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The Nature and Level of Information Ethics Education in Library and Information Science Programmes in Selected Higher Learning Institutions in Rwanda

Authors

Damien Nzeyimana [1]; Serah Odini [2]; Damaris Odero [3]

Main author's email: nzeyi15@yahoo.fr

(1.2.3) Moi University, Kenya.

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Abstract

This study aimed to evaluate how Information Ethics (IE) education is conceptualised, structured, taught, and perceived within Library and Information Science (LIS) and related degree programs in Rwanda to strengthen ethical competency development. Rapid advances in artificial intelligence, algorithms, and data-driven systems have escalated ethical challenges around privacy, surveillance, and misinformation, underscoring the need for robust IE education. Guided by Kohlberg's Moral Reasoning Theory and Normative Ethical Theories, the study adopted an interpretivist paradigm. Data were gathered through semi-structured interviews and focus group discussions with a stratified, purposive sample of 27 participants comprising 19 students, 4 lecturers, 3 Heads of Department, and 1 Dean drawn from a target population of 469 across four public and private institutions. Data were analysed using thematic analysis. Findings indicate that IE is delivered primarily through an integrated curriculum, with a gradual shift toward standalone modules covering core concepts such as academic integrity, privacy, intellectual property, and information access. However, emerging digital realities, including AI ethics, algorithmic bias, data governance, and automated surveillance, receive limited attention. While traditional lecturing predominates, participants strongly favoured active, dilemma-based learning to build moral reasoning. The study concludes that IE is established in Rwandan LIS education, but curricula require modernisation to address evolving digital ecosystems. Recommendations include updating syllabi to incorporate emerging technology ethics, adopting student-centred active pedagogies, providing faculty development, and harmonising national standards in line with data protection mandates.

Key terms: Curriculum, ethics education, information ethics, library and information science education, Rwanda.

INTRODUCTION

The rapid proliferation of artificial intelligence, algorithmic governance, big data ecosystems, and automated information platforms has fundamentally transformed the creation, management, and dissemination of knowledge worldwide. While these technological developments enhance information access, they simultaneously introduce complex moral dilemmas surrounding algorithmic bias, mass digital surveillance, generative misinformation, automated content moderation, and personal data privacy (Floridi & Cowls, 2019; UNESCO, 2023b). As these digital disruptions move from the macro environment into professional practice, they directly redefine Library and Information Science (LIS). Modern LIS professionals no longer act merely as custodians of physical collections; they serve as critical information stewards navigating complex digital governance ecosystems, where automated decision-making and data-driven systems shape information seeking and user trust (Czymoniewicz-Klippel & Cruz, 2023, 2023; Ocholla, 2020).

Operationally, information ethics (IE) is defined in this study as the branch of applied ethics concerned with the moral dimensions of creating, organising, curating, accessing, disseminating, and using information across both physical and digital infrastructures (Floridi, 2013). Establishing formal IE education is therefore essential to cultivate ethical awareness, critical reasoning, and normative judgment among future information professionals. Authoritative global professional bodies explicitly frame ethical responsibility as a core mandate of LIS practice.

The International Federation of Library Associations and Institutions (IFLA, 2012) asserts that information professionals have a fundamental obligation to uphold intellectual freedom, safeguard user privacy, promote equitable access, and navigate digital rights responsibly. Similarly, the American Library Association (ALA, 2021) emphasises professional duties regarding data privacy, intellectual property, resisting censorship, and critically evaluating automated technologies in evolving digital environments.

Reflecting these professional mandates, recent empirical literature demonstrates that IE education must transition from static instructional modules to dynamic curricula capable of addressing contemporary algorithmic and data challenges (Eaton & Christensen Hughes, 2022; Kearney et al., 2022). Empirical studies highlight how emerging AI platforms and algorithmic systems exacerbate algorithmic bias, echo chambers, and automated deepfakes, requiring information professionals to possess sophisticated critical data literacy and algorithmic reasoning (Haider & Sundin, 2019; Subaveerapandiyan et al., 2023). Furthermore, empirical assessments of digital ethics and data governance instruction reveal that LIS educators are increasingly called upon to teach principles of explainable AI, regulatory data protection, and counter-misinformation strategies alongside traditional ethical considerations (Burgess, 2023; Opesemowo & Adekomaya, 2024).

Globally and across Africa, higher education institutions struggle to maintain curriculum responsiveness amidst this rapid technological shift. While foundational literature documented early integration challenges (Fallis, 2007; Koehler & Pemberton, 2000; Liu & Yang, 2012), recent empirical evidence shows a widening gap between traditional LIS ethics syllabi and emerging digital realities (Ocholla, 2020; Opesemowo & Adekomaya, 2024). Historically, LIS ethics courses focused primarily on physical collection stewardship, professional codes of conduct, copyright, and plagiarism.

Contemporary empirical studies indicate that while these traditional concepts remain necessary, current LIS programs must expand to address artificial intelligence ethics, algorithmic transparency, automated bias, and data protection frameworks (Czymoniewicz-Klippel & Cruz, 2023; UNESCO, 2023b).

