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CULTIVATING ETHICAL INFORMATION PRACTICES IN PAKISTAN'S AGRICULTURAL UNIVERSITIES

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Abstract

Investigating the ethical dimensions of information literacy (IL), this study explores the competencies of 1,122 agriculture students in Pakistan, focusing on their ability to ethically access, attribute, and use information in a digital academic environment. The students were from the University of Agriculture, Faisalabad and the University of Agriculture, Peshawar. Results demonstrate critical gaps: 78.5% of students lacked skills for ethical use of information, 70.5% were unfamiliar with citation practices, and 61% misunderstood plagiarism, aligning with Bhatti's (2010) earlier findings on academic misconduct. Although 83.4% used the internet daily, only 33.7% accessed Higher Education Commission (HEC) digital libraries, underscoring underutilization of scholarly resources. This research advocates transformative pedagogy integrating copyright education and scenario-based IL training as catalysts for responsible scholarship and academic integrity in digital agriculture.

Introduction

Ethical information use is essential for promoting original, evidence-based research in agriculture and curbing academic misconduct such as plagiarism and citation omission. In contexts like Pakistan, where agriculture contributes approximately 24% to national Gross Domestic Product (GDP), higher education institutions must ensure students are equipped with the ability to ethically source and attribute scholarly material to advance innovation in the sector. However, competencies related to legal and ethical dimensions of IL remain largely underexplored, particularly within specialized disciplines such as agronomy and horticulture. Most IL instruction in Pakistan focuses narrowly on basic search or computer skills, sidelining critical aspects like copyright awareness and proper citation usage. This study is grounded in the ethical use dimension of the ACRL Framework and supported by Kuhlthau's Information Search Process (ISP) model, which explains emotional and cognitive stages of information engagement such as confusion and frustration during interpretation. Bandura's self-efficacy theory also informs this research, suggesting that confidence and competence in ethical information practices are shaped by guided experiences and participatory training. Existing literature indicates that digital immersion among students often fails to translate into responsible academic behavior, with citation and plagiarism issues prevalent even in digitally active cohorts. This research aims to examine students' understanding of attribution, plagiarism, and responsible resource use in agricultural universities, thereby contributing to IL scholarship and informing curriculum development in Pakistan.

Objectives

The objectives are:

- To examine students' understanding of attribution, plagiarism, and responsible resource use in agricultural universities in Pakistan.
- To contribute to information literacy (IL) scholarship.
- To inform curriculum development in Pakistan.

Literature Review

Recent scholarship reveals a growing concern over ethical lapses in students' use of academic content. Liu et al. (2025) underscore the impact of digital literacy on sustainable decision-making in agriculture, noting that ethical content use directly correlates with responsible innovation. In Pakistan, Rehman et al. (2022) highlight significant misunderstandings of

plagiarism and citation, arguing that youth-oriented IL efforts remain insufficiently localized or discipline-specific. Globally, Savage and Borrelli (2024) report that only 36% of universities explicitly teach citation ethics as part of IL programs, often neglecting students in applied disciplines like agriculture. Gow et al. (2023) emphasize that structural barriers in the Global South—such as limited digital infrastructure and faculty training—exacerbate IL gaps, especially around legal content usage. Bhatti (2010) earlier warned of persistent citation errors and paraphrasing challenges in Pakistani universities, linking these to inadequate access to IL instruction. Bruce (2004) proposed that ethical information practices are shaped through collaborative learning environments, not isolated software or tutorials. Kuhlthau's ISP model supports this view, noting that students experience emotional distress when unable to interpret or ethically manage sources during research tasks. Bandura's theory emphasizes that mastery in academic ethics can be strengthened through guided practice and positive reinforcement. McAllister et al. (2022) further advocate for integrating plagiarism detection tools with classroom pedagogy to build awareness and technical skills. Recent literature consistently finds that a significant number of students lack a clear understanding of plagiarism, proper citation techniques, and the ethical use of digital resources. While students are proficient in using informal online platforms, they underutilize academic databases, and researchers emphasize that technology alone is not a solution. The consensus among scholars is that a systemic approach is required, advocating for policy changes, curriculum integration of information literacy skills, and a stronger collaborative effort between faculty and librarians to cultivate academic integrity and prepare students for responsible research in the digital age.

