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RESEARCH ARTICLE

UNPACKING ACADEMIC CONFUSION: SOCIAL MEDIA, SOCIAL NETWORKING, SEARCH ENGINES, AND AI AT ULPGL — A DIGITAL LITERACY THEORY APPROACH

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Abstract

This intrinsic qualitative case study examines “academic confusion” as an experiential phenomenon emerging where social media, social netw orking, search engines, and artificial intelligence (AI) intersect in unive rsity learning environments, using Digital Literacy Theory as a sensitizi ng framework. Drawing on a purposive sample of students and faculty at the Université Libre des Pays des Grands Lacs(ULPGL)and situating findings within current empirical, bibliometric, and multivocal literatur es, the study identifies four thematic portraits of confusion epistemolog ical muddle, misapplied tools, opaque algorithmic authority, and fractur ed academic identity—and interprets these through a seven-domain digital-literacy architecture.Data were generated from a purposive sam ple at the Université Libre des Pays des Grands Lacs (ULPGL) compri sing 30 undergraduate and postgraduate students who actively use AI tools (e.g., ChatGPT), Google Scholar like scholarly discovery, and so cial media for learning; 10lecturers/faculty negotiating the integration or resistance of digital tools in pedagogy; 6librarians/IT staff who mediate information access and tool support; and 4 administrative staff involved in (or affected by) AI and/or LMS deployment decisions. The study design foregrounds the institutional ecosystem around GenAI, consistent with prior research showing that student practice and facult y response co-produce both opportunities(e.g., feedback and learning support)and vulnerabilities (e.g., opaque tool limits and integrity risks) (Ortiz-Bonnín&Blahopoulou, 2025; ,Fırat, 2023).The paper offers a context-sensitive implementation roadmap and evaluation strategy for ULPGL and comparable Global South institutions, emphasizing embed ded curriculum, algorithmic/AI literacy, infrastructural investments, assessment redesign, and socio-emotional supports. Recommendations and analytic claims are explicitly grounded in cross-disciplinary eviden ce concerning algorithmic mediation, search-economy dynamics, AI threats to learning, and health-and media-literacy interventions (Tuncay , 2025); , (Perdigão et al., 2025); , (Lee, 2024); (Akhmetova&Beysemb aeva, 2024); , (Ali et al., 2022).

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Introduction:-

Introduction: Exploring the Lived Experience of Digital Confusion

The Blurred Digital Landscape of Contemporary Academia

Contemporary higher education is embedded within a rapidly evolving information ecology in which AI has become a central mediator of content personalization, recommendation, and synthesis across social media and search interfaces (Tuncay, 2025); ,(Lee, 2024); , (Mahony& Chen, 2024). The acceleration of AI-related research on social media and the diffusion of algorithmic curation practices have materially altered what learners encounter and how attention is allocated, thereby complicating established information-seeking heuristics and pedagogic assumptions about source quality (Tuncay, 2025; , (Park, 2025; , (Lalitha, 2025; . Parallel studies emphasize that SEO and commercial discoverability incentives further decouple visibility from epistemic rigor, while emergent generative-AI search modalities present synthesized answers that require new provenance literacies from users (Lalitha, 2025; ,Lubis et al., 2025; , (Ali et al., 2022).

Situating the Problem:

"Academic Confusion" as a Phenomenon for Qualitative Inquiry

“Academic confusion” is conceptualizedas a situated, affectively charged state in which students and faculty experience persistent uncertainty about (a) where to find reliable evidence, (b) how to judge provenance and methodological soundness, (c) the appropriate role of AI in academic work, and (d) the norms governing authorship and assessment in AI-rich contexts (Xu et al., 2025); , (Perdigão et al., 2025); , (Oh, 2025). Given its experiential and socially mediated character, academic confusion invites qualitative inquiry because it unfolds within lives, networks, and institutional practices that quantitative metrics alone cannot fully capture (Xu et al., 2025); ,(Taba et al., 2022); , (Park et al., 2020).