In Rwanda, national strategic frameworks including the ICT Sector Strategic Plan 2024–2029 (Ministry of ICT and Innovation [MINICT], 2024) and Law No. 058/2021 Relating to the Protection of Personal Data and Privacy (Republic of Rwanda, 2021) have driven rapid digital transformation across public and private sectors. These policy imperatives have heightened the demand for ethically competent LIS graduates capable of navigating complex data ecosystems. However, despite these national developments, limited empirical research exists regarding how information ethics is

conceptualised, structured, and taught within Rwandan higher education institutions.

To address this empirical gap, this study investigated the nature and level of Information Ethics education within Library and Information Science (LIS) and related programmes across selected public and private higher learning institutions in Rwanda. The primary aim of the study was to evaluate how Information Ethics education is conceptualised, structured, taught, and perceived within LIS and related degree programmes in Rwanda, with a focus on identifying opportunities to strengthen ethical competency development in response to evolving digital imperatives.

Specifically, the study examined the nature of Information Ethics education, evaluated its curriculum content, assessed the teaching and learning approaches utilised, and investigated the perceived adequacy of Information Ethics education among key academic stakeholders.

The study was guided by four research questions addressing the nature of Information Ethics education, the current state of its curriculum content, the teaching and learning approaches utilised, and the perceptions of faculty, administrators, and students regarding the adequacy of Information Ethics education.

LITERATURE REVIEW

The rapid proliferation of digital information architectures, automated decision-making, and generative technologies has elevated Information Ethics (IE) from a peripheral curricular elective to a core foundational pillar of Library and Information Science (LIS) education. In the digital paradigm, IE encompasses the moral dimensions surrounding the creation, organisation, curation, access, dissemination, and stewardship of information assets (Floridi, 2013).

Within higher education, IE instruction seeks to cultivate ethical sensitivity, normative reasoning, and professional judgment among future information managers, cyber-librarians, and data stewards. However, structural implementation, pedagogical delivery, and curricular depth remain uneven across global, regional, and national landscapes.

Thematic Synthesis of Literature

Nature and Curriculum Structural Models of IE Education

Across global and continental literature, a persistent structural debate persists regarding whether IE is best delivered via embedded/integrated models or dedicated standalone modules.

Globally, higher education institutions predominantly favour integrated models, embedding ethical modules into courses such as Information Literacy, Database Management, and Knowledge Organisation (Eaton & Christensen Hughes, 2022; Kearney et al., 2022). Scholars argue that contextualised ethics instruction helps students identify moral dilemmas within specific technical workflows (Bebeau & Monson, 2014). However, global syntheses warn that pure integration risks curricular dilution, where ethical topics are treated superficially or displaced by technical content.

In sub-Saharan Africa, foundational empirical studies reported widespread adoption of integrated approaches across LIS schools (Ndwandwe et al., 2009; Ocholla, 2009). While early literature attributed this structure to resource constraints, overcrowded degree frameworks, and a lack of specialised ethics faculty (Maina, 2017), contemporary African scholarship highlights a shift. Recent studies demonstrate that institutions are increasingly adopting hybrid trajectories combining integrated foundational modules in early study years with dedicated standalone ethics courses at advanced levels to reconcile contextual relevance with conceptual depth (Ocholla, 2020).

Curricular delivery models in Library and Information Science education generally take one of three structural forms:

- Integrated Model: Embeds ethical themes directly within broader technical and disciplinary modules throughout the program (Kearney et al., 2022).
- Standalone Model: Delivers dedicated, high-level courses focused exclusively on information ethics theory, principles, and application (Liu & Yang, 2012; Ocholla, 2020).

- Emerging Hybrid Model: Combines early-stage ethical integration across foundational subjects with advanced, dedicated standalone modules in later academic stages (Eaton & Christensen Hughes, 2022).

Curriculum Content and the Emerging Digital Ethics Paradigm

A thematic analysis of historical versus contemporary literature reveals a significant evolution in curricular scope.

Historically, LIS ethics curricula centred on physical-library operations, professional codes of conduct, intellectual freedom, censorship, copyright, and plagiarism (Fallis, 2007; Lau, 2010).

The rapid rise of artificial intelligence, machine learning algorithms, and massive digital platform ecosystems has forced a fundamental expansion of IE content. Modern scholarship emphasises that contemporary information professionals require advanced competencies in AI governance, automated decision-making bias, digital surveillance, data privacy, misinformation, and cybersecurity ethics (Floridi & Cowls, 2019; UNESCO, 2023b).

Recent African research underlines the urgency of updating LIS curricula to reflect localised digital realities. Scholars highlight that sub-Saharan information environments face distinct ethical challenges, including automated decision-making risks, algorithmic bias in localised languages, cross-border data sovereignty, and compliance with emerging regional data protection frameworks (Opesemowo & Adekomaya, 2024). Consequently, static ethics curricula focused solely on physical collection stewardship leave graduates ill-equipped to handle modern data governance ecosystems.

Teaching and Learning Approaches: Traditional vs Active Pedagogies

Literature on higher education pedagogy demonstrates widespread consensus regarding the limited efficacy of passive, lecture-based instruction in ethics education.

Limitations of Traditional Lectures

Transmission-style lecturing relies on rule memorisation, which fails to build moral sensitivity or ethical reasoning capacity (Freeman et al., 2014; Prince, 2004).

