

INFORMATION ETHICS EDUCATION IN LIBRARY AND INFORMATION SCIENCE DEPARTMENTS AND SCHOOLS IN SOUTH AFRICA

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ABSTRACT

This paper investigates the nature and level of information ethics education in library and information science (LIS) departments in South Africa. The study entailed both qualitative and quantitative methodologies in that a survey and content analysis were conducted. The study involved all 12 LIS departments in South Africa. Within these departments, the heads of department, lecturers teaching the module, and the course outlines/study guides for information ethics modules formed the target population. Data was collected via questionnaires that were emailed to the heads of the various LIS departments, who were also requested to forward a separate questionnaire to the lecturers teaching an information ethics module. Responses were received from 7 of the 12 LIS departments to which questionnaires were sent. The study revealed that in most LIS departments, information ethics is incorporated into the content of other modules and is not taught as a stand-alone course. In the LIS departments that offer a stand-alone information ethics module, the module is offered for the first time in second year, the rationale being that at this level students are sufficiently mature to appreciate information ethics. With the exception of one lecturer, who had a background in both LIS and Philosophy, all the

lecturers had backgrounds in LIS only. In light of the ethical dilemmas facing information professionals, it is recommended that information ethics be made a significant component of LIS education and training, in which case it would be offered as a full stand-alone module.

KEYWORDS

Information ethics, information professionals, library and information science, LIS teaching

1 INTRODUCTION

It is widely acknowledged that information professionals face a number of ethical challenges and dilemmas; in light of this, the study reported on in the present article was conducted to investigate and compare the teaching and learning of information ethics in library and information science (LIS) departments in South Africa. In short, the paper aims to establish how LIS departments in South Africa are preparing students to resolve the ethical dilemmas they will encounter in their professional lives. The main objectives of this paper were to determine the curriculum presence of information ethics modules in LIS departments, establish who teaches information ethics modules in terms of academic departments and areas of knowledge and expertise, ascertain the content of information ethics modules, determine the academic level at which information ethics modules are taught, and enumerate the challenges facing information ethics education in LIS departments in South Africa.

In the course of building the information and knowledge society of the present and future, we have come to deal with a tremendous increase in the quantity and diversity of information. This situation is in part attributable to new information technologies that present new, almost unlimited possibilities in terms of the creation, processing, storage, retrieval and dissemination of information. The flood of information now constitutes a substrate of the information market, in which information becomes a commodity (Babik 2006:1). This situation has become a source of many problems related to the right selection of information, information management and ethical responsibility on the part of information-process participants.

According to Stahl (2008:1), if we are truly living in the early stages of what has been termed the information society, then clearly ethical concerns with regard to information are of central importance. Consequently, there has been growing interest in issues relating to information ethics. Kadu (2007:2), Babik (2006:3) and Froehlich (2004:1) credit Robert Hauptman, the founder of the *Journal of Information Ethics*, and Rafael Capurro, who in 1988 published an article entitled “Informationethos und Informationethik,” with the creation of the concept of information ethics. Since then, the concept has evolved into a discipline in LIS, and has also been embraced by many other

disciplines (Froehlich 2004:1). Froehlich observes that information ethics can now be seen as a confluence of the ethical concerns of the media, journalism, LIS, computer ethics, management information systems, business, and the internet.

According to Adam (2005), information ethics is the field that investigates the ethical issues arising from the development and application of information technologies. It provides a critical framework for considering moral issues concerning information privacy, moral agency (for example, whether artificial agents are moral), new environmental issues (especially how agents should behave in the infosphere), and problems arising from the life-cycle (creation, collection, recording, distribution, processing, and so on) of information, especially ownership and copyright in view of the digital divide. For Babik (2006:4), information ethics concerns all human activity related to information, in other words, our relationship with information, what we do with information, or how we generate, process, and distribute information in the form of new technologies and innovations, which contain a great deal of processed information. Babik further posits that information ethics is a comprehensive discipline that connects descriptive ethics with normative and applied ethics. As a descriptive theory, it focuses on the influence of power structures on the information attitudes and traditions of various cultures in various times, for example, on the development of ethical values related to information transfer and processing in the global information society, and ethical conflicts related to the use of new information technologies and making information available. As a normative theory, ethics determines the standards of professional conduct and behaviour in today's global information dispensation.