The ULPGL Context:

A Revelatory Case in the Global South ULPGL is examined as a revelatory case that exemplifies the intersecting pressures of rapid technology adoption, uneven infrastructure, and evolving pedagogic expectations common to many Global South universities; literature on digital readiness and AI adoption in vocational and higher-education settings indicates that resource constraints, limited software access, and the need for educator capacity building are common contextual amplifiers of literacy gaps in such settings (Liew, 2025), Wahjusaputri&Nastiti, 2022; , (Ali et al., 2022). Studying academic confusion at ULPGL therefore permits in-depth exploration of how platform dynamics and institutional constraints co-produce lived uncertainty in knowledge practices.

Research Aim and Guiding Questions

The study aims to unpack the lived experience of academic confusion at ULPGL and to develop a theory-informed, practice-oriented response grounded in Digital Literacy Theory. The guiding research questions are:

- RQ1: How do students and faculty at ULPGL narrate and make sense of digital-mediated epistemic uncertainty?
- RQ2: Which social-technical drivers (social media/network dynamics, search engines, AI) are most salient in shaping these experiences?
- RQ3: What curricular, policy, and infrastructural interventions—anchored in Digital Literacy Theory—can reduce confusion and support resilient academic practice?

Significance and Structure of the Paper

This manuscript contributes to qualitative digital-literacy scholarship by centering lived experience in a Global South context, synthesizing multivocal evidence on AI and platform effects in education, and proposing a seven-domain implementation framework for ULPGL focused on algorithmic and AI literacies alongside conventional information- and media-literacy competencies (Park et al., 2020); , (Perdigão et al., 2025); , (Akhmetova&Beysembaeva, 2024); , (Ali et al., 2022).

The paper is organized as follows: Section 2 articulates the conceptual framework; Section 3 describes the qualitative methodology; Section 4 presents thematic findings; Section 5 analyzes those themes through a digital-literacy lens; Section 6 advances practical recommendations and a roadmap for ULPGL; and Section 7 concludes with limitations and research directions.

Conceptual Framework: Digital Literacy as a Lens for Lived Experience

Mapping the Digital Tool Spectrum: Defining the Terrain of Confusion To capture the multiplicity of drivers implicated in academic confusion, the framework treats the digital terrain as a triad: (i) social media and networking affordances (feeds, groups, algorithmic recommender systems); (ii) search infrastructures, SEO economies, and SERP cues; and (iii) AI-mediated systems including generative-AI outputs and recommender engines whose decision logic and explainability are often opaque to users (Tuncay, 2025); , (Lee, 2024); , (Lalitha, 2025); , (Lubis et al., 2025). Each element reshapes exposure, salience, and the interpretive burden on learners and instructors, thereby creating points of friction that can erode confidence in academic judgment when unaddressed (Park, 2025); ,(Mahony& Chen, 2024), (Ali et al., 2022).

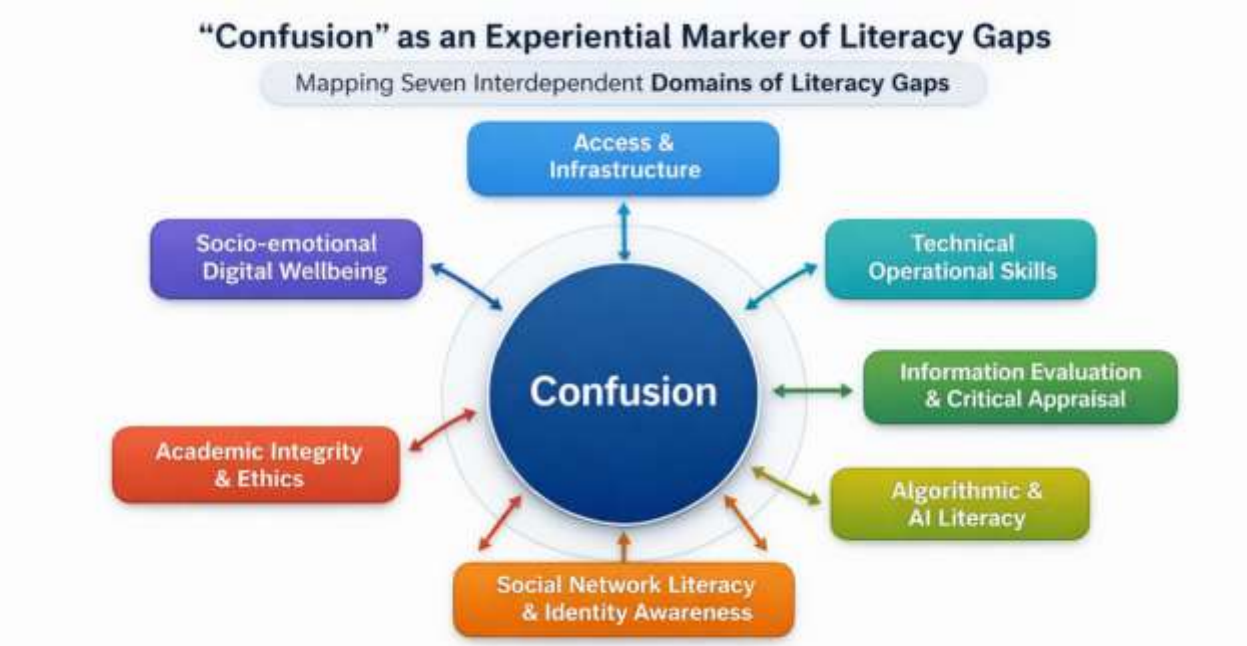
From Functional Skills to Critical Praxis:

A Theory of Digital Literacy Digital Literacy Theory is deployed as a socio-technical, practice-oriented lens that integrates operational competencies (access, search tactics, tool use), critical appraisal (source evaluation, triangulation), socio-cultural dimensions (identity, network norms), and ethical dispositions (attribution, academic integrity), with an explicit extension to algorithmic and AI literacies (understanding recommender dynamics, provenance of generative outputs, and bias)(Akhmetova&Beysembaeva, 2024); , (Lee, 2024); , (Perdigão et al., 2025). Recent scientometric and pedagogic work underscores the need to treat algorithmic/AI literacies not as peripheral addenda but as core competencies embedded in disciplinary practice (Park et al., 2020; , Oh, 2025), (Ali et al., 2022).

Synthesizing the Framework:

"Confusion" as an Experiential Marker of Literacy Gaps

Confusion is positionned as an empirical marker that reveals mismatches among learner expectations, platform affordances, and institutional supports. This marker maps onto seven interdependent domains—(1) Access & Infrastructure; (2) Technical Operational Skills; (3) Information Evaluation & Critical Appraisal; (4) Algorithmic & AI Literacy; (5) Social-Network Literacy & Identity Awareness; (6) Academic Integrity & Ethics; and (7) Socio-emotional Digital Well-being—each corresponding to documented failure nodes in the literature (Akhmetova&Beysembaeva, 2024); , (Perdigão et al., 2025); , (Park et al., 2020); , (Ali et al., 2022). The seven-domain architecture serves as both diagnostic instrument and intervention scaffold for ULPGL.



Qualitative Methodology: Capturing Depth and Meaning
Research Paradigm:
An Interpretivist, Constructivist Approach
An interpretivist/constructivist paradigm guided the study, privileging participants' subjective meanings and situated practices while acknowledging researchers' co-constructions of knowledge; this approach is consistent with qualitative scholarship on media literacy and identity in networked spaces (Minchilli, 2021); , (Park et al., 2020); , (Rinekso et al., 2021).

Research Design:
An Intrinsic Qualitative Case Study
An intrinsic qualitative case-study design was selected to allow focused, in-depth exploration of ULPGL as a bounded, revelatory instance of academic confusion, enabling thick description and contextually grounded theorizing about literacy gaps and institutional levers (Rinekso et al., 2021; , (Ali et al., 2022).
Site and Participants

The Case:
Université Libre des Pays des Grands Lacs (ULPGL)
ULPGL served as the single case due to accessibility and because its infrastructural profile (intermittent connectivity, mixed access to subscription databases) and curricular pressures mirror conditions identified in studies of digital readiness and AI adoption in non-Western higher-education contexts (Liew, 2025), Wahjusaputri&Nastiti, 2022; , (Ali et al., 2022).