Active Learning and Moral Reasoning

Conversely, active and experiential learning approaches such as case study analyses, classroom debates, problem-based simulations, and role-playing are widely validated as effective mechanisms for developing ethical decision-making skills (Akrivou & Bradbury-Huang, 2015; Czymoniewicz-Klippel & Cruz, 2023).

Theoretical Grounding

These empirical insights align with developmental theories of moral reasoning (Kohlberg, 1984; Rest et al., 1999), which hold that cognitive moral growth occurs when students confront realistic, ambiguous dilemmas that create cognitive dissonance. Interactive discussions force learners to evaluate competing values, defend normative positions, and appreciate the real-world consequences of administrative choices (Bebeau & Monson, 2014; Shafer-Landau, 2021).

Perceived Adequacy and Stakeholder Readiness

Evaluating the adequacy of IE instruction requires synthesising institutional, instructional, and student perspectives.

Internationally, while faculty generally report high satisfaction with the inclusion of ethics in degree benchmarks, student cohorts frequently report feeling unprepared when encountering complex, real-world grey areas during professional practice (UNESCO, 2023a).

Across African higher education, perceived inadequacy stems from structural bottlenecks: insufficient faculty training in technology ethics, fragmented curriculum distribution, and an overemphasis on theoretical concepts at the expense of practical ethical problem-solving (Maina, 2017; Ocholla, 2020). Addressing these perceived gaps requires ongoing alignment between curriculum design, technological realities, and interactive pedagogical delivery.

Establishing the Empirical Gap in Rwanda

Although international and regional literature provides extensive insights into IE education, empirical evidence regarding Rwanda's specific post-secondary context remains fragmented and underdeveloped.

A review of national higher education literature, institutional policies, and statutory frameworks highlights three critical factors establishing this empirical gap:

National Policy Alignment vs Curricular Evidence

Rwanda's national strategic frameworks, including the ICT in Education Policy (Ministry of Education [MINEDUC], 2016), the ICT Sector Strategic Plan 2024–2029 (MINICT, 2024), and Vision 2035, explicitly mandate the creation of a digital, knowledge-based economy driven by digital literacy, cybersecurity, and technological innovation. Furthermore, the enactment of Law No. 058/2021 Relating to the Protection of Personal Data and Privacy established strict legal principles regarding data processing, privacy rights, and algorithmic transparency (Republic of Rwanda, 2021). However, while national policies mandate digital transformation and data privacy compliance, limited empirical research examines how higher education institutions—specifically LIS and information management departments—operationalise these statutory directives within their daily teaching and learning practices.

Focus on General ICT vs Specialised Information Ethics

Existing academic studies on Rwandan higher education focus primarily on macro-level topics such as general ICT integration, post-secondary quality assurance, blended learning infrastructure, and generic pedagogical reform (Kwizera et al., 2020; Mukama, 2010). These studies leave a critical gap in understanding how information management programs conceptualize, structure, and teach information ethics.

Lack of Comparative Institutional Studies

There is a complete absence of empirical, multi-case research comparing how public institutions (such as the University of Rwanda) and private universities (ICK, INES-Ruhengeri, and MKUR) deliver information ethics education. It remains unknown how institutional ownership, faculty capacities, and varying resources impact the depth, pedagogical choices, and perceived adequacy of ethics instruction across the country.

This study directly addresses these empirical voids by offering a systematic, multi-case examination of the nature, content, pedagogy, and perceived adequacy of information ethics education across public and private higher learning institutions in Rwanda.

METHODOLOGY

The study adopted a qualitative multiple-case study design. The qualitative approach was considered appropriate because it facilitates an in-depth exploration of participants' experiences, perceptions, and interpretations regarding curriculum content, implementation, and effectiveness. Rather than measuring variables quantitatively, the study sought to understand how information ethics is conceptualised, taught, and experienced within different institutional contexts (Patton, 2015).

The multiple-case study design enabled the researcher to investigate several higher learning institutions offering Library and Information Science programmes and to compare similarities and differences in curriculum content, instructional approaches, and institutional practices. According to Yin (2018), multiple-case studies strengthen analytical generalisation by allowing researchers to examine common patterns across different settings while acknowledging contextual variations.

The study was guided by the interpretivist research paradigm, which assumes that reality is socially constructed and that individuals develop meanings through their interactions with their environment (Creswell & Poth, 2018). Within this paradigm, curriculum implementation and ethical education are understood through the lived experiences and perspectives of those directly involved, including lecturers, students, programme coordinators, librarians, and academic leaders.

The qualitative multiple-case study design therefore provided an appropriate framework for generating rich contextual evidence regarding the curriculum

content and coverage of information ethics education in Rwanda.

The selected institutions differ in terms of institutional ownership, programme history, curriculum development processes, staffing, available resources, and pedagogical approaches. Such diversity provided an opportunity to compare curriculum implementation across different institutional contexts and to identify both common practices and context-specific variations in information ethics education.

Defining the study population is essential in both qualitative and quantitative research. Additionally, the concepts of the general population, target population, and accessible population are relevant to both research approaches. The study population refers to the complete set of individuals or objects that the research focuses on. Determining the size of this population is important for assessing the significance of the findings and for enabling generalisation to the broader population.