Information professionals play a vital role as participants in the information society, given that their mission includes gathering, processing, distributing and using information (Fallis 2007). Like lawyers, doctors and other professionals, they need to carry out their duties in an ethical manner, and, like these professionals, they regularly face ethical dilemmas pertaining to information access, privacy, accuracy and intellectual property.

Ethical problems faced by information professionals in a library environment include the following (Fallis 2007:2):

1. Should they install internet filters on all the computers in the library?
2. Should they tell law enforcement officers investigating potential terrorists what a particular person has checked out?
3. Should they add books donated by a racist organisation to the library collection?
4. Should they allow a homeless person, who happens to smell very bad, to use the library?
5. Should they include Holocaust denial literature in the library collection?
6. Should they charge for specialised information services in a public library?
7. Should they put a warning label on an encyclopaedia that contains clearly inaccurate information?

These dilemmas all represent elements of the issues relating to information ethics already mentioned, that is, issues of privacy, accuracy, intellectual property and access. According to Hannabus (1996:3), despite the ethical dilemmas facing information professionals, they are nevertheless obliged by society to provide accurate and reliable information; maintain a confidential relationship with their clients; observe and encourage respect for the intellectual property rights of information products; and ensure equitable access to information. Fallis (2007:12) proposes that some of the ethical dilemmas faced by information professionals have come about because of advances in information technology. However, he warns that information ethics is not solely about the problems associated with information technology; in fact, information technology forms only a small part of information ethics. Most of the ethical challenges facing information professionals fall within the scope of information ethics.

Fallis (2007:2) proposes that in order to deal effectively with their ethical dilemmas, information professionals should have a good working knowledge of information ethics. He believes that information ethics should be included as a component of library and information science education and training, as this would enable information professionals to safely and ethically take part in the processing of information. Despite the importance of the subject (information ethics) in LIS, both Fallis (2007:5) and Smith (2002:1) have observed that there are still relatively few courses or continuous education programmes that focus on ethical issues in LIS.

In South Africa, LIS curriculum has been the subject of considerable research over the years. However, as illustrated in a study by Ocholla (2005) on the market for LIS graduates in South Africa, most of this research has focused on the employability of LIS graduates, and not really on what LIS education and training in the country should consist of. Results of such studies indicate the skills and knowledge required in the job market and how the curriculum needs to be shaped to meet industry needs. This is borne out by an earlier study by Ocholla (2000), in which a survey was conducted to obtain the views of employers with regard to a review and possible revision of the curriculum of the LIS department at the University of Zululand. Industry requirements have resulted in a tendency to overlook core modules of LIS: modules such as information ethics, which are fundamental in LIS education, are often ignored. The present study therefore also investigated whether LIS departments in South Africa have succumbed to industry pressure and neglected the fundamental basics of LIS education and training.

2 METHODOLOGY

The study employed a combination of qualitative and quantitative methods on the basis of the premise that use of both paradigms results in a deeper understanding of and insight into the research problem. Therefore, both a survey and content analysis were employed. The survey focused mainly on obtaining the views of the respondents on

the nature of information ethics education in the LIS departments, while the aim of the content analysis was to examine the scope of the content of information ethics modules. Thus content analysis was used in conjunction with the survey method in order to determine what was being taught in an information ethics module. The study involved all twelve LIS departments in South Africa. Information was gathered by means of questionnaires from heads of department and lecturers teaching information ethics modules, and the content of information ethics study guides modules was analysed. Data on curriculum issues and design, that is, what is being taught and when, was sought from the heads of department, while data regarding the teaching of the subject was sought from the lecturers (considered to be at the operational level). Study guides were analysed largely for triangulation purposes. The primary aim of the study was to investigate the nature and level of information ethics education in South Africa, which meant that it was necessary to obtain views from all the LIS departments and schools in the country. Since at the time of the study there were twelve LIS departments in South Africa, it was deemed necessary to include them all. This meant that no sample was drawn. Data was collected by means of questionnaires and a content analysis schedule. The use of questionnaires was deemed logical, given the fact that LIS departments in the country are widely dispersed. Questionnaires were sent to the heads of all twelve LIS departments, with the request that a separate set of questionnaires be forwarded to the lecturers teaching information ethics modules. Departments were also requested to forward the study guides for the information ethics modules taught in their departments for content analysis.