Purposeful Sampling:
Students and Faculty as Key Informants Purposeful sampling targeted 30undergraduate and postgraduatestudents who actively use AI tools (e.g., ChatGPT), Google Scholar-like scholarly discovery, and social media for learning, 10 Academic staff(lecturers)integrating or resisting digital tools in pedagogy, 6 librarians/IT staff who mediate information access and tool support; and4 administrative staff involved in (or affected by) AI and/or LMS deployment decisions, following criteria to maximize information richness about platform engagement, search practices, AI exposure, and assessment experiences (Rinekso et al., 2021; , (Park et al., 2020).

Methods of Data Generation
Primary Method:
In-depth, Semi-structured Interviews Semi-structured interviews (30–60 minutes each) elicited narratives about habitual platform use, search strategies, encounters with generative content, and perceptions of academic norms and integrity; such methods are especially effective for capturing lived literacy practices and sense-making processes (Rinekso et al., 2021); ,(Taba et al., 2022); , (Xu et al., 2025).

Supplementary Method:
Focus Group Discussions Focus groups (6–8 participants each) examined peer norms, collective meaning-making, and social pressures in networked contexts; focus groups are commonly used to reveal social dynamics that shape information acceptance and circulation (Asante et al., 2025); , (Minchilli, 2021).

Artifact Analysis:
Student Work and Digital Traces With informed consent and ethics approval, anonymized student artifacts (bibliographies, draft essays, screenshots of search sessions) were analyzed to triangulate reported practices with observable behaviors, an approach aligned with multimodal qualitative designs used in information-literacy research (Ali et al., 2022; ,Brkić, 2024).

Data Analysis
Thematic Analysis following a Reflexive Approach Data were analyzed using reflexive thematic analysis:
iterative immersion, open coding, code refinement, and interpretive theme development conducted by multiple analysts to enhance reflexivity and interrater dialogue (Rinekso et al., 2021; , (Park et al., 2020; .

Process:
Immersion, Coding, Theme Development, and Interpretation Analytic memos tracked emergent patterns and researcher positionalities; member checking with selected participants and thick descriptive accounts were used to enhance trustworthiness and contextual validity (Rinekso et al., 2021; , (Ali et al., 2022).

Ensuring Rigor:
Reflexivity, Thick Description, and Member Checking Rigor was pursued through reflexive journaling, audit trails, triangulation across interview, focus-group, and artifact data, and participant validation—techniques recommended in qualitative studies that interrogate situated literacies and identity transformation (Minchilli, 2021; , (Ali et al., 2022; , (Rinekso et al., 2021).

Ethical and Positional Considerations
Institutional ethics approval was obtained; special attention was paid to privacy when handling digital traces and to power asymmetries arising from the research team's mixed insider/outsider composition; multivocal literature on AI-related research ethics informed data governance choices (Perdigão et al., 2025; ,Lee, 2024; , (Ali et al., 2022).

Findings: Thematic Portraits of Confusion
Overview Four primary themes emerged from analysis: (1) The Epistemological Muddle; (2) The Misapplied Tool; (3) The Opaque Authority; and (4) The Fractured Academic Identity. Each theme recurred across interviews, focus groups, and artifacts and resonates with cross-disciplinary literatures on platform influence, health and media literacy, and algorithmic opacity Xu et al., 2025; ,Taba et al., 2022; , (Park, 2025; , Yang et al., 2022).

Theme 1:
The Epistemological Muddle – Blurring Lines Between Social Chatter and Academic Evidence Participants routinely reported difficulty distinguishing social-media chatter, peer-generated content, and high-engagement posts from peer-reviewed or methodologically robust sources; interview excerpts described top-ranked or viral posts being treated as evidence in assignments. This conflation mirrors broader findings that algorithmic popularity signals and engagement metrics are often (mis)read as proxies for credibility and that students struggle to apply disciplinary standards in algorithmically curated information environments (Tuncay, 2025; , Xu et al., 2025; , Yang et al., 2022).

Theme 2:
The Misapplied Tool – "It's All Just the Internet": Functional Use Without Discernment Although many students demonstrated operational fluency with devices and social platforms, artifact analysis and self-reports revealed superficial search practices (single-term queries, reliance on first SERP results) and limited triangulation; this operational fluency without evaluative depth corresponds to documented gaps in university students' digital literacy where skillful use of tools is not matched by rigorous appraisal or methodological scrutiny (Kim, 2025; , (Lalitha, 2025; , Lubis et al., 2025; , (Park et al., 2020).