The target population for this study comprised students, lecturers, and heads of departments from selected higher learning institutions in Rwanda offering Library and Information Science and related programmes. Although fifteen higher learning institutions offering information-related programmes were identified during the preliminary mapping exercise, four institutions comprising eight departments were purposively selected for inclusion. In fact, selecting these specific four institutions provided a balanced comparative framework across the country's academic landscape:

- Public vs Private Institutional Balance: As Rwanda's sole public university, the University of Rwanda (UR) represents national higher education policies, state-funded infrastructure, and centralised curriculum standards. Including three prominent private institutions (ICK, INES-Ruhengeri, and MKU) allows for critical comparison regarding how private governance, faith-based or market-driven mandates, and resource allocations influence information ethics instruction.
- Geographic and Regional Diversity: The sample spans four distinct regional academic hubs: Kigali City, the Southern Province, and the Northern Province. This distribution minimises regional bias and accounts for localised institutional realities, urban-versus-regional student demographics, and varying levels of technological infrastructure.
- Curricular Complementarity: While dedicated Library and Information Science (LIS) programs typically offer specialised, standalone curricula in information ethics, broader information science disciplines such as Journalism, Mass Communication, and Media Studies tend to embed information handling and ethical instruction across diverse professional tracks. This diversity provides a holistic view of how information ethics is conceptualised and delivered across multidisciplinary contexts throughout Rwanda.

In qualitative research, sample size is determined primarily by the depth and richness of information required to address the research objectives, rather than by statistical representativeness (Creswell & Poth, 2018; Guest et al., 2020). To capture rich, context-specific insights across academic and administrative hierarchies, a stratified purposive sampling strategy (Patton, 2015) was employed. Participants were selected for their knowledge, experience, or involvement relevant to the phenomenon under study.

The study focused on four higher education institutions selected from those offering information-related programmes in Rwanda. Within the selected institutions, seven programmes were purposively selected for their relevance to Library and Information Science, Information Science, Communication, Journalism, and related information disciplines. The selected programmes comprised five undergraduate and two postgraduate programmes. Table 1 presents the sampled universities and programmes, together with the sample size for the study.

Table: Sampled Institutions, Programmes and Students

INSTITUTION	DEPARTMENTS	YEAR	Total	Sample size (Minimum)
1. University of Rwanda (UR)	Bachelor of Arts in Media, Communication Studies and Publishing	No Students because it phased out in June 2025		
	Bachelor of Information Sciences and Library Studies	No Students. The program was approved by HEC, and was expecting the first intake in September 2026		
2. Institut Catholique de Kabgayi (ICK)	Bachelor of Journalism and Communication Studies	YR 1	60	2
		YR 2	40	2
		YR 3	26	1
3. Institute of Applied Sciences Ruhengeri (INES)	Bachelor of Science in Information Sciences and Library Management	YR 1	11	1
		YR 2	14	1
		YR 3	32	1
4. Mount Kenya University Kigali Campus (MKU)	Bachelor of Science in Information Science	YR 1	42	2
		YR 2	34	1
		YR 3	36	1
	Master of Journalism and Media Studies	YR 1	44	2
		YR 2	44	2
	Master of Science in Information Science	YR 1	45	2
		YR 2	33	1
Total			**461**	**19**

Although the University of Rwanda (UR) was not officially operational at the time of data collection, the programme had been approved by HEC and was expected to admit its first intake in September 2026. Academic staff had been recruited in anticipation and were therefore considered for inclusion in the study.

For each programme, two students were sampled per academic year from classes with 40 to 64 students, whereas one student was sampled from classes with fewer than 40 students. In all cases, the sampled students included the class representative and one additional student (where two students were sampled), identified in consultation with the class representative. No students were sampled from the University of Rwanda (UR), as none were enrolled at the time of data collection.

One lecturer was purposively recruited from each participating institution. In the case of MKU, the selected lecturer was responsible for teaching a common information ethics course offered across multiple programmes. This resulted in a total of four lecturers. Additionally, the heads of departments responsible for the selected programmes were recruited as key informants, resulting in three Heads of Department. The Dean of MKU also agreed to participate due to oversight responsibility for the programmes included in the study, as the lecturer of information ethics was at the same time the Head of department.

The planned sample therefore comprised nineteen (19) students, four (4) lecturers, three (3) heads of department, and one (1) Dean, giving a total target sample of twenty-seven (27) participants across four case sites, which is methodologically sound and aligned with established standards for qualitative multiple-case research (Creswell & Poth, 2018; Yin, 2018). In multi-site qualitative designs, sample adequacy is determined by the informational redundancy and thematic depth achieved across critical stakeholder groups rather than statistical representativeness.

The study used purposive sampling and stratified random sampling. Judgmental or purposive sampling relies on the researcher's discretion, taking into account the purpose of the study and an understanding of the target population. Also known as

deliberate or non-probability sampling, this method involves selecting specific elements from the population based on the researcher's judgment to best represent the sample (Patton, 2015). Researchers use their expertise to choose participants who are most likely to provide relevant insights, making this approach especially useful when the population is small and the aim is to understand a particular phenomenon rather than generalise statistically. Judgmental sampling is also advantageous because it is time- and cost-efficient while still yielding a range of perspectives, which is particularly beneficial in qualitative research involving interviews.