3 FINDINGS

3.1 BACKGROUND OF LIBRARY AND INFORMATION SCIENCE DEPARTMENTS

The study initially involved all twelve LIS departments in South Africa. Responses were received from seven of these. In cases where responses were not obtained, either the department had no dedicated website, or no response to the mailed questionnaires was received. Responses were received from the LIS departments at the Universities of Zululand, Pretoria, Cape Town, South Africa, KwaZulu-Natal and the Western Cape, and Durban University of Technology.

The trend reported by Ocholla and Bothma (2007), namely that LIS departments have, over the years, changed their names and moved to other faculties, was still evident. The authors attributed this to changes in the information environment, which have led LIS departments to adapt their curricula, their names and their institutional alignments accordingly. For example, the LIS departments at the Universities of Pretoria and South Africa have moved to other faculties, and the names of the departments have been changed to Department of Information Science. This trend clearly demonstrates a change

of focus that directly affects the curriculum. LIS schools have been observed moving away from traditional library orientation to recent subject areas such as knowledge management and other emerging courses.

However, irrespective of these name changes and/or migrations, LIS departments are still training information professionals who have a responsibility to carry out their missions ethically (Hannabus 1996:3). Changes in focus and remaining current should not necessarily rule out information ethics education, however, as ethics permeates all information-related activities.

3.2 NECESSITY OF INFORMATION ETHICS EDUCATION IN LIS

There was a strong feeling among the respondents (the heads of LIS departments) that information ethics education is necessary in LIS. For example, the respondent from the University of Zululand believed that information ethics education is necessary, since students are information users and future information managers and providers who need to be sensitised to respect intellectual property. It is therefore critical for information-related activities to be carried out ethically: this would ensure that research, cultural and industrial output and activities within a community or country are enhanced for the benefit of that society. The respondent from the University of Pretoria also felt strongly that information specialists must know something about the moral and ethical responsibilities they have towards society. The other respondents gave a myriad of other reasons relating to access to information, privacy, intellectual property, and so on.

The above ideas are in line with observations by authors such as Fallis (2007), Carbo (2005), Smith (2007), Carbo and Almagno (2001), Babik (2006), the Information Ethics Special Interest Group (2007) and Ocholla (2008), who have acknowledged the significance of information ethics education in library and information science. Smith (2002:2), for instance, believes that the mandate for information ethics education in LIS arises from the urgency of issues in global information justice. Smith is of the opinion that threats to information access, accuracy and privacy, and matters relating to the digital divide and alternative technologies demand immediate attention and provide the rationale for teaching information ethics. To advocate information ethics education in LIS, Fallis (2007) first provides a pyramid of ethical dilemmas facing information professionals, citing a number of authors. He believes that, given these ethical dilemmas, information professionals need additional exposure to information ethics. Woodward in Fallis (2007:2) further argues that in order to deal effectively with these ethical dilemmas, library professionals need to be able to engage in ethical reasoning. In particular, since these ethical dilemmas fall within the scope of information ethics, library professionals need to have a sound working knowledge of information ethics.

In support of information ethics education in LIS, the Information Ethics Special Interest Group (2007:2) observes that knowledge and an understanding of pluralistic and intercultural information ethical theories and concepts (including the ethical

conflicts and responsibilities facing library and information professionals around the world) are necessary to ensure relevant teaching, learning, and reflection in the field of LIS and information-related professions. It further states that many of the important issues that LIS professionals are currently required to deal with can only be understood in light of their ethical contexts. Librarians and other information professionals must learn to understand the responsibilities associated with and real consequences of their actions, and to use their power ethically and responsibly. For Carbo and Almagno (2001), individuals seeking to become professional librarians or archivists, or seeking to work in other information-related organisations, must first learn to develop and hone their individual sense of ethics and be educated about the ethical issues of information.

The Information Ethics Special Interest Group states that library and information professionals need to be aware of their duties and the responsibilities they have towards societies, and carry them out in an ethical manner. Moreover, a study conducted by Chu (2006) on the LIS curricula of the LIS departments accredited by the American Library Association found that information ethics was among the top core and most visible modules. It is therefore quite clear that information ethics is a fundamental and significant aspect of LIS training and education.

3.3 WHO SHOULD STUDY INFORMATION ETHICS?

The views of the respondents (referring here specifically to the heads of LIS departments) regarding who should study information ethics were mixed. Three of the respondents believed that information ethics should form part of LIS education only, while the remaining four were of the opinion that information ethics education should be made available to all participants in the information society. Those who believed that information ethics education should be limited to LIS students based their view on the fact that LIS students would be involved in information gathering, processing, transfer and use. However, this argument does not hold when one considers that all participants in the information society become users of information; therefore everyone should be expected to do so ethically. The respondents who felt that information ethics should be made available to everyone felt that the module could be personalised according to the needs of each discipline.