Methodology

This study employed a mixed-methods research design combining quantitative surveys with open-ended qualitative responses, allowing for both statistical analysis and interpretive insight into student perspectives. A total of 1,122 undergraduate students from the University of Agriculture, Peshawar and the University of Agriculture, Faisalabad participated, yielding a response rate of 63.1%. Demographics included male and female students across agronomy, horticulture, and entomology departments. The questionnaire, adapted from ALA ethical standards, comprised Likert-scale items and open-ended prompts focusing on citation styles, plagiarism awareness, and digital resource usage. The students were selected from various semesters by a stratified sampling method. Reliability of the instrument was confirmed through

pilot testing (Cronbach's alpha = 0.72), while expert review ensured content validity. Quantitative data were analyzed using SPSS 21.0, with descriptive statistics identifying competency gaps and chi-square tests exploring relationships between variables such as department, gender, and internet usage. Thematic analysis of open-ended responses revealed emotional and behavioral trends related to ethical decision-making, particularly students' confusion over paraphrasing and citation responsibility. This triangulated design enabled robust interpretation and cross-verification of findings.

Results and Discussion

Table 1

Ethical IL Component	% with Deficiency	Key Issue
Citation Application	70.50%	Difficulty with APA/MLA usage and bibliography formatting
Plagiarism Understanding	60.80%	Confusion over paraphrasing and the concept of originality
Confident Bibliography Skills	9.80%	Lack of ability to prepare accurate citation records
HEC Digital Library Access	33.70%	Limited engagement with curated academic databases
Academic Journal Usage	18.70%	Reliance on informal sources over scholarly ones
Inability to Ethically Use/Cite	78.50%	Overall lack of skill in using and attributing scholarly sources correctly

Survey results revealed that 78.5% of students were unable to ethically use information or cite scholarly sources correctly. Among them, 70.5% struggled with applying citation styles such as APA and MLA, while only 9.8% were confident in preparing bibliographic entries. Plagiarism misconceptions were prevalent, with 60.8% misunderstanding the concept and 33.2% admitting to accidental plagiarism due to poor paraphrasing. Despite 83.4% using the internet daily, only 33.7% accessed HEC digital libraries, and just 18.7% consulted academic journals for assignments.

The results echo longstanding concerns about ethical literacy among university students in Pakistan. Bhatti (2010) linked citation failure to poor pedagogical support, while Mahmood and Shafique (2009) argued that library instruction does not adequately cover ethical content use. This study's findings reinforce those critiques, showing that students remain unaware of plagiarism implications and citation rules despite daily digital engagement. The preference for social media and avoidance of academic databases (64.5%) aligns with global reports of students valuing accessibility over scholarly rigor. Qualitative responses revealed emotional discomfort, including fear of accidental plagiarism and anxiety over paraphrasing—hallmarks of Kuhlthau's ISP model. Bandura's self-efficacy theory supports the idea that ethical confidence requires participatory learning, not punishment. The widespread demand (61.9%) for copyright instruction and use of tools like Turnitin suggests students desire proactive, skill-based support. These results advocate reform not just in technical training, but in pedagogical philosophy.

Recommendations

Ethical IL development demands a multi-pronged strategy. First, universities should integrate plagiarism detection platforms such as Turnitin into coursework, reinforcing citation awareness and reducing unintentional misconduct. Second, faculty should adopt scenario-based copyright training using localized case studies, promoting practical understanding of attribution laws. Third, policymakers should mandate IL certification—covering ethical use—for thesis eligibility, ensuring students meet academic integrity benchmarks. Lastly, HEC should expand subscriptions to agricultural databases like AGRIS and CABI, improving access to vetted resources.

Conclusion

Ethical information literacy is non-negotiable in agricultural scholarship where research integrity directly informs policy, food innovation, and rural development. This study highlights significant gaps in citation competency, plagiarism awareness, and digital resource engagement among agriculture students in Pakistan.

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