding information • Evaluating information • Research process • Analyzing information • Curriculum integration • Curriculum mapping • Instructional collaboration • Retrieval and use of information sources • Avoiding plagiarism 	<ul style="list-style-type: none"> • Information gathering skills • Copyright • Communicating • Technology • Information seeking • ACRL standards • Search skills • 21st century skills set • Assessment • Intentional learning

Understanding Information Literacy

Although information literacy had its beginnings in academic environments, multiple and sometimes competing perspectives and understandings have emerged from varying empirical and conceptual contexts, resulting in a complex phenomenon. The most pervasive definition which emerged after extensive research states that

To be information literate a person must be able to recognize when information is needed and have the ability to locate, evaluate and use effectively the information needed. Ultimately, information literate persons are those who have learned to learn (ALA 1989, 1).

Lupton (2004) confirms the existence of a plethora of understandings, definitions, descriptions, and models of information literacy which expand the understanding as offered by the American Library Association. Definitions of the concept range from being equipped with discrete generic skills, constructing knowledge, critical thinking, enabling lifelong learning, a process of knowing, a process of acquiring new meaning and understanding, enabling the effective utilization of information for a purpose and a complex of ways of experiencing information use (cited in Kerr 2010, 19). Most of these definitions are situated in theoretical traditions and paradigms which dictate how the concept is realized in practice. These include a literacy/learning approach which would highlight pedagogical approaches, as well as a social context that would extend students' understanding to workplace competencies and lifelong learning (Lloyd 2005; Marcum 2002; Todd 2000).

As a result of these varied approaches to the concept, information literacy has a profound impact on education, employment and quality of life in today's information-driven and information-rich environment (Watson 2007). The widespread acknowledgement of the essential role of information literacy is substantially documented in government, learning institutions, and a range of policy documents (Horton 2008; Horton and Keiser 2008; Middle States Commission on Higher Education 2003; UNESCO 2008; Wallis 2005). In academic institutions, information literacy is considered a desirable component of liberal education. Rapid and widespread acceptance of the concept since the

release of the American Library Association's Presidential Committee on Information Literacy Final Report (1989), has led to emphasis on information literacy in all education sectors. Bruce (1997) claims that the importance of information literacy to lifelong learning has captured the imagination of higher educators all over the world, in a way that earlier concepts of "user education" and "information skills" did not.

Accreditation standards in the USA have revised their expectations for higher education institutions to reflect the important influence of information literacy in all aspects of the educational experience (Watson 2007). The Middle States Commission on Higher Education is one of a number of higher education accreditation agencies that has mandated that institutions it accredits, include information literacy in the curriculum across disciplines as "many aspects of information literacy are essential components of general education" (Middle States Commission 2003). In fact, it may be difficult to separate information literacy from the goals of a good undergraduate education (ALA 2006). Other curricula statements from around the world emphasize the integral role of information literacy. Rader (2002) notes that New Zealand has had a national curriculum framework for information literacy since the early 1990s and Virkus' review of information literacy in Europe (2003) establishes the early integration of information literacy within the elementary school curriculum in Sweden. Although most Caribbean countries have not developed national or regional information literacy curricula, the UWI, as the premier institution of higher learning in the region, has explicitly identified information literacy as a core graduate attribute (UWI 2007). Information literacy education is addressed primarily through formal programmes via campus libraries, sometimes in collaboration with other academic departments (MILU 2012). On the Mona Campus of The UWI, the Department of Library and Information Studies also offers courses in Information Literacy Concepts and Teaching (DLIS 2012).

Yet, information literacy has significance way beyond the doors of academia, as it is recognized for "real world" value. In the present information/knowledge society, information literacy is perceived as a tool for personal empowerment and an instrument of economic progress. In the workplace, it is seen as an aid to personal professional development and a strategy for constructing new

knowledge and information (Bruce and Candy 2000). Research conducted by Bruce (1999), Cheuk (1998a, 1998b, 2000), Crawford (2008), and Lloyd (2003, 2005, 2007) address the relationships between workplace competencies and information literacy. Bawden and Robinson (2002) also present preliminary findings of research on information literacy needs of information professionals in Europe and the United States.

