



THE ROLE OF INTERNET IN PROMOTING ACADEMIC EXCELLENCE AMONG STUDENTS: CASE STUDY OF STUDENTS OF SOCIAL WORKS AND SOCIAL ADMINISTRATION OF UGANDA MARTYRS UNIVERSITY

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Abstract

The COVID-19 pandemic accelerated the integration of internet-based learning in higher education globally. This chapter examines the role of the internet in promoting academic excellence among students of Social Work and Social Administration (SWASWA) at Uganda Martyrs University (UMU). Using a mixed-methods case study design with a purposive and convenience sample of 76 students, complemented by interviews with six purposively selected informants, the study investigates (1) roles of the internet in academic progress, (2) the effectiveness of internet provision of academic services, and (3) challenges faced by students in using the internet for academic purposes. Quantitative data (survey) were analyzed descriptively; qualitative interview data were analyzed thematically and narratively. Findings show widespread Internet utilization for research, accessing course materials, and attending online classes; high uptake of artificial intelligence (AI) tools (~90%)—often for assignment completion—and a strong preference for multimedia (particularly video). Despite its academic benefits (accessibility of diverse resources, flexibility, multimedia affordances), the internet also poses significant challenges: predominant leisure use, distraction and concentration issues, variable digital literacy, limited local content, network inefficiencies, and safety/privacy gaps. Recommendations include; institutional provision of curated online resources and portals, strengthened Wi-Fi infrastructure, digital literacy training, policy and technical controls to reduce misuse of campus networks, and pedagogical strategies that integrate AI ethically. The chapter situates findings in the uses and gratifications theoretical framework and offers directions for policy and future research.

Keywords Internet, academic excellence, online learning, digital literacy, artificial intelligence,

Introduction

The rapid diffusion of internet technologies has transformed educational practices across the globe, reshaping how students access information, participate in learning, and demonstrate competence (Kovačević, Špoljarić, & Vuk, 2014). The onset of the COVID-19 pandemic in 2020 precipitated a large-scale migration to online and blended modalities of instruction, accelerating reliance on internet infrastructures and digital tools (Mbongo, Hako, & Munangatire, 2021). In Uganda, universities including Uganda Martyrs University (UMU) adopted blended systems that rely heavily on Wi-Fi, learning management systems (e.g., Moodle), and an

expanding ecosystem of online content and artificial intelligence (AI) tools. For programmes like Social Work and Social Administration, whose curricula combine theory and practice, these shifts have important implications for student learning, engagement, and academic outcomes.

Internet technologies enable large databases of knowledge, multimedia resources, synchronous and asynchronous communications, and collaborative platforms that support independent learning and cross-border academic exchange (Rose & Fernlund, 1997; O’Flaherty & Phillips, 2015). For students in low-resource contexts, the internet can narrow information access gaps historically determined by physical library holdings and geographic isolation (Kovačević et al., 2014). At UMU, campus Wi-Fi and institutional digital services (e.g., Moodle) provide essential infrastructure that supports blended learning. Yet the same tools can produce unintended consequences: distraction, overreliance on quick solutions (including AI), and variable engagement with rigorous scholarship (Ngoumandjoka, 2012; Singh, Gupta, & Garg, 2013).

Problem Statement

While internet connectivity and online provision of learning materials are increasingly central at UMU, questions remain about the internet’s actual effect on academic excellence. Prior studies highlight both the benefits of access and the risks of non-academic usage (Deursen & Van Dijk, 2011; Ngoumandjoka, 2012). However, literature specific to the effectiveness of internet services (as provided by universities) and how students in specific departments use AI and other digital tools is limited. This study addresses that gap for SWASWA students at UMU by assessing roles, effectiveness, and challenges associated with internet use for academic purposes.

Objectives of the Study

The study pursues three primary objectives:

1. To establish the roles of the internet in the academic progress and excellence of SWASWA students.
2. To assess the effectiveness of internet provision in delivering academic services to students.
3. To identify the challenges students face when utilizing the internet for academic purposes.

Theoretical Framework

The study is guided by the Uses and Gratifications Theory (UGT) by Katz and Blumler (1974), which posits that media users actively select media based on the gratifications they seek. UGT frames students’ decisions to use the internet and AI tools for particular academic or non-academic goals and helps interpret patterns of usage, motivations, and consequences for academic behavior.

Literature Review

Internet as an Academic Resource

The internet's most prominent contribution to higher education is unrestricted access to information and diverse perspectives (Kovačević et al., 2014; Radovan, 2018). Multi-format resources—documents, videos, audios, and interactive modules—support varied learning styles and can enhance comprehension and retention (Nazan, Menevis, & Eyyam, 2011). Multimedia learning theory and evidence show that combining visual and auditory channels increases cognitive engagement, benefiting learners across disciplines (Mayer, cited in Nazan et al., 2011).