Purposive sampling was employed throughout the study. Four higher learning institutions were selected because they offered programmes relevant to the study objectives and were expected to provide rich information on information ethics education. Within the selected institutions, six programmes were purposively selected for their relevance to Library and Information Science, Information Science, Journalism, Communication Studies, and related information disciplines.

A stratified sample is obtained by selecting participants from each subgroup, or stratum, within a population. In stratified random sampling, the population is divided into distinct, non-overlapping, and homogeneous groups, known as strata, from which participants are then randomly selected for the study. Each stratum shares a similar characteristic, ensuring representation across key subgroups. Once the strata are formed, researchers may use random or systematic sampling methods to choose participants from each subgroup. For this study, respondents are organised into three strata: students, lecturers, and heads of departments from selected higher education institutions.

Students were selected to ensure representation across academic years and programme levels. Class representatives participated in the study and helped identify an additional participant where required. Lecturers and Heads of Department were purposively selected for their direct involvement in curriculum development, programme management, and the teaching of information ethics-related content. The Dean of Mount Kenya University Kigali Campus was also included as a key informant due to oversight responsibility for the programmes participating in the study.

To enhance methodological rigour, the study employed semi-structured interviews with the dean, heads of departments, lecturers, and focus group discussions were conducted with undergraduate and postgraduate Library and Information Science students. Using multiple methods enabled the researcher to compare evidence from different sources and obtain a comprehensive understanding of curriculum content and implementation.

The discussions explored students' experiences of learning information ethics, perceptions of curriculum relevance, preparedness for professional ethical practice, exposure to emerging digital ethics issues, and suggestions for curriculum improvement. The group interaction encouraged participants to reflect collectively on shared learning experiences and generated insights that may not have emerged during individual interviews.

Data were analysed using thematic analysis. This approach was appropriate because it provides a systematic procedure for identifying, analysing, and interpreting recurring patterns within qualitative data.

The quality of qualitative research depends on demonstrating trustworthiness. Following the framework proposed by Lincoln and Guba (1985), four criteria were addressed:

Credibility was enhanced through methodological triangulation involving interviews and focus group discussions. Data were collected from different participant groups to obtain multiple perspectives regarding information ethics education. The researcher also engaged with participants over an extended period, enabling a deeper understanding of institutional contexts and curriculum implementation.

Transferability was strengthened by providing detailed descriptions of the research context, participating institutions, sampling procedures, participant characteristics, and curriculum environment. Such thick description enables readers to determine the

applicability of the findings to similar educational settings.

To enhance dependability, consistency in data collection was maintained by using interview and focus group discussion guides aligned with the study objectives. Detailed records of data collection procedures, participant selection, and data analysis decisions were kept throughout the study to provide a transparent account of the research process.

Confirmability was enhanced through reflexive practice throughout the research process. The researcher maintained reflective notes and analytical memos documenting methodological decisions, emerging interpretations, and potential sources of bias. Furthermore, findings were continuously verified through comparison of evidence obtained from multiple data sources, thereby reducing subjective interpretation.

Ethical approval was obtained from the relevant institutional ethics review committee, and permission was secured from participating higher learning institutions before data collection. Participation was voluntary, with participants provided information about the study purpose, procedures, risks, benefits, and their right to withdraw. Written informed consent was obtained before interviews and focus group discussions. Confidentiality and anonymity were ensured through the use of codes and pseudonyms during data processing and reporting. The study adhered to internationally recognised ethical principles, including respect for persons, beneficence, non-maleficence, confidentiality, and justice (Israel & Hay, 2006).

FINDINGS AND DISCUSSION

The thematic analysis generated four major themes: Nature of information ethics education, Curriculum content, Teaching and learning approaches, and Perceived adequacy of information ethics education. The findings corresponding to each theme are presented below.

Nature of Information Ethics Education

The findings revealed that information ethics education across the selected institutions is primarily defined by its delivery approach (integrated vs stand-alone) and its structural progression throughout the academic programmes.

Information ethics is predominantly taught through an integrated approach, with ethical concepts embedded within broader disciplinary courses rather than offered as a standalone course. Participants indicated that ethical issues are incorporated into courses such as Public Relations, Information Literacy, Foundations of Library and Information Science, Collection Development, Information Organisation, Classification and Cataloguing, and Legislation and Ethical Issues in Library and Records Management. One interviewee explained:

> *We integrate ethical considerations into the journalism and communication courses taught to students to learn professional conduct, media regulation and responsibilities of communicators* (Interviewee A, July 2025).

Similarly, another participant observed:

> *Ethical issues are covered under subjects like Public Relations and Principles of Radio. The ethical dimensions are covered along with professional ethics, not as a separate course* (Interviewee E, July 2025).

Despite the predominance of integration, evidence indicated a gradual shift towards offering information ethics as a stand-alone course. According to one respondent:

> *In the new programme, Library and Information Ethics is a standalone module. It will cover all aspects of ethics in libraries, archives, documentation centres and publishing houses* (Interviewee G, January 2026).