Essential elements of information literacy are embedded in national and international political agendas as it is recognized globally as central to the practice of democracy (ALA 1989). Various countries have formally embraced information literacy in national policy documents (Menou 2002).

Information Literacy Education in Academic Libraries

As major teaching arms of academic libraries, information literacy instruction programmes are presented as essential vehicles which enable libraries to implement their teaching missions in “supporting” universities. Findings of the extensive research indicate that activities within information literacy programmes complement the goals of libraries and are intended to assist these libraries in realizing teaching/learning outcomes of the university. This is confirmed by statements expressing the integral role of information literacy education, as in: “provides a foundation for both academic success and lifelong learning”. Declarations such as “the library promotes students’ participation in inquiry through the development of information literacy skills”, “integral role of information literacy in the academic experience”, that information competencies provide a “foundation for lifelong learning, workplace and civic lives”, and assist in “developing students into scholars, informed citizens and socially responsible individuals”, all speak to clear goals of information literacy instruction towards supporting stated goals of universities (Kerr 2010, 237–238).

EXPLICIT LEARNING GOALS OF INFORMATION LITERACY EDUCATION

The impact of the overarching missions of universities and libraries results in information literacy agendas articulating multiple learning outcomes. These range from an all encompassing, holistic development of students to teaching

of specific skills and competencies. Far-reaching objectives identified in programmes of academic libraries include “supporting the teaching and research missions of the university and library”, “meeting learning needs of students”, “promoting students’ participation in inquiry”, emphasizing “transferable skills and knowledge” and “providing foundation for research and critical thinking”. In addition, specific teaching goals include “teaching use of library material, electronic resources, books and databases”, “provide instruction in retrieval and use of information resources” “teaching ethical use of information and avoidance of plagiarism” (Kerr 2010, 239).

CRITICAL THINKING

Explicit references to the development of critical thinking were identified in a number of information literacy programmes. Critical thinking is upheld as an essential outcome of information literacy instruction, intended to enable the transfer of critical attitudes to novel and varied situations within and outside of academia. The guiding conceptual framework for understanding information literacy in academic institutions, the *Information Literacy Standards for Higher Education*, declares “critical discernment and reasoning” as essential components of information literacy (ALA 2000, 3). The author’s research findings confirm that libraries articulated goals of enabling critical thinking and critical inquiry and these goals addressed competencies in “critical evaluation” of information and information sources, analyzing information and solving problems. This trend is observed also in the programme of the Mona Information Literacy Unit of the UWI Mona Library (MILU 2012).

LIFELONG LEARNING AND SOCIAL RESPONSIBILITY

Developing lifelong learning competencies is another stated goal of libraries’ information literacy programmes. Espoused discourses on information literacy declare lifelong learning as an expected outcome of information literacy instruction (UNESCO, IFLA, NFL, 2005). Lifelong learning skills were equated with skills of social responsibility, work, and life competencies as opposed to skills for academic success. Information literacy programme goals for lifelong learning

were sometimes detailed as “empowering with lifelong learning skills to identify, find, evaluate, use and communicate information” while in other cases the goal was affirmed without reference to specific skills, as in the information literacy programme providing “foundation for lifelong learning, workplace and civic lives”; information literacy will “prepare students for lifelong learning, careers, civic life and workplace success”; “preparing students for lifelong learning in the disciplines”; and “information literacy gives tools necessary for lifelong learning, success in professional, personal and personal lives” (Kerr 2010, 245).

ETHICAL VALUES

Reflecting stances adopted in university and library missions, information literacy programmes aim also at developing outcomes of human and ethical values. However, most of these goals coalesced around teaching students the ethical use of information, as well as academic integrity issues, including the avoidance of plagiarism. A few explicit goals were presented as developing “respect for each other, spiritual growth”, “develop socially responsible individuals”, and “students will use sources ethically and avoid plagiarism” (Kerr 2010, 244).