Collaboration and Participatory Learning Digital platforms support collaborative knowledge production and peer learning irrespective of physical proximity (Kovačević et al., 2014). Discussion forums, group chats, and shared documents enable asynchronous and distributed collaboration, a key advantage for busy students and geographically dispersed groups (Asokan et al., 2019).

Effectiveness and Functionality of Internet Services

Scholars note that the internet's rich media and interaction affordances as conducive to teaching and learning (Saeed, Yang, & Sinnappan, 2009; Sinappan, 2009). Features such as comment threads, emotive reactions, and easy content sharing enhance participation, sometimes reducing anxiety associated with face-to-face interactions (Pandev, 2022).

Accessibility: The effectiveness of internet provision is uneven. Infrastructure and affordability concerns limit access for some students (Agarwal, 2022). Institutional investments in campus Wi-Fi and labs moderate these disparities but do not eliminate them (Tartari, 2021).

Cultural and Pedagogical Fit: Cultural attitudes toward autonomy and technology can influence uptake (Sondheim, 2013). In some contexts, the perceived authority of instructors and structured classroom settings remain preferred, slowing full adoption of learner-centered digital modalities.

Artificial Intelligence and Academic Work; the rise of generative AI tools (e.g., ChatGPT, Gemini) has changed students' approaches to research and assignment completion. AI accelerates information synthesis and can scaffold learning, but it also raises ethical and pedagogical concerns about academic integrity and critical thinking (Floridi et al., 2020; recent debates). Empirical work shows high uptake among students with varied uses: quick answers, drafting support, and reference generation (emerging evidence).

Challenges of Internet Use for Academics Distraction and Internet Addiction: Excessive or inappropriate internet use can lead to diminished attention spans, addictive behaviors, and reduced academic performance (Fineberg et al., 2022; Ko et al., 2005). Students often find it difficult to delineate academic from leisure use, especially on mobile devices with constant notifications (Ngoumandjoka, 2012; Singh et al., 2013).

Digital Literacy and Information Evaluation: Effective academic use requires search skills, critical evaluation of sources, and information management (Deursen & Van Dijk, 2011; Sushma et al., 2016). The deluge of online content increases risks of misinformation and shallow engagement (Sinnappan, 2009).

Infrastructure and Local Content: Technical limitations (bandwidth, network efficiency) and lack of locally contextualized content constrain the usefulness of global internet resources in local curricula (Pasternak, 2016; participant observations). Local academic content remains comparatively scarce in many African contexts, hindering culturally relevant learning.

Safety and Privacy: Security threats such as phishing, scams, and data theft reduce trust and pose real risks, especially for users unaware of digital safety practices (Pasternak, 2016).

Methodology

Research design

This study adopts a mixed-methods case study design, combining quantitative surveys ($n = 76$) and qualitative interviews ($n = 6$). Slovin's formula for calculating the sample size determined the sample size ($N = 93$, $e = 0.05$), yielding $n = 76$. Purposive sampling targeted knowledgeable informants for interviews (IT specialists, lecturers, former students). Data collection used structured questionnaires and semi-structured interviews;

quantitative analysis relied on descriptive statistics and qualitative analysis employed thematic and narrative approaches.

This study used a mixed-methods case study design to obtain both breadth and depth on internet use and academic outcomes among students of Social Work and Social Administration (SWASWA) at Uganda Martyrs University (UMU). The quantitative strand (survey) measured prevalence, patterns, and self-reported impacts; the qualitative strand (semi-structured interviews) explored motivations, contextual dynamics, and meaning behind observed behaviors. The case study approach permitted detailed, contextually grounded analysis relevant for institutional policy and pedagogical practice.

Population, sampling and sample size

The study population comprised all SWASWA undergraduate students registered at UMU (N = 93). Slovin's formula ($n = N / [1 + N e^2]$, with $e = 0.05$) produced a target sample size of 76 informants. Quantitative respondents were selected through convenience sampling during class sessions and campus contact points; purposive sampling identified six key informants for interviews (two IT specialists, two lecturers, two former students) based on expertise and availability.

Data collection instruments

- Structured questionnaire: Closed-ended items captured demographics, device and connectivity patterns, frequency and purpose of internet use, AI usage, self-rated academic performance, digital literacy, distractions, and perceptions of institutional internet effectiveness. The instrument was pretested with five students outside the sample for clarity.
- Semi-structured interview guide: Open questions probed experiences with university Wi-Fi, examples of internet-enabled learning, views on AI and academic integrity, strategies for concentration and research, and institutional support needs. Interviews were audio-recorded with consent and transcribed verbatim.