Carbo (2005:1) believes that information ethics education should be expanded to become a fundamental component of information literacy education for all students, beginning in elementary education programmes for young children, and extending through to undergraduate curricula. Carbo also believes that more extensive continuous education is needed for all practitioners, and not just information professionals. If one accepts Carbo's view, it is clear why information ethics education should be part of other professions and not limited to LIS. Although in Carbo's view this can be done by incorporating information ethics into information literacy programmes, departments can alternatively customise their information ethics content to meet their particular

needs and offer this to their students. This is essential, given that we are all users of information, and since we all use information, it is imperative that all sectors of the information society understand and appreciate the ethical and legal issues relating to the use of information. This can be achieved only through education.

3.4 CURRICULUM PRESENCE OF INFORMATION ETHICS IN LIS

Given that all seven of the respondents felt that information ethics was necessary in LIS education, it was considered necessary to investigate the presence of the subject in LIS departments. Paradoxically, only three LIS departments offered an information ethics module as a stand-alone module. In other LIS departments, the content of information ethics was merely briefly touched on in other modules.

The importance of information ethics education cannot be overemphasised. Carbo and Almagno (2001) have also argued in favour of information ethics education by describing the history of one of the earliest information ethics courses, offered at the University of Pittsburgh in the United States of America. They noted that many of the information professionals who had taken such modules reported that they had been extremely beneficial. A recent study by Ocholla (2008) on information ethics education in Africa emphasises the importance of information ethics in LIS. From the work of these authors one can infer that information ethics is a significant component of LIS education and training. Given the importance of the subject, a full module on information ethics would be better than having the content dispersed over and covered briefly in other modules.

The results of this study are, in a way, similar to the findings of a study conducted by Buchanan (2004), which entailed a survey of the information ethics modules offered by LIS programmes in the United States. Buchanan found that less than half of the American Library Association accredited programmes offered such modules, and only a few of these programmes required students to take a module on information ethics. The study revealed that in most LIS programmes ethical issues were only briefly mentioned in the course of other topics, such as collection management, information policy and information literacy. This raises the question of whether LIS scholars and educators would want their students to drive on the [global information] superhighway without knowing the rules of the road. An assessment of the current state of affairs regarding information ethics education in South Africa seems to indicate that they would. As the results of the study reported on in this article show, in three of the participating LIS departments, information ethics was offered as a full module, meaning that all the rules are taught to students; in the remainder, however, information ethics was covered briefly in other modules, as a result of which only the basic components of information ethics are covered.

3.5 DEPARTMENTS TEACHING INFORMATION ETHICS

In light of the multidisciplinary nature of information ethics, it was considered essential to find out which academic departments were offering a full module. The study showed that in all cases, the module was offered only by the LIS departments. In terms of areas of expertise and knowledge, all the lecturers except one had backgrounds in LIS only; the exception was the lecturer from the University of South Africa, who had a background in both LIS and Philosophy.

Although Fallis (2007:7) believes that the module should be taught by LIS professionals who understand and have encountered the ethical dilemmas facing information professionals, the multidisciplinary nature of the subject cannot be ignored. Fallis does, however, suggest that information ethics modules should provide library professionals with an understanding of ethical theories and how they apply to concrete practical cases. There is therefore a significant contradiction in Fallis' view, in that if information ethics modules are to provide library and information professionals with a clear understanding of ethical theories and how they apply to concrete cases, they should perhaps be taught by the department of Philosophy. From this, it appears as though a multidisciplinary approach to information ethics prevails. The most important point, however, is that the information ethics module should be taught by a knowledgeable and experienced person (Carbo 2005:2; Information Ethics Special Interest Group 2007:3).

3.6 CONTENT OF INFORMATION ETHICS MODULES

Information ethics is an extremely complex field, which makes it difficult to state exactly what should be included in a module. Carbo (2005:2) believes that questions to consider in selecting the appropriate content for an information ethics course include the following: How much of the course should be devoted to ethical foundations? How should practical and theoretical knowledge be balanced? What key issues should be discussed? What multicultural content should be included? and How much material should be included for each course?