Regarding structural progression, the findings showed that information ethics education is introduced early and progressively reinforced across academic levels. Most interviewees reported that students encounter fundamental ethical principles in their first year of study, particularly in introductory courses in

information science, communication, journalism, public relations, and information literacy. One head of department explained:

> *Ethics concepts are taught at the first level of study and are reinforced throughout the years, allowing students to gradually be exposed to ethical issues relevant to information professionals as they acquire more professional skills"* (Interview, January 2026).

Students in focus group discussions confirmed that ethical issues are encountered repeatedly throughout their studies rather than being confined to a single instructional period. As one student observed:

> *We learn ethical issues in several courses during different years of study, which helps us to understand their importance in different professional situations* (Focus Group Discussion, January 2026).

Overall, the nature of information ethics education in the selected institutions follows a developmental, integrated framework that is gradually evolving to incorporate dedicated instructional space.

Curriculum Content

The findings indicated that the curriculum content of information ethics education spans a broad spectrum of professional and ethical concepts, though the depth of coverage varies across programmes.

Students participating in focus group discussions reported encountering core ethical concepts across various courses, including privacy, confidentiality, intellectual freedom, censorship, plagiarism, copyright, freedom of information, and professional responsibility. One student noted how the curriculum helped frame their understanding of data handling and professional boundaries:

> *This course helped us learn about how information should be collected, stored, accessed and shared while respecting users' rights and professional ethics* (Focus Group Discussion, July 2025).

However, participants noted that integrated curriculum structures often create tension regarding content coverage. Broad disciplinary courses force ethical topics to compete with technical subject matter for limited instructional time. Participants observed that while traditional concepts (e.g., copyright, plagiarism) are routinely addressed, emerging contemporary challenges such as AI ethics, algorithmic bias, digital privacy, and cybersecurity require more comprehensive curriculum space. The introduction of new standalone modules (such as the Library and Information Ethics module highlighted by Interviewee G) is intended to address these content gaps by systematically covering ethics across libraries, archives, documentation centres, and publishing houses.

Teaching and Learning Approaches

The study found that a range of teaching and learning approaches are used to facilitate information ethics education across the selected programmes, with lecturers employing both traditional and student-centred pedagogical methods.

The most commonly reported teaching methods included lectures, class discussions, case studies, seminars, assignments, presentations, and practical activities. While traditional lectures remain an important method for introducing theoretical concepts, participants strongly emphasised the effectiveness of participatory and interactive approaches in developing ethical reasoning. One lecturer noted:

> *Learning ethics happens when a student faces real-life situations* (Interviewee F, July 2025).

The same participant elaborated on specific active learning techniques:

> *Classroom debates and case studies enable students to apply principles to concrete situations* (Interviewee F, July 2025).

Students likewise expressed positive views on interactive teaching approaches. Participants in Focus Group A reported that seminars, discussions, and case studies made abstract ethical issues tangible by linking principles to professional consequences. As one student remarked:

> *When we discuss the cases, it is easier to understand why ethics is important because you see the consequences* (Focus Group A, July 2025).

The findings demonstrate a clear pedagogical preference for student-centred methods, such as discussions, case analyses, and debates, which foster critical thinking, ethical reflection, and moral reasoning far more effectively than passive lecture-based instruction.

Perceived Adequacy of Information Ethics Education

Participants evaluated the overall adequacy of information ethics education by weighing its current institutional strengths against structural limitations.

A major strength identified across all participating institutions was the universal inclusion of ethical considerations within information-related programmes, which enhanced students' awareness of professional responsibilities and conduct.

Additionally, the adoption of interactive pedagogies (case studies, debates, seminars) was perceived as a significant strength that successfully helped students apply theoretical principles to real-world dilemmas.

However, participants expressed substantial concerns regarding the depth and structural adequacy of the current provision. The primary limitation identified was the lack of dedicated, standalone information ethics courses in many programmes. As one lecturer noted:

> *There is no stand-alone course of information ethics. Ethical issues are integrated in other courses* (Interviewee F, July 2025).

Participants perceived that because ethical issues are embedded within broader professional subjects, they are often covered superficially due to competing instructional priorities. Consequently, the integrated approach was frequently viewed as inadequate for providing the depth needed to navigate increasingly complex modern information environments.

In conclusion, while the current provision of information ethics education is perceived as adequate for establishing basic ethical awareness and professional values, respondents overwhelmingly indicated that the overall adequacy of training would be significantly enhanced by establishing dedicated, standalone ethics modules alongside interactive pedagogies.

Discussion

Information ethics (IE) has become an established component of Library and Information Science (LIS) and related higher education programs in Rwanda. Although information ethics (IE) education is implemented across all participating institutions, its organizational structure, curricular content, pedagogical approaches, and perceived effectiveness vary significantly. The following sections interpret these empirical findings in light of existing literature and theoretical frameworks across the four core themes of the study.

Nature of Information Ethics Education

The findings reveal that the nature of IE education in Rwanda is defined by a predominantly integrated delivery model that is progressively scaffolded across academic levels, alongside an emerging shift toward dedicated modules.