Data collection procedures

Data were gathered between February and March 2025. Surveys were hand-administered and collected immediately to maximize response rate. Interviews occurred in person or by phone, lasting roughly 25–40 minutes each. Institutional permission and participant consent were obtained; anonymity and voluntary participation were emphasized.

Data analysis

Quantitative data were entered into SPSS for descriptive analysis (frequencies, percentages, and cross-tabulations). Qualitative transcripts underwent thematic analysis: familiarization, coding, theme development, and interpretive synthesis. Findings from both strands were integrated during interpretation to triangulate evidence and explain discrepancies.

Ethical considerations: Ethical clearance was obtained from the School of Arts and Social Sciences, UMU. Participants provided informed consent; identifiers were removed in reporting. Audio files and transcripts were stored securely and accessible only to the research team.

Results

Sample characteristics

- Gender: 54% male (n = 41), 46% female (n = 35).
- Age: Majority (85.6%) aged 19–24; 11.8% aged 25–35; 2.6% aged 35–45.
- Residency: 73.7% resided off campus; 26.3% on campus.
- Primary device: 79% used mobile phones; 18.4% personal computers; 2.6% university computers.

Internet access and usage patterns

- Connection type: 60.5% alternated between personal data and university Wi-Fi; 17.8% used only university Wi-Fi; 17.1% personal data only.
- Frequency for academic purposes: 39.5% every day; 43.4% a few times a week; 17.1% rarely.
- Main research source: 80.3% reported the internet as the primary information source; 18.4% library; 1.3% personal textbooks.
- Multimedia preferences: 39.5% videos; 19.7% documents; 34.2% blended formats.

Artificial intelligence uptake

- AI use: 89.5% reported using AI tools for academic purposes.
- AI functions: 39.5% used AI to do course work (partial/complete), 19.7% to obtain new information, 13.2% to answer research questions, 10.5% for references/guidance.
- Extent in assignments: 22.4% used AI to completely do assignments; 50% used AI partially; 27.6% did not use AI for assignments.

Perceived impact and academic outcomes

- Self-rated academic performance: 18.4% excellent; 68.5% moderate; 13.1% poor.
- Internet impact on performance: 52.6% very impactful; 44.8% fairly impactful; 2.6% not at all.
- Classroom attention: 32.9% reported increased attentiveness; 39.5% less attentive; 27.6% unchanged.
- Interaction with teachers: 65.8% ask less in class; 11.8% ask more.

Challenges reported

- Time allocation: Majority spent most internet time on leisure (entertainment, social media).
- Disruption/concentration: 42.1% easily disrupted; 48.7% alternate between academic and non-academic activities; only 9.2% maintain full concentration.
- Digital literacy: 15.8% high; 72.4% moderate; 11.8% low.
- Local content: 60.5% reported limited availability of contextually relevant local content.
- Network efficiency: 52.6% rated university Wi-Fi as poor; 39.5% rated personal connections as fair to poor.
- Research planning: 93.4% lacked a structured internet research plan.
- Safety awareness: 48.6% not aware of online risks; 22.4% very concerned; 29% felt safe.

Qualitative themes (selected)

1. Access vs. quality tension: Interviewees noted that while UMU's Wi-Fi increased access, bandwidth and heavy video streaming reduced service quality. IT specialists recommended traffic management and content caching.

2. AI as efficiency and integrity challenge: Lecturers expressed mixed reactions—AI can scaffold learning but risks shortcutting competence if misused. Some advocated incorporating AI literacy into assessments.
3. Mobile device constraints: Students emphasized convenience but acknowledged that phones limit deep reading and multitasking for complex academic tasks.
4. Lack of research discipline: Both lecturers and former students pointed to absence of structured research routines among students and suggested mandatory digital literacy modules.

Discussion

Interpretation of key findings, High uptake and perceived impact

The overwhelming reliance on the internet (80% as main research source; 97.4% reporting at least some impact) confirms its centrality in contemporary higher education and aligns with Kovačević et al. (2014) and Mbongo et al. (2021). The high self-reported effectiveness suggests that the internet mitigates resource constraints (e.g., limited physical library access) and supports blended learning.

Multimedia and learning preferences: The preference for video and blended media supports multimedia learning literature (Nazan et al., 2011), which posits that dual-channel inputs enhance comprehension and retention. However, short attentional spans and preference for brief video content indicate a need for micro learning strategies.