There was considerable diversity in the content of the information ethics modules offered by the three LIS departments mentioned earlier. However, there were some similarities; for example, the topic of intellectual property was covered in the modules offered by all the departments. Other areas covered included information access and privacy. Depending on the duration of teaching in a year at the three institutions offering an information ethics module, the extent of the content covered differed. For example, the duration of an information ethics module offered by the LIS department of the University of Zululand was a single term. A term is approximately eight to nine weeks, which may not be sufficient to comprehensively cover all aspects of the module. At the LIS departments of the Universities of Pretoria and South Africa, the module was offered over a semester, which is much longer than a term, and thus more areas were covered.

As stated by the Information Ethics Special Interest Group (2007:5), irrespective of the duration, the content of information ethics modules should enable students to recognise and articulate ethical conflicts in the field of information; inculcate a sense of responsibility with regard to the consequences of individual and collective interactions in the field of information; provide the foundations for intercultural dialogue through the recognition of different kinds of information cultures and values; provide basic knowledge about ethical theories and concepts and their relevance to everyday information work; and enable students to reflect ethically and think critically, and to transfer these abilities to their professional life. The findings revealed that only the LIS department at the University of South Africa offered a unit dealing with ethical theories in its information ethics module.

Although there is no general consensus as to what should be included in an information ethics module, there have been suggestions regarding the core areas that should be included. For example, the Information Ethics Special Interest Group (2007:5) suggests that the content should encompass areas such as intellectual freedom; intellectual property; open access; preservation; balance in collections; fair use; surveillance; cultural destruction; censorship; cognitive capitalism; imposed technologies; public access to government information; privatisation; information rights; academic freedom; workplace speech; systematic racism; international relations; impermanent access to purchased electronic records; general agreements on trade and services and trade-related aspects of intellectual property rights; serving the poor, homeless, and people living on fixed incomes; anonymity, privacy, and confidentiality; human security; national security policies; the global tightening of information and border controls; trans-border data flow; and information poverty.

Similarly, Laudon and Laudon, and O'Brien (in Lee, Dark & Chen 2005:2) suggest that an information ethics course should cover the following broad areas: the relationship between ethics and social and political issues in the information society; moral dimensions of the information age; basic concepts of responsibility, accountability, and liability; professional codes of conduct, ethical guidelines, information rights and privacy; property rights - intellectual property, accountability, liability, and control systems quality; legal issues in ethics; privacy laws; technology ethics; and computer crime.

Although the scope may differ according to the duration of the module, it is encouraging to note that almost all the areas suggested by the literature were covered in the modules of the LIS departments in South Africa investigated during the study. However, an area that appeared to have been neglected was the professional codes of library and information science professionals. Arguably, there would be no better module to teach these codes than one focusing on information ethics. There is also a need for modules on information ethics to draw on African literature that reflects an African perspective on the subject.

3.7 ACADEMIC LEVEL AT WHICH INFORMATION ETHICS MODULES ARE OFFERED

It was found that in all three LIS departments offering an information ethics module, the module was offered during the second year of study. In the LIS department at the University of Pretoria, an information ethics module is also offered at honours level. The LIS department at the University of Zululand does offer an introductory module at first-year level, called Information Literacy. A fully fledged course on information ethics is offered during the second year, the rationale being that second-year students are more mature in terms of the work that they have covered, and are thus able to fully understand and appreciate information ethics.

Carbo (2005:1) believes that information ethics education should be expanded to all programmes for all students. Advanced education for doctoral students is particularly important, as it would provide them with the opportunity to be involved in the teaching of information ethics. Judging from Carbo's view, it becomes clear why information ethics education should be offered early in a student's academic career and continued through to more senior levels. Arguably, if students are perceived to be mature enough at second-year level to appreciate and understand information ethics, they would be even better at more advanced levels. Information ethics aims to shape the behaviour of students so that they may be better users of information, and this should be continued throughout other levels as students' experiences grow.

3.8 METHODS USED TO TEACH INFORMATION ETHICS

It was discovered that in some of the departments that offered an information ethics module (for example the LIS department at the University of Pretoria) a combination of lectures and class activities involving information ethics scenarios was used to teach information ethics. At the University of Zululand the module was taught by means of lectures only, and at the University of South Africa, case studies were also incorporated. Carbo (2005:4) notes that students come from diverse backgrounds and have different practical and cultural experiences. Students also have differing levels of ability in the languages in which course material is written. Therefore, among the issues in deciding which teaching methods to use are: How can the instructor best meet the needs of the students? What model of ethical reflection should be used? How can students unaccustomed to questioning others and engaging in ethical or civic discourse be taught to do so? What kinds of assignments and evaluation of students should be used? What are the most agile teaching and learning techniques to use in adapting to individual learning styles and the changing needs of students? and How can the class best focus on understanding the complexities of information ethics and avoid the tendency to embrace simplistic dichotomies?