The dominance of integrated ethics instruction—embedding ethical topics within broader courses such as Public Relations, Information Literacy, and Foundations of LIS aligns with higher education literature emphasising that ethics instruction is most impactful when anchored within professional contexts (Bebeau & Monson, 2014; Eaton & Christensen Hughes, 2022; Kearney et al., 2022). Historically, African scholarship attributed embedded ethics instruction primarily to resource constraints, overcrowded curricula, and limited specialist faculty (Maina, 2017; Ocholla, 2009). The present study's

findings demonstrate an evolution in this narrative: in Rwanda, integration is increasingly viewed as an intentional pedagogical strategy to help students recognise ethical dimensions across diverse information roles.

Furthermore, the developmental progression identified—where foundational principles are introduced early and reinforced with increasing complexity—challenges traditional, one-off professional ethics interventions. This progressive exposure operationalises Kohlberg's (1984) and Rest et al.'s (1999) moral reasoning frameworks, demonstrating that repeated exposure to complex scenarios continually challenges students' cognitive frameworks and supports incremental moral development.

The study identifies an emerging hybrid curriculum trajectory in Rwandan higher education. Rather than treating integrated and standalone models as mutually exclusive, institutions are beginning to combine both models: embedding contextual ethics across introductory courses while introducing standalone modules for advanced inquiry. This hybrid model bridges the gap in LIS literature by satisfying both the need for contextual relevance and the structured cognitive space required for advanced moral reasoning (Kohlberg, 1984).

Curriculum Content

The findings demonstrate that while IE curriculum content in Rwanda encompasses traditional core principles such as privacy, confidentiality, intellectual freedom, censorship, copyright, and plagiarism, there is growing tension regarding the scope and depth of coverage.

The results indicate that integrated curricula force ethical content to compete directly with technical subject matter for limited instructional hours. As a result, while foundational topics are consistently covered, emerging digital realities—including artificial intelligence (AI) ethics, algorithmic bias, mass surveillance, data governance, and cybersecurity—risk superficial treatment. This finding mirrors wider international debates on curriculum coverage in information professions (Floridi, 2013; UNESCO, 2023a, 2023b).

The study reveals a crucial shift in student and faculty conceptualisations of IE curriculum content in East Africa. Content expectations are rapidly expanding beyond traditional, physical-library-centric concerns, like copyright and plagiarism, toward complex technological grey areas requiring contextual judgement rather than static rule compliance (Shafer-Landau, 2021). Dedicated standalone modules (such as the new Library and Information Ethics course noted by participants) provide the necessary curricular space to address these advanced, tech-driven ethical issues systematically.

Teaching and Learning Approaches

The empirical findings show a clear consensus among lecturers and students that while traditional lectures serve to introduce basic theoretical frameworks, active, learner-centred pedagogies—particularly case studies, class discussions, and debates—are far more effective for developing ethical competence.

This finding strongly corroborates global research on active learning (Freeman et al., 2014; Prince, 2004) and case-based ethics instruction (Akrivou & Bradbury-Huang, 2015; Czymoniewicz-Klippel & Cruz, 2023). Passive information transmission is inherently limited when preparing students for modern ethical dilemmas that lack clear-cut solutions (Floridi, 2013).

By capturing direct student and educator insights, the study highlights an urgent demand for pedagogical transformation within East African LIS education. It confirms that the development of ethical competencies depends as much on how ethics is taught as on curriculum design. Interactive methods create the cognitive dissonance necessary for students to practice evaluating competing values, defending choices, and applying normative principles (e.g., rights, duties, and societal welfare) under realistic professional constraints (Bebeau & Monson, 2014).

Perceived Adequacy of Information Ethics Education

Participants evaluated current IE provision as adequate for establishing basic ethical awareness, but noted significant limitations regarding depth, structural consistency, and readiness for complex practice.

The inclusion of ethics across all participating institutions and the use of interactive methods were recognised as major strengths. However, the lack of standalone courses in many programs was repeatedly cited as a structural inadequacy. Integrated ethics often leads to fragmented coverage, leaving students underprepared for high-level ethical decision-making in technical or institutional grey areas.

The study provides an empirical evaluation model linking institutional structure and pedagogy to professional readiness. It demonstrates that relying solely on integrated instruction is perceived as insufficient for contemporary professional demands. For IE education in region-specific contexts like Rwanda to be deemed fully adequate, programs must combine integrated foundational exposure with dedicated standalone modules and active learning techniques, ensuring graduates move beyond passive administrative compliance toward robust, dynamic professional ethical judgement (Rest et al., 1999; UNESCO, 2023a, 2023b).

CONCLUSION AND RECOMMENDATIONS

Conclusion: This study examined the nature, curriculum content, pedagogical approaches, and perceived adequacy of information ethics (IE) education within Library and Information Science (LIS) and related degree programs in selected higher learning institutions in Rwanda. Guided by an interpretivist, multiple-case study design, the empirical findings demonstrate that information ethics has transitioned into a recognised pillar of LIS education. Institutional leaders, educators, and students overwhelmingly acknowledge that ethical competence is an indispensable requirement for contemporary information professionals operating within rapidly evolving digital environments.