Learning Outcomes as Demonstrated in Online Information Literacy Tutorials

An in-depth comparative analysis of concepts and outcomes statements seen in instructional online tutorials developed by academic libraries suggests that stated goals of information literacy programmes were realized only partly through instruction resources. Findings from the author’s research indicate that online tutorials as a primary mode of information literacy teaching and instruction in most academic libraries, address multiple information literacy competencies, yet with a focus on developing strategies for accessing and using information. Librarians, as information literacy coordinators, report that implementation of stated goals are achieved through multiple interventions, including online

resources and face-to-face sessions (Kerr 2010, 287). While this author's research findings confirm that all encompassing goals for holistic development of students were not fully realized in online resources, the data suggest that deliberate attempts were made to realize some goals and objectives of programmes via these tools. Many tutorials addressed a range of outcomes including critical analysis, lifelong learning and ethical values.

ENABLING CRITICAL THINKING OUTCOMES

Teaching students to critically evaluate information and information sources is a key goal of information literacy agendas as this purportedly is one route towards enabling critical thinking competencies. Modular research tutorials addressed evaluation of sources as part of the process which details strategies for locating, evaluating and using information ethically. While learning outcomes were not explicitly stated in all tutorials, they coalesced around developing skills and competencies in evaluation of information and information sources and included statements such as “sharpen critical evaluation skills”, “learn skills that help you evaluate various types of information”, “understand what is a ‘peer reviewed’, ‘refereed’ or ‘scholarly’ source” and , “evaluate sources you find not only to determine their quality but also their relevance to your specific research project” (Kerr 2010, 270–271). Competencies in critical analysis of information and sources have become more vital with the expanding array of information sources which students engage with, in and beyond their academic pursuits. Teaching critical analysis of information rests on the premise that these competencies will allow for transfer to novel situations for students in daily life and as global citizens. While approaches used in information literacy tutorials are commendable for developing critical thinking, there may be need to address critical thinking beyond evaluation of sources towards deep engagement with information and the creation of new knowledge.

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ENABLING ETHICAL VALUES

Of signal note in the findings of the investigation was the increasing number of information literacy tutorials developed for enabling and encouraging academic integrity and ethical use of information in students. It seems that in their attempts to realize value-focused institutional missions and to satisfy the demands of information literacy professional standards which encourage the teaching of ethical use of information, academic libraries developed full plagiarism tutorials and also included plagiarism modules in research tutorials. In a few instances, libraries developed more than one plagiarism tutorial or provided links to anti-plagiarism web sites of other institutions. This intense attention to plagiarism matters may suggest that teaching students to effectively cite information sources which has been a foundational goal of information literacy education, is no longer adequate to encourage ethical use of information. While the question may arise as to the impact of anti-plagiarism instruction on students' ethical values, there is little doubt of the value of these interventions in developing intellectual integrity. Learning outcomes in plagiarism tutorials focused on developing skills in writing, paraphrasing, incorporating quotations, acknowledging and citing sources as ways for avoiding plagiarism (Kerr 2010, 266). While these outcomes may not explicitly address the development of ethical values, they assist in promoting an awareness of issues of plagiarism and encouraging intellectual integrity, which are foundational for effective global citizenry. There may be need, however, for information literacy educators to focus not only on anti-plagiarism issues, but also to emphasize strategies which would enable students to synthesize information found to create new knowledge.

Conclusion

The paper highlights select research findings of an extensive study that explored the beliefs and practice of information literacy in academic institutions. These findings address the integral role of information literacy education in supporting articulated graduate attributes of universities. Synergy between the teaching aims of academic libraries and missions of universities towards producing grad-

uates with competencies to function as global citizens is exemplified in the explicit teaching goals of these libraries which include enabling lifelong learning, critical thinking and ethical values. Online information literacy tools developed by these libraries reflect attempts at realizing these goals as they emphasize outcomes in accessing, evaluating and using information ethically, which are competencies needed beyond the academic environment.

While the author's research findings confirm that information literacy education supports missions of universities in developing students as global citizens, the reach and integration of information literacy competencies in academic discourses remains limited. While universities explicitly state attributes and competencies that graduates should display, there is a need to explicitly address the implementation of these goals and objectives. The findings suggest a need for academic institutions to address widespread integration of information literacy competencies in academic offerings.

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