Lee, Dark and Chen (2005:4) observe that the purpose of information ethics education is to make students understand the importance of ethics and its consequences, and that this

generally entails moral development. They note that moral development is a complex construct that consists of cognition, affect, and socialisation. Therefore, they believe that the teaching methods suitable for facilitating ethical development in students are those methods that promote the students' cognitive, affective, and social development. Teaching methods that are likely to encourage such development include case studies, team education, group discussions, and role modelling (Lee, Dark and Chen, 2005:4; Fallis, 2007). Lee, Dark and Chen (2005:4) caution that while these teaching methods are better suited to teaching ethics, ultimately the responsibility for how these teaching tools are used falls to the instructor.

It can therefore be deduced that information ethics teaching requires a hybrid of teaching methods (Carbo, 2005). The use of lectures, the method employed at the University of Zululand, would be appropriate if this were done in conjunction with other teaching methods. Different models may be needed to assist with ethical reflection and decision-making, and recognising the cultural and other biases in these: a model that works well with certain students may not work as well with others, and cultural biases in some models may constitute barriers to certain students. Continuing to explore alternatives and evaluating the effectiveness of various models are necessary to encourage student learning and exploration. Incorporating models, diverse readings, active discussion and interaction among students, and perspectives from outside speakers provide opportunities for effective learning and enhance education. Thus, a combination of teaching methods should be used to teach an information ethics module.

3.9 CHALLENGES ASSOCIATED WITH TEACHING INFORMATION ETHICS

There were a variety of challenges pertaining to information ethics education in LIS departments in South Africa. However, these challenges varied across the departments. The duration of the module was a significant challenge at the University of Zululand: as already mentioned, at the time of research, the duration of teaching was a term; as a term is approximately eight to nine weeks long, this did not afford sufficient time to teach the module adequately. Other challenges included the need for African literature and an African perspective on the subject, and keeping abreast with the latest developments in information legislation. In one LIS department, the module had been newly developed, and no challenges had yet been encountered. It was found that getting students to participate in group discussions and challenge certain views was a problem, perhaps due to cultural taboos. Carbo and Almagno (2001) reported similar problems while teaching an information ethics course at the University of Pittsburgh: as already noted, they reported that students came from diverse backgrounds and had differing levels of ability in the language in which the course material was written; consequently, some had difficulty in participating in group discussions requiring them to challenge certain views and voice their opinions. Therefore, a variety of teaching methods are recommended for an information ethics module.

4 CONCLUSION AND RECOMMENDATIONS

The results of the study show a lack of uniformity in LIS education and training in South Africa. Although LIS departments had, over the years, moved to other faculties and subsequently changed their names, their mission remained the same, that is, to train information professionals. There is limited research on the core courses of LIS in South Africa. Although substantive research has been done on LIS curricula, a great deal of that research has focused on the curricula in relation to the employability of LIS graduates, with none concentrating on the core modules of LIS. This has resulted in a vacuum in terms of what should be included in LIS education and training. The results of the study indicate that in some LIS departments, information ethics was offered as a full stand-alone module, whereas in others the content was dispersed across other modules. There therefore appears to be a need for collaboration among LIS departments in the country to achieve consensus on core modules of information ethics, and possibly the content of these modules. Given the ethical dilemmas facing information professionals and the importance of the subject, information ethics modules should be made part of the core modules of LIS education and training in South Africa, and ideally, they should be offered as full stand-alone modules.

Since information ethics permeates all human activities in which information and knowledge is generated, processed, stored, disseminated and used, all those working in the information and knowledge industry, including consumers of knowledge products and services, should undergo either formal or informal information ethics education. At the very least, those involved should know their rights and responsibilities with regard to information access and protection. There is an urgent need for collaboration among LIS departments in South Africa through a professional body such as the Library and Information Association of South Africa (LIASA) or other such avenues to ensure uniformity in the modules offered. Finally, it is recommended that further research be conducted into information ethics education in LIS departments on the continent to find out where South Africa stands in relation to other countries in Africa.

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