Structural delivery models across the studied institutions primarily mirror two core frameworks: dedicated standalone modules and integrated units embedded within broader technical coursework. While both delivery models foster baseline ethical awareness, standalone courses consistently offer greater conceptual depth, systematic coverage, and dedicated instructional hours. Throughout these academic programs, traditional foundational topics—including academic integrity, copyright compliance, intellectual property, user privacy, professional codes of conduct, and equitable access to information—are systematically addressed.

However, significant gaps persist between static curricular content and contemporary technological imperatives. Emerging digital ethics topics—specifically artificial intelligence governance, automated algorithmic bias, mass digital surveillance, generative misinformation, big data ethics, and compliance with national data privacy regulations (such as Rwanda's Law No. 058/2021)—remain insufficiently addressed within existing syllabi (Republic of Rwanda, 2021). Furthermore, structural inconsistencies in instructional resources, faculty specialisation, and institutional commitment create notable disparities in student learning outcomes across public and private institutions.

Pedagogically, instruction remains heavily reliant on traditional, teacher-centred lecture methods. This approach prioritises rule memorisation over the development of complex normative reasoning and decision-making capacities. Key academic stakeholders consistently highlighted the urgent need to transition toward active, learner-centred pedagogies such as dilemma-based case studies, ethical simulations, structured debates, and experiential problem-solving to better prepare students for the nuanced moral challenges of professional practice.

Overall, while higher learning institutions in Rwanda have established a foundational framework for information ethics instruction, targeted curriculum updates and pedagogical reform are critical. Aligning LIS education with emerging digital technologies, national data protection mandates, and interactive teaching models will ensure that future information stewards possess the ethical reasoning and practical competencies necessary to lead in a complex digital society.

Recommendations: Based on the findings of the study, higher education institutions and regulatory bodies, including the Rwanda Higher Education Council, should develop standardised national curriculum guidelines that harmonise graduate ethical competencies across public and private universities. These standards should explicitly align with national

statutory frameworks, including Law No. 058/2021 on Personal Data Protection and Privacy (Republic of Rwanda, 2021) and the ICT Sector Strategic Plan (MINICT, 2024). Institutions should also conduct regular curriculum reviews to transition toward a standardised hybrid model that embeds foundational ethics across introductory courses while establishing dedicated standalone modules for advanced topics. Information Ethics syllabi should be modernised beyond traditional physical library stewardship to address emerging digital ethical issues, including AI governance, algorithmic bias, data protection, cybersecurity, and mass surveillance.

Educators should further move beyond predominantly passive lecturing by adopting interactive, student-centred pedagogies such as problem-based learning, real-world case studies, simulations, and structured debates to strengthen higher-order moral reasoning. Experiential learning should also be expanded through partnerships with national ICT and data protection authorities to provide students with opportunities to engage in practical auditing and policy-drafting exercises. In addition, universities should establish continuous professional development programmes to equip LIS faculty with expertise in emerging technology ethics and contemporary interactive teaching methodologies, while allocating dedicated resources for digital instructional materials, case repositories, and open-access databases.

Practical Implications

The findings have important implications for Library and Information Science education, professional practice, and higher education policy in Rwanda. For universities, the findings provide evidence to guide curriculum review and strengthen the integration of contemporary Information Ethics topics into academic programmes. For lecturers, the findings underscore the importance of adopting learner-centred teaching strategies that promote ethical reasoning, critical thinking, and professional judgment rather than relying predominantly on traditional lectures. For policymakers, the study provides empirical evidence to support the development of national standards for Information Ethics education across higher learning institutions.

For employers, the findings highlight the ethical competencies required of future information professionals working in increasingly digital and data-driven environments. For scholarship, the study contributes to the growing body of African research on Information Ethics education and provides baseline evidence to inform future curriculum reforms within Rwanda and the wider region.

Limitations of the Study

The study was limited to selected higher learning institutions offering Library and Information Science programmes in Rwanda; therefore, the findings may not fully represent all higher education institutions offering LIS and related programmes. Although the qualitative multiple-case study design generated rich contextual information, it did not seek statistical generalisation. Rather, the findings provide analytical insights that may be transferable to similar educational contexts. The study also focused primarily on participants' experiences and perceptions of Information Ethics education and did not directly assess students' ethical competencies or learning outcomes through objective assessment measures. Furthermore, the rapidly evolving nature of digital technologies means that new ethical issues continue to emerge, requiring ongoing curriculum review beyond the scope of the present study.

Suggestions for Future Research

Future studies should examine the effectiveness of different pedagogical approaches for teaching Information Ethics within Library and Information Science education. Comparative research involving universities across East Africa would provide broader regional perspectives on curriculum development and ethics education. Future research should also investigate employers' perceptions of graduates' ethical competencies in professional practice. Longitudinal studies assessing the impact of curriculum reforms on the development of ethical competencies would further contribute to evidence-based curriculum improvement.

Given the rapid development of artificial intelligence technologies, future studies should also explore strategies for integrating AI ethics into Library and Information Science curricula and evaluate their

effectiveness in preparing graduates for emerging professional responsibilities.

Conflict of Interest Statement

The authors declare that they have no conflict of interest regarding the publication of this article.

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