AI use and academic practice: Widespread AI usage ($\approx 90\%$)—with 72.4% using it partially or fully for assignments—reflects global trends in student adoption. This raises both pedagogical opportunities (scaffolding, rapid synthesis) and threats to academic integrity and deep learning. The findings corroborate concerns about digital dependency and reduced critical thinking (KO Et Al., 2005; Fineberg et al., 2022).

Leisure vs. academic time allocation and distraction: The predominance of leisure use and high distraction rates align with Ngoumandjoka (2012) and Singh et al. (2013). Mobile devices exacerbate distractibility via notifications and app ecosystems, undermining focused study.

Digital literacy and research planning gaps: The moderate to low levels of research skills and near absence of structured research plans indicate that access alone is insufficient for academic excellence; competence in search strategies, source evaluation, and time-management is critical (Deursen & Van Dijk, 2011; Sushma et al., 2016).

Local content and infrastructure limitations: Scarcity of locally contextualized content constrains relevance and applicability for students studying Ugandan social problems. Technical bottlenecks (Wi-Fi inefficiency) further limit potential gains, resonating with Pasternak (2016).

Implications for theory and practice; Uses and Gratifications Theory (UGT) is supported: students actively choose internet resources to satisfy information, convenience, and entertainment gratifications. However, gratifications for leisure compete with academic goals, suggesting that UGT can help design interventions that reframe academic tools as gratifying (e.g., gamified learning, curated micro content).

Pedagogical implications include integrating digital literacy into curricula, redesigning assessments to discourage misuse of AI (e.g., oral defenses, process logs), and leveraging preferred media formats (short instructional videos, interactive modules). Institutional strategies should improve network infrastructure, curate local content, and deploy technical controls to reduce misuse while preserving academic freedom.

Conclusions

The internet plays a central and predominantly positive role in supporting SWASWA students' academic activities at UMU: it broadens access to diverse resources, supports multimedia learning, facilitates collaboration, and integrates AI tools that can increase efficiency. Nonetheless, benefits are tempered by pervasive leisure use, concentration challenges, limited digital literacy, infrastructure constraints, insufficient local content, and unresolved academic-integrity issues related to AI. Institutional action—combining technical upgrades, capacity building, pedagogical redesign, and policy—can amplify benefits and mitigate harms.

Recommendations

For the university administration

1. Infrastructure upgrades: Invest in increased bandwidth, additional access points, traffic shaping, and caching servers to improve Wi-Fi reliability, especially during peak hours.
2. Curated academic portal: Develop a centralized UMU repository where lecturers upload syllabi, lecture videos, readings, and local research outputs to reduce search time and ensure resource relevance.
3. Technical governance: Deploy configurable content filters and QoS (quality of service) policies that prioritize academic traffic while allowing reasonable student access to other resources. Ensure transparency and safeguard academic freedom.

For curriculum and pedagogy

4. Digital literacy curriculum: Integrate mandatory modules on information literacy, search strategies, source evaluation, AI literacy (ethical use, citation of AI outputs), and online safety.
5. Assessment redesign: Adopt assessment formats that emphasize process, reflection, and oral/verbal components to minimize plagiarism and overreliance on generative AI.
6. Micro content and blended pedagogy: Encourage faculty to produce short, focused video lectures and blended materials that align with student preferences and attention spans.

For students

7. Research planning and self-regulation: Promote workshops and mentoring on structured research plans, time-boxing, and notification management (e.g., turning off nonessential alerts) to reduce distractions.
8. Peer support and group subscriptions: Facilitate student group subscriptions for affordable home Wi-Fi and organize peer study groups that practice disciplined online research.

For IT and support services:

9. Awareness and training: Provide regular cyber security and privacy awareness sessions; supply guidelines for safe online conduct and password hygiene.
10. Analytics and feedback: Use anonymized network analytics to identify usage patterns and inform targeted interventions (e.g., peak demand periods, heavy non-academic streaming).

Limitations of the study

- Generalizability: The case study design and single-department focus limit external validity beyond SWASWA and UMU.
- Self-report bias: Survey measures of academic performance, internet time allocation, and AI use rely on self-reporting and may be affected by social desirability or recall errors.
- Cross-sectional design: Data capture perceptions at one point in time and cannot infer causality between internet use and academic outcomes.

Areas for further research

1. Longitudinal studies assessing causal links between specific internet behaviors (e.g., AI use patterns, multimedia consumption) and objective academic outcomes (grades, retention).
2. Experimental interventions testing digital literacy programs, content curation, or Wi-Fi upgrades and measuring impacts on concentration, performance, and equity.
3. Comparative studies across faculties and universities in Uganda to map institutional variation in infrastructure, pedagogy, and student digital practices.
4. In-depth qualitative research on ethical perceptions of AI among lecturers and students to inform context-sensitive policy.

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