Theme 3:
The Opaque Authority – Trust in Algorithms and Viral Content Over Critical Engagement
Respondents described deferential trust to algorithmically amplified content—favorites, trending tags, and recommender outputs—often without provenance skepticism; faculty noted classroom debates shaped by viral pieces rather than accepted disciplinary evidence. This pattern is consistent with research on recommender systems' persuasive authority, the opacity of algorithmic selection, and the persuasive power of high-engagement content in shaping beliefs and behaviors (Lee, 2024); , (Park, 2025); , (Perdigão et al., 2025).

Theme 4:
The Fractured Academic Identity – Navigating Dual Roles in Social and Scholarly Spaces
Participants reported role tensions when performing public identities on networks while maintaining scholarly identities in academic settings; this duality influenced citation behaviors, self-presentation in assignments, and concerns about attribution and authenticity. Such identity-related friction aligns with scholarship on cultural identity transformation in virtual networks and on the social-normative pressures that mediate knowledge practices among students and diasporic or marginalized groups (Minchilli, 2021; ,Ghahramani et al., 2024; , Balamurali, 2025).

Analysis: Interrogating the Themes Through the Digital Literacy Lens

The Critical Disconnect:

Operational Fluency vs. Judgmental Poverty Across themes, a central analytic finding was the critical disconnect wherein students often possess operational fluency but lack judgmental capacities such as provenance checking, algorithmic skepticism, and methodological discernment; this disconnect echoes calls in the literature to shift instruction from procedural tool use toward critical praxis and AI-aware appraisal skills Akhmetova&Beysembaeva, 2024; , (Park et al., 2020; , (Kim, 2025; , Oh, 2025).

Contextual Amplifiers:

How Institutional Culture and Infrastructure Shape Confusion

Material conditions amplified confusion: limited subscription access, intermittent bandwidth, and thin library–IT support led students to prioritize freely available social content and top SERP links, corroborating studies that map infrastructural inequities to literacy shortfalls and differential AI adoption across Global South institutions (Liew, 2025), Wahjusaputri&Nastiti, 2022; , (Ali et al., 2022).

From Confusion to Praxis:

A Phenomenological View of Literacy Development

The lived experience of confusion can be productive if reconfigured pedagogically as a diagnostic moment for reflexive learning; phenomenologically, confusion reveals boundary conditions of current literacies and affords opportunities for scaffolding, reflective assignments, and algorithmic sense-making exercises—interventions advocated in applied AI-education and media-literacy programs (Voulgari et al., 2021; , Oh, 2025), Pegrum&Palalas, 2021).

Discussion: Towards a Contextual Theory of Academic Digital Navigation

Re-framing Confusion:

Not as Deficit, but as Diagnostic of System-Level Gaps Consistent with multivocal reviews of AI in learning contexts, the study reframes confusion as indicative of systemic misalignments among platform architectures, institutional provisioning, and curricular expectations rather than as an individualized deficiency; thus, remedial actions must simultaneously address pedagogy, policy, and infrastructure (Perdigão et al., 2025; ,Mahony&Chen, 2024), (Ali et al., 2022).

Theoretical Implications:

Enriching Digital Literacy with Qualitative, Experiential Dimensions Empirically grounded themes suggest that Digital Literacy Theory benefits from explicitly incorporating phenomenological and affective dimensions—confusion, identity tension, and trust heuristics—thereby enriching competency models with lived-experience markers that can guide curricular sequencing, assessment design, and wellbeing supports (Park et al., 2020; ,Pegrum&Palalas, 2021; ,Akhmetova&Beysembaeva, 2024).

Practical Implications for Pedagogy and Institutional Policy at ULPGL Building on the seven-domain architecture, we derive seven interlocking institutional strategies for ULPGL:

- Invest in equitable access (devices, licensed databases, stable connectivity) and in librarian–IT capacity building to reduce reliance on unvetted social content (Ali et al., 2022; ,Wahjusaputri&Nastiti, 2022; , (Liew, 2025).
- Embed search-literacy and SEO-awareness within disciplinary coursework so students can interpret SERP cues and discern optimized visibility from epistemic quality (Lalitha, 2025; ,Lubis et al., 2025; , Brkić, 2024).
- Integrate algorithmic and AI literacy across curricula (explainable-AI concepts, provenance exercises, adversarial examples) to demystify recommender logic and generative-AI synthesis Lee, 2024; , (Perdigão et al., 2025; , Oh, 2025).
- Redesign assessments to foreground process, authenticated artifacts, and reflective documentation of tool use, thereby realigning incentives and reducing the attractiveness of AI-assisted misconduct (Perdigão et al., 2025; ,Mahony& Chen, 2024).
- Provide domain-specific literacy modules (e.g., digital health literacy in health faculties) to counter specialized misinformation flows observed on social platforms Taba et al., 2022; , Yang et al., 2022), Aktaş et al., 2025).
- Implement wellbeing and attentional literacy programs that address platform-driven distraction and cognitive overload (Park, 2025; ,Pegrum&Palalas, 2021; , Balamurali, 2025).

- Negotiate procurement and vendor engagement policies that prioritize transparency, research access, and ethical design in platform contracts (Tuncay, 2025; , Lee, 2024; , (Ali et al., 2022).

These strategies are grounded in literatures on library support, educational redesign, and AI governance and are tailored to the resource profiles typical of many Global South institutions (Ali et al., 2022; , (Liew, 2025), (Perdigão et al., 2025; , (Tuncay, 2025).

Implementation Roadmap and Evaluation

Phased Implementation Plan

Phase 1 — **Diagnostic mapping**: carry out campus-wide mixed-methods audits (surveys, focus groups, learning analytics) to characterize information behaviors and priority domains Komara et al., 2025; , (Ali et al., 2022).

Phase 2 — **Co-designed pilots**: develop discipline-embedded modules co-created by faculty, librarians, and IT, with formative assessments and iterative refinement Akhmetova&Beysembaeva, 2024; , Oh, 2025).

Phase 3 — **Policy and procurement**: enact AI-use policies, assessment standards, and procurement criteria for vendor transparency while investing in staff development (Perdigão et al., 2025; , Lee, 2024).

Phase 4 — **Scale and continuous improvement**: roll out successful pilots and monitor outcomes through a continuous evaluation loop (Ali et al., 2022; , (Rinekso et al., 2021).

Evaluation Metrics and Data Sources

Evaluation should triangulate validated competency instruments (digital-literacy scales), behavior proxies (triangulation frequency, source diversity), integrity indicators (incidence of suspected AI-assisted misconduct), wellbeing measures (attention, stress), and domain-specific outcomes (improved appraisal of health information in health curricula) (Kim, 2025; ,Taba et al., 2022; , (Perdigão et al., 2025; , Yang et al., 2022). Mixed-methods designs combining qualitative follow-up, analytics, and longitudinal tracking are recommended to capture both skill acquisition and behavioral change (Ali et al., 2022; ,Komara et al., 2025; , (Rinekso et al., 2021).

Limitations and Future Research:-

Limitations include single-case scope (the intrinsic case study design foregrounds depth over breadth), potential social desirability in self-reports, and constrained access to comprehensive institutional logs; nonetheless, rich triangulation mitigates some threats to credibility (Rinekso et al., 2021); , (Ali et al., 2022). Future research priorities include participatory action research co-designing literacy curricula with students and faculty, quasi-experimental evaluation of embedded modules, comparative Global South case studies, and design-based research on assessment formats resilient to AIGC misuse (Oh, 2025), (Komara et al., 2025); , (Perdigão et al., 2025).

Conclusion :-

Academic confusion at ULPGL is a multifaceted, experientially manifested condition arising from the interplay of platform architectures, SEO economies, generative AI, and institutional resource constraints. A Digital Literacy Theory–informed response that centralizes algorithmic and AI literacies, embeds instruction across disciplines, redesigns assessment, and addresses infrastructural inequities and wellbeing can convert confusion from an obstacle into a diagnostic resource for curricular and governance reform. Implementation will require collaborative action across faculties, libraries, and IT units, together with careful evaluation to adapt interventions to evolving platform ecologies (Perdigão et al., 2025); , (Ali et al., 2022); , (Tuncay, 2025).

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